



JRC Conference and Workshop Report

AI Watch Artificial Intelligence for the public sector

*Report of the "4th Peer Learning Workshop
on the use and impact of AI in public
services", 28 October 2021*



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Foreword

This report is published in the context of *AI Watch*¹, the European Commission knowledge service to monitor the development, uptake and impact of Artificial Intelligence (AI) for Europe, launched in December 2018.

AI has become an area of strategic importance with the potential to be a key driver of economic development. AI also has a wide range of potential social implications. As part of its Digital Single Market Strategy, the European Commission put forward in April 2018 a European strategy on AI in its Communication "Artificial Intelligence for Europe". The aims of the European AI strategy announced in the communication are:

- To boost the EU's technological and industrial capacity and AI uptake across the economy, both by the private and public sectors
- To prepare for socio-economic-technical changes brought about by AI
- To ensure an appropriate ethical and legal framework for its application in a safe and lawful manner, especially within the public sector.

In December 2018, the European Commission, the Member States and Associated Countries published a "Coordinated Plan on Artificial Intelligence"², on the development of AI in the EU. The Coordinated Plan mentions the role of *AI Watch* to monitor its implementation.

Subsequently, in February 2020, the Commission unveiled its vision for a digital transformation that works for everyone. The Commission presented a White Paper proposing a framework for trustworthy AI based on excellence and trust.

Furthermore, in April 2021 the European Commission proposed a set of actions to boost excellence in AI, and rules to ensure that the technology is as trustworthy as possible. The proposed Regulation on a European Approach for Artificial Intelligence and the update of the Coordinated Plan on AI aim to guarantee the safety and fundamental rights of people and businesses, while strengthening investment and innovation across EU countries. The 2021 review of the Coordinated Plan on AI, refers to *AI Watch* reports and confirms the role of *AI Watch* to support the implementation and monitoring of the Coordinated Plan.

AI Watch monitors European Union's industrial, technological and research capacity in AI; AI-related policy initiatives in the Member States; uptake and technical developments of AI; and AI impact. *AI Watch* has a European focus within the global landscape. In the context of *AI Watch*, the Commission works in coordination with Member States. *AI Watch* results and analyses are published on the *AI Watch* Portal (https://ec.europa.eu/knowledge4policy/ai-watch_en).

AI Watch is carried out by the Joint Research Centre (JRC) of the European Commission, in collaboration with the Directorate-General for Communications Networks, Content and Technology (DG CONNECT). *AI Watch* in-depth analysis exercises allow achieving a better understanding of European Union's strengths and areas where more efforts in terms of human structural and financial investment are needed. *AI Watch* aims to provide an independent assessment of the impacts and benefits of AI on growth, jobs, education, and society as a whole.

This report addresses the following objective of *AI Watch*: it presents a summary of the proceedings of the workshop of the 4th *AI Watch* Peer Learning Workshop on AI use & impact in public services. The event took place online on 28 October 2021, with the participation of 86 representatives from 24 Member States and Associated Countries, amongst which 55 public servants from Member States and Associated Countries, including 14 EU officials, and 17 researchers from all over Europe.

The Workshop was an important opportunity to i) engage with relevant stakeholders to better understand the potential use and impact of AI for the public sector; ii) present and discuss a "Road to the adoption of AI by the Public Sector"; iii) validate a set of recommendations with a number of actions addressing stakeholders at different operational levels, aiming at fostering the adoption and use of AI by the public sector throughout Europe.

