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The Future of Government 2030+: Policy Implications and Recommendations

The Future of Government project explored how we can rethink the social contract according to the needs of today's society, what elements need to be adjusted to deliver value and good to people and society, what values we need to improve society, and how we can obtain a new sense of responsibility. Based on the experience from previous decades, it is now very important to think of how new governance models will be developed to anticipate and be prepared for possible futures and what citizens' requirements are. Large patterns and trends have emerged from the FuturGov scenarios. This has already been discussed in *The Future of Government 2030+: A Citizen-Centric Perspective on New Government Models* report, published earlier this year.

Based on this, *The Future of Government 2030+: Policy Implications and Recommendations* report provides follow-up insights into the policy implications and offers a set of 57 recommendations, organised in nine policy areas. These stem from a process based on interviews with 20 stakeholders and a participatory workshop with 19 stakeholders.

The recommendations include a series of policy options and actions that could be implemented at different levels of governance systems. As these recommendations have shown, collaboration is needed across different policy fields and they should be acted upon as integrated package. Although the majority of recommendations is intended for the EU policymakers, their implementation could be more effective if done through lower levels of governance, eg. local, regional or even national.

The Future of Government 2030+

Policy Implications and Recommendations

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2019

TABLE OF CONTENTS

ACKNOWLEDGEMENT	5
EXECUTIVE SUMMARY	6
1 INTRODUCTION	9
1.1.Objectives and methodology	12
1. 2. An overview of the FuturGov scenarios	14
2 POLICY IMPLICATIONS AND RECOMMENDATIONS	19
2.1 Governance and policymaking mechanism	20
2.1.1 Democracy and power relations	20
2.1.2 Participatory culture and deliberations	22
2.1.3 Political trust	26
2.1.4 Regulation	28
2.1.5 Public-private relationship	31
2.2 Policy sectors	34
2.2.1 Public services	34
2.2.2 Education and literacy	37
2.3 Transversal issues	39
2.3.1 Big data and AI	39
2.3.2 Innovation in public administration and new skills needed	44
3 Conclusions and future research	59
REFERENCES	62

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Responsibility for the information and views set out in this report lies entirely with the authors.

EXECUTIVE SUMMARY

The Future of Government project started in autumn 2017 as a research project of the Joint Research Centre in collaboration with Directorate General Communication Network and Technologies. It explored how we can rethink the social contract according to the needs of today's society, what elements need to be adjusted to deliver value and good to people and society, what values we need to improve society, and how we can obtain a new sense of responsibility.

Based on the experience from previous decades, it is now very important to think of how new governance models will be developed to anticipate and be prepared for possible futures and what citizens' requirements are. Large patterns and trends have emerged from the FuturGov scenarios. This has already been discussed in *The Future of Government 2030+: A Citizen-Centric Perspective on New Government Models* report¹, published earlier this year.

Based on this, *The Future of Government 2030+: Policy Implications and Recommendations* report provides follow-up insights into the policy implications and offers a set of 54 recommendations, organised in nine policy areas. These stem from a process based on interviews with 20 stakeholders (May–July 2019) and a participatory workshop with 19 stakeholders (held on 2 July 2019).

The recommendations of this report include a series of policy options and actions that could be implemented at different levels of governance systems. While in Table 2 (p.48) we provide a full set of recommendations, as well as in the text of the report, here we present a brief summary:

1. Democracy and power relations: Reforms that include diversifying power structures in governance levels and societal actors are needed, as well as creating clear strategies towards full adoption of open government. Digital governance could contribute to modernising the role of government.

2. Participatory culture and deliberation: To include citizens in decision-making, a better skilled and equipped public administration and the allocation of resources (eg. budget, infrastructure) are needed, as well as a more informed citizenry that can engage in informed deliberation. Citizen engagement should be used to co-create solutions, not just react to them.

3. Political trust: New participatory governance mechanisms, along with publicly funded EU public service media (eg. broadcasting channels, online media), could contribute to raising trust of citizens through better inclusion and the creation of the European public sphere.

4. Regulation: Regulation on technology should follow the discussion on European values and include a supranational approach. Human rights should be respected and expanded to reflect the present and future. Divide between citizens who know and have the possibility to use technology and those who don't, should be avoided.

5. Public-private relationship: More collaboration between the public and the private sector is needed to face future challenges, in connection to new technologies as well as public services, together. More interactive spaces should be sought for the exchange of ideas and expertise.

6. Public services: Public services should be redesigned according to the needs of citizens and should be accessible to all European citizens while remaining in the hands of the public sector. Inequalities in service access should be overcome through co-creation with citizens and education programmes. New technologies hold great promise for the improvement of certain services under the condition that the state protects citizens' private data.

¹ Vesnic-Alujevic L, Stoermer E, Rudkin J, Scapolo F, and Kimbell L (2019) *The Future of Government 2030+: A Citizen-Centric Perspective on New Government Models*. Luxembourg: Publications Office of the European Union.

7. Education and literacy: Education should better fit the needs of citizens and job markets in the future. Digital data literacy would lead to a better understanding of the digital environment, policy and media literacy would lead to a better understanding of policy processes and inclusion in civil and informed debates, and futures literacy would contribute to more resilient societies.

8. Big data and artificial intelligence (AI): Stronger legal and ethical frameworks and new policy perspectives on algorithms and data are needed, including the development of adequate standards. Policymakers should focus on the public value of technologies and ensure that digital companies comply with new European and national laws. More participatory technological development would be more socially robust.

9. Redesign and new skills for public administration: A constant re-evaluation of skills is needed in public administration for the institutions to develop more creative and innovative solutions and be well adapted to future challenges; more agile forms of working could lead to positive outcomes and benefits for citizens (eg. greater efficiency; better focus on citizens' needs; faster identification of challenges and response to changes).

As these recommendations have shown, collaboration is needed across different policy fields and they should be acted upon as integrated package. Although the majority of recommendations is intended for the EU policymakers, their implementation could be more effective if done through lower levels of governance, eg. local, regional or even national.

Therefore, the primary audience of this report are policymakers on the EU, national, regional and local levels, as well as citizens and other stakeholders who throughout this project showed interest in thinking of, creating possible futures and discussing the opportunities and challenges of different governance models.

1 INTRODUCTION



The Future of Government 2030+: A Citizen-Centric Perspective on New Government Models (FuturGov) project has explored emerging societal, technological and political changes to identify enablers for new forms of government from 2030 onwards. The project has adopted a novel approach that combines citizen engagement, foresight and design while being rooted in recent literature from the field of digital politics and media.

FuturGov has opened up the imagination by exploring new, future forms of government that are driven by the needs of citizens first, as well as other stakeholders. This has led to the main question of the project: *How will citizens, together with other actors, shape governments, policies and democracy in 2030 and beyond?*

Therefore, the main issues discussed in the project are situated around democracy and digitalisation, i.e. how they will impact each other and how they will impact power relations in society. Four scenarios have been created:

- **DIY Democracy:** Decentralisation of power and thriving of self-organised do-it-yourself communities.
- **Private Algocracy:** Giant digital companies hold the power over citizens and governments.
- **Super Collaborative Government:** High collaboration and co-creation between citizens, governments and other stakeholders are featured.
- **Over-Regulocracy:** Over-protection is provided by the government through the creation of too many regulations with the help of technology.

Using these scenarios, along with the design concepts of new interactions with government produced by design students, we assessed the redistribution of power relations between societal actors (citizens and businesses/industry) and political institutions.

The project has been carried out via the following steps:

Step 1 Dialogues with citizens and civil society organisations (CSOs): A series of

workshops with citizens in six European Member States (Austria, Ireland, Malta, Poland, Spain and Sweden) were held in parallel with a workshop with international CSOs, trade unions and think tanks in Brussels, Belgium, between November 2017 and March 2018.

Step 2 Bottom-up scenarios: The qualitative data obtained from the workshops in Step 1 provided the foundation and structuring elements of a set of four future scenarios of the government in 2030+. The narratives were complemented with insights from the literature.

Step 3 Future of government ideation: The scenarios were used as a starting point and a brief for exploration and ideation about individuals' future interactions with governments. For this step, more than 100 students and research staff from six design schools (from Italy, Poland, Spain, Sweden, Switzerland and United Kingdom) delivered a broad range of design concepts, imagining future interactions between individuals and governments.

Step 4 FuturGov Game: The insights generated by the project were used to develop a reflection tool in the form of a game to stimulate, enrich and further explore the discussion of the future of government beyond the lifespan of the project. The game is intended to stimulate conversations among the players, i.e. public servants, students and other citizens.

Step 5 High-level event: A full-day *Future of Government* event was held at the European Parliament and the European Commission to launch the report and support dialogue among European, national and local politicians and policymakers, non-government organisations (NGOs), think tanks, academia and interested members of the public.

Step 6 Expert interviews and a workshop: We conducted 20 semi-structured interviews with experts and held a workshop at the EU Policy Lab to reflect deeper on policy implications and possible detailed recommendations.

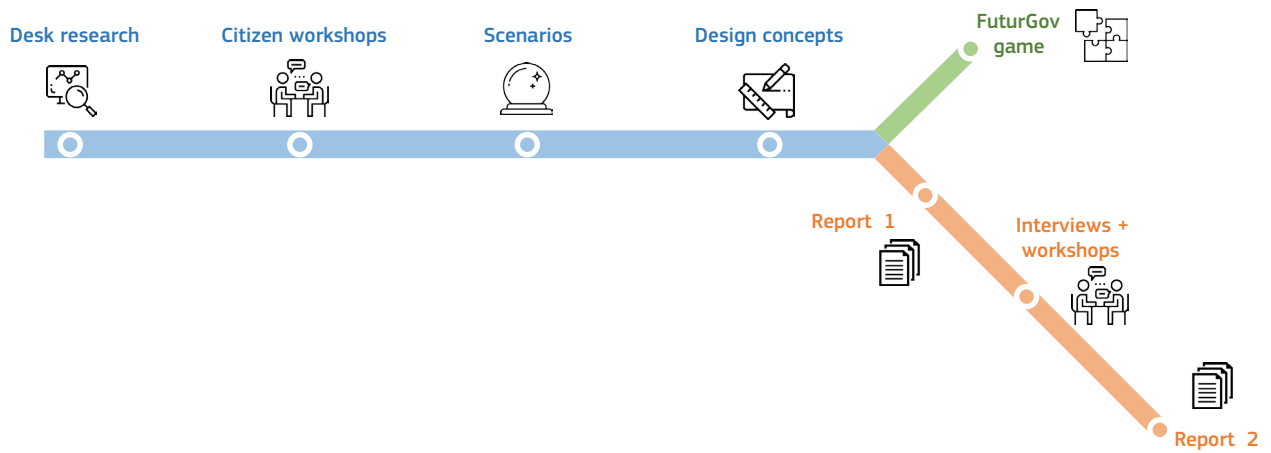


Figure 1: Timeline of the FuturGov project

The first report has, thus, identified a number of issues with different implications. The report revealed a set of needs for traditional roles of government and public administration to adapt to emerging and future societal requirements. For instance, the report discussed how to manage digital technologies through the responsible and ethical use of AI and data while respecting human rights (e.g. privacy). In all cases, novel approaches have been recognised as key for better-informed policymaking and higher quality public services in the uncertain and complex context of our contemporary societies.

Based on the identified issues from the first FuturGov report, this report develops further and discusses more in-depth their policy implications and offers possible recommendations.

The structure of the report is as follows:

Chapter 1: After the description of the objectives and methodology, the introductory chapter ends with a short overview of the FuturGov scenarios.

Chapter 2: This chapter includes policy areas organised in three themes: **governance and policymaking mechanisms** (democracy and power relations; participatory culture, engagement and deliberation; political trust; regulation; and public-private relationship), **policy sector issues** (public services; education and literacy) and **specific transversal issues** (big data and AI; innovation in public administration and new skills). For each area, policy implications are presented, followed by a set of recommendations, possible policy actions (follow-up activities) and measures of success in 2030.

Chapter 3: This chapter offers a conclusion.

1.1. Objectives and methodology

The key insights and issues identified in the first report of the FuturGov project highlighted the need to go deeper on some of those issues to identify possible policy priorities and fields of intervention to inform policymaking at the European level, especially during the transition towards a new Commission. Therefore, the objectives of this additional report are to build on the gathered knowledge to provide an analysis of implications for EU (and partly national) policies and public administration. The activities to achieve these objectives were taken in two steps:

1. Twenty semi-structured interviews were conducted with a selected group of stakeholders and experts from May to July of 2019 to discuss further the emerging issues already highlighted in the FuturGov scenarios and to better identify connections with policies.
2. A participatory workshop with selected stakeholders and experts from Step 1 along with additional policymakers was organised in July 2019 to complement and validate the knowledge gathered through the interviews.

Table 1 gives an overview of participants from both phases. We consulted 26 experts in total. The anonymity of experts was assured by stating that their data would not be made public or available to third parties.

The desk research consisted of identifying all issues tackled by the findings of the study, as published in the previous report. These issues fell into 41 categories divided into six clusters (Political, Economic, Social, Technological, Legal, and Environmental). Some of the categories were open government, efficiency, effectiveness, political trust, political participation, power distribution, new business models, platform economy, open innovation culture, new skills, increased societal inequalities, societal inclusion, skills and literacy, big data, AI, digitalised public services, platform regulation, human rights, legitimacy of processes and institutions, circular economy and climate

change. These categories served as an initial codebook for the analysis of the interviews and an initial selection of topics for the workshop.

Interviews

The interviews lasted between 45 min and 1 h 15 min, and they were conducted either by phone or Skype by one interviewer in English. They were recorded upon the approval of participants for accuracy purposes. The interviews were further transcribed, coded and analysed.

The interview guideline consisted of 13 questions divided into four sections: (a) general questions about the most important issues in the first FuturGov report and its novelties, (b) the implications of each scenario on certain policies pertinent for the particular scenario, (c) democracy in connection to new technologies and citizen engagement and (d) the relationship between the public and the private sector and the development of public services. At the end, experts were asked to add comments and insights that they considered relevant and not mentioned during the interview.

The analysis followed an initial codebook (based on the findings of the study and 41 categories that emerged from it, as explained previously) that was adapted to the emerging themes and concepts from the interviews.

Overall, the experts found the most important aspects of the project revolved around democracy in Europe; its identity, values and human rights (“the soul of Europe”; Participant 9, personal communication, 16 May 2019); and the core of public services. They also saw many benefits to the project’s approach, especially through engaging with citizens and students throughout Europe in imagining their futures and finding possible solutions (“For us in Europe it’s so crucial now to get young people engaged in Europe. And if you find a way through the JRC to engage students in this kind of conversation, there’s a contribution there” [Participant 4, personal communication, 11 June 2019]). They identified in particular the following policy areas and issues as the most important:

Table 1

List of Interviewees and Workshop Participants

Policymakers, policy officers and international organisation representatives	Researchers (academia and think tank)	Civil society	Business
1. International organisation officer (UNESCO)	1. Researcher and professor in public administration (U.K.)	1. EU think tank representative (EU)	1. Company representative (EU)
2. International organisation officer (OECD)	2. Researcher and professor in information processing (Austria)	2. EU think tank head of communication (EU)	2. Company representative (EU)
3. National government policy officer (Estonia)	3. Researcher and professor in design for policy (Germany)	3. NGO dealing with deliberative democracy representative (EU)	3. Business investor (U.K.)
4. National government policy officer (Luxembourg)	4. Researcher and professor in digital politics and EU studies (Sweden)	4. NGO dealing with democracy and technology representative (EU)	4. Company representative (EU)
5. Local government policy officer (Netherlands)	5. Researcher and professor in political communication (Italy)	5. NGO dealing with local level governance representative (EU)	
6. EU-level policy adviser (EU)	6. Researcher in public administration and social innovation (EU)		
7. EU-level policy officer (EU)	7. Researcher and professor in public administration (Germany)		
8. Local government policy officer (B)			
9. EU-level policy officer (EU)			
10. EU-level policy officer (EU)			

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Future of democracy and the positive and negative sides of representative, direct and participatory democracy 2. Regulation versus co- and self-regulation, especially in the context of regulating technologies 3. The cross-cutting issues, such as democracy-digitalisation, as well as AI and data-participation 4. Power distribution in multilevel governance and possibilities for giving more power to local and regional authorities 5. Efficiency and effectiveness of political | <ol style="list-style-type: none"> 6. institutions' processes and services and their possible redesign 6. Focus on citizens and relations between government, citizens and businesses 7. Building trust ("in people and processes, not only processes") 8. Citizen participation ("create safe spaces for citizens to freely/trustfully think and ideate") 9. Data as a new asset in the platform economy 10. Welfare in a broad sense (education, healthcare, access to pensions) and long- |
|---|--|

term sustainability of the system

11. Literacy, skills and the development of critical citizenship (data literacy, futures literacy, policy literacy and media literacy)
12. Technology, inequality and skills (“technological development is in itself deeply unequal . . . and it is less transparent than in the past”)

Workshop

For the participatory workshop, we gathered 19 stakeholders from different European institutions (i.e. European Commission, European Economic and Social Council [EESC], Committee of the Regions [CoR]) and from other organisations, including the Organisation for Economic Co-operation and Development (OECD), local and national authorities, academia, think tanks, CSOs and businesses.

