European Commission

JRC CONFERENCE AND WORKSHOP REPORT

Exploring Digital Government Transformation in the EU

Expert Consultation and Stakeholder Engagement

Egidijus Barcevičius, Cristiano Codagnone, Luka Klimavičiūtė and Gianluca Misuraca

2020

Contact information
Gianluca Misuraca
Senior Scientist, Digital Government Transformation
European Commission's Joint Research Centre, Digital Economy Unit
Edificio EXPO, Calle Inca Garcilaso, 3 – 41092 Seville, Spain
+34 95-448.87.18
gianluca.misuraca@ec.europa.eu

EU Science Hub
https://ec.europa.eu/jrc

JRC121494

PDF ISBN 978-92-76-21064-1 doi:10.2760/621165

Luxembourg: Publications Office of the European Union, 2020

How to cite this report:
Barcevičius, E., Codagnone, C., Klimavičiūtė, L., Misuraca, G., Exploring Digital Government Transformation in the EU: Expert Consultation and Stakeholder Engagement, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-21064-1, doi:10.2760/621165, JRC121494

Table of Contents

Foreword

This report provides an overview of the main activities of the expert consultation and stakeholder engagement conducted as part of the JRC research on '*Exploring Digital Government Transformation in the EU: understanding public sector innovation in a data-driven society*' – **DigiGov** in short.

The aim of these activities was to enrich and validate the results of the study while gaining insights into future research directions and policy developments. To this end, it was decided to engage effectively with a group of recognised experts, as well as representatives of key stakeholders, drawn from a diverse range of academic disciplines and practices in the areas of digital government and data for policy at European and international level.

This engagement laid the foundations for the DigiGov Community, which has been established as an online community of practice facilitated by the JRC and the partners in the research consortium supporting the project. The aim of the community is to discuss the intermediate results of the research, enabling experts to provide insights and suggestions for improvement with regard to their specific area of expertise, as well as contributing to the dissemination of scientific results and shaping policy recommendations.

Consultations with experts and engagement with stakeholders form a crucial aspect of any science for policy endeavour. This is especially true when embarking on a journey characterised by a multi-disciplinary and multi-stakeholders environment, with the aim of not only assessing the current state of play, but also co-designing innovative research instruments and envisioning future policy solutions through the use of system-thinking and foresight.

For this reason, this process has been central in this research, accompanying the conceptualisation process and empirical analysis with selected events at crucial moments in the project.

The objective of the first workshop, held in Ispra in May 2019, was to review and validate the results of the review of the state of the art with regard to research and policy in the field, and to jointly outline a proposal for a conceptual framework to understand how ICT-enabled innovation can transform EU governance and policy making. The workshop was attended by over 60 participants, and served to structure the DigiGov community as an active component of the research via subsequent systematic online consultations and regular digital discussions.

The second workshop was held in October 2019 in Seville. It focused on further co-designing and validating the final proposal for the DigiGov conceptual and assessment framework, as well as the findings of the experimental case studies conducted as part of the empirical component of the research. For this purpose, a structured Policy Lab was organised, involving over 40 participants in interactive discussions and role-playing. This successfully contributed to the final outcomes of the project, paving the way for future research and providing important indications as to how to structure the project's policy recommendations. The workshop came at a crucial moment in the European Union policy-making process, at a crossroads between the Juncker Commission and the new von der Leyen Commission, which made the creation of 'A Europe fit for the Digital Age' one of the key priorities for the future of the EU.

Due to the COVID-109 outbreak and travel restrictions, the Final Conference and Foresight Workshop, which was planned to take place at the end of May in the Schumann Room of the Berlaymont building in Brussels, was no longer possible. Instead, a Foresight Online Workshop was organised on 9 July 2020. This event was designed to be highly interactive and involved almost 50 participants who contributed to the discussion on how to shape Digital Government Transformation by 2040, while also validating the final results of the research.

This online event came at another important moment in the development of the EU. It provided insights into the debate on the orientation of the Digital Europe Programme (DEP), as well as the future Digital Government policy actions being defined by the Commission and Member States as successors to the eGovernment Action Plan 2020 and the targets set out in the Tallinn Declaration.

In addition to the study's key activities of consultation and engagement, it is worth noting that results of this research have been presented and discussed at several scientific and policy events during the course of the project, in order to test the validity of its findings 'in real time' and gather additional inspiration. These included presentations to formal meetings of representatives from the EU Member States such as the ISA^2 Committee and the eGovernment Action Plan Steering Board, as well as the dedicated Working Group of the ISA^2 ELISE Action, and the Steering Committee and Advisory Board of the Innovative Public Service – IPS Action, which aims to lay the foundations for the EU Innovative Public Service Observatory (IPSO). The DigiGov project has also been discussed with policy makers at international level during events organised by the UN and OECD, such as the UN Public Service Awards 2018 in Marrakech and the OECD eLeaders meeting in Brussels in December 2019.

Presentations also took place at large gatherings, in order to consult and inform a broader scholarship and practitioners. Such efforts included engaging with H2020 research communities, in particular as part of the Coordination and Support Action 'Big Policy Canvas - Transforming policy making through Big Data and Open Innovation' and the CO-VAL Project on 'Understanding value co-creation in public services'.

As part of these efforts to widen the dissemination of the research findings, I had the pleasure of presenting keynotes at the International conference on 'Channelling Change – Digital Cities in a Changing World', which took place in Venice on 13-14 June 2019. I also presented the results of the project at the '2019 Conference on the Digital Agenda in Italy' in Milan on 12 December 2019, as well as outlining future research directions and policy insights at the first EU Interoperability Academy organised by the European Commission under the ISA^2 programme in Leuven on 13 December 2019.

I have also been delighted to present the final results of the research and to anticipate scenarios for the ways in which digital government can shape Digital Europe 2040 at the 'Samos Summit on ICT-enabled governance 2020', which took place online on 13 July 2020. This event marked the 10th anniversary of the first Samos summit in 2010. This was initiated by the CROSSROAD Project and proposed 'A Participative Roadmap for ICT Research in Electronic Governance and Policy Modelling'. Within the context of CROSSROAD, I had the honour of leading the foresight process to design scenarios envisioning Digital Europe 2030.

Building the DigiGov community has been a crucial first step to pave the way towards digital governance in the EU and at global level. The discussion and engagement must therefore continue. Following the postponement due to COVID-19 of many events scheduled for the spring of this year, the DigiGov scenarios and key results will now be presented on 23-25 September at the ICEGOV2020 conference on 'Digital Governance in the Era of Disruptive Technologies and Globalisation', as well as at many later events, including in January 2021 at the final CO-VAL Conference on 'Value Co-Creation, Innovation and Digital Transformation of Public Services' in Madrid, among others.

The 'DigiGov Engagement Model' with which we have successfully experimented in this research, whether in person or online, should be further promoted and used systematically as part of JRC research on Digital Governance and Public Sector Innovation, to ensure that science can play a crucial and effective role in supporting the shaping of better policies for the future of global governance and for European citizens.

Gianluca Misuraca

DIGIGOV Scientific and Project Leader for JRC

Acknowledgements

This report has been prepared by the JRC in collaboration with the DigiGov consortium. It also integrates inputs from individual experts who participated in the consultation and validation activities of the project, acting as panellists, facilitators, rapporteurs or engaged participants in the discussions.

The DigiGov consortium consisted of PPMI (the lead partner), Open Evidence, Politecnico di Milano, RAND Europe and Martel Innovate. A special mention goes to the members of the consortium who, along with the authors of this report, played a prominent role in the project's expert consultation and stakeholder engagement activities, in particular Vaida Gineikytė (PPMI), Luka Klimavičiūtė (PPMI)< Giovanni Liva (Open Evidence), Alberto Mucci (Made Design), Irene Vanini (POLIMI), Stijn Hoorens (RAND Europe), Monique Calisti (Martel Innovate), Margherita Trestini (Martel Innovate) and Kai Zhang (Martel Innovate).

Several colleagues at the JRC contributed actively to the successful organisation of the events. Many thanks go to Sofia Kekempanou, Beatriz Crespo Roman, Dimitrios Mavridis and Colin van Noordt as visiting researcher at the JRC. We are especially grateful to the former Head of the Digital Economy Unit, Alessandro Annoni; the Deputy Head of Unit, Michael Lutz; ELISE Action Leader, Francesco Pignatelli; as well as to the Director for Growth and Innovation at the JRC, Mikel Landabaso Álvarez, who gave special significance to the final event of the DigiGov project with his presence and insightful closing remarks.

Colleagues from other EC services have also played an important role in placing this research into the prospective policy context and actively engaging with participants in the discussion of results. In particular, we are indebted to Natalia Aristimuño Perez, Head of the Interoperability Unit of DIGIT, and to Georges Lobo, ISA^2 Programme Manager at DIGIT, for their guidance and support. We are also thankful to Maximilian Strotmann, Deputy Head of the Interoperability Unit at DIGIT, and Cristina Cosma, ISA^2 Programme Manager at DIGIT; to Andrea Halmos, Policy Officer at the DG CONNECT Smart Mobility & Living Unit; to Dietmar Gattwinkel, Seconded National Expert at DG CONNECT eGovernment and Trust Unit; as well as to Yannic Blaschke, placed by DG CONNECT at the disposal of DG NEAR, and Francisco Garcia Moran of DG REFORM, for their active participation in the various workshops and online events.

Last but not least, the main actors in the process of consultation and validation were the participants themselves, who stimulated the discussion and challenged the findings of the research, providing rich insights drawn from their experience from an academic, practice and policy perspective.

The list is long, but we are pleased to mention each and every one of the experts and stakeholder representatives who contributed to making DigiGov a success. These include: Vincenzo Aquaro (UNDESA), Delfina Soares (UNU), Barbara Ubaldi (OECD), Erika Widegren (Re-Imagine Europa), Lisa Ginsborg (School of Transnational Governance, EUI), Elke Loeffler (Governance International), Pauline Chetail (Bruegel), Alexander Heichlinger (former EIPA), Edoardo Ongaro (EGPA), Eliza Niewiadomska (EBRD), Anys Boukli (Digital Partners), Patrice Chazerand (DIGITAL EUROPE), Maria Claudia Bodino (Digital Transformation Team, Italy), Patrick Eckemo (Agency for Digital Government, Government of Sweden), Enzo Maria Lefevre (former AGID), Judie Attard (Government of Malta / Trinity College Dublin, ADAPT), Kalina Georgieva (Bulgarian State Agency), Eva Paukeronova (Government of the Czech Republic), Yannis Charalabidis (Aegean University), Tomasz Janowski (Gdańsk University of Technology), Marijn Janssen (Delft University of Technology), Robert Krimmer (Tallinn University of Technology), Maciej Kuziemski (Harvard University), Rony Medaglia (Copenhagen Business School), Ines Mergel (Konstanz University), Alberto Peralta (University of Alcalá), Aaron Rosa (Fraunhofer ISI), Pierre Rossel (EPFL/Coherent Streams), Svetlana Ivanova (ISINNOVA), and Damir Simunic (WA Research).

Finally, we are also thankful to all other colleagues, researchers and practitioners who have so far engaged with the growing DigiGov community, online or during specific events, as well as those who will do so in the future, further contributing to the advancement of Digital Government Transformation in the EU and beyond.

Authors

Egidijus Barcevičius (PPMI)

Cristiano Codagnone (Open Evidence)

Luka Klimavičiūtė (PPMI)

Gianluca Misuraca (JRC)

1 Introduction

In 2018, the JRC launched the research project '*Exploring Digital Government Transformation in the EU: understanding public sector innovation in a data-driven society*', referred to in brief as **DigiGov**. The key objective of the project was to explore how innovation in the public sector, enabled by information and communication technologies (ICTs), can transform governance systems, enabling governments to better address systemic problems. The research was designed to consider governmental transformation in relation to emerging predictive and cognitive technologies including artificial intelligence (AI), in combination with applications providing geospatial/location data, for policy design and service delivery. The research aimed to support the implementation of JRC research in the area of digital government, as part of its flagship project on Digital Transformation and Artificial Intelligence (DT&AI), and within the framework of the ELISE Action of the ISA^2 Programme, jointly led by the JRC and DIGIT.

