Nesta...

DIGITAL SOCIAL INNOVATION
WHAT IT IS AND WHAT WE ARE DOING

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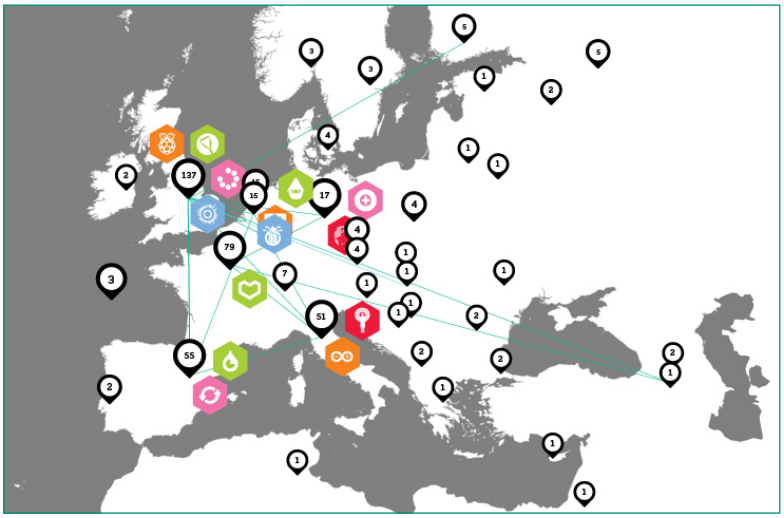
March 2014

Digital technologies and the internet have transformed many areas of business – from Google and Amazon to Airbnb and Kickstarter. Huge sums of public money have supported digital innovation in business, as well as in fields ranging from the military to espionage. But there has been much less systematic support for innovations that use digital technology to address social challenges.



Digital technologies are particularly well suited to helping civic action: mobilising large communities, sharing resources and spreading power. A growing movement of tech entrepreneurs and innovators in civil society are now developing inspiring digital solutions to social challenges. These range from social networks for those living with chronic health conditions, to online platforms for citizen participation in policymaking, to using open data to create more transparency about public spending. We call this digital social innovation (DSI).

Over the last 18 months Nesta, funded by the European Commission, **has led a large research project into DSI**. The project seeks to define and understand the potential of DSI, to map the digital social innovators, their projects and networks, and to develop recommendations for how policymakers from the EU to city level can make the most of DSI.

What is it?

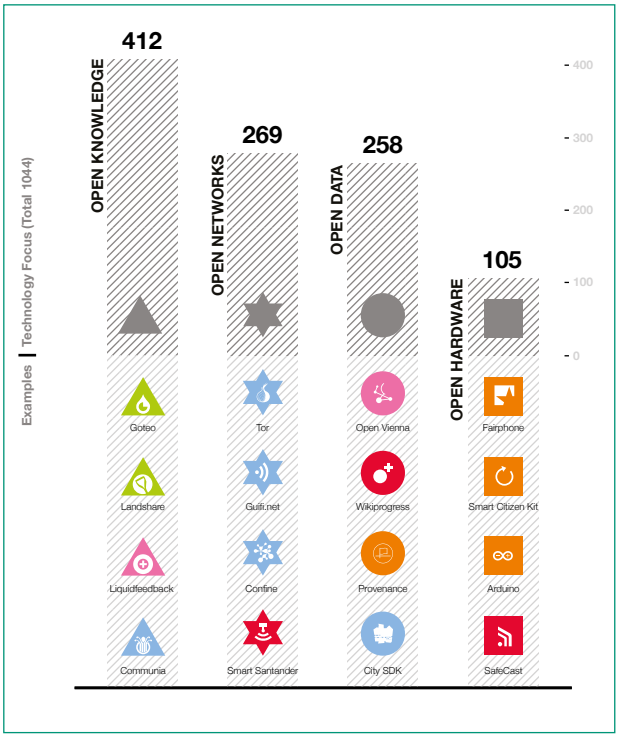
Our study of more than 130 global examples of DSI showed the diversity of the field, but also that many innovations can be understood as manifestations of four main technological trends: **Open Hardware**, **Open Networks**, **Open Data** and **Open Knowledge**.