The workshop was structured in the following order:

We started by asking the participants what they imagine the government will look like in 2030, as well as what the relations will be between the government and businesses and the government and citizens.

Participants were then asked to look at 41 different policy areas and challenges identified through the desk research, as explained previously. The following areas were chosen:

Democracy, open government, political trust, participatory culture and citizen engagement, decentralisation, new skills and jobs for public administration, increased inequalities, social capital versus fragmentations, big data and AI, computational propaganda, regulation, climate change

However, in the course of the workshop, participants decided to focus on some of the categories while leaving others out (e.g. climate change, social capital and decentralisation were not discussed further or were merged with other topics). Based on this, participants were asked the following: *What policy areas would you focus on today to reach more desirable elements and avoid less desirable ones of the four scenarios of the future?* This allowed

us to reflect more in-depth on the most important policy areas within each scenario.

We then compared the most discussed policy areas and issues from both the interviews and the workshop and selected the most pertinent ones for the FuturGov project.

1.2 An overview of the FuturGov scenarios

This section briefly presents the four scenarios developed in the FuturGov project. Detailed descriptions can be found and downloaded from <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/future-government-2030>, or they can be requested at the EU Policy Lab.

The scenario-building exercise was based on foresight methodologies but took a bottom-up approach to connect foresight with both design thinking methods that build scenarios based on user insights and with a citizen engagement approach. Four FuturGov scenarios are based on future narratives produced during the workshops with citizens in six EU Member States. They express participants’ opinions, hopes, desires and fears that frame their imagination of the future. The set of scenarios covers only the spectrum of plausible futures in a digitalised world; the future which will play out in reality could lie somewhere in between this spectrum.

Scenario 1 *DIY Democracy*

The societal gap has increased, state power has diminished and public services have become very limited. However, citizens feel strong and empowered; they are engaged in public life by co-creating do-it-yourself (DIY) public services. Digitalisation helps grass-roots initiatives reach out widely, but people also consider offline physical gatherings and work important. Citizens' participation in politics is strong at the local level and only transferred indirectly to the national and supranational governments, which have to balance between the companies' and citizens' interests.

Key drivers of the scenario:

- Increasing social gap
- Decreasing financial capabilities of states
- Rise of a sharing and caring society empowered by digital platforms
- Decentralisation and atomisation of government



Scenario 2 Private Algorocracy

Individual data are collected everywhere mainly by monopolistic digital tech companies because the implementation of General Data Protection Regulation (GDPR) and regulations of technologies, such as AI that followed did not bring the expected results. Surveillance by private companies is strong, and there is no transparency of their work. The logic of algorithm-based political decision-making processes and deals between the government and companies are opaque. Citizens' political interests are interpreted from their data profile.

Key drivers of the scenario:

- Power accumulation of global digital giants
- Advancements in data integration in an Internet of Everything (IoE), such as AI, Internet of Things (IoT), big data, and new technologies
- Expansion of the business ecosystems of giant digital companies into public services
- Decreased democracy in public life
- Decreasing role of democratic institutions; World Economic Forum taking over the role of the United Nations



Scenario 3 Super Collaborative Government

The rise of AI in government and the concept of citizen centism brought a new government design. Open governments have a real-time understanding of socio-economic problems; public services can be offered predictively and individualised to citizens. Government is enabling seamless participation in decision-making via virtual platforms. Citizens are sovereign over their data, and privacy is key.

Key drivers of the scenario:

- Technical advancements in AI and real-time data analytics
- Push for open and innovative government
- Push for data protection and privacy
- Increasing valuation of non-remunerated work
- Increasing inclusion of citizens in governmental decision-making



Scenario 4 Over-Regulocracy

Key drivers of the scenario:

Leading digital platforms have been nationalised and put under the control of the democratic government. Social security is good but difficult to get. Similarly, human rights are important but difficult to obtain. Citizens are relatively well informed but tied up with bureaucracy. There is constant criticism of how political institutions work and of overregulating everything, which prevents citizens from participating in political and social life. Trust in political institutions and the media, as well as the level of engagement, are rather low.

- Rising critique of the influence of global digital companies
- Increasing use of AI in policymaking
- Rising societal challenges leading to the need for strong socially protective policies
- Needs for justification of public spending and accountability—increasing bureaucratic hurdles



2 POLICY IMPLICATIONS

AND RECOMMEN- DATIONS



Based on the methodology explained in the previous section, here we provide policy implications and a set of recommendations, followed by possible policy interventions and indicators for the following policy areas and issues:

1. Issues related to **governance and policymaking mechanisms** (democracy and power relations; participatory culture, engagement and deliberation; political trust; regulation; public-private relationship)
2. Issues related to **policy sectors** (public services; education and literacy)
3. **Transversal issues** (big data and AI; innovation in public administration and new skills)

For readers that want to focus on recommendations and actions only, please check the Table 2 (p. 48)

2.1 Governance and policymaking mechanisms

2.1.1 Democracy and power relations

Policy implications

The societal, political, economic and technological changes that have been emerging since the beginning of the 2000s are influencing citizens, businesses and governments. Hyperconnectivity, IoT and AI contribute to the appearance of new forms of policymaking, democracy and public services (Stehling et al., 2018). The role of social movements, especially the “networked” ones, has increased (e.g. gilets jaunes, climate marches, and #MeToo; also cf. Castells, 2015).

New power relations caused by technological disruptions

The main goal of the FuturGov project was to look at how power relations might transform and shift in the future. Based on the technology that was considered one of the main drivers, the differences explained in the four scenarios show the need to have “a plan how to use these technologies to improve democ-

racy and the effectiveness of decision-making” (Participant 9, personal communication, 16 May 2019).

The opening up of the workshop started with very positive thoughts and a belief that a government transformation by 2030 will bring many positive novelties, such as more proactive, citizen-centred government “especially towards those in need” and the government “daring to try.”

The transformation of government implies diversifying the power structure. Power distribution in multilevel government, and the combination of local, regional, national and supranational levels, is an important topic that needs to be put on the political agenda and its legitimacy enforced or increased:

I think the best that we can expect, to a certain extent, is for the government to be less defensive in trying to maintain its existing power and profile, and be positive when it's a question of diversifying the power structures, rather than consolidating or concentrating them.

(Participant 15, personal communication, 17 June 2019)

Enhancing the legitimacy of diversified roles of governments, citizens and businesses

The project attempted to put emphasis on collaboration among government, citizens and businesses, which is a key to discuss “how we will divide our roles, how we agreed on inclusion, actions, what challenges could be done by the government, what could be done by businesses, and what will be the role of citizens on all those actions” (Participant 18, personal communication, 12 June 2019).

The massive economic growth of several big digital companies led to an imbalance of power relations and gave them an unprecedented power concentration and control over public debate, which is a challenge for democracy, especially as a big part of the public discussion takes place online today (Zuboff, 2019).

The uniqueness of these companies is that they are also the richest in the world; they're

number one, two, three, four and five of the stock exchange, and, therefore, even if you would abstract from their digital power in terms of how they control the speed of public debate, how they know everything about everybody, and even without all that, alone with the influence on politics through money, it's the smallest part [...]

(Participant 11, personal communication, 16 May 2019)

In connection to the growing impact of technology and digital companies and their influence on government, we should not forget about the importance of regulation and of thinking about which actors we trust and which actors will be the most powerful players in society because “even Google was a start-up 30 years ago” (Participant 13, personal communication, 14 May 2019).

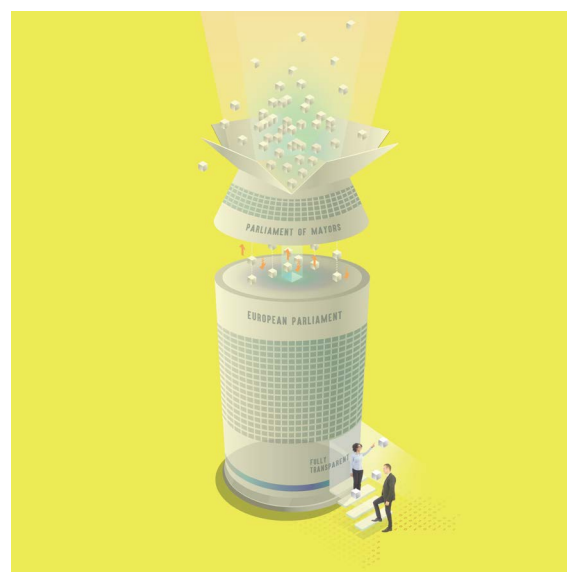
While according to some of our interviewees “technology will offer an incredible opportunity to participate, to shape policies, especially at the local level” (Participant 6, personal communication, 3 June 2019), others are more cautious, thinking of the contribution of digital for a long-term sustainable engagement.

The growth of populism is often discussed in the context of the growth of technology both within and outside Europe, although there is little evidence of a clear connection between the two. For example, when discussing the strategic use of digital platforms in the United States, Baldwin-Philippi (2019) argues that digital platforms provide a basis for the construction of populism and populist ideas. Despite this, there is a need to think of how to shape the digital into a form that will support democracy. Therefore, one of our experts asked the following:

Do the “digital” and the populism actually support each other, or is there a way where we can shape the digital into something which supports mainstream democracy rather than the populism and how? . . . This is the core issue of our time, is there a way that the **digital contributes to sustainable, long-term political engagement** of people in democracy, and how would that work? (Participant 11, personal communication, 16 May 2019)

Sustainable engagement of citizens through long-term democratic models

Among the interviewed experts, there has been a disagreement about future optimal models of democracy and how we should move forward, i.e. what would be best for the future. The majority of our interviewees questioned the legitimacy of democracy as we know it today, and they considered our current democratic values as being endangered. At the same time and in connection to the DIY scenario, they agreed that citizens should have a “greater awareness of their own values and preferences, based on experience” (Participant 4, personal communication, 11 June 2019) because in this way, citizens would also become “more aware of their own responsibilities and obligations and contributions to democracy” (Participant 4, personal communication, 11 June 2019) and have a greater sense of civic action. While the increasing citizens’ responsibility, accountability and social inclusion would have positive impacts, liquid democracy¹ and DIY public services could create problems in the society that was well described by one of the interviewees, as a world “where representation, journalism, churches, unions, social NGOs, parties are killed, and there is only a world of flash-mobs and hypes, which are very short-lived. Nobody engages politically on anything sustainably, and it becomes completely unenforceable and a total disorder” (Participant 11, personal communication, 16 May 2019).



1 Liquid democracy is a type of direct democracy, where citizens either vote directly or delegate their vote on a certain policy issue. (Blum & Zuber, 2016)

Recommendations:

- More complex reforms are needed to **diversify power relations** between different levels of governance and different societal actors.

We see peoples' frustration with representative democracy growing, impatience, etc., and there is a risk that both citizens and policy makers see data and technology as a way to improve the effectiveness of the state fast and easily, at the expense of thinking of more complex forms of reform and stakeholder engagement. (Participant 9, personal communication, 16 May 2019)

- More discussion is needed on **how digital governance could bring innovation**, stabilise the new power relations and modernise the role of government.
- **Be vigilant about the end goal for the use of technology**, so that the entire society benefits from it. That is why having strong political leadership that wants to tackle these issues is crucial.
- **Refine and implement open government policies**, and create clear strategies. **Accountability, transparency and fairness** are central concepts of democratic governments.

Possible actions to take:

1. Ensure quality of democracy through reforms based on larger societal debate.
2. Develop the framework for policy experimentation.
3. Invest in digital government solutions and give incentives to governments in Member States
4. Monitor Member States' policies and their compliance with the EU Charter of Fundamental Rights.
5. Organise structural debates on opening up government and making the relations between government and citizens closer and transparent.

What would successful implementation lead to in 2030?

- Broader stakeholders, including citizens, are involved in policymaking processes.
- The strategy to implement open government policies is created and functional.
- The strategy to protect the democratic principles and values for the digital age is deployed.
- Satisfaction of citizens with political institutions is high.
- Government works in an efficient way, and the reforms are completed.

2.1.2 Participatory culture and deliberations

Policy implications

Citizen engagement, more participatory democracy and possibilities for better inclusion of citizens in decision-making are present in the DIY scenario and the Super Collaborative Government (SCG) scenario. In DIY, they empower strong citizens to have more agency in society, especially on the local level. SCG goes further into co-creation and real-time participation of citizens. On a more global scale, and this is what the project has tried to do throughout different methods and exercises, it is important not only to ensure that citizens feel listened to in terms of co-construction of policies "but also in terms of how they feel about their future, what their fears are" (Participant 9, personal communication, 16 May 2019).

Since the 1980s, there have been suggestions on how democracy could be reformed or changed, e.g. Habermas's (1983) model of deliberative democracy, Laclau and Mouffe's (1985) radical democracy and Fishkin's (1991) mini-publics and citizen juries. The debates on whether we need more direct democracy or participatory democracy or rather to keep the representative system as it is have been increasing in recent years. Liquid democracy, as a type of direct democracy where citizens either vote directly or delegate their vote on a certain policy issue, is also present in contemporary political discourses (Blum & Zuber, 2016).

While the introduction of liquid democracy (Scenario 1) could lead to further problems of legitimacy and decision-making, enriching the representative democracy with participatory processes and making it more inclusive (Scenario 3) could raise the legitimacy of decision-making and of the government (Landemore, 2017).

As one of the experts mentioned:

I'm not convinced that there's a need to vote on everything; this is why I don't really believe in the notion of liquid democracy, but I think there's enough evidence from the hundreds of examples of deliberative processes around the world that are commissioned by the government, which show that when people are given the opportunity to really have an important say on something, directly shaping a piece of legislation or policies that will affect them, then people are more than willing to give up [a] longer amount of time to do so. (Participant 8, personal communication, 17 June 2019)

Some of the examples of successful deliberative processes around the world include the Irish Citizen Assembly 2016-2018 (Farrell et al., 2018), Ostbelgien model of permanent deliberative democracy (Reuchamps, 2019), Residents' Panel on the Ontario Condominium Act 2012 (Chwalisz, 2015) and Citizens' Juries on the Nuclear Fuel Cycle 2016 (Chwalisz, 2015).