The DigiGov research was directed by the JRC and implemented by a consortium consisting of PPMI, Open Evidence, Politecnico di Milano, Rand Europe and Martel Innovate. The team analysed the state of the art, developed a conceptual framework and carried out four case studies, which included empirical experiments. The study included an extensive **consultation and validation process** which drew on three workshops as well as online community engagement activities. The participants included experts, academics, practitioners and representatives of NGOs, as well as policy makers from governments, EU institutions and international organisations. In total, almost 100 experts and stakeholder representatives, as well as EC colleagues, engaged in study-related events and activities. They carried out peer reviews, contributed to discussions and provided feedback that informed the research process.

More specifically, three events were organised as a core part of the DigiGov research, to discuss the key findings of the study and gain insights for further work and policy implications:

- The first workshop was held at JRC Ispra, Italy on 13-14 May 2019. It focused on discussing the review of the state of the art and the first draft of the conceptual framework for the study.
- The second event consisted of a Policy Lab, and took place at JRC Seville on 24-25 October 2019. It focused on co-designing the revised version of the conceptual framework, and validating the findings of the four experimental case studies.
- The final workshop took place on 9 July 2020. Due to the ongoing COVID-19 pandemic and related travel restrictions, the event was organised online. The workshop discussed avenues for shaping Digital Government Transformation in the EU, and included a foresight discussion to imagine the future of digitally enabled governments.

Over the forthcoming sections, we present the key insights that emerged from the workshops. In the final section, we bring together the most prominent ideas, including some of those that originated from the debate on the role of the EU in the light of different digital transformation scenarios.

2 Expert and stakeholder consultation workshop, JRC Ispra, 13-14 May 2019

The first workshop was organised at JRC Ispra on 13-14 May 2019. This event explored 'How ICT enabled innovation can transform EU Governance and Policy Making', drawing on the first two deliverables produced by the DigiGov team: the analysis of the state of the art (D2), and the conceptual framework (D3). The workshop was attended by almost 60 participants, including representatives of the European Commission, international organisations (UNDESA and the OECD), as well as academic institutions, research centres, private sector organisations and think tanks. The workshop was intense and interactive, alternating between presentations, plenary discussions and 'world café' working group activities. This enabled a lively discussion and wide-ranging exploration of the main research and policy implications relating to the digital transformation of government, democracy, the economy and society.

2.1 The policy scene

To set the scene in terms of policy context and priorities, **Alessandro Annoni**, Head of the Digital Economy Unit at the JRC, opened the workshop by stressing that digital transformation is having a profound impact on both the economy and society. He underlined that it is therefore of the utmost importance that governments leverage new technologies to reinforce trust in government, engagement and participation, and thereby contribute to reinforcing democracy at this very critical moment.

Georges Lobo, ISA^2 Programme Manager at the Interoperability Unit of DIGIT, further underlined the importance of jointly exploring the technological, regulatory and social dimensions of Digital Government Transformation to maximise its potential benefits for citizens, businesses and public administrations. He added that the ISA^2 Programme contributes to the digitalisation of governments, supporting inter-operable and cross-borders solutions.

Gianluca Misuraca, Senior Scientist and DigiGov Project Leader for the JRC, provided further background on policy and research by reviewing the key EU policy strategies on Digital Government Transformation and presenting the available research evidence. Among other things, he stressed that more work is needed to assess the effects of digital transformation, and to cope with the complexity of innovation in government.

2.2 Global perspectives on Digital Government Transformation

Vincenzo Aquaro, Chief of Digital Government at UNDESA, stressed the focus of the UN 2030 Agenda on social and digital inclusion, and presented the approach and results of the UN e-Government Survey. In this regard, he added that since EU countries are at the top of the UN survey, the research undertaken by the JRC should bring useful insights for countries outside Europe.

Barbara Ubaldi, Digital Government Team Leader at the OECD, argued that there is a need to move from e-government (understood as a digital transposition of analogue processes) to Digital Government Transformation, through a re-thinking of processes, new skills, and critical thinking. In relation to this, she considered the DigiGov study both timely and very strategic, and expressed strong interest from the OECD in being involved.

Lastly, **Erika Widegren**, Chief Executive of Re-Imagine Europa, placed special emphasis on the potential role in Digital Government Transformation of artificial intelligence (AI) in combination with other emerging technologies. In addition, she highlighted the need to formulate a European approach to cope with the rising tide of fake news and populism across the world.

2.3 DigiGov: state of the art and conceptual framework

Egidijus Barcevičius (PPMI, Project Manager for the DigiGov consortium) presented the main findings of project's wide-ranging review of the state of the art in Digital Government Transformation. He pointed out that although the literature is diverse, there is a clear change of narrative from e-government towards digital government, which often involves suggestions for reconceptualising and re-imagining the functioning of the government. A significant part of the literature suggests that digital innovation in the public sector may have positive effects such as more effective policy making and the development of more inclusive societies. Nevertheless, many authors warn against deterministic approaches, pointing to examples of digital technologies being used in a way that weakens privacy, reinforces inequalities and undermines trust.

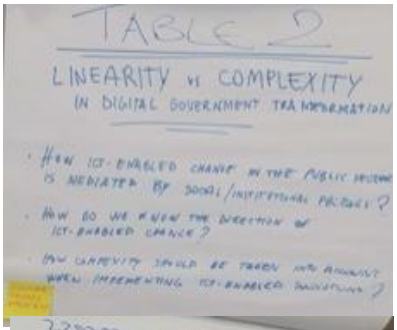
Cristiano Codagnone (Open Evidence, Scientific Director for the DigiGov consortium) presented the preliminary version of the conceptual framework. The key components of this framework are: a typology of Digital Government Transformation, the factors shaping public sector innovation, potential effects, side-effects, and intervening factors. He stressed that understanding innovation and digital transformation in the public sector requires dealing with complexity while at the same time producing a framework that is simple enough to provide pragmatic guidance to current and future research and policy initiatives. He explained that in the framework, the effects of transformation are conceptualised according to three dimensions: Productivity and Efficiency, Effectiveness for Inclusion, and Legitimacy. He emphasised the challenges of attributing causal effects to digital transformation initiatives and of measuring them, adding that the literature on these topics is still limited. It is easier, relatively speaking, to measure more tangible effects such as those of AI and robotisation on productivity and efficiency, than it is to measure equally important but less tangible effects such as those on engagement, participation and trust.

2.4 DigiGov 'world café' and forward-looking views on digital government

During the workshop, participants engaged in an interactive debate using a 'world café' format.

Discussion tables were structured around the following topics:

- 'Drivers and Barriers of ICT-enabled Innovation', facilitated by Egidijus Barcevičius; rapporteur: Ines Mergel, Konstanz University;
- 'Linearity versus Complexity in Digital Government Transformation', facilitated by Cristiano Codagnone; rapporteur: Rony Medaglia, Copenhagen Business School; and
- 'Impact of Digital Government Transformation', facilitated by Stijn Hoorens of RAND Europe; rapporteur: Elke Loeffler, Governance International.



Rapporteurs then presented the results of discussions to the plenary, engaging in a debate with all participants. This allowed the gathering of insights to refine the review of the state of the art and to inform the further conceptualisation of the framework and the empirical case studies, in order to test and validate the approach used to assess the impacts of Digital Government Transformation during the subsequent phase of the research.

The second day of the workshop began with presentations by selected stakeholders: **Alexander Heichlinger** (EIPA), **Edoardo Ongaro** (EGPA) and **Delfina Soares** (UNU) discussed key issues to consider for the future of Digital Government Transformation. Digital capabilities and skills were considered key to the successful implementation of Digital Government Transformation, as well as capacity building activities in public administration. Spending should be focused strategically, and investments should be made in both services and in the public administrations themselves.

Representatives from the DigiGov consortium then presented outlines of the four case studies, proposed as part of the empirical component of the study, that would contribute, together with the consultation activities, to the further testing and development of the proposed conceptual framework. The cases were well received by experts and stakeholders, who made valuable comments and suggestions, all of which were taken on board by the research team.

In the final session of the workshop, a further discussion took place that included some closing remarks. Participants commended the JRC and the DigiGov research team for the work they had so far completed, and for sharing it at such an early stage. In his closing statement, **Alessandro Annoni** (Head of the Digital Economy Unit at the JRC) reiterated the policy importance of the study and the need for actionable recommendations. The DigiGov research, he said, should contribute to further understanding how to take advantage of ongoing digital transformation to foster positive effects for society, the economy and democracy, as well as helping to anticipate and manage unexpected risks.

2.5 Main issues and key take-aways

The workshop served to validate the approach and the preliminary findings of the research, as well as to gather suggestions on how to improve the proposed conceptual framework and the methodology used for empirical analysis. Some feedback was immediately applicable, while other comments required further discussion and development over the next phases of the research.

With regard to the analysis of the state of the art, it was observed that in the material reviewed, no mention was made of issues such as spending, funding, and return on investment (ROI). The participants pointed out, however, that the literature on this topic is not yet very developed due to the fact that it is extremely difficult to find granular data (i.e. data that can be attributed to investments in digital technology) and information on public sector spending. It was agreed that the study team would further research the literature to address this topic, and integrate the findings into the new version of the state of the art report.

Discussion also took place on whether the so-called 'grey' literature produced by consultancy companies and think tanks (but not necessarily peer-reviewed) should be considered alongside academic literature. It was pointed out that such a broad scope for the review was chosen due to the fact that the subject of Digital Government Transformation is still relatively new.

In relation to the conceptual framework, a number of suggestions were made that could be quickly and easily taken on board and implemented. Other comments expressed important and strategic choices that would be more challenging to address, in addition to the empirical insights that would emerge from the case studies.

The suggested improvements to the framework could be grouped around the following issues:

- Although the review of the state of the art revealed a lack of convergence in the definition of Digital Government Transformation, and the conceptual framework avoided adopting a single definition, it was agreed to use the OECD definition of Digital Government Transformation;
- In the description of the potential outputs of AI and new technological innovations, greater salience should be given to the importance of G2G, G2B, and B2G data sharing and the resulting services and outputs;
- Potential increases in the engagement of all stakeholders (citizens, businesses, the third sector, and public administrations themselves) should be considered not only an effect, but also as instrumental precondition for the Digital Government Transformation ecosystem and value chain;
- The graphical representation of the conceptual framework should be changed to avoid misunderstanding concerning the apparent linearity of expected effects, as well as the role of stakeholders. The new graphical representation and textual illustration should make clear that stakeholders are not understood as passive recipients of digital government initiatives, but rather as active participants and contributors;
- A more precise and operationalised breakdown of effects should be introduced, following suggestions coming from the 'world café' debate.

Finally, the most profound observations focused around two main issues: the trade-off between pragmatic simplicity and the need to cope with complexity; as well as what effects need to be considered, and how to measure them.

The first trade-off had already been anticipated in the presentation of the conceptual framework by Cristiano Codagnone, who stressed the two-fold objective of the study: the pragmatic need to conceptually systematise the field to support future policy research and policy initiatives; and the more ambitious aim of understanding and explaining, with reference to theory, the process of digital transformation and its effects.

Most comments clearly indicated that the first version the conceptual framework attempted to place together too many dimensions in a simplified fashion. As a result, many participants thought that the framework was too linear, although that was not the intention of the research team. For this reason, one possibility discussed was to disentangle some of the components of the framework and treat them separately. To this end, it was suggested that the effects should be discussed separately, and only after the completion of the case studies.

Second, several participants suggested that the conceptual framework placed too much emphasis on the traditional effects such as productivity and efficiency. Accordingly, insufficient attention was given to new and more transformative effects such as the potential value that can be created through open government data and data sharing; the positive effects of increased engagement and participation; and the potential for co-creation and co-production. The study team explained that these latter effects were also considered important, but that they presented greater challenges in terms of quantitative measurement than more traditional effects.

The conclusion to this discussion was that effects that are less measurable should be given due importance in the final version of the framework, also in the light of the empirical results of the case studies. It was also decided that this issue should be further explored via internal brainstorming between the JRC and the study team, and should be subject to further research following the DigiGov project.

