

Using technology to 'co-create' EU policies

SUMMARY

What will European Union (EU) decision-making look like in the next decade and beyond? Is technological progress promoting more transparent, inclusive and participatory decision-making at EU level?

Technology has dramatically changed both the number and quality of connections between citizens and public administrations. With technological progress, citizens have gained improved access to public authorities through new digital communication channels. Innovative, tech-based, approaches to policy-making have become the subject of a growing debate between academics and politicians. Theoretical approaches such as 'CrowdLaw', 'Policy-Making 3.0', 'liquid', 'do-it-yourself' or 'technical' democracy and 'democratic innovations' share the positive outlook towards technology; and technology is seen as the medium through which policies can be 'co-created' by decision-makers and stakeholders. Co-creation is mutually beneficial. Decision-makers gain legitimacy by incorporating the skills, knowledge and expertise of citizens, who in turn have the opportunity to shape new policies according to their needs and expectations.

EU institutions are at the forefront of experimentation with technologically innovative approaches to make decision-making more transparent and accessible to stakeholders. Efforts in modernising EU participatory channels through technology have evolved over time: from redressing criticism on democratic deficits, through fostering digital interactions with stakeholders, up to current attempts at designing policy-making in a friendly and participative manner.

While technological innovation holds the promise of making EU policy-making even more participatory, it is not without challenges. To begin with, technology is resource consuming. There are legal challenges associated with both over- and under-regulation of the use of technology in policy-making. Furthermore, technological innovation raises ethical concerns. It may increase inequality, for instance, or infringe personal privacy.



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Tech-empowered citizens and public powers

Digital transformation is increasingly affecting people's lives. We socialise, get informed, and buy a vast array of products, from food to household appliances, through digital tools. Technology is omnipresent. It has changed the way we search for information and apply for jobs. It has transformed how we travel, exercise, and educate ourselves. According to the Organisation for Economic Co-operation and Development, ongoing digital transformations affect people's lives across **11 key dimensions**, including jobs and earnings, housing, social connections and security.

Even more astonishing has been the impact of fast-changing technological innovation on the ways we communicate and interact with each other, as well as in our dealings with public administrations. **The advent of digital technology has dramatically changed the quality and quantity of our interactions with public authorities.** Contemporary tech-empowered, hyper-connected, citizens can access a broader information base than ever, join networks of peers, and engage directly with political elites.¹ It is because of digital technology that 'networked social movements' like the climate marches, #BlackLivesMatter, #FridaysForFuture and #MeToo have gained global traction so quickly and successfully.²

The potentials of tech-driven governance

Digital technology applied to governance is an upward trend. Globally, the United Nations (UN) [e-participation index](#) reports that **almost two thirds of the 193 UN member states demonstrate a high level of e-government development**, with values in the range of 0.5 to 1. By contrast, the number of countries with low e-government levels, in the range of 0 to 0.25, dropped by half, from 32 countries in 2017 to 16 countries in 2018.³

Contrary to what is commonly believed, utopias of tech-savvy, self-organised societies are not a recent phenomenon. They made their first appearance already 40 years ago, with the surge of cybernetics, and the attempt to automate public processes for a more efficient state. In 1970, for instance, the socialist government of Salvador Allende in Chile tested a primitive form of 'algorithmic regulation' aimed at controlling state-owned industries. The '**Cybersyn Project**' worked on the creation of the so-called 'liberty machine' that would operate in close to real time and, through a distributed network of shared information, facilitate instant decision-making.⁴

Yet, the current volume of initiatives and debates on the potential benefits and risks of technology applied to the interactions between citizens and public authorities is unprecedented. Not a day passes without new scholars, politicians and public administrators engaging in conversation to assess the benefits (and evaluate the risks) of technological advances related to democratic systems.

'**CrowdLaw**', for instance, is a broad research project focussed on the use of technology to improve the quality and effectiveness of law and policymaking through greater public engagement. A '[CrowdLaw Manifesto](#)' call for legislatures, technologists and the public to participate in creating more open and participatory law-making practices. A [repository](#) of CrowdLaw cases includes over 100 examples from local, regional and national administrations, spanning 39 countries and 6 continents.