Citizen engagement can contribute to policy-making in different forms and modalities and can help grasp better what citizens are thinking. For example:

Citizens could assist in pointing out societal issues [that should be addressed by] policymakers, help them formulate policy measures to tackle them, assist in the implementation of these measures and even evaluate if the policies are actually addressing the problem and not making it worse. (Participant 3, personal communication, 26 June 2019)

Potential problems with this approach

The following problems might be encountered in this context:

- Need for more informed citizenry
- Lack of time²

The evidence from the literature suggests that the participation of a large group of citizens in collective conversations could sometimes be questionable, as well as the competences of the participants and their ability to discuss complex policy issues (Coleman & Blumler, 2008). Similarly, some of the experts with whom we spoke expressed their doubts in the functioning of the deliberative process on the EU level because "we should work to make the parliament the place of public discourse much more" (Participant 11, personal communication, 16 May 2019); because of the complexity of issues and the scale ("With 28 Member States, the scale on which we do is high, on local level I would be more optimistic, it can work, but the European level it is challenging"; Participant 11, personal communication, 16 May 2019), and due to the willingness of citizens to participate:

I don't actually think that citizens want to have too much agency; I think there is a good balance between having agency and delegating responsibility. That's why we have the democracy that we have now. It's not simply because it has been imposed upon us by the capitalist system, as is some people's preferred explanation; I think, simply, people, everyday people, every one of us, has a tolerance level of how much they can deal with in their waking hours. (Participant 12, personal communication, 7 May 2019)

2 It is often difficult for citizens to get involved in participatory processes because they happen either in their working time or during weekends. In the case of citizen assemblies in Ireland, for example, one of the problems was that it was difficult for mothers of young children to get involved as their participation was voluntary and the child-care was not covered or provided for (cf. Politico's article on Citizen Assemblies in Ireland <https://www.politico.eu/article/the-myth-of-the-citizens-assembly-democracy/>).

The interviewees commonly agreed that not all topics are suitable for engagement with citizens. For example:

What if that policy option has some big flaws, that only technical expertise may detect and debunk, then you have a conflict because it's difficult not to adopt a policy option which is favoured by, for example, a majority of citizens, but scientific technical knowledge may warn against the sum of the implications of that policy. (Participant 1, personal communication, 17 May 2019)

An interviewee also stressed the general dissatisfaction of citizens and lack of understanding of politicians and their desire for a two-way communication.

European parliamentarians, just the previous term which is ending, they were constantly asking the IT department to clean the spam messages. And European Parliament's IT department . . . really found it really weird, you know, so many parliamentarians are applying for that. So, how come those spam messages went through their filters? And then they decided to look into it, and they checked the messages, how it's possible, then they realised that actually they are not spam messages they are messages of citizens. So, we cannot really talk about people are empathic; people are angry. People are angry because our institutions and politicians and political institutions are not responsive; they are not interactive. If a politician really thinks a citizen's message is a spam message, then the problem is much deeper than anybody can envisage. (Participant 19, personal communication, 18 June 2019)

While “opening channels for direct communication between representatives and citizens” (Participant 14, personal communication, 14 June 2019) is important, real-time interaction might not be the key; instead, what is “crucial for democracy is the quality of deliberation, again, to find a way to make political decisions closer to the life experience of people” (Participant 14, personal communication, 14 June 2019). In different digital media discussion forums today, we see a lot of uncivil dis-

ussion (Meltzer, 2015). Connected to this, as the experts agreed, there is a need for “people being responsible for what they contribute, what they say, and this leading to an informed public deliberation, as opposed to what we see, the very negative tendency that only certain people speak and in very aggressive ways” (Participant 9, personal communication, 16 May 2019). This is in accordance with the research conducted around activism in the digital environment, which is often characterised as weak activism and online deliberation (Morozov, 2011).

In addition, in the context of the growing use of data, it is important not to forget to interact with citizens—not just with their data:

It is easy to focus solely on data points as proxies for citizens, but citizen engagement is still crucial to understand the context of the data and to ensure that what you think the data represents, actually represents it. (Participant 3, personal communication, 26 June 2019)

While it is good to engage more with citizens, representative democracy should not be taken out of the focus but should be consolidated through re-establishing trustful relationships between citizens and governments.

Grass-roots democracy

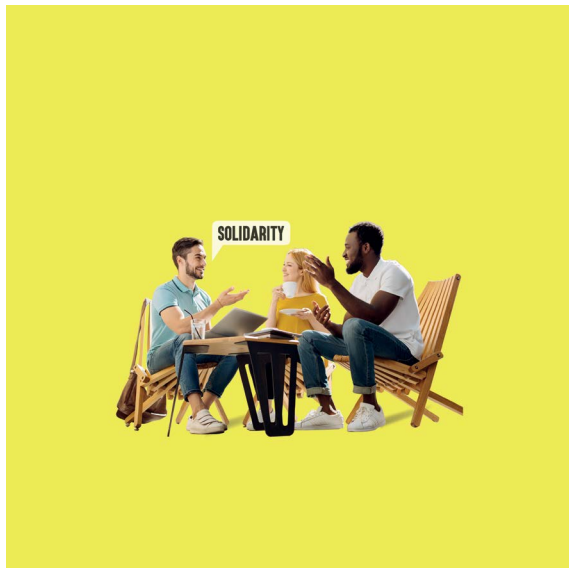
Grass-roots democracy was also mentioned in the interviews. The DIY Democracy scenario points towards this new trend and willingness of citizens to take part in the decision-making through co-creation of solutions and services and even building their own. This is the most obvious on local levels:

For example, in Luxembourg, real estate is a scarce resource... and now more and more, you see movement, civic movement saying, 'Okay, no, we want to preserve our street', or 'We want to have more to say about the public transport'. (Participant 17, personal communication, 23 May 2019)

However, DIY is also present through self-suf-

ficient villages that have started to appear.³ The so-called *eco-villages* are considered as “future-proof” self-sustainable communities that would provide themselves with services such as waste management, energy, recycling and food growing with the help of AI.

Similar DIY tendencies were also seen in the cities that were hit by the financial crisis (e.g. Athens, where local authorities helped citizens develop new services). However, the synergies between public authorities and citizens should exist to make these communities more effective: It’s a good cooperation because citizens are developing different solutions to local problems, and the municipality supports them with legal support, with sharing information, etc. (Participant 9, personal communication, 16 May 2019).



Recommendations

- A **better equipped and skilled workforce administration** is crucial for developing good quality deliberative processes. Training and tools should be offered to policy officers.
- A **suitable allocation of resources (infrastructure and budget)** is needed for the process to run smoothly in terms of technical requirements, analysis of the material produced and remuneration for citizens’ participation.

³ For more information, you can see an example of self-sufficient villages, called ReGen Villages, that will be built near Amsterdam in the Netherlands: <https://letitgrow.org/city-culture/new-regen-villages-eco-village-almere/>.

- **Develop initiative using citizen engagement exercises to co-create and co-develop solutions** and not only react and give opinions, which is often the way citizen assemblies are used today.
- **Use the deliberative processes to combat populism, misinformation and disinformation.** The deliberative processes could raise the awareness of the complexity and implications of certain policies.
- **Foster decentralisation of power** to encourage the development of a participatory democracy.
- Provide **systematic citizenship education.** The education, as well as objective and impartial media, is considered a key to a well-informed citizenry that can engage in informed deliberation. Broader citizen **responsibility and accountability** are also necessary.

Possible actions to take:

1. Promote **civic culture initiatives through the support and funding of CSOs** that would involve European citizens more broadly and **give civil society more voice** than they have now.
2. Encourage **community and bottom-up empowerment** through the support of different initiatives and activities of local communities so that communities can take more control over their lives and gain more power.
3. **Organise the engagement exercises on different levels of governance:** at the EU level, through citizen assemblies, and as a national- and regional-based engagement (besides the local level).
4. **Establish citizen councils** that would serve as a platform to include citizens in policymaking. This can be done through **piloting new type** of institutions or **redesigning** some of the existing ones. These councils would organise issue-based citizen assemblies made up of a representative group of citizens. Based on their input, recommendations would be made to the European Parliament.

What would successful implementation

lead to in 2030?

- The level of citizens' satisfaction with democracy is high.
- There is a broad interest and real engagement of citizens with policymaking processes in all stages of the policymaking cycle.
- A large number of ideas, suggested by citizens, are seriously taken into consideration by policymakers, and many of them are implemented.

2.1.3. Political trust

Policy implications

Trust in political and social institutions is one of the key values for the good and efficient functioning of a society and contributes to the legitimacy of government (Godefroidt et al., 2015; Mishler & Rose, 2001). Recently, we have experienced an increased distrust in political institutions and politics in general (Bartlett & Grabbe, 2015). This was stressed in the conducted interviews as well. One of the suggestions from the literature is that a higher level of trust would lead to a higher engagement of citizens in institutionalised political participation and better governance (Bouckaert & Van de Walle, 2003; Hooghe & Marien, 2012).

According to Scenario 3, Super Collaborative Government, trust could be restored by the introduction of a new European institution, Parliament of Mayors, which will be managed through real-time participation. However, the experts we consulted were mainly opposed to the idea that the creation of another institution could be a solution. The solution is rather seen in the redesign of the existing political bodies and procedures.

In the SCG scenario, political trust also means trusting the institutions to “perform the tasks that society has given to them” (Participant 7, personal communication, 11 June 2019). Through the inclusion of citizens and their participation in policymaking, trust in procedures can be increased due to the ownership generated by the process or the procedure: “you trust that’s the best outcome because you par-

ticipated in the procedure” (Participant 7, personal communication, 11 June 2019).

This can be seen through the lens of the procedural fairness (or procedural justice) theory, which focuses on the fairness and transparency of the processes and considers the unfair treatment as a source of dissatisfaction (Burke & Leban, 2007):

If you feel that your views have been taken into account, and you feel comfortable with the decision taken, even if it goes against your personal preferences, because the majority took another decision . . . , that makes you trust the procedure and also trust the outcome and agree with the outcome. (Participant 7, personal communication, 11 June 2019)

Restoring trust through participatory design and collaborative policymaking

According to the interviewees, trust can be restored in different ways. One interviewee suggested that the policies need to be closer to citizens, for example social policy, as it “should be designed by people for people to be much more citizen-centric, human-centric and also better adapted to this century’s realities” (Participant 19, personal communication, 18 June 2019).

Changing the way institutions currently work could also increase trust, for example “using more collaborative public policymaking approaches and using the latest technologies to create easy-to-use and informative channels of interactions between citizens and policymakers” (Participant 3, personal communication, 26 June 2019).

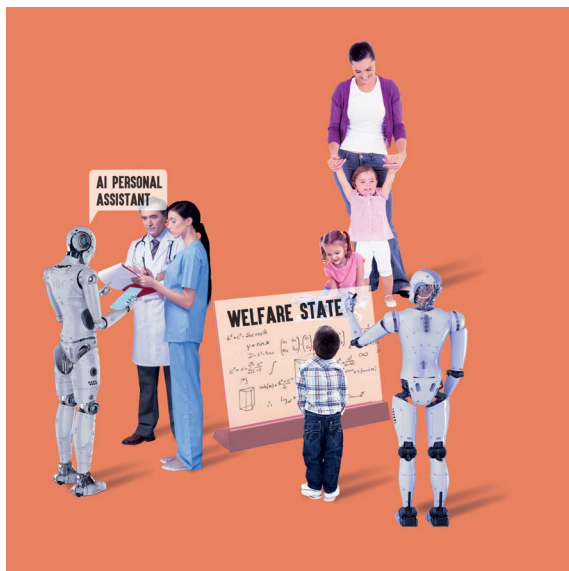
Better governance: Skilled representatives and an increase in voting base

As stated by an expert with whom we talked, one of the problems perceived by citizens is that not all politicians have skills and competences (e.g. analytical skills, representing people, resilience) to effectively govern high-level complexities of the contemporary world, which diminishes citizens’ trust in these politicians.

Citizens also need to start trusting each other more “because without delegating our power to other people, and without receiving the power from other people, society cannot work” (Participant 14, personal communication, 14 June 2019).

Trust is very much connected to the sense of belonging to a political community and social capital. “In political science literature, social capital and political trust are often linked” (Participant 7, personal communication, 11 June 2019). Based on what the Commission did in the 1970s and 1980s to build up a civil society at the European level on one hand and “the struggles about the mobilisation at the grass-roots level” that the civil society has been recently experiencing on the other:

The Commission could help **regenerate or reshape this sort of civil society that could be an ally**, a way for developing the feeling of belonging to something, because at the end of the day, **people want to feel that they belong**. (Participant 13, personal communication, 14 May 2019)



Recommendations:

- Include **new governance mechanisms and participatory, bottom-up approaches** as a means to foster deliberative processes in policymaking.
- **Create EU public service media (both broadcasting and digital)** to connect better with EU citizens, and create a European public sphere which would contribute to the creation

and maintenance of European identity citizenship.

- Raise a **discussion about how to renew and reshape the political system, especially regarding higher levels of governance**.
- Trust in political institutions could be promoted through **civic education, including simulation models (e.g. simulated legislative hearings, negotiating a treaty, participating in a city meeting), which can contribute to learning from these experiences**. This sort of education should become mandatory throughout Europe.

Possible actions to take:

1. Holding organisation **trainings** to enable policymakers to **foster the institutional changes** and to change the mindset of administration
2. Putting in place **new governance mechanisms** in traditional political parties
3. Developing mechanisms to increase transparency of and accountability for public actions
4. Organising events/forums to **involve citizens** in all levels of governance
5. **Funding quality media** reporting
6. Informing citizens through **EU public service media**, communicating better the benefits of European policies for citizens
7. Focusing on and making mandatory civic education of young people, with **simulation models** included in all EU Member States
8. Introducing **mandatory participation in civic and political organisations** that could contribute to making citizens more informed, skilled and knowledgeable about political processes and how democratic societies work

What would successful implementation lead to in 2030?

- There is high political participation of citizens in deliberative processes as well as elections, and high social capital in society, which contributes to the improvement of representative democracy.

- There is a well-functioning EU public service broadcasting and digital media with high audience participation.
- High media freedom indicators are perceived in all EU countries.
- The European identity and sense of belonging of EU citizens is strong.
- There is a high level of transparency and accountability and a low possibility of corruption in policymakers and civil servants.

2.1.4 Regulation

Policy implications

Regulation is associated with the large number of other policy areas that were discussed in the FuturGov project because **better regulation contributes to more efficiency and inclusion of citizens**. It connects to multilevel governance and could lead to the **simplification of procedures** for citizen participation as well as the **redesign of political institutions**. Regulation helps to ensure **fair, transparent and inclusive public processes**. Here, we discuss regulation mostly in relation to technology and digital companies.

Regulation, co-regulation and self-regulation

Recently, many not legally binding ethical codes have been produced in connection to AI; for example, on the EU level, there is the Code of Practice on Disinformation⁴ (European Commission, 2018) and the Ethics Guidelines for Trustworthy AI⁵ (European Commission, 2019). Although important, ethical considerations and codes are not enough because they do not have democratic legitimacy and cannot be enforced (Nemitz, 2018). As stated in the report, *Artificial Intelligence: A European Perspective* (Craglia et al., 2019), regulation is necessary to address some of the impacts of disruptive technologies on society. Therefore, a clear regulatory framework is necessary, with state regulation (and not only co-regulation or

self-regulation) that could be enforced even against the most powerful big digital companies. Regulatory frameworks would consist of stronger commitments to prioritise the mitigation of unfounded power imbalances through links with public policy instead of private commitments. Clear mandates to enforce these challenges cannot be prescribed without political institutions' continuous involvement as well as other institutions, such as courts.

Not all the experts interviewed agree that multi-stakeholder groups often promoted lately through diverse high-level expert groups in government are bringing an added value to democracy because representative bodies (i.e. parliaments) elected by citizens are, consequently, left out and because the power relations inside of multi-stakeholder groups are often imbalanced. If we want to keep and improve the representative system, it is important that the parliament still has a say and that co-regulation or self-regulation do not replace (state) regulation and "early laws"⁶ (although they can coexist).

In fact, according to some interviewees, they are all important: "When it comes to digital, there is no black and white, and you increasingly see the **importance of self-regulation but also the importance of state regulation**" (Participant 5, personal communication, 22 May 2019). However, in the case of self-regulation, multinational companies have an opportunity to define their own code of conduct according to their own interests, which might be bad for democracy: "You can only go so far with self-regulation. If we have just self-regulation, then we end up in the Private Algocracy [one of the FuturGov scenarios] scenario where the big multinationals are not going to be happy to self-regulate themselves (Participant 10, personal communication, 24 May 2019).