3 Policy Lab, JRC Seville, 24-25 October 2019

The Policy Lab in Seville brought together experts and stakeholders from across Europe to discuss innovative digital government practices, including the use of technology to provide public services and improve governance in the public sector. On a practical level, the Policy Lab aimed to discuss and gather feedback on key elements of the revised conceptual framework (DGOV-F 2.0), including the public sector innovation typology matrix and 'high level snapshot'.

3.1 Methodology for the Policy Lab

The two-day Policy Lab attracted more than 40 participants including experts and stakeholders, policy officers from the JRC, DIGIT and CONNECT.

The event was structured around the following sessions: an opening plenary for policy scene-setting, two Policy Lab sessions (working group discussions), and a closing session (including a summary of the main inputs and final remarks).

Participants were divided into four groups. Each group engaged in discussions guided by facilitators in the Policy Lab sessions. Group feedback was then reported in the plenary by a rapporteur.

To better engage stakeholders and experts, the Policy Lab employed several techniques:

- Focus on the conceptual framework: the working groups chose two elements of the framework as a focus for discussion, rather than looking at the entire framework. Day 1 focused on the innovation typology matrix, while the session on Day 2 went deeper into discussion of the DigiGov-F 2.0 high-level snapshot.
- Design of artefacts: a number of tools were used to promote better engagement and the provision of feedback. The main idea was that while numerous details were to be considered, it was important to keep the 'big picture' in mind. A feedback grid was used in the working group sessions on both days to focus the discussion and organise feedback.
- The 'hybrid brainstorming' principle: this suggests allocating some time for individual to think and organise their thoughts before embarking on a group discussion.

3.2 Highlights from the opening plenary discussion

The policy scene was set by officers from the JRC, DIGIT and CONNECT. **Alessandro Annoni**, Head of the Digital Economy Unit at the JRC greeted the participants, stating that digital transformation was a high priority on the European policy agenda.

Georges Lobo from the Interoperability Unit at DIGIT provided an overview of the EU initiatives under the ISA[2] programme, and stressed that digital government is at the core of the upcoming Digital Europe Programme. **Dietmar Gattwinkel** from CONNECT emphasised that the EU aims to bring down the barriers to digital government. To this end, a new policy plan is under discussion between the Commission and EU Member States.

Gianluca Misuraca, Senior Scientist and DigiGov Project Leader for the JRC, further underlined the way technologies reshape relations between the public sector, citizens and businesses. The JRC has a mission to conduct forward-looking research and experimentation for evidence-informed policy-design on Digital Government Transformation and innovative public service delivery in a data-driven society. The present research aims to better understand how digital innovation in the public sector can transform governance systems, exploring new approaches to the use of data for policy design and service delivery, and to better address systemic problems.

The second part of the opening session featured a roundtable discussion on recent policy and research developments around the world.

Vincenzo Aquaro from the United Nations Department of Economic and Social Affairs (UNDESA) emphasised that the UN's Sustainable Development Goals (SDGs) are at the core of digital transformation in the public sector. He shared a number of insights from UN e-Government surveys. **Lisa Ginsborg** presented research undertaken by the European University Institute (EUI), School of Transnational Governance (STG), and in particular the efforts to bridge the gap between policy research and practice. **Marijn Janssen** called for the careful use of technologies. He noted, for example, that AI and unsupervised machine learning could easily lead to discrimination. The private sector is now at the forefront of testing a wealth of AI-based solutions, yet it is primarily profit-driven, while the public sector has a broader remit to serve the public. The public sector therefore has a core role to play in digital transformation, and cannot simply outsource technological expertise. **Tomasz Janowski** noted that the risks of getting digital innovation wrong – including loss of privacy, cybercrime, or leaving crucial decisions to algorithms. He also emphasised that there is a general disconnect between policy makers and researchers, both from each other and from society. This includes a fear of ideas, anti-intellectualism in government, and a lack of capacity. As a solution, more practical, policy-oriented research is needed.

The floor was then opened for general comments and discussion. Key ideas that emerged can be arranged into the following clusters.

The first concerned the pros and cons of **using technology to engage proactively with citizens**. The pros relate to citizens' increasing trust in the government, if they feel they can play a role in improving public services via the use of new technologies. On the other hand, the public sector cannot rely entirely on feedback from citizens. Good public service provision should be pro-active and self-reflective. It should provide services seamlessly, based on data analysis concerning the life events of individual citizens. In essence, digital government should be able to reach out to citizens before they request for a service.

The participants also discussed **the power imbalances**. The key technologies are in the hands of large commercial enterprises (e.g. they own a lot of data and algorithms to analyse this data). This could be an obstacle for the public sector to implement its mission and to design appropriate regulation. A key is then to **attract tech talent to the public sector**. Further, the public sector could set an example on how to ethically apply technologies to serve the society.

Finally, societies need practical results from digital government research, as well as from programmes and policies. The younger generation (the 'born-digitals') tend to have an entirely different perspective and they must be integral part of discussion concerning the digital government.

3.3 Understanding and measuring the effects of Digital Government Transformation

3.3.1 Introduction and conceptual framework presentation

Egidijus Barcevičius (PPMI, Project Manager of the DigiGov consortium) opened Policy Lab Session 1 by presenting a summary of the research findings. Since the Ispra workshop, the study had engaged in developing a new iteration of the conceptual framework and implementing four case studies. He indicated that the study was due to be completed in the summer 2020 with a Final Report, which would include conclusions and recommendations for future research and policy.

Cristiano Codagnone (Open Evidence, Scientific Director of the DigiGov consortium) then presented a high-level overview of the conceptual framework, highlighting that DigiGov-F is a theory-informed and scientifically robust framework, but that it does not aim to explain 'what causes what' in the complex ecosystem of digital government. He explained that it is indeterminist, in the sense that it does not aim to predict outcomes. Instead, it lays out the key factors, constructs or variables, and the presumed relationships between them.

The floor was then opened for discussion, and several comments and suggestion were made.

First, participants in the Policy Lab acknowledged that the team has made great effort to improve the conceptual framework and that the current version looked much improved from the version presented at Ispra in May.

It was emphasised that it is an ambitious and robust framework, covering a wealth of literature and important dimensions of public sector innovation.

However, a number of suggestions pointed out that further clarification was needed as to the overarching aim and use of the conceptual framework, and whether it is intended for use by practitioners, researchers or policy makers.

One suggestion was made to provide further explanation about the scope of the conceptual framework, and to add some empirical examples.

In addition, it was mentioned that it would be helpful to consider the actual drivers behind innovation occurring within the public sector, such as data governance (including open data, data sharing).

Some participants also reiterated the need to consider the normative aspects of government, such as good governance, as well as public value and aspects such as climate change. It was noted that digital government is about improving efficiency and effectiveness, as well as building trust between the public sector, citizens and businesses.

3.3.2 Policy Lab Session 1: Working Group discussion on public sector innovation

The first session of the Policy Lab discussion focused on public sector innovation and, in particular, on the typology and definition proposed by the consortium as one of the elements of the conceptual framework. As part of the exercise, participants were provided with examples of innovative initiatives and asked to position them within the public sector innovation matrix.

The key discussion points were organised into a feedback grid with four dimensions as part of the Policy Lab methodology.

Many interesting ideas emerged across the four groups, although some of the ideas generated were not necessarily compatible with one another.

The debate in the Policy Lab session was structured around the following key questions:

What elements of the matrix are useful and why?

The key advantage of the public sector innovation matrix is its simplicity, as well as its generic nature. It can therefore be used to discuss various innovations, based on different technologies, in various sectors and in various contexts. Another advantage is that the dimensions of innovation are framed as a continuum, not a 'yes' or 'no' variable within the framework.

What was not clear about the matrix?

The main discussion point across the four groups concerned the use of the innovation typology matrix in real life – for policy research or policy making. More specifically, further clarification was needed as to whether the qualitative characterisation of different types of innovation was sufficient. The participants pointed to the complexity of digital transformation in public administration, which is difficult to capture in a stylised matrix.

For example, the innovation types could be interpreted very differently. It was not clear to what extent the matrix could be used at different levels of government (e.g. municipality, state, country, region). What is the subject of transformation? Is it driven internally or externally? What is the precise meaning of the 'innovation domain' axis?

The discussion on public sector innovation should also take into consideration that innovation evolves over the years and thus a specific innovation may 'travel' over time, through different points of the matrix.

In addition, very radical, transformative innovation can happen within an organisation; it does not necessarily need to be cross-domain.

Does the typology work well?

At a generic level, the matrix was considered to work sufficiently well.

Overall, participants in the discussion raised questions about the practicality of the tool, for example, how to use the framework in a conversation with policy makers, e.g. to make policy recommendations about how innovations should be implemented.

What would you change in the matrix and why?

The 'two axes' approach ('innovation width', 'innovation depth') might not be the most effective in all circumstances. Some participants recommended considering a checklist approach to help practitioners to identify and locate the public sector innovation; such checklist could go beyond the two axes and include, for example, the impact measuring dimension, the process dimension, and risk management.

Some participants also suggested that instead of placing innovation types into the quadrants, it would be good to clarify what each quadrant was (name them) and leave innovation types as examples to help understand the quadrants. Another idea was to extend the quadrants into a 3x3 scale with (horizontally, from left to right) three levels of innovation depth (no reframing, incremental reframing, disruptive reframing), and (vertically, from bottom to top) three levels of innovation width (one sector, two sectors, more than two sectors).

Participants ended with a debate on the usefulness of value-laden terms, such as 'copy-cat mirroring' and 'disruptive reframing'. On the one hand, some participants argued that 'copy-cat mirroring' is an overly negative term, because copying the same innovation across domains can be appropriate in some cases. For this reason, they suggested avoiding value judgements, as well as avoiding the implication that technological transformation is always an ultimate goal. On the other hand, some participants argued that the framework must communicate the values upon which it is built. One participant gave the example of the Chinese social credit rating system: without value judgements, we would conclude that this is a transformative technology, even though it does not sit well with democratic principles.

The definition of Digital Government Transformation

With regard to the definition of Digital Government Transformation, participants gave mostly positive feedback.

One suggestion concerned the assumption that transformation is based on disruptive reframing. Using the word 'disruptive' is problematic in the context of the public sector, because the authorities must ensure the reliability and continuity of public services. Furthermore, the definition assumes that cross-domain innovation is superior to single-domain innovation, which participants argued was not always true.

Some participants noted that the definition of digital transformation does not mention the technology, which is an important element of such transformation. Other participants noted that a technology-agnostic definition is actually a strength, as technologies change while the definition of transformation should not become overly technologically deterministic.

3.4 Empirical Evidence on Digital Government Transformation

3.4.1 Presentation of the case studies

The second session of the Policy Lab began with a presentation of the first results of the case studies, in preparation for a discussion on how the DigiGov Conceptual Framework can support assessments of the process of Digital Government Transformation.

Representatives from the DigiGov consortium provided insights on the four experimental case studies:

- "Tvarkau Vilnių" app – Municipality of Vilnius, Lithuania
- Trust, data protection and privacy protection – Spain and Germany
- Body Worn Cameras (BWCs) – Metropolitan Police, United Kingdom
- Kids Go Green (KGG) – City of Trento, Italy

The four cases were chosen with the aim of capturing different aspects of the innovative use of technologies to provide better public services across in Europe. The audience were asked to analyse the cases using the conceptual framework's high-level snapshot.

3.4.2 Policy Lab Session 2:Working Group discussion on DigiGov-F2.0

During the second session of the Policy Lab, participants discussed the DigiGov-F 2.0 high-level snapshot in the light of the empirical examples provided by the case study presentations.

The Policy Lab Session 2 debate was structured around the following key questions:

Does the framework miss out any important insights from practice or from academic literature?

Some participants argued that the snapshot should be more complex, suggesting that some elements in the snapshot should be allowed to overlap rather than being placed in different boxes. One participant suggested that story-telling components should be integrated into the snapshot. Other participants disagreed, arguing that the snapshot should be simpler in order to make it a more practical and useful basis from which to draw policy recommendations, for example, in helping governments to adopt digital innovations.