CrowdLaw is not the only attempt to analyse innovative, tech-based, approaches to policy-making and put them into a coherent conceptual framework. Other definitions in use include 'policy-making 3.0',⁵ 'liquid', 'do-it-yourself' or 'technical' democracy⁶ and 'democratic innovations',⁷ to name but a few.

The benefits of technology applied to public decision-making

Despite some minor differences, studies that analyse innovative, tech-driven approaches to policy-making all point to three key benefits stemming from incentivised use of technology in the public sector.

The first benefit is **enhanced efficiency**. According to many authors, inadequate training, blunt management tools, and funding cuts often hobble the innovative potential of public administrations. The result is structural and knowledge gaps and a limited capacity of public structures to engage meaningfully with citizens. According to the [Global Innovation Barometer](#), only 9 % of business executives globally regard governments and public authorities as top drivers of innovation in society. This compares with 23 % and 18 % respectively of executives mentioning multinational corporations and start-ups. Technology may help to overcome the existing knowledge and skills gaps between civil servants and private-sector workers.

A second expected benefit of the diffusion of technology in the public sector is **heightened effectiveness of public policies**. Budgetary pressures, public-sector staff capacity at a historic low and the increased complexity of regulatory issues, have made many of the old regulatory practices obsolete. The scale and complexity of regulatory issues are so great that traditional bureaucratic problem-solving is too slow, or not adequately designed, to address them effectively. Contemporary public regulators [need](#) to manage limited resources, to analyse growing flows of data and to develop synergetic approaches in order to tackle regulatory challenges. To keep in step with technological innovation is essential in order to cope with such challenges.

Third, and fundamentally, technology holds the promise of **more transparent, accessible and participatory decision-making**. Technological innovation discourages public administrations from addressing demands for participation with traditional, inefficient, approaches. Instead it encourages them to embrace innovative solutions. A few examples: the web-based participatory platform '[Better Reykjavik](#)', the e-voting platforms operating in Barcelona and Madrid (namely: '[Decidim](#)' and '[Decide Madrid](#)'), and the online '[Dialogue with Citizens](#)' run by the Italian government from 2011 to 2013. According to experts, technology is the medium through which public administrations and citizens can engage in a mutually beneficial process of **co-creation of public policies**. Public administrators enhance their legitimacy by harnessing the skills and expertise of citizens in policy-making; the latter, in turn, are empowered in that they gain the opportunity to shape new policies according to their needs and expectations. With co-creation, citizens contribute to crafting personalised decisions with overarching applications.⁸

Technology and co-creation of policies at EU level

European Union (EU) institutions are at the forefront of experimentation with innovative technology to make policy-making more accessible to citizens. Data are a case in point. With a global 'datasphere' that is [expected](#) to grow to **163 zettabytes** by 2025, the EU has progressed both at making data publicly available online (at present, the [EU Data Portal](#) contains over 13 000 datasets) and at crowdsourcing data, particularly in the field of [citizen science](#).

How effective have EU institutions been at separating unoriginal, regressive, ideas about civic participation from innovative, tech-based, approaches to more inclusive policy-making? Can we safely claim that technological innovation is promoting more transparent, inclusive and participatory decision-making at EU level?

Below we review the implementation of technology in EU participatory processes from a historical perspective. We aim to show how EU institutions have adapted to new ideas and trends around technological innovation. In the following section we shift our gaze to the future, assessing the challenges that EU regulators will face in conceiving, designing and co-creating policies via technology.

The early phase – Redressing criticism of an EU democratic deficit

Early attempts to democratise EU policy-making through technology date as far back as 20 years ago. The redressing of criticism of the EU's democratic deficit was the primary purpose for calling a [constitutional convention](#) in the early 2000s.

The **Lisbon Agenda** made social inclusion – and specifically the reduction of social inequalities in the information society – one of its main goals. Building on that principle, the [2002-2005 e-Europe initiative](#) focused on fostering e-inclusiveness, which was complemented by the modernisation of public bodies, and the creation of e-government services.