In the context of an agile government⁷ (which can be assumed in Private Algocracy and

4 Available at <https://ec.europa.eu/digital-single-market/en/news/code-practice-disinformation>.

5 Available at <https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai>.

6 These laws are adopted early in the stage of technological development; cf. precautionary principle,

7 Agile government is a concept that signifies a change of culture in an organisation towards being more collaborative and responsive (Balzer, 2011; Mergel, 2016).

Super Collaborative Government scenarios), regulatory models that are suggested as more efficient are **self-regulation, adaptive regulation or regulatory sandboxes** (WEF, 2018). While many of the experts we talked with did not agree on self-regulation as the right approach, especially with sensitive topics, some were open to other more “agile” approaches when thinking about the future, such as adaptive regulation and sandboxes:

*In the future, it will be very difficult to think and act in this way, so it's more about creating, for instance, regulatory sandboxes, experiments. So, I think we need also to **reflect on the future of regulation, the future of impact assessments** in the new context.* (Participant 6, personal communication, 3 June 2019)

Over-regulation versus under-regulation

While on the one hand there might be a tendency towards more regulation and even over-regulation as a tool for political institutions such as the Commission, there is an even stronger tendency towards less or deregulation, which is “very much fought for by private actors such as big companies, tech giants and so on” (Participant 13, personal communication, 14 May 2019).

The emerging technologies require from governments and regulation bodies the **protection and respect of citizens' rights, freedoms and values**. They need more **accountability and transparency** in the first place (Pasquale, 2015; also cf. Section 2.3.1, Big data and AI). Regulation and the existence of appropriate regulatory frameworks was an underlying theme in all four FuturGov scenarios, mostly in connection to new technologies but also in relations between governments and businesses. To avoid attaining the future as depicted in the Private Algocracy scenario, according to one of the experts, there is a need for “regulating a bit tougher on businesses” (Participant 16, personal communication, 13 June 2019).

Contrary to other countries and continents,

Europe is seen as a place where regulation of technology might take place earlier than elsewhere: “To summarise, yes to regulation, to the extent that maybe there will be even too much regulation, up until there will be a strong societal critique against it” (Participant 12, personal communication, 7 May 2019). Therefore, European businesses and researchers will be **more constrained in regards to innovation**, experimentation and what they could do, but **its value will be knowledge that the products used are safe and that this is the way Europe should lead**:

At the same time, I'm pretty sure that the **things that will be innovated here will be solid**. So, the value of that outlook, which comes from a European context, will be immediately safe; it will be like a safe bet. . . . But, yes, there will be less innovation and more regulations. (Participant 12, personal communication, 7 May 2019)

A large debate on the **regulation of digital platforms** is also ongoing, both in policymaking (e.g. the European Commission has published several policy papers on online platforms available at <https://ec.europa.eu/digital-single-market/en/online-platforms-digital-single-market>) and academic areas (e.g. Gillespie, 2018; Stehling et al., 2018). This was also reflected in the comments of experts, as well as how big of a **role digital companies themselves should or should not play**:

Facebook wants to obtain legitimacy by saying, “We want to be regulated. Please regulate us. By regulating us you give us the stamp of approval, we're clean, we're good, just use us.” And we're changing the model as, again, Mr Zuckerberg proposed. We will see where that goes, but they're aware of this problem, and I think they have already identified regulation as a solution. (Participant 12, personal communication, 7 May 2019)

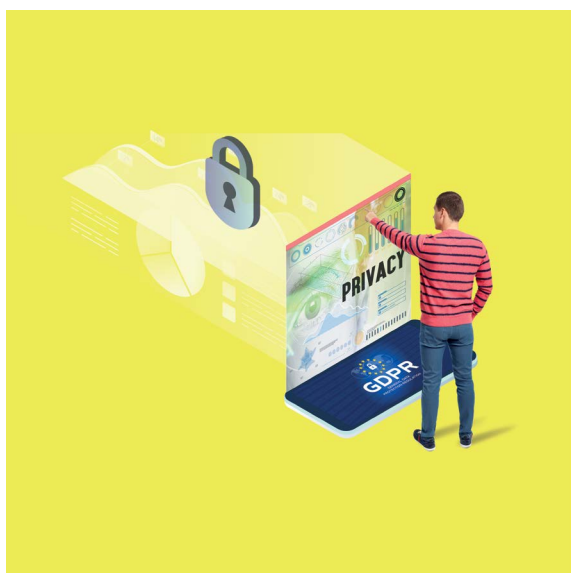
There is still uncertainty and lack of convergence of opinions on the need for more regulation, and some experts see Scenario 4 as a probable future. Others stressed that we are under-regulated. It is equally important not to forget that there is a need for a **European**

regulatory framework: “You want to have the digital single market, but then you need the right European legislation” (Participant 16, personal communication, 13 June 2019).

In addition, there is a need for a **balance between regulatory intervention, respect of human rights and freedoms and allowance for inclusions**, which was also discussed in Scenario 4:

If we have to reflect on the balance between regulation and protection and the preserving freedoms, I think that reflecting on human rights should be, maybe, the only way to balance which kind of human rights are relevant in this context that is driven by technology.

(Participant 14, personal communication, 14 June 2019)



Recommendations:

- Develop a **supranational approach**, required for the regulation of digital companies and new technologies.

I think that the EU should be taking a lead, like it did with GDPR, in these discussions because they're transnational, these issues today. So it's not going to be one Member State developing its own regulation, which is actually going to have an impact. (Participant 8, personal communication, 17 June 2019)

- Create a condition for continuous experimentation based on citizens' needs to

achieve the balance between regulation of technology and freedoms of use.

- Regulate the relations between business and government to establish rules and norms of what business sectors can and cannot do.
- Reflect on the **impacts of the use of AI and data on human rights** beyond privacy.
- Enhance **multi-stakeholder based regulatory oversight mechanisms**, with a **policy "ombudsman"**; i.e. provide mediation services for policies that would offer almost immediate access to legal remedies or engage with policies in question.
- Building on existing structures, develop more awareness around **regulatory management systems** that could play a role in the assessment of regulatory quality practices and consequently increase its quality.
- **Lead in innovation "for good"** and bring value in ensuring that the technology used by citizens is safe through regulation.
- **Regulation of technology and digital companies should follow the discussion on European values** and not vice versa. We should "try to have a discussion that will go straight core on the values of the society that we want, and then having the regulations only as a consequence, and not as a prime mover" (Participant 13, personal communication, 14 May 2019).

Possible actions to take:

1. Create a strong and independent ethics committee, with ethicists involved that would support both legislative interventions as well as co-regulatory and self-regulatory initiatives.
2. Work on constitutional improvements and reform to implement critical reconstructions in relation to new and forthcoming challenges.
3. Organise debates with the inclusion of civil society on European values and technologies that would precede their regulation.
4. Monitor the Member States regulatory framework in relation to digital companies and make sure that it is harmonised with the EU regulatory framework.

What would successful implementation lead to in 2030?

- Citizens have higher trust in government based on legal instruments and measures the government has adopted.
- Regulatory processes are of higher quality, obtained through independent measurement.
- The quality of democracy (measured through high impartiality and inclusiveness of procedures, equal access to justice, confidence in the legal system and effectiveness of protection of citizens' freedoms) has improved.

2.1.5 Public-private relationship

Policy implications

The FuturGov project and especially the scenarios showed different possibilities for the development of the relationships between the public and the private sectors in the context of government. While in the DIY Democracy and Private Algocracy scenarios, government works closely with the biggest digital companies, in the Super Collaborative government scenario, the government works with start-ups to provide innovative public services and develop the culture of co-creation. In the Over-Regulocracy scenario, a part of the private sector becomes nationalised.

An ideal relationship between the two sectors was described by two workshop participants as follows:

The government and businesses will live in two harmonious, mutually assisting/helping/respectful, enriching, sustainable, resource-respecting symbioses; they have reinvented and reformed public values and clarified the differences between values and ways of working.

(FuturGov workshop, 2 July 2019)

The public-private partnerships, as an instrument of the new public management approach, were especially significant in the 1990s (Rakic & Radjenovic, 2011) as a way for the state to delegate work to private companies and transfer project risks from the public to the private

sector.⁸ However, they were not always seen as very effective or as saving money. The main problem with these partnerships, perceived through an expert interview, is that “it replaces a centralist public approach with a centralist private sector approach, which is not necessarily conducive to better alignment with what society needs” (Participant 9, personal communication, 16 May 2019).

Collaboration

The collaboration between public and private sectors would mean that they talk to each other, listen and take into account each other's positions and possible provisions: “we already see new forms of collaboration between public and private”. The private sector can help the public sector to move towards more agile ways of working and agile public services (we already see it happening via the govtech development and solutions) through faster changes and “offering different ways of doing things” (Participant 6, personal communication, 3 June 2019)).

While outsourcing parts of its work to the private sector, the government needs to think of the impact it might have on the relations between citizens and governments. In addition, there is no clear answer to the question about what the common goods are or “What should the state actually be responsible for?” (Participant 8, personal communication, 17 June 2019).

The collaboration between the public and the private sector is extremely important for thinking about futures and new technologies. As one of the interviewees said, there needs to be **willingness among stakeholders** to collaborate:

*I hope that there will be **more collaboration** between government and business because otherwise there's*

⁸ “PPPs are used to procure public infrastructure more efficiently by drawing private actor investment and involvement into the public sphere” (Dunn, 2017, Project Risk Management in Public-Private Partnerships: An Equitable Risk Allocation Decision Model based on Psychometrics. Retrieved from <https://pdfs.semanticscholar.org/c0e6/3c873d-6ce3650061fedec470f33054b8946.pdf>).

*no hope... You need to **have all the stakeholders lined up** and also willing to cooperate—the tech companies and also the employees, not just their bosses. And this can get **extremely complex** because unless people today who are writing software or building the basic infrastructure for all these systems are already talking and have some understanding at that level, in future (just like how the Internet infrastructure has developed), it will be very difficult to roll back to fix things.* (Participant 20, personal communication, 29 July 2019)

Sectoral overlap to make common benefits

Although the predictions are that the public and the private sector will become more similar and blurry in the future, their role and objectives will remain different:

*Still there will **remain some core differences between the public and the private**. The very mandate and mission will be different, and somebody working in a private corporation is very unlikely to have the same sense of what she or he does in a daily job than somebody who is a public official or a public function in a public organisation. So they will be similar, more blurring; so there will be more complexity, but still we need to take into account there will be a difference.* (Participant 1, personal communication, 17 May 2019)

There could be many positive sides of closer collaboration between the public and the private sectors. For example, in connection with providing more jobs, the private sector can play a big role: “We are trying to see how businesses can employ more people. Can we, as a government, function as mediator to encourage businesses to invest in training so that unemployed people can go back to work?” (Participant 16, personal communication, 13 June 2019).

The collaboration between the government and young entrepreneurs could bring signif-

icant advantages in this context. A growing number of young people are “interested in social business”, which opens new kinds of relationships and opportunities:

Young entrepreneurs are so important. I believe Europe should allocate more funds to social entrepreneurial projects of young and younger entrepreneurs rather than working with Google and Facebook and tech giants. Because this is where the change will spark and emerge. (Participant 19, personal communication, 18 June 2019)

Another expert stressed that the private sector is often delegated to do the jobs that used to be done by the public sector. For him, an interesting question might be “why is there also not more public in the private? . . . It might be time to **restart, to rethink the relation between public and private on a new kind of terms**” (Participant 13, personal communication, 14 May 2019).

Preventing disruptive new uses of AI and big data

In connection to AI and big data, the experts agreed that there is a potential danger of a power imbalance between these two sectors. While the private sector is able to make fast developments in technology, it is important to establish clear rules; otherwise, “we will have big problems in democracy and in trust issues, from the government point of view and citizen point of view” (Participant 18, personal communication, 12 June 2019). That is why there is a need for **clear regulation and strong government**, “because if it doesn’t work, it will be quite a serious situation with those private sector organisations who will develop all those new information technologies” (Participant 18, personal communication, 12 June 2019).

In a similar vein, a potential danger is seen in the way **citizen data and sensitive information** is used, for example, developing machine learning tools based on unauthorised and non-anonymised data as well as “the techniques to capture users’ attention or induce addictive behaviours that are now recognised

to be at the core of the business models for the most powerful technology companies.” (Participant 3, personal communication, 26 June 2019).

The position of business vis-à-vis the government, especially in the context of **new business models and platform economy**, is becoming more and more important:

And this free-market perspective from a local perspective is becoming questionable on a few fronts, like the short-term holiday rental with companies such as Airbnb where I think the reasoning is often that this is just a business practice, and there are no legal grounds to stop it. While from the perspective of liveability, there are many European cities, which are simply feeling that the identity of the city, the liveability of the city, the wellbeing of citizens living in this area is under threat.. The investments coming along with it in real estate, for example, are excluding citizens, are pushing citizens out.

(Participant 16, personal communication, 13 June 2019)

This is why many European cities have signed the Declaration of Cities Coalition for Digital Rights (initiated by Amsterdam, Barcelona and New York), launched at the end of 2018, which calls for the **“human rights principles such as privacy, freedom of expression, and democracy”** to be “incorporated by design into digital platforms” (<https://citiesfordigitalrights.org/#declaration>).

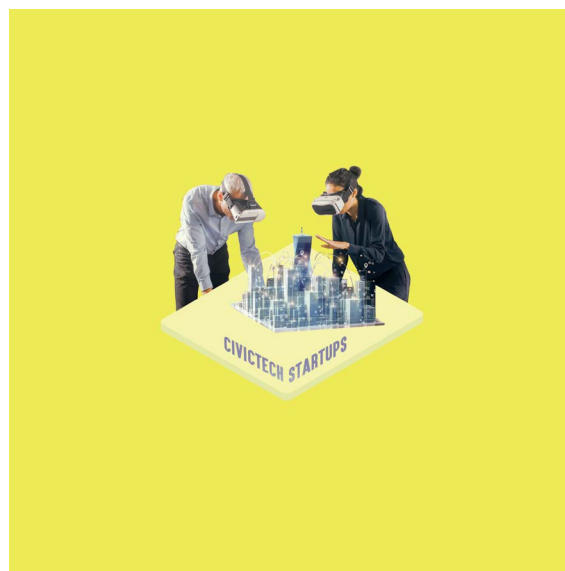
The experts agreed that complex societal problems can only be solved if the **public and private sectors collaborate** and make efforts to solve all these diverse issues for the future. However, this is not an easy task, especially when the giant multinational companies are included: “There’s no way the public sector can solve societal problems without the private sector. And then you just need to find what is really challenging is these very big multinational companies where you have no bargaining power” (Participant 10, personal communication, 24 May 2019). For such a collaboration to be successful and for society to benefit from it, it is very important to define

“the equal contractual agreements, the forms of partnerships and structures for collaboration that we don’t have now” (Participant 6, personal communication, 3 June 2019).

The collaboration between the public and the private sectors might be crucial for innovating public services:

I think that the big revolution will be in healthcare, in wellbeing, the fact that corporations can really do a lot to help individual citizen suppliers to be healthier. There is an opportunity to personalise services because I don’t see the on/off; either the public does everything or it is private. I think that there will be a collaboration needed in this domain and that’s an interesting piece of this scenario. So, how to structure a collaboration because now the collaboration is mainly about the public services buying something from private, while in the future there will be a real need of a partnership?

(Participant 6, personal communication, 3 June 2019)



Recommendations:

- Take the lead in providing **more interactive and safe spaces for the exchange of ideas and expertise** to improve and develop new methods of public-private relationships.
- **Rethink the relationship between the public and the private** sectors on different terms and in different ways.
- Rethink the relationship between these two

sectors, based on collaboration, accountability and transparency of work. This is especially important in connection with machine learning systems, the collection of data and business models.