The participants also wondered about the best way to use the framework's 'snapshot'.

They discussed whether the snapshot is a transformation framework or an analytical tool. Although it provides a structure for analysing the case studies, the cases should be told as stories to make them compelling and convincing. One participant suggested that one solution could be to develop separate frameworks for practical / policy making purposes and for academic / research purposes.

Do you think the framework is reasonably exhaustive and grounded in the literature, and at the same time useful and usable in practice?

Overall, feedback was positive, pointing out that the framework was well-grounded in the literature.

A key comment coming from various groups was that the framework should better reflect the feedback loops and the iterative nature of the transformation. More specifically, participants had varying views on the apparent linear vs. non-linear nature of the framework. Some participants saw the snapshot as linear in nature and argued that it was appropriate in order to analyse case studies and make sense of digital transformation. They suggested that cases should be depicted as journeys with key moments in time. Other participants preferred the process of innovation to be depicted in a more iterative or circular fashion, reflecting the fact that innovation requires feedback loops and reiterations.

Do you consider the proposed framework comprehensive and clear? What elements are missing? What other elements could be grouped together?

Some participants argued that the current snapshot was already overloaded with interconnections, which should be revisited and perhaps simplified. Other participants emphasised the need for a more complex structure, adding more arrows and feedback loops. One suggestion was to have a flexible framework, so that each user could actually move different elements and interactions around. An alternative suggestion was to remove the connecting lines altogether and to present the snapshot in a canvas style, like a business plan.

In terms of the specific elements of the snapshot, a number of suggestions were made: to remove the innovation type (the green bubble); to remove the 'other moderators' category; to make governance an internal factor, or to differentiate between internal and external elements of governance. The participants mostly agreed on the phases of DigiGov initiatives, but suggested splitting the strategic objectives and public value drivers into different categories. Other suggestions included employing a distinction between 'intended' and 'unintended' (rather than side-) effects.

Some participants also suggested that the **non-technological aspects** of digital transformation could be considered. These include privacy, ethics, trust in public administration, the characteristics of citizens, the purpose and rationale as to why an innovation starts, SDGs / sustainability aspects, and other fundamental values of public services.

3.5 Main issues and key take-aways

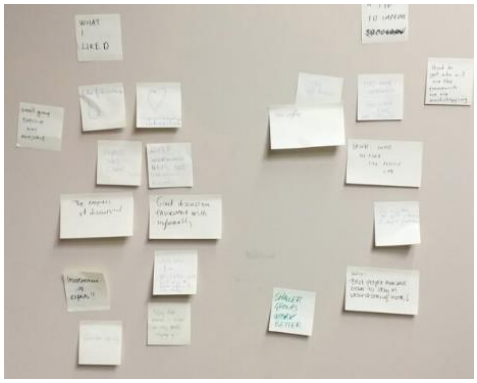
The closing session of the Policy Lab was chaired by Ms. **Andrea Halmos**, Policy officer at the Smart Living and Mobility Unit of DG CONNECT. She called for the elaboration of data-driven solutions and good models for the digitalisation of government, including at city-level. She also emphasised that the Policy Lab clearly signalled the need to bridge the gap between academic research and policy making.

In light of the discussion, **Cristiano Codagnone** and **Egidijus Barcevičius** provided their initial reflections on the feedback received. They thanked the participants for sharing their ideas and engaging in such stimulating discussion. They confirmed that the study team would build on the feedback received in order to carry out the empirical work and to develop a new iteration of the conceptual framework.

Gianluca Misuraca then concluded the Policy Lab by thanking the participants and reiterating the importance of the digital government research stream at the JRC.

With regard to the key take-aways, the Policy Lab confirmed that the DigiGov conceptual framework had progressed well since the Ispra meeting. It also confirmed that the team would need to work on it further, and in particular to reflect on the following elements.

The conceptual framework needed to **further clarify its aims and ambition.** It had been developed to identify the key factors, elements and variables involved in Digital Government Transformation, as well as the presumed relationships between them. During the subsequent phase of research, there would be a need to further address the questions of academic / research *vs* practical use; ex-ante *vs* ex-post application.



The team also took note of the suggestions for **more specific checklists** that could be used for more practical identification and implementation of Digital Government Transformation. While this falls outside the remit of the present study, such checklists could be developed as part of further research, with the aim of elaborating in greater depth guidelines and practical instruments to capture public value creation.

The Policy Lab also indicated that the team should work further to address **the tension between linearity and complexity.** While this was already acknowledged in the conceptual framework, it was agreed to revisit these aspects in view of the feedback received. In particular, the team needed to look at the questions of feedback loops and the iterative nature of Digital Government Transformation. The lines connecting different elements of the DigiGov-F 2.0 high-level snapshot thus needed to be made either more complex (more feedback loops) or removed altogether, opting instead for a business canvas style.

In addition, the team noted suggestions concerning the **specific elements of the framework**. While the feedback received did not always point in the same direction, the team recognised the need to consider both the external and internal elements of the DigiGov-F 2.0 high-level snapshot and the process of innovation, including risks and side-effects. The team also noted the need to further appreciate the normative aspects of the framework, and to make the wording of some terms more neutral. The concepts of trust, ethics, privacy, cybersecurity, equality, power balance and societal impacts needed to be reflected upon, both in terms of how these concepts were already covered in the conceptual framework, and the way in which they should be further developed.

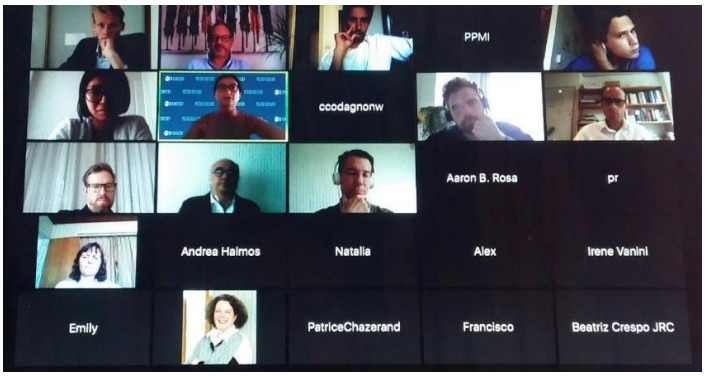
Lastly, the study's definition of Digital Government Transformation needed to be discussed internally and revisited in the light of the feedback received, and with the aim of proposing an original definition of Digital Government Transformation.

4 Final Online Foresight Workshop, 9 July 2020

The final Foresight Workshop brought together around 50 experts and stakeholders from across Europe to discuss the way in which the future of governance would be impacted by technological innovation. The workshop was particularly relevant in the context of the COVID-19 pandemic: despite early warnings of a global pandemic, preparations for the outbreak were uneven and inconsistent. The workshop, therefore, aimed to envision what a technology-driven future might look like, and what actions are necessary to minimise the risks involved in technological advancement, while maximising the opportunities. On the practical level, the Foresight Workshop aimed to discuss and gather feedback on the four scenarios for the regulation of the digital landscape that were being prepared as part of the DigiGov research and are presented in the Final Report.

4.1 Methodology for the Foresight workshop

The Foresight Workshop gathered together experts and stakeholder representatives, as well as policy officers from the JRC, DIGIT, CONNECT, the OECD and UN.



The event was organised into the following sessions: an opening plenary session (gearing the journey to the future), two sessions of working groups structured into virtual breakout rooms, followed by a plenary discussion, a roundtable, and closing remarks.

The participants – divided into four groups, each composed of around 10 people – engaged in discussions guided by facilitators. Group feedback was then reported in the plenary session by a rapporteur.

To better engage the participants, the breakout group sessions employed several techniques:

- Focus on the Foresight scenarios: each breakout group worked with one scenario, rather than all four, to gather in-depth feedback.
- Design of artefacts: a number of tools were used to enable better engagement and provision of feedback. Eight 'murals' – online boards with functions for virtual 'post-It' notes, images, etc. – were designed to focus the discussion and organise group feedback.
- The 'hybrid brainstorming' principle: this involves allowing some time for individuals to think and organise their thoughts before embarking on the group discussion.

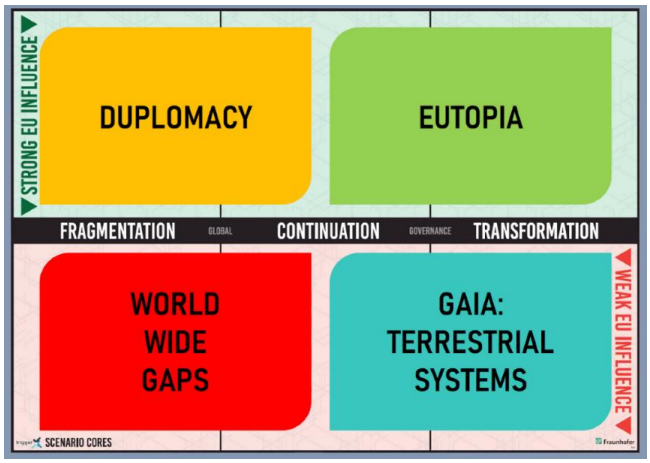
4.2 Opening session: gearing the journey to the future

Officers from the JRC, DIGIT and CONNECT opened the workshop. **Michael Lutz**, Acting Head of the Digital Economy Unit at JRC, greeted the participants. He stated that the Foresight workshop arrived at a crucial moment for Europe, with the European Commission working on the new programming period 2021-2027, and the European Union and Member States needing to take important decisions for the future at a time of great uncertainty, resulting from the COVID-19 pandemic.

Maximilian Strotmann, Deputy Head of the Interoperability Unit (DIGIT), emphasised that partnerships would be key to building new innovative services – in particular, engagement with businesses. People, rather than new technologies, should be at the core of the design of these services. To facilitate partnerships, he said, concrete measures are needed such as the Open Data Directive (Directive (EU) 2019/1024), which promotes the re-use of public sector information.

Andrea Halmos of CONNECT spoke about Digital Government Transformation in the post COVID-19 era. Whereas in the short term, national governments and particularly cities had to learn how to provide public services online, in the medium term the challenge would be to contain the virus, manage the economic slowdown and drive recovery not only through digital, but also green transition. In the long term, Ms Halmos envisioned that cities would be at the forefront of recovery and Sustainable Development Goals by reinventing themselves to become smart, sustainable and resilient. To that end, DG CNECT is helping cities to implement 'data spaces' – the necessary legal environments to share data safely. DG CNECT also supports the Living-in.EU declaration (www.living-in.eu), which commits cities to moving forward with interoperable solutions.

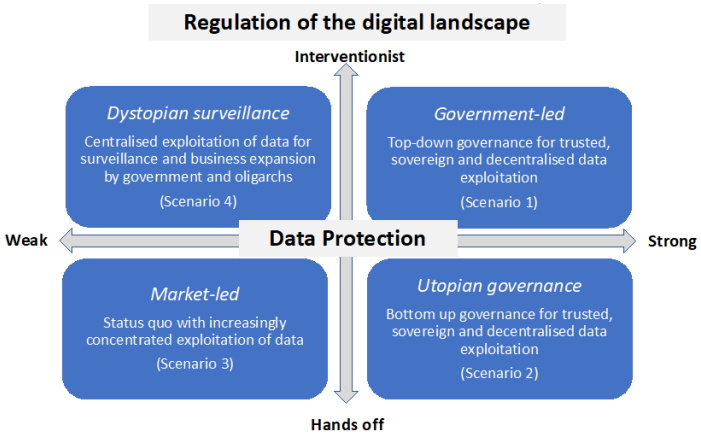
Gianluca Misuraca, Senior Scientist and DigiGov Project Leader for JRC, then presented the main findings of the research, drawing on the four cases analysed during the project. He noted that when digital innovations are introduced in the public sector, efficiency may at first decrease, due to the need to manage multiple channels, but should increase in the long term, together with citizens' participation, government trust and legitimacy. He concluded by indicating future areas for research and policy implications, such as the need to enhance access to data through legal frameworks that simultaneously protect privacy.