[Plan D \(Democracy, Dialogue and Debate\)](#) moved the conversation on openness forward. The concept of e-inclusion returned in 2010, when the European Commission adopted the [Digital Agenda for Europe](#). In 2012 the [European Citizens' Initiative](#) (ECI) – a participatory bottom-up instrument – entered into force. Nearly seven years later, the Commission launched a new online platform to support the organisers of citizens' initiatives. The platform hosting ECI was re-designed to help the organisers of new initiatives reach the threshold of one million signatures, and possibly to attract more young European citizens. The [re-design of the ECI](#) has two aims: to facilitate interaction with citizens, and to enable more effective policies.

The second phase – Furthering digital opportunities for civic engagement

Not all tech-based initiatives promoted by EU institutions to foster inclusion have been successful. This led to a shift in focus approximately five years ago. Since 2016, EU institutions have intensified efforts to enhance digital interactions with stakeholders across the entire policy cycle. In this new phase, technology becomes a key driver of EU policy-making, rather than an attempt to deflect criticism.

The 2016 [Interinstitutional Agreement on Better Law-Making](#) is exemplary in this regard. The co-legislators are encouraged to enhance the transparency of legislative procedures and to improve stakeholders' engagement throughout the policy cycle, by digital means. Improving Commission consultations is central to the [Better Regulation Agenda](#). The number and variety of participants should be increased, and this approach should also apply to secondary legislation.

On specific occasions, online consultations have been organised by the European Parliament. In 2017, the Committee on Legal Affairs (JURI) ran a [consultation](#) aimed at launching a broad-based debate with a wide range of stakeholders on its 'Civil Law Rules on Robotics' report. Almost **300** respondents (**259** of them individuals, and **39** organisations) responded to the consultation, from **23** EU Member States and **8** non-EU countries. JURI ran another [consultation](#) between 2017 and 2018 on an open, efficient and independent European Union administration, in connection with the European Parliament's resolution on the same topic adopted in June 2016. In response to the consultation, it received **166** fully completed online responses from **20** EU Member States; 155 contributions came from individuals and 11 from organisations.

Finally, the [2016–2020 European e-Government Action Plan](#) is also interesting. The plan envisages 'the use of opportunities offered by the new digital environment to facilitate interactions with stakeholders,' among the actions that EU administrations should implement to keep pace with innovation.

More recently, the idea of implementing technology throughout the policy cycle, in order to enrich relations between EU institutions, citizens and stakeholders, featured in the [Political Guidelines](#) of the European Commission President, Ursula von der Leyen, and in her [mission letter](#) to Věra Jourová, Vice-President for Values and Transparency. During Jourová's [hearing](#) at the European Parliament, she mentioned the importance of digital tools for engaging citizens, and specifically the 'Have Your Say' web portal. In her [opening statement](#) to the Parliament on 16 July, before her election as Commission President, von der Leyen gave a commitment to hold a Conference on the Future of Europe, to start in 2020 and run for two years, in which citizens could have their say. The Vice-President for Democracy and Demography, Dubravka Šuica, has been tasked with leading this work. Parliament adopted a [position](#) on the Conference on 15 January, the first of the institutions to do so, and the Conference is now expected to start on 9 May 2020.

The current phase – Design-thinking and civic engagement

The latest trend around technology and EU policy-making consists of **design-thinking** – i.e. the approach to policy-making from a design perspective. Scholars of public management have called attention to the growing importance of policy design.⁹ Design-based approaches are credited for opening up new options to policy-makers, and thus help them to explore potentially more effective regulatory solutions. National administrations have sought the help of designers to address challenges of [community policing](#), registration of new voters, and [removing friction from voting](#) mechanisms.

The design-thinking approach to EU policy-making is still in its infancy. In 2018, the European Political Strategy Centre [stressed](#) that equality should be addressed not only through ex-post, redistributive tools and policies, but also through design. In 2019, the Joint Research Centre (JRC) of the European Commission published a [report](#) on the future of governing. This portrays design-thinking as a crucial step in the development of people-centred governance models, responding to changes in citizens' perspectives, and experimenting with new modes of knowledge creation.