¹ https://knowledge4policy.ec.europa.eu/ai-watch_en

² <https://digital-strategy.ec.europa.eu/en/policies/plan-ai#:~:text=Coordinated%20Plan%20on%20Artificial%20Intelligence%202021%20Review,-The%20key%20aims&text=Turning%20strategy%20into%20action%2C%20the,uptake%20of%20new%20digital%20solutions;>

Acknowledgements

This report has been prepared by the JRC in collaboration with some of the external experts who contributed to facilitate the execution of the workshop. However, the main actors in the workshop process were its participants. We would like to thank all participants, including representatives of Governments from European Countries, Colleagues from various Commission Services and experts from academia, research centres, Non-Governmental Organisations and industry who actively engaged in discussions and provided input, enriching the findings under validation and giving guidance on the way forward. We gratefully thank the representatives from those Countries who made presentations about the use of AI in their government as part of the workshop. A special thank also goes to colleagues of DG CNECT and DIGIT who chaired and moderated plenary and breakout sessions.

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1. Executive Summary

The online '4th AI Watch Peer Learning Workshop on the use and impact of AI in Public Services', was organised by the JRC of the European Commission jointly with DG CNECT on 28 October 2021. The event saw the participation of **86 representatives from 24 Member States (MSs) and Associated Countries**, amongst which 55 public servants from Member States and Associated Countries, including 14 EU officials, and 17 researchers from all over Europe.

The workshop aimed at expanding the existing knowledge on the endeavours undertaken by Member States and Associated Countries on the use of AI in the Public Sector and envisaged five objectives:

1. Present the ongoing work on the "**Road to the adoption of AI by the Public Sector**";
2. Disseminate some preliminary results from a **survey on Member States** and Associated Countries on the driving factors and impacts of the adoption of AI in the public sector;
3. Collect **feedback** for improvements on the "Road to the adoption of AI by the Public Sector" draft document;
4. Facilitate **peer-learning** and information-gathering and exchange on the state of the art, challenges and opportunities, crosscutting issues, existing and/or needed guidelines about AI, and continuing the Peer Learning activities, where EU Member States could share their insights about the use of AI within Public Services and their results;
5. Showcase **initiatives by a few Member States** related to the adoption of AI in the public sector.

The Workshop was divided into three main sessions.

In the **introductory session**, the background, the elaboration process, and the content of the draft document of the "Road to the adoption of AI by the Public Sector" (also synthetically referred to as "the document") was presented. The main content of the document presented at the event consists of a set of 16 recommendations to foster the adoption and use of AI by the European public sector.

The resulting recommendations are based on the analysis of existing research literature, an updated analysis of Member States and Associated Countries national AI strategies, and the results of an EU-wide survey addressed to practitioners from National Public Organisations throughout Europe, and EU public officials dealing with AI adoption in the public sector.

The recommendations have been divided into four Intervention Areas clustering a number of Recommendations, and possible actions addressing stakeholders at different operational levels:

- Area 1. Promote an EU-value oriented, inclusive and human-centric AI in the Public Sector;
- Area 2. Enhance coordinated governance, convergence of regulations and capacity building;
- Area 3. Build a shared and interactive AI digital ecosystem;
- Area 4. Applying value oriented AI impact assessment frameworks.

In the **second session**, all participants were divided into four groups each assigned to one of the above Intervention Area. Working in breakout sessions, the groups elaborated feedback on strengths, weaknesses, and suggestions for improvement for each of the recommendations in the corresponding Intervention Area. The feedback was then presented by each group in a plenary.

In the **third session**, representatives from Italy, Denmark, and Portugal presented experiences in the adoption and use of AI in the public sector. Afterwards, a summary was presented of the feedback collected from the different breakout sessions around the recommendations.

The summary of the feedback was structured along with the four Intervention Areas in which recommendations are grouped. **Five overall principles** emerged in discussions across the different Intervention Areas and across the discussion groups:

1. Avoid duplications where there is room for reuse of existing resources;
2. The importance of training a wide array of stakeholders;
3. Re-think procurement practices;

4. Monitoring ex-ante and ex-post through observatories and experimenting via sandboxing;
5. Refine the understanding of implications of co-creation.

The concluding remarks of the workshop highlighted the progress of *AI Watch* activities leading to the 4th Peer-Learning Workshop, and outlined directions for future initiatives at EU level concerning AI adoption and use in the Public Sector, and invited stakeholders to keep engagement high in order to progress on a mutually beneficial and complementary fashion.