The second part of the opening session encouraged participants to think about the future of digital government, 20 or 30 years from now. **Aaron Rosa**, from the Fraunhofer Institute for Systems and Innovation Research (ISI), presented the 2050 TRIGGER ('Trends in Global Governance and Europe's Role') scenarios for possible global governance. The first – entitled 'Duplomacy' – envisioned fragmented global governance, with the EU having a strong influence. In this scenario, global issues that necessitate collective action, such as climate change or digital interoperability, would not be coordinated at global level. This would result in devastating climate change impacts and susceptibility to external cyber attacks.

The second scenario – 'Gaia' – argued that global governance could be organised from the bottom up, led by civically engaged citizens and self-organising communities. In this scenario, the EU adheres to the governance principles set out in the Gaia framework, which means that ecological preservation, economic sufficiency and quality of life for all would be the guiding imperatives of all political decisions. The third scenario – 'World Wide Gaps' – illustrated the potential impacts of rising inequality, which could result in both fragmented global governance and weak EU influence. In this scenario, persistent inequality would foster populism and distrust in large-scale governments, leading to social and political concentration around urban and regional centres, a lack of coordinated approaches to global challenges such as climate change, and an increased risk of conflict. Finally, according to the fourth scenario, 'Eutopia', both transformed global governance and a strong EU influence could be achieved as the result of the recognition that a unified approach is needed to tackle challenges such as COVID-19. To effectively respond to such challenges, the EU would become more integrated, setting an example of cooperation for the rest of the World, ultimately resulting in a reformed and more powerful United Nations.

Following this, **Cristiano Codagnone**, DigiGov Consortium Scientific Director, provided a brief overview of potential digital government scenarios by 2040, which varied depending on the government's ability and willingness to regulate digital markets and protect personal data. The four scenarios being developed as part of DigiGov resonated with the main ideas presented earlier as part of the TRIGGER scenarios, ranging from a utopian to a dystopian future.

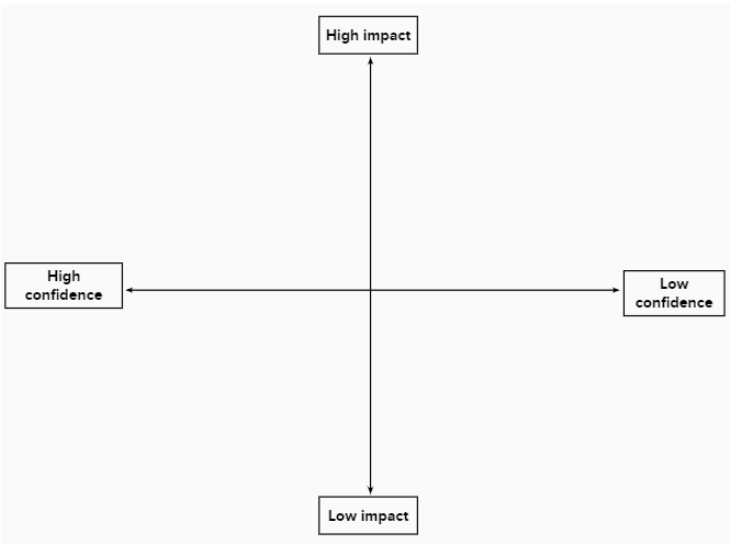


After the four scenarios were presented, participants split into breakout groups, each one discussing and challenging one of the scenarios.

4.3 Breakout Session 1: Key Assumption Identification and Assumption Mapping

The purpose of the first exercise was to use the experts' knowledge to challenge the DigiGov scenarios by highlighting flaws in their internal logic and suggesting concrete steps for their improvement. The key technique used to identify assumptions drew on the methodology explained by Heuer[1]. This technique is based on a matrix, via which key assumptions are analysed using two key variables:

1. The level of confidence (high or low) in a given assumption;
2. The potential impact of a given assumption on the scenario's logic if this were proven false, or only partially validated.

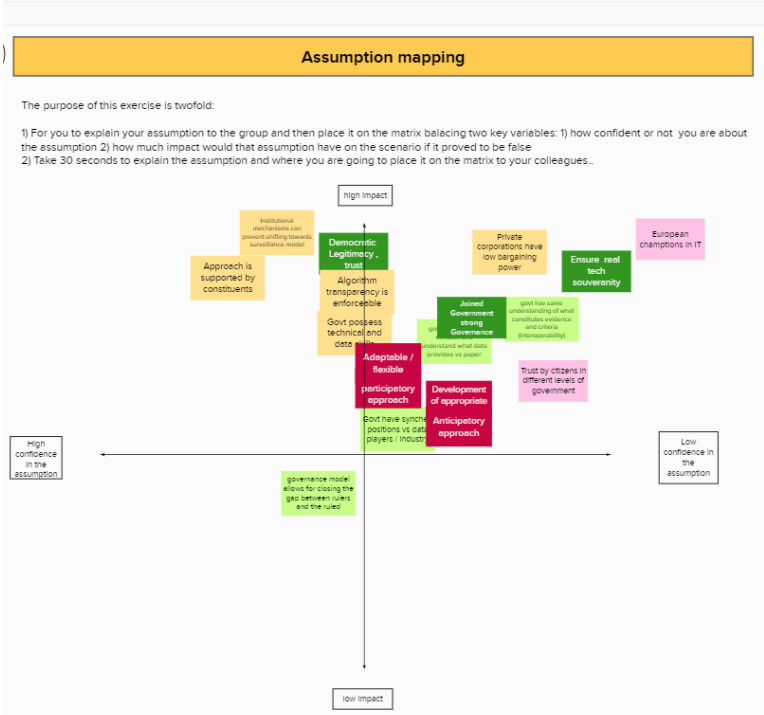


[1] Heuer, R. J. Jr., and Pherson, R. H. (2010). *Structured Analytic Techniques for Intelligence Analysis*. Washington, DC: CQ Press.

Once assumptions were identified, participants selected the most important ones.

4.3.1 Scenario 1: Government-led regulation

This scenario envisaged a future in which government can be a force for public good and has resources, expertise and legitimacy to intervene in markets on behalf of the public at large. This means, among other things, that governments are in a position to set conditions and regulate large platforms. This does not necessarily mean confrontation or a zero-sum relationship, as long as governments and platforms can agree on a shared vision for the future that has at its core the citizens and the public interest. In this scenario, citizens are owners of their data. They may carry it from one platform to another, and are remunerated if their data is used for business purposes.



The group identified a number of critical assumptions, the realisation of which is far from certain. These assumptions can be grouped into: (1) governance / institutional arrangements; (2) government – citizen relationships; (3) government capacity; (4) industrial – market structure; and (5) digital mindset. The first assumption points towards the existence of a robust regulatory framework that ensures, for example, the protection of personal data; algorithmic transparency, a cooperative relationship between governments and big players in the digital market. The second assumption underlines the importance of trust among citizens that governments are willing and able to protect their data rather than using it for control and surveillance. The next assumption is that governments must possess advanced technical and human resources capacity, on a par with or superior to that of the big platforms. This is not certain at all, given the financial clout of the big market players. Furthermore, several participants noted that Europe must grow its own companies – so-called 'digital champions' – as these are more likely to pursue European values, take privacy seriously and have the concept of data protection ingrained in their infrastructure. Finally, the digital mindset points to the importance of governments, citizens and market players having a certain level of digital savvy and sharing an enthusiasm for digital solutions. In this way, different stakeholders may understand and even control each other better, avoiding the emergence of unbreachable imbalances of knowledge and power.

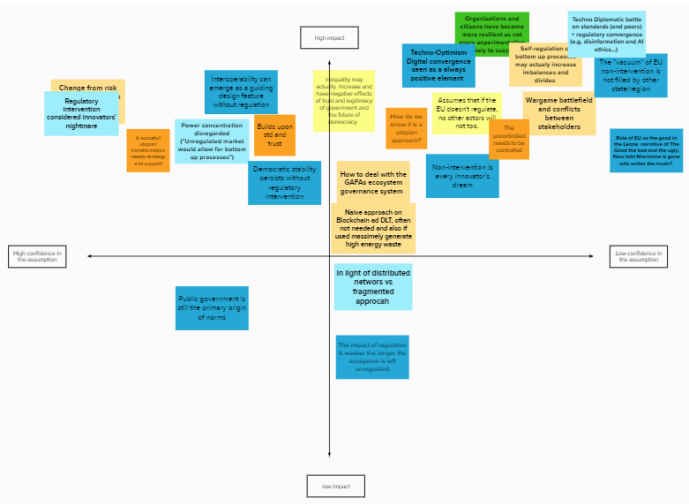
4.3.2 Scenario 2: Utopian governance

The utopian governance scenario envisioned a bottom-up process emerging from an ecosystem of innovators and users, in which individual sovereignty would be the guiding principle for governance, resting on blockchain-based mechanisms that are accepted and deployed by all market players. While desirable in principle, it is questionable whether such a bottom-up decentralisation process could emerge in practice.

During the discussion, many different assumptions were identified as underpinning the scenario. One key assumption was that technology and digital tools are considered to be incredibly positive, for example, using blockchain to help citizens achieve individual sovereignty. The participants raised

questions about the potential negative impacts of greater blockchain use which may not be utopian, such as high energy consumption.

The second assumption highlighted by participants in this scenario was the overly positive role of the EU. Participants claimed that the EU is part of a 'war game' that is taking place in the digital sphere. According to participants, the utopian scenario is easily dismantled if only one of the key stakeholders decides not to follow the decentralised data model. This seems highly likely, given the existing concentration of power in both governments and large technology companies.



Connected to this is the assumption that regulation would not be required to achieve utopian governance, as the decentralised model would come from the bottom up. Participants perceived this as highly unlikely, because if the EU stopped regulating, Member States (MS) would be likely to impose their own laws.

Finally, this scenario portrays non-intervention by the government as desirable for every innovator, but innovation could be stifled by the monopolies that would be likely to emerge in the absence of anti-trust regulation.

4.3.3 Scenario 3: Market-led regulation

The third scenario involved a 'hands-off' approach towards online platforms and tech giants. This may potentially lead to various negative impacts, even if it fostered innovation. For example, a digital divide would emerge between urban and rural areas because without financial support, 5G networks would only be available in densely populated hubs. In such a scenario, it is unlikely that the GDPR would be fully enforced, and imbalances in the European data economy – in terms of exporting large amounts of raw data, while importing refined data services – would be likely to remain.

Participants generally agreed that this scenario is realistic, particularly the potential negative impacts of the 'hands-off' approach, as evidenced by the fact that the discussion focused more on high-confidence rather than low-confidence assumptions. For example, participants suggested that public investment in 5G networks would be needed for the network to be available in rural areas. However, they argued that the government would be likely to focus solely on investments in infrastructure to make the network available, rather than on R&D. Furthermore, participants agreed that monopolistic online platforms would be likely to undermine the effective implementation of the GDPR. None of the participants argued that the market could regulate itself.

Experts also pointed out some other low-confidence assumptions. For instance, one of the participants questioned the idea that only the private sector can innovate, arguing that innovation occurs in civil society organisations as well, and so regulation of the private sector would not necessarily stifle technological advancement.

While the experts agreed that the introduction of 5G has increased the need for citizen data sovereignty and the GDPR more generally, one of the participants questioned the assumption that citizens want to own and control their data.

Instead, perhaps citizens would prefer others not to access it without actively controlling the data themselves. Finally, multiple experts wondered whether the GDPR must be fully deployed in order to be effective – perhaps it could incentivise private actors to change their behaviour even without full enforcement.

4.3.4 Scenario 4: Dystopian surveillance

The dystopian scenario portrays high-tech authoritarian rule, in which the tech giants work under close government control, but have the freedom to act without constraints or regulations protecting personal data. Such a model of governance would lead to an eventual rise in surveillance and the erosion of privacy, in exchange for better security and faster innovation.

Participants generally argued that the scenario portrays government control of tech giants as overly negative. While surveillance can lead to privacy violations, surveillance has a number of legitimate purposes as well. How surveillance is used, therefore, would differ state by state and government by government, depending on the principles underlying that government. Algorithm-based rule might in fact be less prone to corruption, though that would ultimately depend on how much influence the technology companies are able to exert on the government.