The interest shown by EU institutions in design-thinking is motivated by the **collaborative vision of policy-making** it embodies. Approaching policies from a design perspective involves setting up prototypes and adapting their design through trial and error. Technology makes this process of co-creation possible. The active flow and exchange of ideas and information between citizens and EU institutions is supposed to facilitate both engagement and empowerment of civic actors in policy-making.

[Futurium](#) is probably the best existing example of design-thinking approach applied to EU policy-making. Launched by the European Commission's Directorate-General for Communications Networks, Content and Technology (DG CONNECT), Futurium aims at hosting visions and ideas related to the initiative known as '[Digital Futures](#)'. Over time, Futurium has undergone substantial changes, and has become a participatory platform. At present, Futurium facilitates the joint creation of ideas to help design future policies. It does so by incorporating different variables, reflecting both emotional and rational mind-sets – i.e. front-end participatory tools, knowledge-harvesting tools (for both policy-makers and stakeholders), data-crawling tools (from social networks), and data-gathering tools (from real world data). In Futurium, these components are used to leverage the potential of social networks, open data, semantic and knowledge-mining technologies. It also uses participatory brainstorming techniques to engage stakeholders and harness their views and creativity to better inform policies that matter to them.

Design plays a key role in Futurium. The platform is structured to foster engagement through a captivating, attractive, format. Two examples: users can express their preferences on future scenarios according to their desirability (how much an individual wants a future to become reality) or, alternatively, to its likelihood (the probability that a future will materialise, or will continue if it is already an established trend). But they can also like or dislike a policy's impact and 'plausibility' (i.e. the overall assessment of the possibility to implement the policy). Or they can express support for a particular policy with a simple 'like it!' or 'hate it!'.

Four challenges ahead

The combination of technology and design-thinking opens new possibilities for solving long-standing problems of civic participation and engagement in EU decision-making. Co-creation offers a bright scenario for future EU policy-making. But, as can be easily foreseen, this is not a risk-free process. While intensive resources are invested to fund innovative approaches, the results may not be rigorously evaluated and assessed against current challenges. This limits the possibility of sifting out ineffective innovations, on the one hand, and scaling up successful policy programmes, on the other. The risk is that innovations are embraced or discarded in a haphazard fashion.

EU institutions are faced with **four key challenges**. First, technology is resource consuming and potentially less predictable. How to innovate without exceeding expenditure-limits and avoiding failures? Second, it is difficult to find the right balance on the regulation of technology. How to escape drawbacks from over- or under-regulation? Third, technological innovation raises ethical concerns, such as how to avoid inequality? Fourth, and finally, how to safeguard citizens from loss of privacy?

The costs and risks of innovation

As the [literature](#) notes, innovating public decision-making may have paradoxical outcomes. Innovative approaches are increasingly believed to generate positive outcomes, for instance in the field of civic engagement. However, innovation policy tends not to be rolled out in an experimental way.

Hence the first challenge for EU regulators. No matter how creative and forward-looking an attempt to innovate in policy-making using technology may be, it will not work in the absence of a **systemic approach**. In the absence of wider organisational collaboration, technology is simply adapted to existing regulatory ways. The further consequence is relatively superficial outcomes.

A systemic approach to innovation in decision-making through technology, however, **demand both time and financial outlays**. The latter are associated with design, attracting experts, sampling, and communication. Expenditure may also result from the (re-)adaptation of working practices and on-the-job training for civil servants.

Added together, the costs of a systemic approach to technological innovation make it risky for EU decision-makers. Due to its predictable results, public decision-makers prefer to reiterate familiar regulatory approaches to participation, even when these produce unsatisfactory outcomes. Innovative approaches are avoided because are less predictable (at least in the trial phase) and, for this reason, more likely to turn into **policy failures**. Embracing failure as an integral (and binding) part of policy experimentation is the fourth challenge to overcome. The challenge for EU institutions transitioning from traditional participatory tools (e.g. public consultations, notice-and-comment and public opinion polls) to pioneering practices aimed at amplifying the role of citizens in EU decision-making is to introduce a learning environment in which the lessons from patchy outcomes are studied and acted upon.