2. Introduction

The 4th Peer-Learning Workshop on the use and impact of AI in the public sector has been organised to collect feedback on the draft document developed by the JRC in collaboration with DG CONNECT and a pool of independent experts. The document titled "Road to the adoption of AI by the Public Sector" aims to provide evidence-based, actionable recommendations addressing European public sector authorities at all levels, in order to foster the adoption and implementation of AI by Governments in Europe.

The workshop draws on the outcomes of the previous 3rd Peer-Learning Workshop on the use and impact of AI in the public sector organised by the JRC on the 24th of June 2021 together with DG CONNECT. This event presented the preliminary results from the analysis of the National Strategies on AI in the Public Sector and a collaborative effort to sketch the "Road to the adoption of AI by the Public Sector" together with representatives from the European Member States and Associated Countries and other stakeholders was kicked off.

Invitations to participate in the 4th Peer-Learning Workshop was sent to 150+ invitees, including Governments **public servants** involved in the adoption of AI at national, regional, and local level; relevant **EU officials**; academic **researchers**; and **practitioners** from the private sector.

The draft of the "Road to the adoption of AI by the Public Sector" was circulated in advance to all registered participants for them to prepare an informed and rich feedback during the workshop.

The workshop was held online and consisted of three parts, namely:

- an introduction, including the presentation of the content of the "Road to the adoption of AI by the Public Sector" draft, and background information on the methodology used to structure and build the roadmap and related sources;
- Four parallel breakout sessions, where participants provided comments and suggestions for improving the document both, in the breakout rooms and in the plenary session;
- The conclusive session, included three presentations of AI initiatives applied to the public sector from Italy, Denmark, and Portugal, and a summary of the feedback collected on the overall document "Road to the adoption of AI by the Public Sector" received during the workshop.

The **full agenda** of the workshop is available as an **Annex** to this report. The content of this report is organised following the structure of the three sessions of the workshop.

3. Presentation of the draft "Road to the adoption of AI by the Public Sector"

Chair: Eva Martinez Rodriguez, Project Manager at Digital Economy Unit, JRC/B6 of the European Commission.

The first session of the workshop consisted of the **presentation of the draft document of the "Road to the adoption of AI by the Public Sector"**. The session was opened with a welcome message by Carlos Torrecilla Salinas, Head of the Digital Economy Unit, JRC/B6 of the European Commission. Mr Torrecilla summarised the activities conducted in the last years by the *AI Watch* displaying that the 4th Peer-Learning Workshop is the latest of the series of fruitful events for debating on the use and impact of AI in the Public Sector. Moreover, Mr Torrecilla informed the participants of the recent publication of the new JRC Technical Report titled "Beyond pilots: sustainable implementation of AI in public services"³, also an outcome of *AI Watch* activities.

After a brief presentation of the *AI Watch*, he highlighted the increased relevance of AI in the **EU public sector**. **Governments are moving from being regulators to becoming key deployers of AI systems for improving public service delivery**. He also warned about potential challenges, including technical ones (such as the presence of legacy IT systems, and biases in data), and organisational ones (such as issues with the governance of AI) in adopting AI in the public sector.

The welcome message ended with a presentation of the structure of the workshop.

³ Molinari, F., Van Noordt, C., Vaccari, L., Pignatelli, F. and Tangi, L., *AI Watch. Beyond pilots: sustainable implementation of AI in public services*, EUR 30868 EN, Publications Office of the European Union, Luxembourg, 2021, ISBN 978-92-76-42587-8 (online), doi:10.2760/440212 (online), JRC126665.

Marina Manzoni, Project Officer at the Digital Economy Unit, JRC/B6 - European Commission, then took the floor together with Luca Tangi, Project Officer in the same Unit, to present the background, the elaboration process, and the content of the draft of the "Road to the adoption of AI by the Public Sector".