Open Hardware: These projects are inspired by the global do-it-yourself maker movement and the spread of maker-spaces. They make digital hardware available for people to adapt, hack and shape into tools for social change.

Safecast, a project that enables citizens to capture and share measurement on radiation levels, is one example of the potential of open hardware. It was founded in March 2011 as a response to the accident at the Fukushima Daiichi nuclear power plant in Japan and frustration over the lack of government transparency about local radiation levels. Using the Arduino, an open hardware circuit board with a microprocessor, Safecast built their own Geiger counters which were given to local volunteers who used the counters to create large open datasets on radiation levels in Japan. All data is plotted on a map that visualises radiation levels in a given geographical area, and which is free for anyone to access. To date, Safecast has captured more than 15 million data points.

Open Knowledge: This refers to large groups of citizens coming together through online platforms to collectively analyse data, develop and analyse new types of knowledge or crowdfund social projects. This is the part of digital social innovation where we see the most activity, from platforms such as FixMyStreet that enable citizens to crowdmap local issues like potholes and broken streetlights, to co-writing and e-petitioning on ideas for how to improve society.

One example of the potential in mobilising citizens to create and analyse data is the work done by Cancer Research UK on their citizen science platform Cellslider. Often over-burdened academic departments don't have the time or the resources to process large datasets and some of the most important available information is in forms that computers still can't process. Cellslider tries to address this by engaging large online communities of people in analysing research images of cancer cells. To date Cellslider has involved more than 200,000 volunteers in analysing more than two million cancer images. Other examples include how the Open Ministry platform has involved more than 250,000 Finns in co-writing and voting on citizen-led policy proposals, five of which have been put to a vote in the Finnish parliament.



Our research identified more than 1,000 examples of digital social innovation in Europe, focusing on four tech trends – open knowledge, open networks, open hardware and open data.

Open data: This refers to innovative ways of opening up, capturing, using, analysing and interpreting open data.

OpenCorporates (OC) provides a good example of the opportunities in open data. It was set up in the wake of the financial crisis to make information about companies and the corporate world more transparent and accessible. It has since grown to become the largest open database of companies in the world, with data on 60 million companies and their subsidiaries.

By opening up data about corporations and integrating data on corporations from governments around the world, from Norway to the Cayman islands, OC have been able to create searchable maps and visualisations of complex corporate structures, often illustrating the layers of control across global organisations (in some cases showing thousands of subsidiaries). One analysis

of the structure of Goldman Sachs based on data from the US, New Zealand, the Cayman Islands, Luxembourg and the UK, identified 1,475 subsidiaries registered in the US and 739 in the Caymans alone. OC is widely used by journalists and governments seeking to understand global corporate structures.

Another example of this potential is how the city of Vienna in Austria has opened up more than 160 datasets on everything from budgeting to planning information. This has led local entrepreneurs to develop more than 109 apps for the city and its residents.

Open Networks: The fourth trend describes how citizens are developing new networks and infrastructures, e.g. sensor networks, where they connect their devices such as phones and internet modems, to collectively share resources and solve problems.

One example of this is Guifi.net, which was founded in 2000 as a response to the lack of broadband internet in rural Catalonia, where commercial internet providers weren't providing a connection. The idea was to build a 'mesh network' where each person in the network used a small radio transmitter that functions like a wireless router to become a node in the Guifi net. Only one node needs to be connected to the internet and from it the connection is shared wirelessly with all others in its vicinity, who again share the connection wirelessly with those closest to them. With more than 23,000 nodes, Guifi has been described as the largest mesh network in the world and provides internet connection to those who would otherwise not be able to access it. The majority of Guifi activity is in Spain, but the network reaches as far as Argentina, China, India and the US.

Who are the digital social innovators?

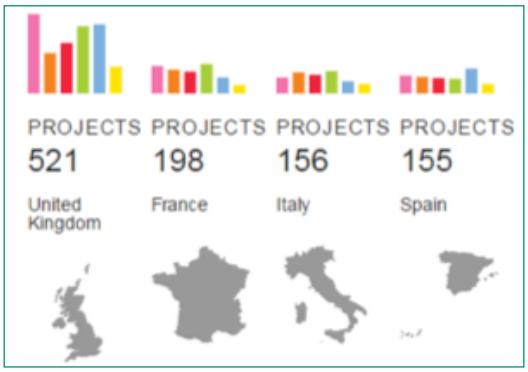
The people and organisations working on digital social innovation may not identify themselves as social innovators, and are often in very different communities from those who traditionally work on social innovation, such as established charities and social enterprises.