Policy labs like the JRC and in-house think-tanks such as the [European Parliamentary Research Service](#) play a key role in this regard. Through research and knowledge dissemination, these structures act as transformative vehicles of EU institutions, encouraging EU policy-makers to be less hesitant in engaging in innovative behaviour.

The regulation challenge

How should we regulate the use of technology? Neither of the two extremes – over-regulation and under-regulation – is risk-free. The **'Over Regulatorcy'** hypothesis, in the words of the [JRC](#), consists of over-protective approaches, which risk suffocating innovation. It is no accident that the first to be concerned by over-regulation are designers and developers. They see excessive legislation as an obstacle to the development of disruptive and creative approaches.

But also completely neglecting the adoption of rules and standards for technology can have unpleasant drawbacks. In a historic moment in which the [debate](#) on how to regulate technology has shifted focus from the individual sphere to public health concerns, there are issues that cannot be left without regulatory oversight. The most pressing – and, until now, unresolved – issues concern artificial intelligence (AI), collective intelligence (CI), and sentiment analysis. A quick round-up of these problems:

- First, how to regulate the relationship between creativity and AI? It might be reasonably argued that creativity through AI is going to play an ever-increasing role in the future,

augmenting human capacities in quests and problem-solving. In a 2019 report, the European Commission looks at the use of increasingly sophisticated machine-learning techniques to design entirely new kinds of objects or strategies that have, to date, evaded the human imagination.

- Second, how should the EU regulator address the combination of AI and CI? In spite of their growing importance, we lack a clear evidentiary basis on the most effective and legitimate uses in this regard.
- Third, should the EU institutions set limits for 'emotion recognition' systems? Many believe so. Emotion recognition has traditionally been concerned with detecting emotions by applying advanced image-processing algorithms to images (or videos) of the human face. Recently, however, it has been turned to 'sentiment recognition' – applying machine-learning algorithms to written text in order to detect positive or negative attitudes expressed by people, and possibly gauging their emotions through various means (text analysis, tone of voice, heartbeat and breathing patterns). Examples include the wrist-mounted AI device which detects a conversation's tone with 83 % accuracy, and provides a 'sentiment score' for every five-second interval in a conversation.

Ethical concerns

The last set of challenges for EU institutions testing technology into participatory procedures are ethical by nature. These include issues related to both social exclusion and privacy.

Social exclusion

According to the [Global Trends Unit](#) of the European Parliamentary Research Service, the EU's catch-up in technology production might increase inequalities, particularly among the lower-skilled, less educated and less trained. Scholars are familiar with the issue. Several studies have argued that technology could be a source of inequality, rather than an incentive to inclusion.¹⁰ In the field of digital democracy, exclusion is further exacerbated by the net separation between **dominant and subordinate positions**. The former dominate mainstream thinking and practice. They have been given different names and definitions but can essentially be brought together by the tendency to dominate online discourses. Deliberative practices have at times ignored the needs of subordinate actors, to the benefit of dominant positions.

The design and the rules governing public spaces for discussion and deliberation are crucial. These influence which claims are made, who can speak, what weight is given to which arguments, and when, how, and why other users can interact. What can public regulators – and specifically the EU – do to avoid exclusion? There are several possible solutions. EU regulators must be mindful of biases in the use of digital services when innovating in public services, so as not to exclude vulnerable groups.¹¹ Some recommend an '[agile](#)' approach to innovation. Others suggest breaking free from visions of homogeneous, unitary, civic engagement, in favour of a more flexible separation between **conventional and unconventional forms of participation**. Recognising unconventional forms of engagement would help the emergence of '[subaltern counter-publics](#)' (i.e. minority voices that coalesce around common issues, circulate counter-discourses, and formulate oppositional interpretations of issues).

Privacy threats

There is no point in denying that digital tools for governance rely extensively on users' data. As levels of engagement increase, a larger amount of personal information needs to be shared with public administrations. Verification processes also become important. Identity verification processes or mechanisms to gather information about users are found in one form or another in all cases of technology applied to participatory processes. This is problematic in two respects.