- The government **should foster collaboration more with young entrepreneurs**, especially in the area of social business.
- There needs to be **better synergy and complementarity between the public and the private** sectors to face forthcoming challenges together.
- Simplify the **procedures** for the inclusion of a larger number of societal actors, not only the richest and biggest ones. The applications for EU funds need to be easier to understand and fill in. “If you are talking about young entrepreneurs and social enterprises, we have to take into consideration their limited resources” (Participant 19, personal communication, 18 June 2019).
- Develop clear regulations and strong government to **protect citizens from the misuse** of their personal data and sensitive information:

They also want to play being good businesses. Public perception is very important these days, and they know it. So they will show up. They will try to do something. But unless the government clearly tells them what to do and why do you have to do it and what are the sanctions if they don't do it, they won't deal with it seriously. Correct. Yes just like privacy. How they deal with privacy right.

(Participant 20, personal communication, 29 July 2019)

Possible actions to take:

1. Create more interactive and safe spaces for the collaboration between the public and the private sectors and for more listening and talking about needs and challenges.
2. Develop collaboration with young social entrepreneurs.
3. Increase public oversight of the private sector (be clear about what needs to be done, why and what the potential sanctions

are if the objectives and obligations are not dealt with seriously).

4. Create legal instruments that would, together with GDPR, protect citizens better from the misuse of their data and sensitive information they share.

What would successful implementation lead to in 2030?

- A number of positive public-private collaborations are created, evidenced through success rates of close cooperation and full commitment in the implementation of rules.
- Private companies have a high level of corporate social responsibility performance score.
- Citizens feel protected when it comes to the use of their data and sensitive information.
- Citizens feel that they are able to benefit from closer relations and synergies between the public and the private sectors.

2.2 Policy sectors

2.2.1 Public services

Policy implications

Public services play an important part of the functioning of every government and the public sector. In the Tallinn ministerial declaration on eGovernment, signed in 2017, the modernisation of public services and user centricity were proclaimed as the main priorities. The goal is to ensure high quality and efficiency of digital public services and innovative government, and develop a more productive society with less administrative burden and easier access to public services and digital interaction.

The FuturGov scenarios offer many differences in public services delivery. In the DIY Democracy scenario, there is the idea of having DIY public services that would complement very basic and almost nonexistent services delivered by the state. As previously mentioned, and although signals of this scenario can already be perceived today, this would be very dangerous for society in general because a big part of society would not have adequate healthcare or education. As one expert mentioned:

*This do-it-yourself mentality is received pretty well by citizens as they control more of what happens in their own lives. However, we should be careful that **the DIY society might not include everyone as well as expected**. Already we see that people who are dependent on the most public services do not have the social network or the capacity to “do it themselves.” They rely on institutions and governmental services to be of high quality. (Participant 3, personal communication, 26 June 2019)*

In the Private Algocracy scenario, service delivery is dependent on an individual’s behaviour. This would limit our freedoms as well as the access to services; e.g. if the use of public transport is connected to the time spent exercising, people with health problems who are not allowed or able to exercise would be “punished” and would not have access to the use of public transport. In the Super Collaborative Government scenario, public services are personalised and predictive. Therefore, in the context of the public sector innovation, the big question remains of how we are going to deliver the public services in the future. In the Over-Regulocracy scenario, public services are offered for free, and basic income is guaranteed. Similar to citizens with whom we interacted during the entire FuturGov project, some of the experts with whom we spoke believed that public services will change both in their nature and delivery. Others are more sceptical: “In terms of the nature of public services, for example, you are talking about healthcare and social welfare, in the next 10 years, I don’t think they will change in terms of the fundamental type of public services, but in terms of their delivery. Who is going to offer them, how they’re going to be financed will all be up for grabs (Participant 20, personal communication, 29 July 2019).

One of the important characteristics of public services that has been already questioned today is asymmetry in knowledge. This is due to the appearance of the Internet and the possibility that all the information that can be found online which has a major impact on users of particular services could lead to the empowerment of users, for example in the area of health: “eHealth consumers know

more, expect more and demand more” (Sadan, 2002). At the same time, the information obtained through online channels might be false, biased or incomplete so that the users don’t really know the implications of certain behaviour. This creates tensions between different actors in society and might have a negative impact on diverse societal actors:

Most public services, but not all, are characterised by the **asymmetry in knowledge**; that the user of the service doesn’t know exactly the nature of his or her need. Like a pupil at school, when you enter at the age of 5, you don’t know what you need to learn, of course, you just go to school. And I think this will be a **key aspect in managing public services**. So to make a very simplified example, parents may go on the Internet and find that there is something done in a school somewhere else in another part of the world, which seems to them fantastic. And they start putting pressure on teachers to introduce that innovation, but then they really don’t know the implications of that innovation because they are not teachers, if you see the point? (Participant 1, personal communication, 17 May 2019)

Low-level involvement of people in general

The literature suggests that co-creation is important because it creates services according to the needs of citizens and consequently improves public services (Millard, 2015; Voorberg et al., 2015). The experts with whom we talked agreed with this, especially on the local level, and would offer citizens a say as well as more responsibility:

It would give citizens a say, and it would give citizens ownership. For example, if we say on a neighbourhood level that we don’t want to have an emission of carbon dioxide in this area, [so] we want to have a windmill. Okay, so we build a windmill. It gives you a say. It gives you influence. That’s the hope behind it, that if the people are involved, then they will care more about where the energy comes from. (Participant 16, personal communication, 13 June 2019)

Balanced technology-based improvements

The experts agree that public services will need to be redesigned according to the needs and expectations of citizens. Their adaptability, flexibility and dynamicity could be important so that they can easily adjust to current needs, “not designed for being one-off and always the same” (Participant 5, personal communication, 22 May 2019) and for change. Citizens should also be involved in this, with the help of technology (Gagliardi, 2019) “by ensuring flexibility as a policymaker to **adapt policy to changing needs of citizens**. Public services should be **seen as a dynamic service**, which is likely to change over time” (Participant 3, personal communication, 26 June 2019).

Technology, especially AI, could have a positive impact on public services, deliver new services or contribute to more effective provision of the existing ones: “For some public services, health for example, it may help improve or make giant leaps, in some cases, in improving certain core public services, **AI may obviously have a huge impact on improving health-care, transportation or reducing pollution.**” (Participant 1, personal communication, 17 May 2019)

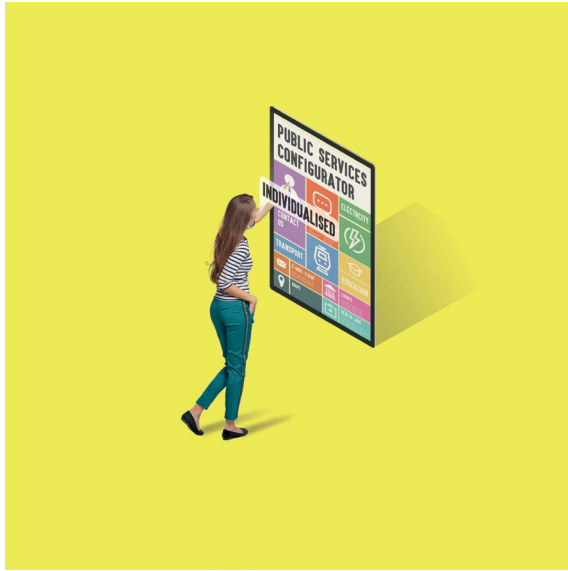
An interesting example is how the AI assistant could be helpful in some countries to fill in the tax declaration, especially outside of office hours when help from real persons is not available or when the procedure is rather complex:

What if I’m doing my taxes in the weekend, and at 11 o’clock at night, there’s no person in the office. There’s no one I can ask, but I had to submit it by Monday or whatever date. So, what if there’s an artificial intelligence that actually I can call. It sounds like a person—I know it’s not a person, but it sounds to me like a person because I love talking to a person more than I love talking to a machine. . . . And because it’s an artificial technology, it pulls together everything that exists on that line from previous callers and experiences, and it talks to me like the best-informed person at 11 o’clock at night on a Saturday and that’s brilliant. It’s great for the public office too because they can offer a better service when people aren’t there. Now, can they replace people all the time? No. Will I want them to replace people all the time? No, but on a Friday night or Saturday when nobody else wants to work, I think that’s a great thing to have. (Participant 4, personal communication, 11 June 2019)

With the help of AI, there could be more personalisation of public services, anticipation of problems, predictive analysis and proactive services, along with an opportunity to rethink and redesign public services in a user-centric way.

In addition, digitalised and connected public services, together with big data, can offer an added value to citizens, for example, when searching for a job, which would also mean that everyone needs to be skilled on how to use the AI:

*For example, [if] I am searching for a job, I can **immediately check all services from different domains that are connected with that—unemployment insurance, private sector companies** who are looking for people who are searching for the job. I have to get the whole package of necessary information and services according to those specific events that happened in my life... For the moment, I have to deal with them all separately, but I want to make it at one place and then just move forward. (Participant 18, personal communication, 12 June 2019)*



Recommendations:

- Design **public services to be modular and adaptable** to circumstances in which we live.
- **Overcome the inequalities in public service access through more collaboration and co-creation** with citizens that would show what the crucial problems and obstacles are.
- Enable citizens to be included in the redesign of public services, which would also provide them with more **responsibility and accountability**.
- **Use automation, big data and new technologies to improve public services** by making them easier to use and accessible to all, as they could help citizens in solving a number of issues.

Possible actions to take:

1. Redesign public services to make them more dynamic.
2. Co-design public services with citizens.
3. Use technology to improve public services.
4. Support Member States in ensuring the equal access to technology used for public services

What would successful implementation lead to in 2030?

- The quality of public services is improved, and they are more adaptable to modern ways of life.
- All citizens have access and are able to use

public services improved through the use of technology.

- Citizens are highly satisfied with the public service delivery and their efficiency.
- Public services are co-designed with citizens.

2.2.2 Education and literacy

The FuturGov project discussed a number of highly relevant policies related to welfare, education, public services and the impact of technology, as well as possible inequalities, in connection to the access to public services and based on the impact of technology on the labour market.

The project and our previous report have already stressed the need for better education, the development of certain skills and literacies for the future (Vesnic-Alujevic et al., 2019). Policy literacy might help citizens participate in policymaking; digital, data and media literacy can contribute to understanding the potentials and limitations of digital society and new technologies and prevent possible manipulations; and futures literacy could contribute to recognising uncertainties and complexities and developing anticipatory thinking. In addition, critical thinking⁹ plays an important role. A fitted education system can help deal with possible problems because “a good education system helps all [FuturGov] scenarios, whether citizens do it on their own, whether they have to deal with the large companies, or whether they have to deal with large governments, it’s one common thread” (Participant 5, personal communication, 22 May 2019).

The experts often stressed the need for broader perspectives that citizens of the future would need:

⁹ We use the term *critical thinking* with the meaning of “a persistent effort to examine any belief or supposed form of knowledge in the light of the evidence that supports it and the further conclusions to which it tends. It also generally requires the ability to recognize problems; to find workable means for meeting those problems; to gather and marshal pertinent information; to recognize unstated assumptions and values; to comprehend and use language with accuracy, clarity, and discrimination; to interpret data; to appraise evidence and evaluate arguments . . .” (Glaser, 1941).

*In going back to the earlier question about **teaching young people, there is also for me a point about teaching them a broader perspective** and that also means, for example, we should not just be teaching Western history; perhaps we should be talking about different kinds of modalities in society from over the centuries. Why is that important? It **helps people understand** that there actually can be **many different solutions over time**. So it is all about change, but it is also about **some lines of continuity** in terms of progress and understanding.*
(Participant 20, personal communication, 29 July 2019)

*Adapting systems by including
new literacies in formal curricula*

All the experts agreed that education is not changing fast enough to meet the needs of the citizens of the future.

Education is a policy area we see the most outdated approach alongside politics because the two things have not changed since the Second World War: the politics, how our political parties are being organised, how our political congresses are being organised and also how our classrooms are being organised [and] how the education system functions. The content is changing, but the methodology and the way we study is not changing, and our teachers are not really trained in the way [they] should be trained to educate the citizens of the future.

(Participant 19, personal communication, 18 June 2019)

With the increasing inequalities in society, it is very important that formal education doesn't get privatised; otherwise, "you create a more divided society. Kind of the filter bubble grows bigger and bigger" (Participant 5, personal communication, 22 May 2019). In addition, new jobs and organisational models, as well as new business models, especially under the influence of newer technologies, deliver new educational needs.

Technology is not studied much in European

schools at an early age, and according to our interviewees, it should be more developed. This would also mean that teachers would first need to be taught and reskilled to be able to teach their students.

Digital literacy is important both for citizens and for policymakers to better understand the use of technologies, to recognise changes in society influenced by digital technologies and to make sense of the world around them: "This is why the technology part is important, digital literacy is important, because if a politician, for example who cannot differentiate what AI is and what data is, is making a policy on AI or deciding or voting on it, it is scary, but it is happening now (Participant 19, personal communication, 18 June 2019).

Digital literacy can also contribute to demystifying the apparent lack of choice ("stop thinking Facebook is the only possible social media"; Participant 14, personal communication, 14 June 2019) and opening up possibilities for other alternative channels.

Policy and political literacy are needed as well, especially in a world saturated with polarisations and populism. This would lead to better inclusion of citizens in decision-making processes and would make informed debate possible.

*I think it [education] is very important because it may also be the way to **defuse some, let's call them for simplicity, populist approaches**. Because by having citizens reflect on the implications of certain policies, they may become **more aware of the complexity**, and so they may become **less amenable to oversimplify[ing]** the populist messages.*
(Participant 1, personal communication, 17 May 2019)

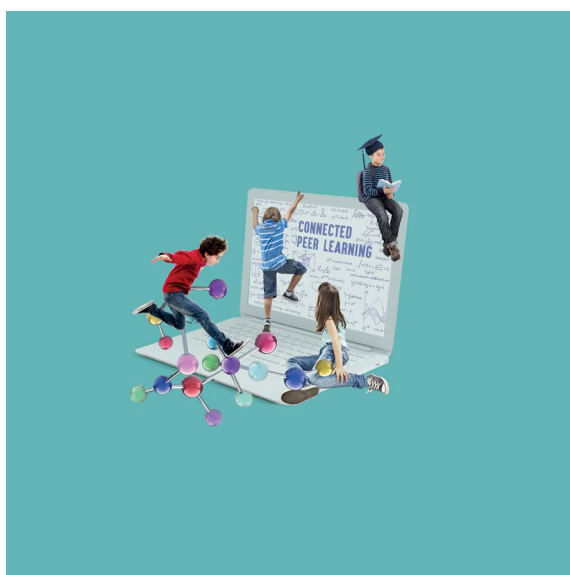
Thinking of futures and developing anticipatory capabilities is also needed "to change the way we invite people to think about the future" (Participant 15, personal communication, 17 June 2019).

The development of critical skills and critical thinking can help society make better choices

and progress in a desirable way, as long as there is critical citizenry who are able to assess the information objectively and react to it:

I'm a strong believer in education, critical and common sense and open minds. If you have that, then the second scenario, for example, would not eventually happen because the users or the end users would be educated; when I say educated, I mean critical education.

(Participant 17, personal communication, 23 May 2019)



Recommendations:

- Reform education at the EU level **to better fit the needs of citizens of the future**, as well as job markets (to provide skills such as flexibility and adaptability but also future job skills).
- **Introduce digital data literacy in the elementary school** curricula from an early age. Likewise, children would better understand the digital environment, opportunities and threats.
- **Use policy literacy** (critical understanding of policy) **to create more civil debates** among citizens and enable higher participation of citizens in politics and policymaking.
- Promote the introduction of **futures literacy to contribute to creating more resilient societies** with developed anticipatory capacities.
- Contribute to the development of **informed citizens** who are less prone to manipulation, through media literacy.