Participants also questioned other assumptions underlying the scenario. For example, they questioned the assumption that national security and personal privacy are at the opposite ends of the spectrum, and one must suffer in order for the other to take priority. In a similar vein, participants were unconvinced that freer exploitation of data would compromise data protection.

Experts also pointed out assumptions that are likely to be confirmed. These include the idea that scientists would not be able to prevent the government from using their inventions for unethical purposes. Participants also agreed that individuals in such a scenario would be likely to have low awareness and ability to exercise their human and digital rights.

4.4 Breakout Session 2: Stakeholder mapping and retro-planning

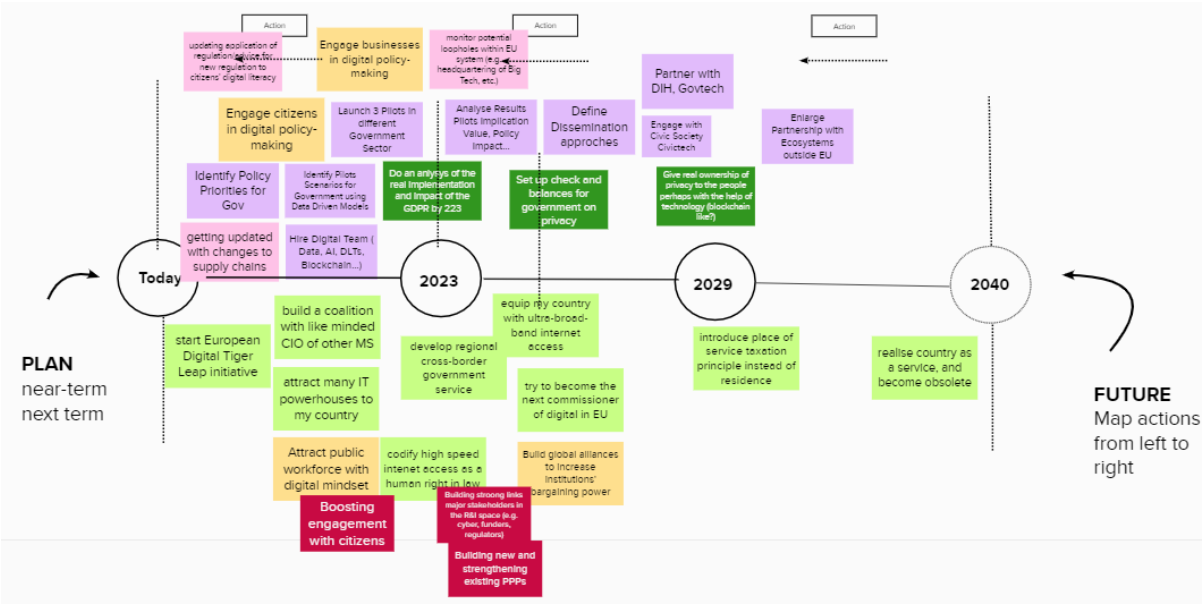
In the second exercise the breakout groups were asked to put themselves in the shoes of several EU stakeholders and to map the actions required, backwards from 2040, to either achieve or avoid the identified scenarios, or to tackle some of the assumptions discussed in the previous session. The stakeholders included:

- The Commissioner for Digital Europe
- The Minister of Innovation of an EU Member State
- The Chief Digital Officer of an EU city
- The representative of a Privacy rights groups
- The representative of a national data protection agency
- The representative of a large data-driven company
- The representative of a small data-driven company

By design, and due to time constraints, we opted to focus on EU stakeholders. This allowed us to take a normative approach to the scenarios, and to steer participants into thinking from a European perspective.

However, the discussion also considered the global context, and in particular the current debates on a regulatory framework for artificial intelligence, the role of tech giants, and geo-political issues relating to the evolving techno-diplomatic landscape.

4.4.1 Scenario 1: Government-led regulation

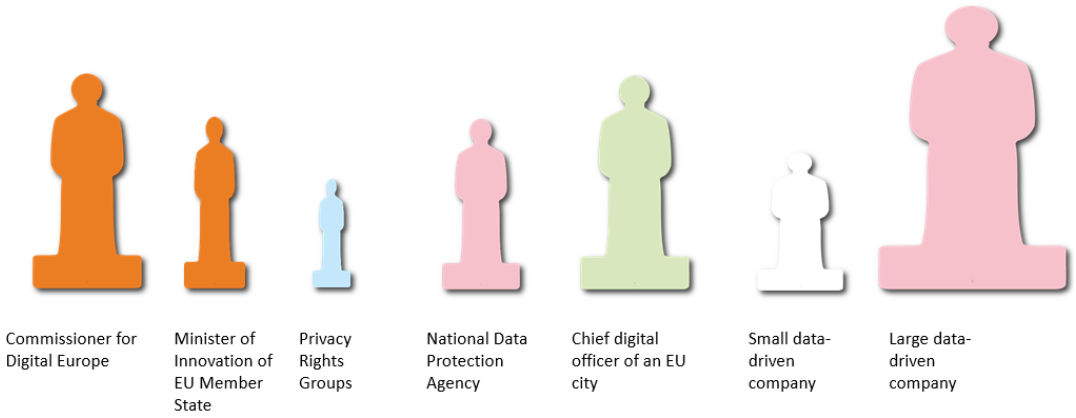


The government-led scenario group underlined a number of actions that various stakeholders would need to take for this scenario to be realised. First, these actions include the need for coalition building and partnership, among different stakeholders and levels of government. This would include building global alliances to match the power of big platforms and companies. Second, capacity building is needed, including the human resources available to governments as well as infrastructure for digital services, data sharing, etc. Next, the government-led scenario might only be realised if governments enact, implement and enforce specific policies concerning data privacy and security, data ownership and portability, data sharing, transparency and interoperability, algorithmic transparency and more. This includes, among other actions, defining high-speed internet as a public utility or a human right. Governments should cooperate with civil society and put in place the checks and balances necessary to ensure trust and prevent abuses of power by rogue institutions or politicians. In the discussion, participants did not consider the costs of government-led scenario. Rather, the financial feasibility of such a scenario might be ensured, for example, by developing regulatory approaches that ensure that the big digital players pay a fair share of taxes, instead of playing one jurisdiction off against another in order to achieve the most beneficial tax rates.

4.4.2 Scenario 2: Utopian governance

The working group reflected that the selected stakeholders would have varying degrees of power under this scenario, which envisions bottom-up decentralised governance, with privacy rights groups having the least and large data companies having the most power (see the figure below). This partly reflects the resources available to the stakeholders. The vast influence attributed to the large data-driven company also stems from the fact that decentralised government would not have sufficient influence to regulate Big Tech. Furthermore, it is likely that Big Tech would be even more necessary in the absence of a strong centralised government, for example, to develop blockchain technologies that would ensure the transparency of contracts, etc. The participant who represented the large tech company argued that he or she would not take any specific actions to avoid such a scenario, because it would be quite advantageous for her/him. The participant claimed that even if regulation existed to limit the company's actions, it would likely be cheaper to pay fines for violating the regulations than to abide by them. The company would also probably get away with making promises to follow regulations in the future, without changing very much in reality.

The image below represents the power imbalances that are likely to manifest in this scenario.



It was suggested that privacy groups would have to play a more much prevalent role in the society to ensure that a decentralised vision of data protection would occur. Unfortunately, it is likely that public commissioning would often occur behind closed doors (given that oversight is decentralised as well, and thus potentially less effective) and that the price of ICT would probably play a more important role in commissioning rather than public value. To avoid such a situation, privacy right groups would need more funding and experience to become better informed in order to address the risks associated with digital technologies. Data protection agencies in the Member States would face similar challenges. To ensure data protection without financial and executive support from the centralised government, such agencies would need to raise their own funds and rely on educational initiatives on data protection.

One of the key paradoxes emerging from the discussion was that utopia does not arrive by itself. Most participants stressed that some form of regulation or (much more) enhanced data protection would be needed for such a scenario to occur. This contrasts with the description of the scenario, according to which the various stakeholders would self-regulate.

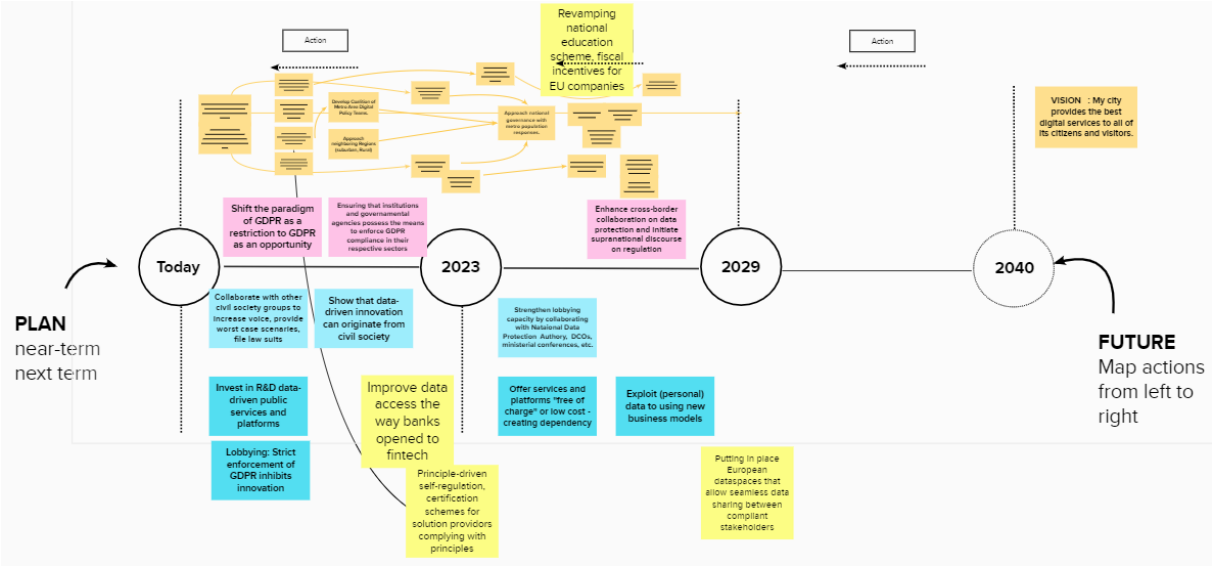
4.4.3 Scenario 3: Market-led regulation

In the discussion of the market-led scenario, a clear clash existed between the interests of the large data-driven company and privacy rights groups, as well as the national data protection authority. Participants representing the large data-driven company argued that in the short term, they would invest in R&D to provide new and better 'public' services. Given that the government would withdraw from public service provision, a gap in the market would develop and companies would compete to provide replacements. Large companies would use their financial muscle to initially offer services for free or at a low cost, in order to drive smaller competitors out. Then, once consumers become dependent on their services in the medium term, the cost of these services would rise and Big Tech would enjoy greater power to exploit (personal) data for new business models. In the meantime, these companies would also lobby to end the strict enforcement of the GDPR on the grounds that it inhibits innovation.

To avoid such a scenario, in the short-term privacy rights groups would have to collaborate with each other to increase their voice, highlight the worst-case scenarios and file lawsuits against companies that misuse personal data. It would also be important for these groups to show that innovation can originate from civil society, so that private companies that abuse personal data would not get a free pass in the name of technological advancement. In the medium term, privacy groups would need to strengthen their lobbying capacity and collaboration with national data protection authorities. The latter, recognising the diminished executive power in this scenario, would work to frame the GDPR not as a restriction, but rather as an opportunity to create a data regime that benefits all. They would also provide the necessary guidance and other means to make it easier to enforce the GDPR, so that private companies are less resistant to it.

These positive incentives were also echoed by government stakeholders. The Minister for Innovation, for example, endorsed principle-driven self-regulation in the form of certification schemes that would prioritise contractors/solution providers who comply with GDPR principles. In the longer term, the Minister would also put in place European dataspaces that allow seamless data sharing between GDPR-compliant stakeholders.