We've tried to explore who the people and organisations working on DSI are, what their projects look like and how the networks of digital social innovators are connected, as well as where there are gaps in the network. Our aim has been to understand where DSI activity is happening and where networks of digital social innovators are strong, and how these networks can be expanded into areas where there is currently little activity.

Through crowdmapping organisations on www.digitalsocial.eu, we have mapped 1,036 organisations with 646 collaborative DSI projects.

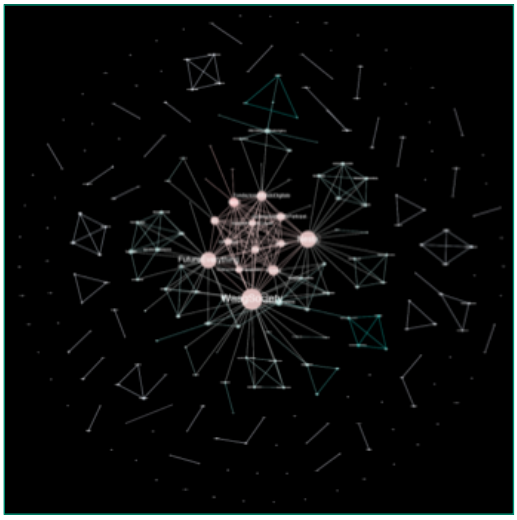
The map data shows that UK-based organisations are involved in more than 500 projects, followed by France (198), Italy (156) and Spain (155). Building on this, the European cities with the most projects are London with 90 projects followed by Paris (39), Amsterdam (30) and Berlin (22).

While most DSI activity is happening in West, Southern and Central Europe, both Northern Europe (with the exception of Finland) and Eastern Europe are less active.



In terms of the areas of society that the DSI projects focus on, the majority focused on education and skills (254) and developing new models for participating and democracy (251), with least activity around DSI science projects (110) and DSI finance and economy solutions, such as crowdfunding for social good projects (104).

The image below shows a deeper dive into the connections between DSI organisations, understood through a network analysis of organisations on www.digitalsocial.eu and their collaborative projects.



This analysis shows that although there are few very active organisations, most are disconnected from these networks. Well connected 'hubs', including Waag Society, Nesta, Fondazione Mondo Digitale and the Institute for Network Cultures, have many connections. A quarter (26 per cent/243) of organisations have connections to at least one other organisation, with the average number of connections per organisation being almost three. One of the challenges for the further growth of DSI in Europe is to better connect the many very young and small-scale organisations and projects in Europe to collaboratively develop projects, share learning and best practice, and seek funding.

What should policymakers do

Broadly, there are five main ways policymakers and governments can support digital social innovation.

1. **Make it easier to create new digital SI through regulatory and funding measures specifically targeted at supporting DSI.**

   This focus could be on four key areas of opportunity in DSI.

   a. Collaborative economy sharing tools and platforms.

   b. Digital social innovation in smart cities.

   c. Civic health.

   d. Citizen science.

   Building on existing schemes, such as the partnerships with bigger telecommunications corporations on developing smart cities agenda, this could involve making it easier for cities, regions, health authorities and universities to pilot large-scale DSI experiments around civic health, citizens science, collaborative economy and bottom-up smart city solutions and providing financial support for these experiments.

Within the digital single market it should be easier for digital social innovations such as collaborative economy and crowdfunding platforms to manage and distribute assets (financial as well as non–financial) between citizens in different EU countries

2. **Make it easier to grow and spread DSI through public procurement, support for evidence generation, common standards and integration with public services.**

   DSI has the opportunity to improve public services, cut costs and improve the environment. Easier procurement could be a route to scale and higher impact – this requires attention to the details of how procurement is organised (e.g. to make it easier for smaller organisations to win contracts), but also much more systematic orchestration of marketplaces bringing together providers and potential buyers. As an example, the Fukushima prefecture in Japan hosts a map of the Safecast data on its website and in Reykjavik, Iceland, the city council takes on board and debates ideas from Your Priorities, a platform that hosts citizen ideas for how to improve the city.