- First, the increased granularity of data, together with increased data-sharing between EU structures and public-private partnerships, may have a negative impact on privacy. In the 'Private Algocracy' scenario set out by the JRC, giant digital companies hold power over citizens and governments. The problem of third-party accountability, in protecting personal information, is familiar to 'GovTech' – i.e. the complex set of bonds and interactions among individuals, public organisations, and tech companies to innovate in policy-making through emerging technology. To avoid privacy risks, some suggest certification standards for the accountability of companies providing public regulators with disruptive digital innovations. Others suggest emulating the approach used for 'automated decision-making', that is procedures in which decisions are partially or completely delegated to another person or corporate entity, which then use automatically executed decision-making models to perform an action.
- Even when data are gathered and processed exclusively by public structures, privacy concerns remain. In this case public administrations are compelled to implement robust cyber-security measures to avoid data breaches and leaks, and to maintain a high level of protection of the citizen's private sphere. Currently, there are many blurred lines, especially on data-driven technologies. A regulation such as the EU General Data Protection Regulation is seen as helpful in determining how citizens' data may be acquired and treated by public and private actors.

ENDNOTES

- ¹ See A. Fung, H. Russon Gilman, J. Shkabatur, 'Six models for the internet + politics', 15 *International Studies Review*, 2013, pp. 30-47.
- ² The concept of 'networked social movement' is discussed in Z. Tufekci, 'Twitter and tear gas: the power and fragility of networked protest', Yale, 2017.
- ³ The index measures e-participation according to a three-level model of participation. The model includes e-information (Enabling participation by providing citizens with public information and access to information without or upon demand), e-consultation (Engaging citizens in contributions to and deliberation on public policies and services), and e-decision-making (Empowering citizens through co-design of policy option and co-production of service components and delivery modalities).
- ⁴ See K. Loeber, 'Big Data, Algorithmic Regulation, and the History of the Cybersyn Project in Chile, 1971–1973', 7 *Social Science Computer Review*, 2018.
- ⁵ See F. Accordino, 'The Futurium – a foresight platform for evidence-based and participatory policymaking', 26:3 *Philosophy & Technology*, 2013, pp. 321-332.
- ⁶ The origins of Liquid Democracy date back as far as 1884, though most core elements were not foreseen until 1969, when James C. Miller published "A program for direct and proxy voting in the legislative process" (See J.C. Miller III, 'A program for direct and proxy voting in the legislative process', in *Public Choice*, Vol. 7, Issue 1, pp. 107-113). In the 1990s the idea of vote delegation was re-thought in the context of the emerging use of the internet (See R. Lanphier, '[A Model for Electronic Democracy?](#)'). The term gained in popularity when the German Pirate Party movement proposed to overcome the limitations of direct and representative democracy. For further information on liquid democracy, see J. Beherens, 'The origins of liquid democracy', in *The Liquid Democracy Journal*, 5, 2017. On 'technical democracy', see P. Lamard, Y-C. Lequin, 'Elements of technical democracy', *Journal of innovation economics and management*, 1, 2017, pp. 171-181.
- ⁷ See G. Smith, *Democratic innovations*, Cambridge 2010.
- ⁸ This practice has been described as 'prosumerism'. Coined in 1980, prosumerism describes a market in which the basic needs of consumers are already satisfied by mass production and companies initiate processes of mass personalisation through mass-producing highly personalised products. Prosumers participate both in the design (as producers) and in the consumption (as consumers) of products through mass customisation. See A. Toffler, *The Third Wave*, Bantam Books, 1984.
- ⁹ See M. Howlett, I. Mukherjee, J. Jie Woo, 'From Tools to Toolkits in Policy Design Studies: The New Design Orientation Towards Policy Formulation Research', 43 *Policy & Politics*, 2015, pp. 297-299.
- ¹⁰ On digital divide, see P. Norris, *Democratic Phoenix: Reinventing Political Activism*, Cambridge University Press, 2003; B. Barber, 'Three scenarios for the future of technology and strong democracy', *Political Quarterly*, 113:4, 573-589 (1998).
- ¹¹ On this point See [Global Trendometer 2019](#), EPRS, December 2019.

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