Possible actions to take:

1. Propose education reforms in accordance to the needs of job markets.
2. Start developing digital literacies from an early age.
3. Develop critical thinking and a critical mindset in students.
4. Develop educational programmes that will include digital data literacy, policy, media and futures literacies.

What would successful implementation lead to in 2030?

- Better-informed citizens who are better prepared for the future
- Less possibilities for the deception of citizens, propaganda and framing
- Better responsiveness from the government (through increased understanding)
- Better anticipatory capabilities of both government and citizens

2.3 Transversal issues

2.3.1 Big data and AI

Policy implications

As we have shown in the previous FuturGov report, there are many challenges in connection to the development of AI and Big Data globally. During the past couple of years, many policy documents, events, talks and scientific publications and conferences have focused on AI and big data and their societal and political challenges.¹⁰ Numerous European initiatives and working groups have been established, such as the European Commission's High-Level Expert Group on AI and Council of Europe's Task Force on AI, as well initiatives outside of Europe, e.g. by UNESCO, OECD and the Institute of Electrical and Electronics Engineers (IEEE).

Although the premise of all four scenarios is strong digitalisation and the use of AI and IoT,

¹⁰ For example, European Commission's Communications (European Commission, 2018; European Commission, 2019); UN ITU 2018 conference "AI for Good: Global Summit"; Digital Government Society dg.o conference "Governance in the Age of A.I."; and IEEE

each has a different vision of how AI will be used, for which purposes and in which formats. Whereas in Scenario 1, technology helps efforts of citizens for more collaboration and co-creation, in Scenario 2, the technology is in the hands of powerful digital companies and serves as a means of control and surveillance. In this type of society, there would be more disinformation, deep fakes and extreme difficulty in distinguishing between truth and falsehoods. In Scenario 3, big data and AI are used to help prevent and solve societal problems and improve public services. In Scenario 4, technology is heavily used by the government for many things, including helping with decision-making, calculating risks and producing laws. To protect citizens from computational propaganda, fake news and the spread of disinformation, all leading media outlets are nationalised and controlled heavily by the state; moderators of the content are employed by the government.

Therefore, the **ambiguous nature** of technology, which “can be used as a tool of control and a tool of empowerment” (Participant 14, personal communication, 14 June 2019), is an important topic. Although not a new topic, “it is even more challenging at this moment because people perceive that technology is out of control, that technological development is out of their control” (Participant 14, personal communication, 14 June 2019).

In the tradition of science and technology studies, we believe that technology is co-produced with society and not created separately (Jasanoff, 2004). This is in accordance with the opinions of our interviewees, e.g.:

I'm a big believer that technology is driven by society, and not independent. For me, our tools are symbiotic with who we are... The technology, to me, simply opens up avenues for us to do things, good and bad, but we are the ones that do the good and the bad things with the technologies. And we elaborate technologies, like drones, because we want to shoot people, and then it gets cheaper, and we use drones for delivering blood to hospitals—great—but the original idea was how we could kill somebody.

(Participant 15, personal communication, 17 June 2019)

Artificial Intelligence

If applied with a positive spin, the use of AI could help citizens make better-informed decisions: “Artificial intelligence can really have a place in participatory democracy and in how government will evolve, but it has to be used wisely, of course (Participant 7, personal communication, 11 June 2019).

As shown in Scenario 3, we can envisage the application of technologies such as AI to help analyse and produce legislation, as well as calculate potential risks, which can lead to better decision-making. In addition, in the future, it can “provide better evidence to make decisions” based on “having systematic, quick information, at the humans’ fingertips” (Participant 12, personal communication, 7 May 2019). Although many are very positive about the use of AI and its outcomes for society in general, AI can be seen as both a problem and a solution because “there are also many challenges that shall be addressed both at the sectoral and horizontal policy level” (Participant 3, personal communication, 26 June 2019).

However, there is a question of robustness of systems that already exist, as well as the questions of accountability and liability, if they don't work as planned.

Frankly, a lot of these systems are not sufficiently robust to deal with a lot of contingency. It really worries me if we are going to outsource the system to the fundamental level, we get to the point whereby nobody can know how to fix the system, and ordinary people will suffer... And, do we know who particularly is responsible for that particular piece of code and who has the expertise to deal with it? And even somebody who has the expertise to deal with it, is that person still available? These are all very practical questions. People talk about transparency and accountability. These are wonderful concepts, but a lot of times, sadly, the **practicalities of implementation are not really thought through**, and a lot of these things will **require cooperation between govern-**

ments, commercial companies and across the public and the private sector in an unprecedented way. (Participant 20, personal communication, 29 July 2019)

Next to the advantages that they might bring to societies, technologies such as AI and IoT have been used for controlling and monitoring citizens. It becomes key to understand how algorithms influence political and societal processes through profiling and manipulation of citizens (e.g. via political bots, disinformation and filter bubbles) or predictive policing:

Where law enforcement agencies use AI technologies to predict areas where crimes are more likely to occur, or to detect anomalies within big data sets to help organisations focus on specific cases which, according to the algorithm, stand out from the rest, which could also be used for providing more personalised services. Though, of course, this would imply profiling and thus addressing the risks of data mishandling or infringement of data protection rules.

(Participant 3, personal communication, 26 June 2019)

The development of policies on AI and other technologies should include policy makers who have a good understanding of how technology works, as well as ethicists.

*Development of policies would have to involve policymakers who know technology, and they have to **challenge current laws** that are built on the telegram and the fax machine stage of technology. You also have to bring in ethicists. . . . This is something that we have not institutionalised in lawmaking. **Where are the ethicists in the lawmaking?***

(Participant 4, personal communication, 11 June 2019)

In addition, linking data democracy and inequalities in participation, which already was stressed in the first FuturGov report, was further discussed by the interviewees. Although citizen participation, algorithms and data are often not considered together, they should be to allow reflection on how we can make use of

technology for good “to empower citizens and share power” (Participant 9, personal communication, 16 May 2019).

Big data

Open government should be based on open data, open services and open processes, which creates both opportunities and challenges for public governance (McGee & Edwards, 2016; OECD, 2016). Despite the promises, according to the Open Data Barometer (2018), and 30 governments that they have researched, fewer than 1 in 5 datasets are open or 19% of all datasets. Therefore, we need to think of how accessible the data should be for citizens? And what can we do about data ownership?

Everyone has to have access to the data because the data belongs also to citizens. [...] Today, it's very hard to extract my data that belongs to government; it's even harder in the private sector, and we have to deal with those issues.

(Participant 18, personal communication, 12 June 2019)

Many of the experts agreed that the privately held, anonymised data should be accessible to citizens and public authorities as a common good and a public good, and not a consumer good, which also leads to question of what constitutes a public good today.

Data protection is an issue in all four scenarios but especially in the Private Algocracy scenario. Many experts suggested that data privacy rights should be seen as human rights and “should never become for sale” (Participant 7, personal communication, 11 June 2019). In this way, we contribute to social capital and cohesion.

The collaboration between big digital companies and governments already exists, and legislation is often designed accordingly to protect the collaboration instead of protecting citizens. In this trade-off, it is questionable how much we gain and how much we lose.

Google Maps is also a product of cooperation between governments and Google because they need the data

also from government. So, there are government and digital companies working together, [and] legislation is designed in such a way to give digital companies the space to grow.

(Participant 16, personal communication, 13 June 2019)

And, we have also seen the data already used to impact the elections in several countries, with the goal to influence and manipulate public opinion:

It's questions that we have been seeing on the treatment of data and the way some influence on elections has been made already with what happened within the past five years. So, it's not even something that is so speculative.

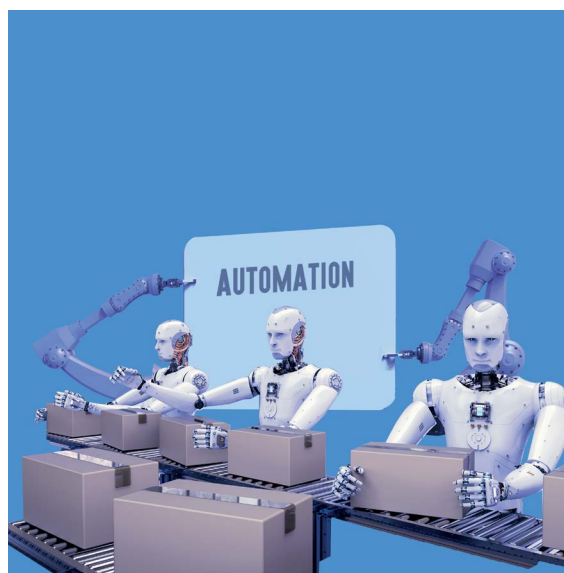
(Participant 13, personal communication, 14 May 2019)

Obtaining objective information is getting more difficult in the era of ratings and opinions posted online because citizens rely too much on these ratings as a help to make choice about different parts of their lives:

We still have a lot of things to manage in terms of helping people to get the information in an appropriate way. As we know, the behaviour where you are going to eat, or where you are going to travel, if you are in a foreign country, has changed. You just go to your mobile and see where's the next restaurant and then you see how has this restaurant been rated, and "no, I'm not going there, I'm going this way." And this might be fine for restaurants, but it might be dangerous. If you're missing a good restaurant, bad luck, but it might be dangerous when it comes to political decisions, and we have no means to differentiate between these two.
(Participant 2, personal communication, 3 June 2019)

At the same time, we should not forget that we can also learn a lot from data and thus have opportunities to know and better understand social problems and propose solutions:

IoT could potentially even make us aware of societal problems we didn't even know before due to the data collection it is able to do. Especially with opportunities of data sharing among private and public organisations, we could become aware of different societal problems made discoverable by data coming from IoT.
(Participant 3, personal communication, 26 June 2019)



Recommendations:

- **Ensure** that **technology remains ethical**, especially in the age of pervasive algorithms and data.
- **Assess possible risks** in connection to technologies with ubiquitous presence in society, with a **focus on public value of technologies** and the protection of European citizens.
- **Ensure strong political institutions to protect** citizens and their data that depend on the **full observance of fundamental rights**.

You need a strong government that understands the issues at stake and governments which are consulting with other governments, so that we make these companies cooperate and sit down together with governments. We need maybe some committee at the UN to deal with this in a practical manner.
(Participant 20, personal communication, 29 July 2019)

- Analyse what are the possible **new forms of human rights** in connection to the emerging technologies and their implications, especially AI.

We have to make a lot of work in developing new forms of human rights. Although the substance is the same, the implications are completely different because we have to deal with technologies that have deep implications in the potentialities in bio-politics, neo-politics... At the moment, I think that we are reflecting a lot about privacy, but not other human rights.

(Participant 14, personal communication, 14 June 2019)

- Ensure that **technological development becomes more participatory** and, consequently, more democratic, socially robust and in accordance to citizen needs and public values.
- **Anticipate better the developments of technology** and review the work of technology companies to **obtain better governance of AI**.

I fear that we are now missing out on the opportunity to really fix things to anticipate what will happen. Of course, nobody knows exactly what will happen, but needs to do the basic housekeeping that we have just discussed to start the process of reviewing some of the fundamental pieces of change in technology, especially what technology companies are doing, and [to] start a process of better AI governance. So I'm afraid that there is just no political capital to even invest in it. (Participant 20, personal communication, 29 July 2019)

- **Explore possible ways to use the technology for more efficient policymaking** and reflect on the **strategic use of AI and big data analytics for social good**
- View **anonymised, non-sensitive data as a public good** and **make that data open** and accessible to public authorities, research institutions and citizens. The European legal framework has been recently updated to this end (Open Data and the Re-use of Public Sector Information Directive, Directive (EU) 2019/1024 that entered into force on 16

July 2019), but there is a need for closer collaboration between public and private sectors for this to happen.

Possible actions to take:

1. Make sure **that technology is used for improving citizens' lives and for social good**.
2. Ensure **transparency and accountability** of AI systems through possible sanctions for non-compliance under remedial regulatory framework.
3. Promote an **innovation culture** in the government and in society.
4. Develop **labelling standards** for new technologies together with citizens based on EU values for technology companies.
5. **Put pressure on the private sector** to tackle computational propaganda. (eg. deep fakes)
6. **Invest in improving decision-making** and public services with the use of AI and big data analytics.
7. **Work with civil society** to understand what their needs are in connection to the opening of data
8. Ban the use of AI and big data for **citizen surveillance**

What would successful implementation lead to in 2030?

- Innovation culture is flourishing and is stimulated by the government.
- Citizens are involved in technological development and the ethical discussions that precede it.
- There is a better governance of AI by governments, citizens' data are protected and new human rights have been established (e.g. the right to a meaningful contact; the right to refuse being profiled, tracked, and analysed).
- Decision-making and public services have improved with the use of big data and AI.

2.3.2 Innovation in public administration and new skills needed

Policy implications

The FuturGov project has shown the need for traditional roles of government and public administration to adjust to emerging and future needs of societies. The current eGovernment Action Plan (2016–2020) is the political instrument to advance the modernisation of public administrations across the EU, building on the i2010 initiative and the previous action plan. At its core is the digital transformation of government, with further modernisation of public administration, seamless cross-border mobility and enhanced digital interactions. Technology could bring innovation opportunities into the public sector, improve interaction between government and citizens through the simplification of procedures and contribute to open government (Caulier-Grice et al., 2012; Halmos et al., 2019; Misuraca et al., 2017).

The four scenarios identify different possibilities to bring innovation into the public sector. In the DIY Democracy scenario, there is a bottom-up development of innovative solutions to increase the effectiveness and reach of digitalised public services by citizens.

In the Private Algocracy scenario, decision-making is fully automated based on big data and with the help of algorithms and robots to process the information. Politicians in traditional forms have disappeared, and managers, mainly from the digital companies, have taken over.

In the SCG scenario, the government uses technology to scan for the problems that society is facing and acts to provide solutions for the citizens; AI algorithms and robots help govern, especially in crisis situations. Civil servants possess skills to use the AI and AI-driven analytics and combine them with their own human judgement when making decisions. Therefore, the government has the capacity to engage regularly with citizens and co-create solutions with them.

In the Over-Regulatocracy scenario, civil ser-

vants are highly skilled in technologies such as AI and IoT. They are mainly data scientists who are able to organise their work based on the high level of system automation.

In addition, the results of the project have also been used to provide a number of prototypes and concepts¹¹ (e.g. immersive serious gamification, citizen influencer act, Mayor Bot¹²), which relate to the topic of public sector innovation and that can lead to better efficiency and effectiveness of the government as well as more accountability and legitimacy. For example, AI could be used as an artificial digital agent, the so-called Mayor Bot, which can bring new forms of evidence into discussions about the policy issues being addressed. Immersive serious gamification combines technologies such as AI and virtual reality with serious gaming to help governments develop the best policy options possible and check with citizens to shape their preferable futures.

Redesigning institutional architectures

The experts broadly agreed that there is a need for a **change and redesign of political institutions** and rethinking the government more broadly in order to **make political institutions more interactive and efficient:**

Democratic institutions are very much stagnated in [the] 20th century—its organisational culture, way of working and approaching the issues, problems or even the problem-solving methodology. But we are already in the 21st century, and we are 21st-century citizens. And it is very normal to have this crisis of democracy now in Europe or in the West at large because that democracy and the democratic institutions culture was designed in another century, so it cannot be a good fit for current societies. (Participant 19, personal communication, 18 June 2019)

11 Forty concepts and prototypes were produced by approximately 100 students of design on the basis of the FuturGov scenarios to make the scenarios more concrete and to communicate future models of government or interactions with government.

12 For more information, please see the EU Policy lab blog: <https://blogs.ec.europa.eu/eupolicylab/futurgov/>.

Having and making modern administration ready for the future impacts citizens directly, which, according to one interviewee, is not such a difficult process: “To a certain extent, **making an administration faster and less bureaucratic** is the easiest one, politically speaking. No one will object, you know?” (Participant 13, personal communication, 14 May 2019). But the way decisions are made and impact the future of democracy requires rethinking the political process.