   In particular government procurement methods should seek to support DSI through:

   a. Focusing on the financial as well as the social impact (such as health outcomes, wellbeing etc.) when procuring services. Particularly for DSI this could include valuing the network effect and digital engagement of users provided by procured services.
   b. Make it easier for smaller DSI organisations or consortia of these to compete with telecommunications corporations for public contracts.
   c. Support the scaling of DSI, through reuse and repurposing of existing solutions, by encouraging (and where possible mandating) any publicly–funded service or product to be open sourced and/or licensed under Creative Commons.
   d. Joint commissioning by public bodies of DSI.

3. **Increase the potential value of digital SI (e.g. making available open data, ubiquitous broadband, open standards and supporting innovation spaces).**

   The potential for DSI can be increased by investing in some of the fundamental components of most DSI, such as open data and ubiquitous broadband. Just as it is estimated that open data can provide billions in value for the private sector, access to open data, along with other key resources such as ubiquitous broadband, is a key driver for DSI. Examples of this include how the release of more than 160 datasets in Vienna enabled local entrepreneurs to develop more than 109 apps for the city. Similarly, it was the opening up of data from the entire national budget by the Estonian government that enabled the non–profit Praxis to develop MeieRaha.eu (OurMoney in Estonian), an interactive visualisation of the budget which helped create transparency about public spending.

   In addition to this, cities and governments could further increase the potential for DSI by investing in some of the spaces and developer communities from where DSI often emerges. Examples of cities already prioritising this is how the City of Shanghai has proposed to fund 100 maker–spaces throughout the city with six opened to date, to enable the city's capacity to make, and Barcelona is experimenting with becoming a Fabcity, working more strategically with maker–spaces in the city to develop solutions to urban challenges.

4. **Enable some of the radical and disruptive innovations emerging from DSI – such as new approaches to money, consumption, education and health.**

   As in other sectors, some of the innovations in this field have very radical implications – e.g. for the future of money or education. Policymakers need to provide space for more radical ideas to be tested out in towns and cities across Europe, using knowledge about how systemic innovation can best be organised. In some cases substantial investment will be needed to support innovations through to sustainability – just as in business, where many of the most transformative innovations required many years of patient, large–scale investment before they delivered returns.

5. **Expand the European digital social innovation network and invest in the development of skills and capacity to do Digital Social Innovation**

   One of the biggest barriers to making the most of DSI, is the significant gap in the skills and capacity to experiment with and develop new digital social innovations.

   In countries where DSI is relatively advanced, such as the Netherlands and the UK, the majority of DSI is developed by new organisations, with fewer incumbents such as established charities exploring this potential. In addition to this, our crowdmap of DSI happening across the EU, shows that while there is relative high activity in Western and Southern Europe, Eastern Europe in particular is lagging behind. To address this policymakers should:

   a. Grow the www.digitalsocial.eu network to enable more opportunities for collaboration through the platform, such as the opportunity for organisations to jointly develop new projects and apply for funding.

   b. Increase early–stage seed–funding programmes and other types of non–financial support that are vital in helping entrepreneurs experiment with and develop DSI projects. The incubator programme run by the UK's Open Data Institute and the DSI accelerator programme run by Bethnal Green Ventures have demonstrated the potential of how models developed to support early–stage businesses can be adapted to support and grow DSI projects, through mentoring, funding and building digital skills.

   c. Support programmes that help people and organisations develop their skills to work on digital social innovation, such as getting digital skills on the curriculum in schools and helping civil society organisations experiment with the development of digital solutions. One example of the former is the nationwide Estonian NutiLabor initiative which teaches children (seven to 19 years old) to code at school.

   d. Help grow DSI capacity in Eastern Europe by facilitating collaboration between established DSI networks and organisations from the rest of the EU. Identify specific social challenges (health, employment, urban regeneration care etc.) facing countries in Eastern Europe and invest in pilots that explore how digital social solutions could address these.

WHAT ELSE IS NESTA DOING ON DSI?