Nevertheless, to avoid the monopolistic competition that is likely to develop in such a scenario, the EU Commissioner for Digital Europe would focus on improving access to data for small data companies. This would challenge Big Tech in the same way that the banking industry is currently being challenged by fintech. To ensure that the EU remains competitive in relation to the U.S. and China – where market forces are likely to lead the way even more than in the EU – in the medium term, the Commissioner would revamp national education systems to focus more on digital skills, and would provide fiscal incentives for EU companies that create innovative services.



Once the various stakeholders had outlined their actions, everyone reflected that most of the actions discussed focused on the immediate present or medium term, rather than 2040. According to the participants, this is partly because the issues associated with the market-led scenario can already be observed in the present. In addition, the group did not have a clear vision of what they want to achieve by 2040. After this reflection, the Chief Digital Officer of a major EU city noted that his vision would be to create the best digital services for all of the city's residents and visitors. Citizen consultations and cooperation with the private sector would probably be necessary to achieve that goal. The EU Commissioner for Digital Europe noted that his goal was to make the EU as competitive as the US or China. For that to be achieved, investments would be needed in infrastructure, education and data sharing.

4.4.4 Scenario 4: Dystopian surveillance

This breakout group noted that the academic community was a missing group among the stakeholders in this scenario, so two of the participants took up that role. They argued that it would be important to contract policy-relevant research to drive the dystopian scenario towards socially positive outcomes and away from socially negative outcomes (i.e. surveillance). Furthermore, to avoid abuses of personal data, they would strive to form an alliance between academia, government and business to define the ethical and socially sensitive use of technology. The EU Commissioner added that such a consultative process would also be important to understand how much privacy Europeans are willing to give up for the sake of better services. This consultative process could result in a code of ethics for technology companies, governments and students to follow.

Academics further argued that they would analyse how various regulations affect businesses and citizens, including specific groups of people. To tackle the low awareness of and ability to exercise one's human and digital rights, these rights should be part of the academic curriculum, together with data literacy, which would grow increasingly important in the dystopian scenario. Academics could also help to identify the enabling points for the secondary use of data by business and government. Given the ambiguous understanding of different uses of data, it is possible that such secondary data – as opposed to total control over citizens' personal data – would be sufficient for the needs of both government and business. Finally, to avoid the risks associated with the dystopian scenario, it would be necessary to create a network to monitor data accountability and abuse. All these actions could be implemented in the short to medium term.

The EU Commissioner for Digital Europe started from the vantage point that the dystopian scenario could result in positive social outcomes, if the government defined them clearly. For example, in the short term perhaps some Sustainable Development Goals (SDGs) could be achieved with the help of technology ("SDGs-T") if government and Big Tech coordinated more closely, while also considering the potential impact on privacy. In the medium term, the Commissioner would set up a quarterly, updated regulatory framework for the acquisition, processing and use of citizen data. This framework would be imposed on EU Member States through a Directive or Regulation. Furthermore, the Commissioner would inform societies about successes achieved through the use of their data. In the long term, the EU Commissioner would proceed to working on other proposals for broader interventions requiring the use of technologies.

The main take-away from this discussion was that the dystopian surveillance scenario could be better than initially expected, if the following actions are enacted:

- **Fair regulation** for governments and industry (preserving innovation and balancing privacy with benefits for citizens);
- Broad **education** for citizens on the merits and risks if the use of technology;
- **Productive debates**, so that all stakeholders decide on the level of privacy to be retained vs the societal goals to be achieved;
- A code of **ethics for the scientific community**, agreed with the industry and governments, preventing the negative use of technology.

4.5 Closing policy roundtable discussion and key take-aways

Natalia Aristimuño Pérez, Head of the Interoperability Unit at DIGIT, chaired the roundtable discussion, which was moderated by Gianluca Misuraca. The roundtable provided an opportunity for participants to react to the main take-aways from the breakout sessions. Pérez noted that in the fast-moving modern world, it is normal not to shape things for the next 20 years, which was one of the challenges presented by the scenarios. Nevertheless, we have to ensure we are clear what values we will base our digital policies on.

Vincenzo Aquaro, Chief of the Digital Government Branch, UNDESA, emphasised that the DigiGov research is built on solid academic and empirical work. The study ties in with the UN eGovernment Survey that Aquaro leads. The 2020 eGovernment survey, which was to be presented the day after the workshop, shows that European countries have been leading in the eGovernment benchmark, making the best use of the technologies to tackle social challenges, particularly in the light of the COVID-19 crisis.

Barbara Ubaldi, Acting Head of Division at the Directorate for Public Governance of the OECD, made a few remarks based on her experience of working with ministries in EU Member States. She noted that digital government is a desirable goal. The changes required to achieve this goal are in fact not linked with technology, she said, but with the institutional setup of national administrations. Currently, ministries across Europe work in silos: they do not recognise the potential of sharing data, or they

lack the legal structures to enable data sharing. Therefore, she said, the four foresight scenarios presented during the workshop should differ on basis of their horizontal administrative alignment (aligned vs not aligned), rather than governmental centralisation vs decentralization. Lastly, Ms Ubaldi was somewhat cautious regarding the involvement of citizens in the design of digital government, which was mentioned as a must in some of the breakout group discussions. In Ms Ubaldi's view, citizens are often not sufficiently informed to actively contribute to administrative reforms.

Erika Widegren, Chief Executive of Re-Imagine Europe, echoed Natalia Aristimuño Pérez's comment regarding European values, saying that in the digital age, democracy and freedom will not be taken away with force, but are more likely to be removed gently in exchange for convenience (for example, people give up their personal data in exchange for 'free' services). Therefore, the four scenarios are helpful to identify the risks that technological advancement brings.

Mikel Landabaso Alvarez, Director of Growth & Innovation at the JRC, thanked the JRC and the DigiGov consortium for managing the study 'Exploring Digital Government Transformation in the EU'. He noted that the study should be the beginning of a collaboration between the OECD, CONNECT, DIGIT and the JRC, and not the end. In the time of COVID-19, the public sector might increase in size and importance, implying a new role and legitimacy for the public sector – something that is relatively new and not yet fashionable. Thus, he said, some serious thinking is needed to help the public sector become more efficient, more participatory and more transparent – which is where the study is most useful. He concluded with a quote from Machiavelli: "The innovator makes enemies of all those who prospered under the old order, and only lukewarm support is forthcoming from those who would prosper under the new." Innovators in the public sector are thus often very lonely, so the goal of the JRC is to support them.

5 Conclusions

Validation and consultation activities were at the core of the JRC's DigiGov research. In total, almost 100 experts and stakeholder representatives were involved, including academics, practitioners and policy makers, representatives of international organisations, NGOs and think tanks, as well as officers from several EC services. The interaction between the research team and those involved in the consultation and validation activities took place online as well as at face-to-face meetings.

Reflecting upon the main results of the expert and stakeholder engagement activities, it should be noted that participants devoted a lot of attention to the terms 'digital innovation' and 'digital transformation' in government. The analysis of the state of the art carried out by the study team demonstrated that these terms have been used in a variety of ways, and have become loaded with different and contradictory meanings. For example, some literature positions digital innovation as an antecedent to transformation, while other authors see digital transformation as a process leading to a more innovative public sector. While the discussions with experts and stakeholders did not carry the explicit ambition of reaching a joint understanding of these concepts, nevertheless, they resulted in numerous insights that fed into the conceptual and empirical streams of the study.

The validation and consultation activities served to underline that Digital Government Transformation does not evolve in a direct or linear fashion, towards one clear goal. This means that any conceptualisation must reflect the indeterminate, multidirectional nature of the process, which may lead to outcomes that are very different from those intended by the policy makers.

Further, when discussing innovation and transformation in the public sector, it is important to be aware of the normative charge of some of the terms used – for example, 'copy-cat mirroring', 'disruptive reframing' and even 'transformation' itself. Value judgements sometimes jump ahead of a clear-minded analysis. One must instead be careful to look at the broader context. Copying innovations and learning from others has been used by and proved useful to many authorities. Disruption is often unsettling for governments and societies. Transformation may lead to fundamental changes; however, these changes may be detrimental to democracy, trust and civic participation.

The team also took enormous advantage of the feedback received with regard to the four case studies and experiments conducted. The case studies were implemented in several countries: Lithuania (the "Tvarkau Vilnių" app in the municipality of Vilnius); Span and Germany (a discrete choice experiment on data and privacy protection); the United Kingdom (body-worn cameras used by the Metropolitan Police); and Italy (Kids Go Green initiative in the City of Trento). The researchers carrying out the case studies faced the complex task of demonstrating innovation in action and tracing the process of its implementation, identifying effects and feedback loops.

Suggestions from the participants of the validation and consultation activities pointed towards the need to 'tell the story', deal with complexity and be useful to policy makers. In particular, complexity emerged as an underlying theme, especially during the Seville Policy Lab. The evidence collected revealed complex paths of implementation and indeterminate lines of causality. The study team thus had the task of extracting the key elements of the complex reality and making then 'digestible' for policy makers and practitioners.

The concluding months of the study were then devoted to the consideration of the implications of the evidence collected and the elaboration of the scenarios for Digital Government Transformation. The COVID-19 pandemic caused a sudden change of the context, which revealed the scale of transformation that has already taken place and offered food for thought concerning further directions. The study team thus suggested that the future of digital government will depend on two variables: the capacity of government to enact and enforce regulation, and the stance of public authorities with regard to personal data protection. This suggests a number of likely scenarios, ranging from optimistic to dystopian.

The online foresight workshop considered all of these scenarios, identifying the underlying assumptions as well as actions that various stakeholders should take to make one or another scenario more likely to happen.

The market-led scenario was considered quite realistic, given the innovative and financial clout of large data-driven companies. The government-led scenario was considered to be somewhat desirable normatively, as it envisions a benign government that has the resources, expertise and legitimacy to intervene in markets on behalf of the public at large. Nevertheless, this scenario requires checks and balances to prevent powerful authorities from slipping into the scenario of pervasive government-sponsored surveillance and control.

The critical role of the EU was underlined repeatedly. With the adoption of the GDPR, the EU has placed itself at the forefront of regulatory innovation in relation to personal data protection. The EU is also in the position to bring together stakeholders including Big Tech, and to build global alliances that could forge global standards concerning collaboration, competition, data sharing and data protection in digital markets. Finally, the participants also pointed out that the EU should not distance itself from facilitating the emergence of EU-based digital champions, who are more likely to have privacy, public interest and European values ingrained in their mode of operation.

Importantly, the research was not conducted in isolation, and was instead presented and discussed at several other scientific and policy events. This included presentations to formal meetings of representatives of EU Member States such as the ISA^2 Committee and the eGovernment Action Plan Steering Board, as well as the dedicated Working Group of the ISA^2 ELISE Action and the Steering Committee, and Advisory Board of the Innovative Public Service – IPS Action, which aims to lay the foundations for the EU Innovative Public Service Observatory (IPSO).

The DigiGov project has also been discussed with policy makers at international level during events organised by the UN and the OECD, such as the UN Public Service Awards 2018 in Marrakech and the OECD eLeaders meeting in Brussels in December 2019, as well as through presentations at conferences to inform a broader scholarship and practitioners. For example, various H2020 research communities have been consulted as part of the Coordination and Support Action 'Big Policy Canvas - Transforming policy making through Big Data and Open Innovation' and the CO-VAL Project 'Understanding value co-creation in public services'.

As part of these efforts to widen the dissemination of the findings of the research, DigiGov has been also presented at a number of important policy events such as the International conference 'Channelling Change – Digital Cities in a Changing World', which took place in Venice on 13-14 June 2019; the '2019 Conference on the Digital Agenda in Italy' in Milan on 12 December 2019; and the first EU Interoperability Academy organised by the European Commission under the ISA^2 programme in Leuven on 13 December 2019.

More recently, as a follow-up of the final Foresight Workshop, the scenarios for digital government shaping Digital Europe 2040 have been presented at the online Samos Summit on ICT-enabled governance 2020, during a dedicated session on The Future of Digital Public Services, jointly organised by the JRC and DIGIT on 13 July 2020.

Other events are expected to feature discussion of DigiGov results and further refine its recommendations for future research and policy development. Following the postponement due to COVID-19 of many events scheduled for the spring of this year, the DigiGov scenarios and key results will now be presented on 23-25 September at the ICEGOV2020 conference on 'Digital Governance in the Era of Disruptive Technologies and Globalisation', and later on at the final CO-VAL Conference on 'Value Co-Creation, Innovation and Digital Transformation of Public Services' in Madrid in January 2021, among others.