Many experts agreed that there is a **need for more experimentation in government** and that the methodology the FuturGov project has adopted should be repeated and used more because tools such as foresight and service/participatory design can help to work together with stakeholders and citizens to experiment with possible new working methods that bring innovative approaches to government. A **new organisational architecture that features less hierarchy and more agility with an innovative way to co-design, including initiatives with citizens**, would attract people with novel and creative approaches and solutions that would make public administrations more innovative and competitive in comparison to the private sector: “If you have an old institutional architecture, then you are attracting this old style of people who cannot work on forward-looking issue and are generating old-style policies (Participant 19, personal communication, 18 June 2019).

Open connections with citizens

While we think of the state today as either “a centralist interventionist state or a laissez-faire state that leaves the field open to the private sector to take action,” i.e. a state that “proposes, adopts and implements solutions to societies’ problems,” we should instead think of a **state as a “catalyst” for solutions**. In this context, it is crucial to think of “how to make sure that the state becomes a catalyst for solutions emerging from wherever they should emerge in society” (Participant 9, personal communication, 16 May 2019).

In addition, there is a need for the **institutions to reconnect with citizens**. As one of

the experts stated, this could be done through developing more robust bonds between the state and citizens:

I am deeply convinced that any social innovation should start from developing new ways of making the state coincide with citizenship. [...] We should work on institutions, so that they can reflect citizenship and not bureaucratic procedures and the power structure.

(Participant 14, personal communication, 14 June 2019)

Integrating technological assets in decision-making

As seen in the FuturGov scenarios, there is big promise that **technology could contribute to the efficiency and agility of public administration**, which is a transformation “that needs to happen as soon as possible” (Participant 13, personal communication, 14 May 2019). For example, a civil servant of the future might have strong support via AI assistants:

The civil servant of the future will be able to talk to their AI assistant, [...] and this AI, connected to the databases of the municipality, to Wikipedia, to Eurostat and so on, will provide information immediately. [...] As a civil servant, you want to delegate this question to an AI assistant, but the decision on how to deal with this data will still [be] in the hands of [a] human decision-maker.

(Participant 12, personal communication, 7 May 2019)

AI, together with data analytics, might also be able to help public administrations when they face problems that are difficult to solve by themselves, “for instance, when you have to take a complex decision by taking into account a lot of variables” (Participant 14, personal communication, 14 June 2019).

A good first step is seen in city administrations that use **apps as egovernment tools** to provide certain services digitally, which leads to reducing the administrative burden for citizens. Several such apps were prototyped in

the FuturGov project by design students (e.g. Citizen Voices or Sherlock) that allow citizens to report problems and ideas to their local government. This view is also shared by our interviewees:

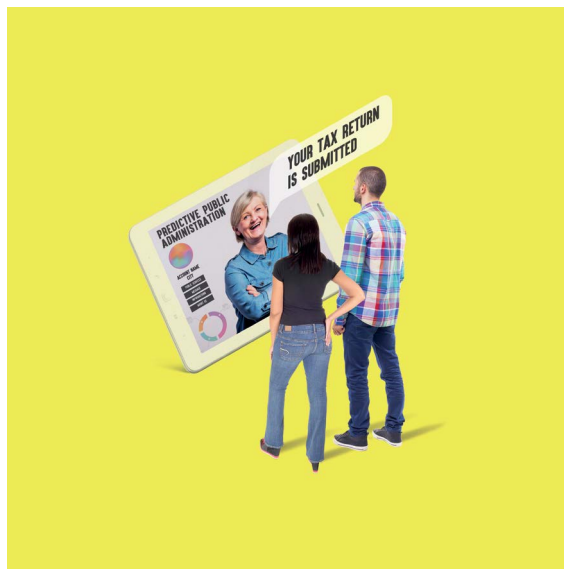
You make it easier for the citizens to just make a complaint or something. And what is more powerful for city administration is actually when they can also have these other dialogues with the citizens about the more positive aspects of change in the city. So, it takes a step further in terms of co-creation of a public policy.

(Participant 10, personal communication, 24 May 2019)

Improved skill sets on all levels

As we have seen in the SCG scenario, there will be a need for **continuous upgrading of skills, including digital skills**, and civil servants will need to follow this path because their background from the past will not be enough to adjust to the needs of the future.

The first problem will be how to find the resources that will be needed to change, to transform the government even from a point of view of skills. I mean people with the right skills. You will need different, as in any organisation, completely different sets of skills. Now, you have in the organisation people with economic and legal backgrounds and, in the future, you will need data scientists more probably.
(Participant 6, personal communication, 3 June 2019)



Recommendations:

- A **constant re-evaluation of the skills** is needed. Likewise, public administration can be effective and better prepared for the future and the unknown. New skills for public administration would require **clear vision** in a way that skills are linked to organisational models.
- **Develop and implement programmes for civil servants** to be **reskilled to use the technology to reach positive goals for society**, as well as to develop a more **open and collaborative** ways of thinking.
- **Develop foresight capabilities** through trainings and engagement with the employees. This would contribute to **more creative and innovative** approaches to policymaking to identify new challenges and act on these with innovative approaches.
- Develop more collaborative ways of working through **design-oriented workshops**, as well as **serious games** such as the FuturGov game.
- Public administrations should consider the modernisation of recruitment processes to **attract talent who can generate new-style policies; this should be done through modernisation of recruitment processes and introduction of profiles** that are not currently sought.
- **Overcoming the hierarchical bureaucratic model** could contribute to more collaboration and co-creation among the civil servants: "I suggest a more of a matrix model for democratic institutions than [the] current hierarchical bureaucratic model,

which we believe blocks the communication, blocks the collaboration and [allows] almost no participation. (Participant 19, personal communication, 18 June 2019) This would make public administration better **adapted to today and to future challenges**.

- **More agile forms of working** in the government are needed. This means having smaller projects with shorter delivery times, as well as modular pieces that can be easily recombined. However, we should not forget that some projects in the government, especially those that are research-based, require time for their realisation and reflection.
- The government should **engage with different societal actors, such as civil society, and encourage businesses** to invest in innovative solutions “for good” through concrete measures such as tax breaks or subsidies.
- The government would need to **invest into exploring the future of business** to better understand what jobs and skills both civil servants and citizens need for the future:

Fundamental changes in terms of technology are already now dictating what we like and what we don't like, and we don't even know it. And so unless we raise a fundamental question about how the future of businesses is going to be like, we are not going to answer the question of specific jobs. [...] For example, people say that we need all these digital skills. But a lot of the things are now being done by robots and with all the intelligence agents around, they are acting on our behalf and undertaking a lot of the roads that are traditionally being served in some kind of business functions. [...] And that has changed in a very short period of time as well. (Participant 20, personal communication, 29 July 2019)

Possible actions to take:

1. Organise trainings for civil servants (e.g. connected to data science but also societal impacts of the technology).
2. Organise trainings to develop creative and innovative thinking.
3. Introduce agile approaches, e.g. sprints, for certain governmental projects to create more effective processes for decision-making.

4. Hold competitions and behaviourally informed interventions to change civil servants' behaviour.

What would successful implementation lead to in 2030?

- There are more lateral thinkers¹³ in government and public administration with creative and innovation skills.
- The government funds more research programmes and projects in the area of political literacy.
- The institutions are reformed and adapted to future challenges and are less hierarchical.
- National and regional governments of each state have their foresight and design teams that allow for experimentation and innovation in policymaking.

¹³ Lateral thinking means creative thinking in combination with perceptiveness and the ability to identify and apply new approaches.

Table 2

Policy recommendations, possible actions and measures of success

	Recommendations
Democracy and power relations	<ul style="list-style-type: none"> • More complex reforms are needed to diversify power relations between different levels of governance and different societal actors. • More discussion is needed on how digital governance could bring innovation, stabilise the new power relations and modernise the role of government. • Be vigilant about the end goal for the use of technology, so that the entire society benefits from it. That is why having strong political leadership that wants to tackle these issues is crucial. • Refine and implement open government policies, and create clear strategies. Accountability, transparency and fairness are central concepts of democratic governments.
Participatory culture, engagement and deliberation	<ul style="list-style-type: none"> • A better equipped and skilled workforce administration is crucial for developing good quality deliberative processes. Training and tools should be offered to policy officers. • A suitable allocation of resources (infrastructure and budget) is needed for the process to run smoothly in terms of technical requirements, analysis of the material produced and remuneration for citizens' participation. • Develop initiative using citizen engagement exercises to co-create and co-develop solutions and not only react and give opinions, which is often the way citizen assemblies are used today. • Use the deliberative processes to combat populism, misinformation and disinformation. The deliberative processes could raise the awareness of the complexity and implications of certain policies. • Foster decentralisation of power to encourage the development of a participatory democracy. • Provide systematic citizenship education. The education, as well as objective and impartial media, is considered a key to a well-informed citizenry that can engage in informed deliberation. Broader citizen responsibility and accountability are also necessary.

Possible interventions / Measures of success / Actions to take	What would successful implementation lead to in 2030?
<ul style="list-style-type: none"> • Ensure quality of democracy through reforms based on larger societal debate. • Develop the framework for policy experimentation. • Invest in digital government solutions and give incentives to governments in Member States • Monitor Member States' policies and their compliance with the EU Charter of Fundamental Rights. • Organise structural debates on opening up government and making the relations between government and citizens closer and transparent. 	<ul style="list-style-type: none"> • Broader stakeholders, including citizens, are involved in policymaking processes. • The strategy to implement open government policies is created and functional. • The strategy to protect the democratic principles and values for the digital age is deployed. • Satisfaction of citizens with political institutions is high. • Government works in an efficient way, and the reforms are completed.
<ul style="list-style-type: none"> • Promote civic culture initiatives through the support and funding of CSOs that would involve European citizens more broadly and give civil society more voice than they have now. • Encourage community and bottom-up empowerment through the support of different initiatives and activities of local communities so that communities can take more control over their lives and gain more power. • Organise the engagement exercises on different levels of governance: at the EU level, through citizen assemblies, and as a national- and regional-based engagement (besides the local level). • Establish citizen councils that would serve as a platform to include citizens in policymaking. This can be done through piloting new type of institutions or redesigning some of the existing ones. These councils would organise issue-based citizen assemblies made up of a representative group of citizens. Based on their input, recommendations would be made to the European Parliament. 	<ul style="list-style-type: none"> • The level of citizens' satisfaction with democracy is high. • There is a broad interest and real engagement of citizens with policymaking processes in all stages of the policymaking cycle. • A large number of ideas, suggested by citizens, are seriously taken into consideration by policymakers, and many of them are implemented.

	Recommendations
Trust in political institutions	<ul style="list-style-type: none"> • Include new governance mechanisms and participatory, bottom-up approaches as a means to foster deliberative processes in policymaking. • Create EU public service media (both broadcasting and digital) to connect better with EU citizens, and create a European public sphere which would contribute to the creation and maintenance of European identity citizenship. • Raise a discussion about how to renew and reshape the political system, especially regarding higher levels of governance. • Trust in political institutions could be promoted through civic education, including simulation models (e.g. simulated legislative hearings, negotiating a treaty, participating in a city meeting), which can contribute to learning from these experiences. This sort of education should become mandatory throughout Europe.
Regulation	<ul style="list-style-type: none"> • Develop a supranational approach, required for the regulation of digital companies and new technologies. • Create a condition for continuous experimentation based on citizens' needs to achieve the balance between regulation of technology and freedoms of use. • Regulate the relations between business and government to establish rules and norms of what business sectors can and cannot do. • Reflect on the impacts of the use of AI and data on human rights beyond privacy • Enhance multi-stakeholder based regulatory oversight mechanisms, with a policy “ombudsman”; i.e. provide mediation services for policies that would offer almost immediate access to legal remedies or engage with policies in question. • Building on existing structures, develop more awareness around regulatory management systems that could play a role in the assessment of regulatory quality practices and consequently increase its quality. • Lead in innovation “for good” and bring value in ensuring that the technology used by citizens is safe through regulation. • Regulation of technology and digital companies should follow the discussion on European values and not vice versa. We should “try to have a discussion that will go straight core on the values of the society that we want, and then having the regulations only as a consequence, and not as a prime mover” (Participant 13, personal communication, 14 May 2019).

Possible interventions / Measures of success / Actions to take	What would successful implementation lead to in 2030?
<ol style="list-style-type: none"> 1. Holding organisation trainings to enable policymakers to foster the institutional changes and to change the mindset of administration 2. Putting in place new governance mechanisms in traditional political parties 3. Developing mechanisms to increase transparency of and accountability for public actions 4. Organising events/forums to involve citizens in all levels of governance 5. Funding quality media reporting 6. Informing citizens through EU public service media, communicating better the benefits of European policies for citizens 7. Focusing on and making mandatory civic education of young people, with simulation models included in all EU Member States 8. Introducing mandatory participation in civic and political organisations that could contribute to making citizens more informed, skilled and knowledgeable about political processes and how democratic societies work 	<ul style="list-style-type: none"> • There is high political participation of citizens in deliberative processes as well as elections, and high social capital in society, which contributes to the improvement of representative democracy. • There is a well-functioning EU public service broadcasting and digital media with high audience participation. • High media freedom indicators are perceived in all EU countries. • The European identity and sense of belonging of EU citizens is strong. • There is a high level of transparency and accountability and a low possibility of corruption in policymakers and civil servants.
<ol style="list-style-type: none"> 1. Create a strong and independent ethics committee, with ethicists involved that would support both legislative interventions as well as co-regulatory and self-regulatory initiatives. 2. Work on constitutional improvements and reform to implement critical reconstructions in relation to new and forthcoming challenges. 3. Organise debates with the inclusion of civil society on European values and technologies that would precede their regulation. 4. Monitor the Member States regulatory framework in relation to digital companies and make sure that it is harmonised with the EU regulatory framework 	<ul style="list-style-type: none"> • Citizens have higher trust in government based on legal instruments and measures the government has adopted. • Regulatory processes are of higher quality, obtained through independent measurement. • The quality of democracy (measured through high impartiality and inclusiveness of procedures, equal access to justice, confidence in the legal system and effectiveness of protection of citizens' freedoms) has improved.

	Recommendations
Public-private relationship	<ul style="list-style-type: none"> • Take the lead in providing more interactive and safe spaces for the exchange of ideas and expertise to improve and develop new methods of public-private relationships. • Rethink the relationship between the public and the private sectors on different terms and in different ways. • Rethink the relationship between these two sectors, based on collaboration, accountability and transparency of work. This is especially important in connection with machine learning systems, the collection of data and business models. • The government should foster collaboration more with young entrepreneurs, especially in the area of social business. • There needs to be better synergy and complementarity between the public and the private sectors to face forthcoming challenges together. • Simplify the procedures for the inclusion of a larger number of societal actors, not only the richest and biggest ones. The applications for EU funds need to be easier to understand and fill in. • Develop clear regulations and strong government to protect citizens from the misuse of their personal data and sensitive information.
Public Services	<ul style="list-style-type: none"> • Design public services to be modular and adaptable to circumstances in which we live. • Overcome the inequalities in public service access through more collaboration and co-creation with citizens that would show what the crucial problems and obstacles are. • Enable citizens to be included in the redesign of public services, which would also provide them with more responsibility and accountability. • Use automation, big data and new technologies to improve public services by making them easier to use and accessible to all, as they could help citizens in solving a number of issues.
Education and literacy	<ul style="list-style-type: none"> • Reform education at the EU level to better fit the needs of citizens of the future, as well as job markets (to provide skills such as flexibility and adaptability but also future job skills). • • Introduce digital data literacy in the elementary school curricula from an early age. Likewise, children would better understand the digital environment, opportunities and threats. • Use policy literacy (critical understanding of policy) to create more civil debates among citizens and enable higher participation of citizens in politics and policymaking. • Promote the introduction of futures literacy to contribute to creating more resilient societies with developed anticipatory capacities. • Contribute to the development of informed citizens who are less prone to manipulation, through media literacy.