As well as our research into the underlying trends driving DSI and the mapping of DSI organisations, Nesta is exploring the potential of technology as a driver for social innovation through a number of different programmes and projects.

Open Data Challenge Series

In the Open Data Challenge Series, we are running seven challenge prizes that invite businesses, startups and individuals to develop innovative solutions to social issues using open data in areas such as Crime and Justice, Energy and Environment, Education, Housing and Food. One example of a winning solution is MoveMaker, an app which uses open housing data to help social tenants house swap.

Crowdfunding

Our research into crowdfunding and our investment in Crowdfunder, a crowdfunding platform for social projects, has demonstrated how this new type of innovation finance that has already disrupted investment in businesses, is also changing how projects with a social purpose get funded. With more than £40 million raised for good causes via crowdfunding in 2014, and one in four of people offering to volunteer with the project they supported, it is clear the model has significant potential to increase giving as well as social action.

The role of big and open data in civil society organisations

Through a number of research grants, we are exploring and experimenting with how big data analytics can be used to understand new forms of informal social action and help charities better mine their data to understand and address emerging social issues. One example of this, is how our work with the data analysts Datakind and the Citizens Advice Bureau (CAB), a large UK charity, is supporting the development of a tool to mine data from consultations happening across the UK and turn this in to a dashboard that can help CAB quickly identify and react to trends in emerging social issues.

Another example is how Nesta worked with the Center for Analysis of Social Media, looking specifically at how communities reacted to and supported each other during the 2013 floods, to understand the role social media such as Twitter and Facebook plays in enabling a new type of informal social action. The research highlights how social media is used actively by between citizens to offer and receive support and advice, without going through formal channels such as local charities.

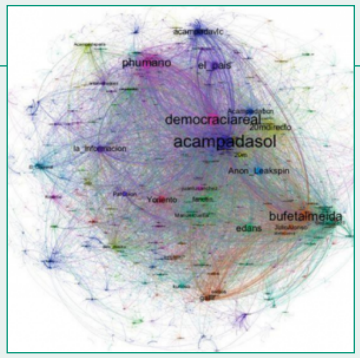
Social Smart cities

With a focus on lesser covered cities beyond Europe and the US, we are currently exploring how citizens and cities are using digital technologies and data to address urban challenges, focusing on the potential in:

- Bottom-up approaches – digital social innovations that impact life in cities (crowdmapping, crowdfunding, citizen sensing, collective action platforms etc.).
- City government-driven approaches that seek to use data and technology to engage, empower and enable citizens (open data, government-led crowdmapping, consultative tools, issue reporting apps, ecosystem building).

DCENT: The role of technology and online platforms in increasing democratic participation

D-CENT is a Europe-wide, EU-funded project creating decentralised and privacy-aware applications for direct democracy and economic empowerment. Together with citizens and developers, the project is exploring the creation of a decentralised social networking platform for large-scale collaboration and decision making.



Make Things Do Stuff – building the skills for digital social innovation

A joint project between Nominet Trust, Mozilla and Nesta, Make Things Do Stuff is a campaign and website which aims to help young people make the shift from consuming digital technologies to making and building their own from websites, games, apps or robots.

Bethnal Green Ventures

Bethnal Green Ventures (BGV) is an accelerator programme with a mission to develop tech-based solutions to the world's social problems. When BGV launched in 2011, it was one of the first social accelerators in Europe. It was also one of the first organisations to be funded by the Cabinet Office's Social Incubator Fund (with match funding from Nesta and the Nominet Trust) in 2013. Twice a year, BGV takes on ten teams with ideas for a product or service that uses tech to change a social or environmental problem, such as Fair Phone a smart phone built using ethical materials.

360 giving

Nesta is a founding partner of 360 Giving, www.threesixtygiving.org, a campaign to publish grants as open data in collaboration with the UK's major funding bodies and philanthropists. This will help the sector create better intelligence on its activities and will ultimately enable more effective collaborations and decision making.

The digital social innovation study was carried out for the European Commission in partnership with:

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Future Everything

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Nesta...

Nesta is an innovation charity with a mission to help people and organisations bring great ideas to life.

We are dedicated to supporting ideas that can help improve all our lives, with activities ranging from early-stage investment to in-depth research and practical programmes.

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