The success of these activities points to the fact that the 'DigiGov Engagement Model' developed as part of this research, be it face to face or online, should be systematically used as part of JRC research on Digital Governance and Public Sector Innovation to ensure that science can play a crucial and effective role in supporting the shaping of better policies for European citizens.

Annex 1. Workshop agenda, JRC Ispra, 13-14 May 2019

EUROPEAN COMMISSION
JOINT RESEARCH CENTRE
Directorate B. Growth and Innovation
Digital Economy Unit

JRC Study on Exploring Digital Government Transformation:

Understanding Public Sector Innovation in a Data-Driven Society

1st Expert and Stakeholder Consultation Workshop

How ICT-enabled innovation can transform EU governance and policy-making

13-14 May 2019, JRC, Ispra – Visitors Centre

Agenda

13 May 2019

09:00 – 09:30	*Arrival of participants and registration*	
09:30 – 10:15	*Welcome coffee and guided tour of the JRC Visitors Centre*	
10:15 – 12:30	**Opening session: policy and research context** **Chair: Alessandro Annoni, Head of Digital Economy Unit, JRC B6**	
10:15 – 10:30	Welcoming remarks	Alessandro Annoni, Head of Unit B6, JRC
10:30 – 11:00	Policy Context of Digital Government in the EU	Georges Lobo, DIGIT D2 Dietmar Gattwinkel, CNECT H4
11:00 – 11:45	A global outlook on the digital transformation of society	Vincenzo Aquaro, UNDESA Barbara Ubaldi, OECD Erika Widegren, RIE
11:45 – 12:00	JRC research on Digital Government Transformation	Gianluca Misuraca, JRC B6
12:00 – 12:15	Objectives of the study and aims of the workshop	Egidijus Barcevičius, PPMI
12:15 – 12:30	Structure of the workshop and working groups	Monique Calisti, Martel Innovate
12:30 – 13:30	*Group photo and lunch break*	
13:30 – 17:30	**Understanding and measuring Digital Government Transformation** **Chair: Cristina Cosma, ISA² Programme Manager, Interoperability Unit, DIGIT D2**	
13:30 – 13:40	Rationale and introduction to the session	Gianluca Misuraca, JRC B6
13:40 – 14:10	Research design and results from systematisation of research on Digital Government Transformation	Egidijus Barcevičius, PPMI
14:10 – 14:40	Proposed conceptual framework on how to assess Digital Government Transformation	Cristiano Codagnone, Open Evidence
14:40 – 15:00	*Coffee break*	
15:00 – 15:30	Discussion on the proposed conceptual framework	Led by JRC D-GOV and contractors' team
15:30 – 17:30	Working groups to discuss and review the proposed conceptual and measurement framework	

14 May 2019

8:30 – 9:00	*Arrival of participants*	
9:00 – 16:00	**Shaping the way forward for assessing Digital Government Transformation** **Chair: Andrea Servida, Head of eGovernment & Trust Unit, CNECT H4**	
9:00 – 9:15	Recap of Day 1 and objectives of Day 2	Gianluca Misuraca, JRC B6
9:15 – 09:45	Insights from the policy review across the EU	Irene Vanini, Politecnico di Milano
09:45 – 10:30	Presentations to plenary by working groups	Working group rapporteurs
10:30 – 11:00	Take-aways: responses and reflections from the study team and other participants	Led by Cristiano Codagnone, Open Evidence and Egidijus Barcevičius, PPMI
11:00 – 11:20	*Coffee break*	
11:20 – 12:00	Forward looking views on digital government	Representatives of stakeholders: Alexander Heichlinger, EIPA Edoardo Ongaro, EGPA Delfina Soares, UNU
12:00 – 12:30	The way forward: cases and experimental design	Contractor's team
12:30 – 13:30	*Lunch break*	
13:30 – 14:30	JRC D-GOV Community of Practice: expert and stakeholder engagement / validation activities	JRC D-GOV team and contractor's team
14:30 – 15:30	Q&A session and discussion	All participants
15:30 – 16:00	Closing remarks	Alessandro Annoni, HoU, JRC B6 Georges Lobo, DIGIT D2 Andrea Servida, HoU, CNECT H4
16:00	*End of workshop*	

Annex 2. Policy Lab agenda, JRC Seville, 24-25 October 2019

EUROPEAN COMMISSION
JOINT RESEARCH CENTRE
Directorate B. Growth and Innovation
Digital Economy Unit

JRC Study on Exploring Digital Government Transformation:

Understanding Public Sector Innovation in a Data-Driven Society

Policy Lab on assessing impacts of Digital Government Transformation

24-25 October 2019

JRC, Seville

Edificio Expo - Calle Inca Garcilaso, 3 – 41092 Seville, Spain

24 October 2019

11:00 – 12:00	*Arrival of participants, registration and transfer to Room A30 for plenary sessions*	
12:00 – 13:30	**Opening session: setting the stage (Room A30)** **Chair: Alessandro Annoni, Head of Digital Economy Unit, JRC/B6 (VC)**	
12:00 – 12:15	Support to digital government in the next agenda of the European Commission – Insights from Brussels	Georges Lobo, DIGIT/D2 Dietmar Gattwinkel, CNECT/H4 (VC)
12:15 – 12:30	JRC research on Digital Government Transformation and Innovative Public Services	Gianluca Misuraca, JRC/B6 Andrea Perego, JRC/B6
12:30 – 13:30	Conversation on recent policy and research developments on digital government worldwide	Vincenzo Aquaro, UNDESA Lisa Ginsborg, EUI-STG Tomasz Janowski, Gdańsk University of Technology Marijn Janssen, Delft University of Technology
13:30 – 14:30	*Networking Lunch*	
14:30 – 18:30	**Policy Lab Session 1 (Rooms A30, A26, A29, 106 for breakout sessions)** **Understanding and measuring the effects of Digital Government Transformation** **Chair: Gianluca Misuraca, JRC/B6**	
14:30 – 15:15	Progress overview of the study on Exploring Digital Government Transformation in the EU (DigiGov) and presentation of the conceptual framework and its implications for researchers and policy makers	Egidijus Barcevičius, PPMI Cristiano Codagnone, Open Evidence
15:15 – 15:45	Q&A and discussion of the conceptual framework, with inputs from experts and stakeholders	All participants
15:45 – 16:00	*Coffee break while reallocating to separate rooms for Policy Lab working sessions*	
16:00 – 16:15	Structure of the Policy Lab session and working groups	DigiGov consortium team
16:15 – 18:30	Working groups to discuss different elements and implications of the conceptual framework	Led by the DigiGov consortium team

25 October 2019

8:30 – 9:00	*Arrival of participants*	
9:00 – 12:30	**Policy Lab Session 2 (Rooms A30, A26, A29, A38 for breakout sessions)** **Empirical evidence on Digital Government Transformation** **Chair: Georges Lobo, DIGIT/D2**	
9:00 – 9:15	Recap of Day 1	Gianluca Misuraca, JRC B6
9:15 – 10:00	Presentations of case studies and experiments: research design and preliminary results	DigiGov consortium team
10:00 – 10:15	*Coffee break while reallocating to separate rooms for Policy Lab working sessions*	
10:15 – 12:30	Working groups to discuss the case studies / experiments and their policy implications	Led by the DigiGov consortium team
12:30 – 13:30	**Closing session: learnings so far and the way forward (Room A30)** **Chair: Andrea Halmos, Policy Officer, CNECT/H5**	
12:30 – 12:45	Integrating Policy Lab's inputs into the DigiGov study	DigiGov consortium team
12:45 – 13:15	Closing thoughts by participants	All participants
13:15 – 13:30	Closing remarks and next steps for the research	Gianluca Misuraca, JRC/B6
13:30: 14:30	*Light lunch before taking the road…*	

Annex 3. Online Foresight Workshop agenda, 9 July 2020

EUROPEAN COMMISSION
JOINT RESEARCH CENTRE
Directorate B. Growth and Innovation
Digital Economy Unit

JRC DigiGov Study – 'Exploring Digital Government Transformation: Understanding Public Sector Innovation in a Data-Driven Society'

Shaping Digital Government Transformation in the EU

(Virtual) Foresight workshop

9 July 2020 (10h00 – 12h30 and 14h00 – 17h00)

Zoom platform: https://us02web.zoom.us/j/84104836778

10:00 – 11:00	**DigiGov - gearing the journey to the future** **Chair: Francesco Pignatelli, ELISE Action Leader, Digital Economy Unit, JRC**	
10:00 – 10:10	Welcome and research background	Michael Lutz, Acting Head of Digital Economy Unit, JRC
10:10 – 10:30	Digital government transformation in the post COVID-19 era	Max Strotmann, Deputy Head of Interoperability Unit, DIGIT Andrea Halmos, Policy Officer Smart Mobility & Living, CNECT
10:30 – 11:00	Key results from Exploring Digital Government Transformation in the EU	Gianluca Misuraca, JRC DigiGov Project Leader Egidijus Barcevičius, DigiGov Consortium Project Manager
11:00 – 12:30	**Lifting off to Digital Government Transformation in the EU** **Chair: Gianluca Misuraca, Senior Scientist, Digital Economy Unit, JRC**	
11:00 – 11:20	The evolving global governance landscape: a glimpse of the TRIGGER scenarios at the horizon 2050	Aaron Rosa, Fraunhofer Institute for Systems and Innovation Research (ISI)
11:20 – 11:40	Framing the future of Digital Government Transformation 20 years from now!	Cristiano Codagnone, DigiGov Consortium Scientific Director
11:40 – 11:50	Structure and functioning of foresight session 1	Alberto Mucci, Made Design
11:50 – 12:30	**Breakout Groups** – getting ready for structured scenario-building discussion	
12:30 – 14:00	*Lunch break*	
14:00 – 16:00	**Envisioning Digital Government Transformation in the EU in 2040** **Chair: Andrea Halmos, Policy Officer, Smart Mobility & Living Unit, CONNECT**	
14:00 – 14:10	Structure and functioning of foresight session 2	Alberto Mucci, Made Design
14:10 – 15:10	**Breakout Groups** – scenario design and storyboarding	
15:10 – 15:20	*Break*	
15:20 – 16:00	**Plenary** - presentation and discussion of scenario design results	
16:00 – 17:00	**Leveraging Digital Government Transformation in the 'Pandemic Society'** **Chair: Natalia Aristimuño Pérez, Head of Interoperability Unit, DIGIT**	
16:00 – 16:45	**Roundtable** - Digital government and global governance: the need for institutional re-designs	Vincenzo Aquaro, Chief Digital Government Branch, UNDESA Barbara Ubaldi, Acting Head of Division, OECD GOV Erika Widegren, Chief Executive, Re-Imagine Europa
16:45 – 17:00	Final thoughts and reflections from a journey towards the future!	Mikel Landabaso Alvarez, Director, Growth & Innovation, JRC

GETTING IN TOUCH WITH THE EU

In person

All over the European Union there are hundreds of Europe Direct information centres. You can find the address of the centre nearest you at: http://europea.eu/contact

On the phone or by email

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),

- at the following standard number: +32 22999696, or

- by electronic mail via: http://europa.eu/contact

FINDING INFORMATION ABOUT THE EU

Online

Information about the European Union in all the official languages of the EU is available on the Europa website at: http://europa.eu

EU publications
You can download or order free and priced EU publications from EU Bookshop at: http://bookshop.europa.eu. Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see http://europa.eu/contact).

KJ-04-20-453-EN-N

The European Commission's science and knowledge service

Joint Research Centre

JRC Mission

As the science and knowledge service of the European Commission, the Joint Research Centre's mission is to support EU policies with independent evidence throughout the whole policy cycle.

EU Science Hub

ec.europa.eu/jrc

@EU_ScienceHub

EU Science Hub - Joint Research Centre

EU Science, Research and Innovation

EU Science Hub

Publications Office of the European Union

doi:10.2760/621165

ISBN 978-92-76-21064-1