Possible interventions / Measures of success / Actions to take	What would successful implementation lead to in 2030?
<ol style="list-style-type: none"> 1. Create more interactive and safe spaces for the collaboration between the public and the private sectors and for more listening and talking about needs and challenges. 2. Develop collaboration with young social entrepreneurs. 3. Increase public oversight of the private sector (be clear about what needs to be done, why and what the potential sanctions are if the objectives and obligations are not dealt with seriously). 4. Create legal instruments that would, together with GDPR, protect citizens better from the misuse of their data and sensitive information they share. 	<ul style="list-style-type: none"> • A number of positive public-private collaborations are created, evidenced through success rates of close cooperation and full commitment in the implementation of rules. • Private companies have a high level of corporate social responsibility performance score. • Citizens feel protected when it comes to the use of their data and sensitive information. • Citizens feel that they are able to benefit from closer relations and synergies between the public and the private sectors.
<ol style="list-style-type: none"> 1. Redesign public services to make them more dynamic. 2. Co-design public services with citizens. 3. Use technology to improve public services. 4. Support Member States in ensuring the equal access to technology used for public services 	<ul style="list-style-type: none"> • The quality of public services is improved, and they are more adaptable to modern ways of life. • All citizens have access and are able to use public services improved through the use of technology. • Citizens are highly satisfied with the public service delivery and their efficiency. • Public services are co-designed with citizens.
<ol style="list-style-type: none"> 1. Propose education reforms in accordance to the needs of job markets. 2. Start developing digital literacies from an early age. 3. Develop critical thinking and a critical mindset in students. 4. Develop educational programmes that will include digital data literacy, policy, media and futures literacies. 	<ul style="list-style-type: none"> • Better-informed citizens who are better prepared for the future • Less possibilities for the deception of citizens, propaganda and framing • Better responsiveness from the government (through increased understanding) • Better anticipatory capabilities of both government and citizens

	Recommendations
Big data and AI	<ul style="list-style-type: none"> • Ensure that technology remains ethical, especially in the age of pervasive algorithms and data. • Assess possible risks in connection to technologies with ubiquitous presence in society, with a focus on public value of technologies and the protection of European citizens. • Ensure strong political institutions to protect citizens and their data that depend on the full observance of fundamental rights. • Analyse what are the possible new forms of human rights in connection to the emerging technologies and their implications, especially AI. • Ensure that technological development becomes more participatory and, consequently, more democratic, socially robust, accessible and in accordance to citizen needs and public values. • Anticipate better the developments of technology and review the work of technology companies to obtain better governance of AI. • Explore possible ways to use the technology for more efficient policymaking and reflect on the strategic use of AI and big data analytics for social good • View anonymised, non-sensitive data as a public good and make that data open and accessible to public authorities, research institutions and citizens. The European legal framework has been recently created (Open Data Directive, Directive (EU) 2019/1024 that entered into force on 16 July 2019), but there is a need for closer collaboration between public and private sectors for this to happen.

Possible interventions / Measures of success / Actions to take	What would successful implementation lead to in 2030?
<ol style="list-style-type: none"> 1. Make sure that technology is used for improving citizens' lives and for social good. 2. Ensure transparency and accountability of AI systems through possible sanctions for non-compliance under remedial regulatory framework 3. Promote an innovation culture in the government and in society. 4. Develop labelling standards for new technologies together with citizens based on EU values for technology companies. 5. Put pressure on the private sector to tackle computational propaganda. 6. Invest in improving decision-making and public services with the use of AI and big data analytics. 7. Work with civil society to understand what their needs are in connection to the opening of data 8. Ban the use of AI and big data for citizen surveillance 	<ul style="list-style-type: none"> • Innovation culture is flourishing and is stimulated by the government. • Citizens are involved in technological development and the ethical discussions that precede it. • There is a better governance of AI by governments, citizens' data are protected and new human rights have been established (e.g. the right to a meaningful contact; the right to refuse being profiled, tracked, and analysed). • Decision-making and public services have improved with the use of big data and AI.

	Recommendations
Innovation in PA and skills	<ul style="list-style-type: none"> • A constant re-evaluation of the skills is needed. Likewise, public administration can be effective and better prepared for the future and the unknown. New skills for public administration would require clear vision in a way that skills are linked to organisational models. • Develop and implement programmes for civil servants to be reskilled to use the technology to reach positive goals for society, as well as to develop a more open and collaborative ways of thinking. • Develop foresight capabilities through trainings and engagement with the employees. This would contribute to more creative and innovative approaches to policymaking to identify new challenges and act on these with innovative approaches. • Develop more collaborative ways of working through design-oriented workshops, as well as serious games such as the FuturGov game. • Public administrations should consider the modernisation of recruitment processes to attract talent who can generate new-style policies; this should be done through modernisation of recruitment processes and introduction of profiles that are not currently sought. • Overcoming the hierarchical bureaucratic model could contribute to more collaboration and co-creation among the civil servants. This would make public administration better adapted to today and to future challenges. • More agile forms of working in the government are needed. This means having smaller projects with shorter delivery times, as well as modular pieces that can be easily recombined. However, we should not forget that some projects in the government, especially those that are research-based, require time for their realisation and reflection. • The government should engage with different societal actors, such as civil society, and encourage businesses to invest in innovative solutions “for good” through concrete measures such as tax breaks or subsidies. • The government would need to invest into exploring the future of business to better understand what jobs and skills both civil servants and citizens need for the future:

Possible interventions / Measures of success / Actions to take	What would successful implementation lead to in 2030?
<ol style="list-style-type: none"> 1. Organise trainings for civil servants (e.g. connected to data science but also societal impacts of the technology). 2. Organise trainings to develop creative and innovative thinking. 3. Introduce agile approaches, e.g. sprints, for certain governmental projects to create more effective processes for decision-making. 4. Hold competitions and behaviourally informed interventions to change civil servants' behaviour. 	<ul style="list-style-type: none"> • There are more lateral thinkers in government and public administration with creative and innovation skills. • The government funds more research programmes and projects in the area of political literacy. • The institutions are reformed and adapted to future challenges and are less hierarchical. • National and regional governments of each state have their foresight and design teams that allow for experimentation and innovation in policymaking.

3 CONCLUSIONS AND FUTURE RESEARCH



The objective of FuturGov was to project explore and examine future governance models from a citizen-centric perspective. One of our priorities was to offer insights into changing power relationships in the society and the possible impacts of digital transformations and disruptive, ubiquitous technologies. We have engaged with citizens, especially young people and students from disciplines beyond political science and public administration, as well as other stakeholders (policymakers, representatives of businesses, civil society organisations and academia). We have also used serious gaming as a tool to understand potential consequences of different decision-making models.

Some aspects of four FuturGov 2030+ scenarios, created through foresight exercises with citizens in six Member States, are less desirable than others. This should open the discussion on “what if” questions for future policy decisions and actions. For us it was important to emphasize, how the relationship between policymakers, citizens and businesses should evolve and how public services should be changed to be more effective.

The results of the project have relevant contribution for the reflection, in the context of Sustainable Development Goals. The study can contribute to reflections on Goal 16 “Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels,” we need to question further how to empower citizens and increase accountability, inclusiveness and effectiveness of decision-making processes, as well as change the current distrust that citizens have in government and democracy. How can we promote more EU values and strengthen democracy both in the EU and in the Member States?

In addition, as we have shown, power relations are more influenced by economic power than solely by technology:

Let's not overestimate technology; let's also look at the good old issues of power and society, which comes down to, if you have power concentration economically, it's a problem for innovation, but it is

also a problem for democracy and has always been.

(Participant 11, personal communication, 16 May 2019)

Technology continues to play an important role in society (as one expert pointed out, “it is almost becoming a society”; Participant 20, personal communication, 29 July 2019). However, and as we have seen, it cannot be an answer to all societal problems. While technology can be very useful to improving public services, some of the experts expressed their doubts that “digital is going to be a solution or saviour when it comes to improving democracy” (Participant 8, personal communication, 17 June 2019).

There is also a risk that the connection between policymakers and citizens remains only “digital” or becomes exclusively based on their digital expressions:

*I think that with social media, there is the **danger of getting the impression** that you can know what the expectations of citizens are only **through a sentiment analysis** of an online discussion or such. A very real risk of the moment and not of the future, is that this kind of listening to publics becomes the standard through which public institutions connect themselves to people. We should remember that **we should talk with people**, so we should **add also qualitative methods** for knowing and **exploring the needs and expectations** of people. And we need to **produce processes for bringing these needs and expectation into [the] light.***

(Participant 14, personal communication, 14 June 2019)

We have shown the need for closer collaboration of different societal actors and co-creation in policy making. However, the debate about what kind of democracy we need, how much participatory democracy we want and if the inclusion of citizens and co-creation in policymaking could contribute to the advancement of democracy depends on how much the government and the most powerful actors in society are willing to share their power and diversify power structures.

There is a need to develop future-oriented thinking and the way “we invite people to think about the future” (Participant 15, personal communication, 17 June 2019).

In the complex area of the future of government or, even broader, the future of democracy, further research and reflection are needed, especially in the area of the public sector and its relationship with both the private sector and citizens. Future research could expand on the number of diverse citizens and Member States involved to assess further:

- How to increase democratic legitimacy and make citizen engagement sustainable;
- How governments on different governance levels could work better together in the interest of citizens;
- Possible synergies between the representative and participatory democracy (eg. the inclusion of parliaments in deliberative processes with citizens);
- How public administration might be transformed and what skills will be needed;
- How the public and private sectors could collaborate more efficiently in the area of new technologies, how to ensure more transparency, accountability and fairness;
- How public services of the future are imagined, what are the services that the state should guarantee in the future and how the delivery of the services will be organised;
- What the needs for new forms of human rights in connection to new technologies are.

REFERENCES

- Baldwin-Philippi, J. The technological performance of populism. *New Media & Society*, 21(2), 2019, pp. 376–397. <https://doi.org/10.1177/1461444818797591>
- Balter, B. J. Toward a more agile government: The case for rebooting federal IT procurement. *Public Contract Law Journal*, 41 (1), 151 – 171. 2011.
- Blum, C. and Zuber, C. I., *Liquid Democracy*. *Journal of Political Philosophy*, 24, 2016, pp. 162–182
- Burke, K. & Leben, S. (2007). *Procedural fairness: A key ingredient in public satisfaction*. White paper. Retrieved from http://www.proceduralfairness.org/~media/Microsites/Files/procedural-fairness/Burke_Leben.ashx
- Castells, M. *Networks of Outrage and Hope: Social Movements in the Internet Age*. 2nd edition. Polity. 2015.
- Caulier-Grice, J., Davies, A., Patrick, R., Norman, W., *Social Innovation Practices and Trends. A deliverable of the project: "The theoretical, empirical and policy foundations for building social innovation in Europe"* (TEPSIE), EC -7th Framework Programme, Brussels: DG Research, 2012.
- Chwalisz, C., *The Populist Signal: Why Politics and Democracy Need to Change*. London: Rowman & Little eld International Ltd., 2015.
- European Commission. *Code of Practice on Disinformation*, 2018. Retrieved from: <https://ec.europa.eu/digital-single-market/en/news/code-practice-disinformation>
- European Commission. *Ethics guidelines for trustworthy AI*, 2019. Retrieved from at <https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai>
- European Commission . *Communication on Artificial Intelligence for Europe*, 2018. Retrieved from <https://ec.europa.eu/digital-single-market/en/news/communication-artificial-intelligence-europe>
- European Commission. *Building Trust in Human Centric Artificial Intelligence*, 2019. Retrieved from <https://ec.europa.eu/digital-single-market/en/news/communication-building-trust-human-centric-artificial-intelligence>
- Farrell, D., Suiter, J. & Harris, C. 'Systematizing' constitutional deliberation: the 2016–18 citizens' assembly in Ireland, *Irish Political Studies*, 34:1, 2019, pp. 113–123, DOI: 10.1080/07907184.2018.1534832
- Fishkin, J. *Democracy and Deliberation: New Directions for Democratic Reform*. New Haven; London: Yale University Press, 1991. Retrieved from <http://www.jstor.org/stable/j.ctt1dt006v>
- Gagliardi, D., Misuraca, G., Niglia, F., Pasi, G., *How ICTs shape the relationship between the State and the citizens: Exploring new paradigms between civic engagement and social innovation*, Proceedings of the 52nd Hawaii international conference on system sciences 2019.

Gillespie, T. Regulation of and by Platforms. In Burgess, J., Marwick, A. and Poell, T. *The SAGE Handbook of Social Media*, pp. 258-274, 2018; Halmos, A., Misuraca, G., Viscusi, G. *From Public Value to Social Value of Digital Government: Co-Creation and Social Innovation in European Union Initiatives*. Proceedings of the 52nd Hawaii international conference on system sciences 2019.

Glaser, E. *An Experiment in the Development of Critical Thinking*, Teacher's College, Columbia University, 1941.

Jasanoff, S. The Idiom of Co-Production, In S. Jasanoff (ed). *States of Knowledge: The Co-production of Science and the Social Order*, Routledge, 2004, pp. 1-12.

Landemore, H. Deliberative Democracy as Open, Not (Just) Representative Democracy, *Daedalus* 146:3, 2017, pp. 51-63.

McGee, R. and Edwards, D., Introduction: Opening Governance – Change, Continuity and Conceptual Ambiguity. *Institute for Development Studies Bulletin*, 47 (1), 2016, pp. 1-22.

Meltzer, K. Journalistic Concern about Uncivil Political Talk in Digital News Media: Responsibility, Credibility, and Academic Influence. *The International Journal of Press/Politics*, 20(1), 2015, pp. 85–107.

Mergel, I. Agile innovation management in government: A research agenda. *Government Information Quarterly*; 33: 516-523, 2016.

Misuraca, G., Pasi, G and Urzi Brancati, C., *ICT-Enabled Social Innovation: Evidence & Prospective*, Science for Policy Report, Publications Office of the European Union, Luxembourg, 2017.

Morozov, E. *The Net Delusion: The Dark Side of Internet Freedom*, PublicAffairs, 2011.

Nemitz, P. *Constitutional democracy and technology in the age of artificial intelligence*, *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 376, 2018

OECD. *Open Government. The global context and the way forward*, OECD Publishing, Paris, 2016.

Pasquale, F., *The Black Box Society. The Secret Algorithms That Control Money and Information*. Cambridge: Harvard University Press, 2015.

Rakic, B. and Radjenovic, T. (2011). *Public-private partnerships as an instrument of new public management*. Retrieved from <http://facta.junis.ni.ac.rs/eao/eao201102/eao201102-08.pdf>

Reuchamps, M. *Designing permanent deliberative democracy: The Ostbelgien Modell in Belgium*. Centre for Deliberative Democracy and Global Governance Seminar. University of Canberra, Canberra, 18/06/2019, 2019.

Rossini, P. & De Oliveira, V., *E-Democracy and Collaborative Lawmaking: The discussion of Political Reform in Brazil*. *International Journal of Communication*, 10, 21, 2016.

Sadan, B. (2002). Patient Empowerment and the Asymmetry of Knowledge, *Studies in Health Technology and Informatics*, Vol 90: Health Data in the Information Society, p.514 - 518

Stehling, M.; Vesnic-Alujevic, L.; Jorge, A. & Marôpo, L. The co-option of audience data and user-generated content: the empowerment and exploitation of audiences through algorithms, produsage and crowdsourcing. In R. Das & B. Ytre-Arne (eds.), *The future of audiences: a foresight analysis of interfaces and engagement*. London: Palgrave Macmillan, 2018.

Van Dijck, J. (2013). *The Culture of connectivity: A Critical history of social media*

Oxford: Oxford University Press, 2013.

WEF (2018). *Agile Governance: Reimagining Policy Making*. Retrieved from: http://www3.weforum.org/docs/WEF_Agile_Governance_Reimagining_Policy-making_4IR_report.pdf

Zuboff, S. , *The Age of Surveillance Capitalism*, New York: Public Affairs, 2019.

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