The presentation first outlined the legal and policy environment of the document, which aims to be complementary with the existing activities ongoing in Europe on AI and specifically on AI in the Public Sector. This list of policy initiatives includes - but is not limited to - the "White Paper On Artificial Intelligence - A European approach to excellence and trust"⁴, the "AI Act"⁵, the 2021 review of the Coordinated Plan on Artificial Intelligence⁶, the Ethic guidelines for Trustworthy AI⁷, and the Assessment List for Trustworthy Artificial Intelligence (ALTAI) for self-assessment⁸. Moreover, Ms Manzoni highlighted the complementarity of the document with the other activities ongoing under *AI Watch*.

The "Road to the adoption of AI by the Public Sector" was presented as **an actionable plan based on concrete evidence**, supported by examples, ruled by common needs and opportunities, and in line with existing initiatives and policies at all levels. The document has the following objectives:

1. Provide an educated picture of the **State of the Art of AI in Europe**;
2. Identify **challenges and opportunities**;
3. **Outline initiatives** and activities in support of the progress of AI in the PS;
4. Provide **possible actions for key stakeholders** at all levels;
5. Identify **policy options** and **research avenues** for the future.

Beyond the legal and policy basis, the draft of the document was built on the analysis of a landscaping exercise that includes:

- A comparative analysis of the **National Strategies on AI from Members States and Associated Countries**⁹;
- A collection of AI cases around Europe and an in-depth analysis of specific uses and practices¹⁰;
- acknowledged studies in the existing literature;
- an EU-wide survey.

This **EU-wide online survey** (synthetically also referred to as "survey") targeted Member States' practitioners of public administrations at all levels for both internal use and for outreach business and citizens, with the objective of collecting data from ongoing AI-projects in the public sector in support of the recommendations. The survey included questions on the purpose of the AI-based solutions known to the respondents, the policy areas for which the solution is developed, its degree of automation, the perceived factors influencing adoption, and the perceived actual or expected impacts, risks, and likelihood of permanent implementation. To highlight the importance of this survey during the presentation Luca Tangi reported some findings in support of some of the recommendations.

Given this background, the presentation outlined the four areas in which the recommendations had been clustered:

- Area 1. Promote an **EU-value oriented, inclusive and human-centric AI** in the public sector;

⁴ White Paper on Artificial Intelligence: a European approach to excellence and trust. European Commission. White Paper, COM(2020) 65 final. European Commission, Brussels, (February 2020).

⁵ Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL LAYING DOWN HARMONISED RULES ON ARTIFICIAL INTELLIGENCE (ARTIFICIAL INTELLIGENCE ACT) AND AMENDING CERTAIN UNION LEGISLATIVE ACTS. COM/2021/206 final.

⁶ Coordinated Plan on Artificial Intelligence 2021 Review. COM(2021) 205 final.

⁷ High-Level Expert Group on Artificial Intelligence (HLEG). (2019). Ethics guidelines for trustworthy AI. <https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai>

⁸ High-Level Expert Group on Artificial Intelligence (HLEG). (2020). The assessment list for trustworthy Artificial Intelligence (ALTAI). <https://doi.org/10.2759/002360>

⁹ A first comparative analysis has been published in Misuraca, G. and Van Noordt, C., *AI Watch - Artificial Intelligence in public services*, EUR 30255 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-19540-5 (online), doi:10.2760/039619 (online), JRC120399.

¹⁰ Some of the cases are now available as Open Data. [Joint Research Centre Data Catalogue - Selected AI cases in the public sector - European Commission \(europa.eu\)](#)

- Area 2. Enhance coordinated **governance**, convergence of **regulations** and **capacity building**;
- Area 3. Build a shared and interactive AI digital **ecosystem**;
- Area 4. Applying value oriented AI **impact assessment** frameworks.

Area 1 ("Promote an EU-value oriented, inclusive and human-centric AI in the public sector") includes three recommendations:

- 1.1. Develop EU regulations to promote fair, non-discriminatory and transparent AI enabled public services for all citizens;
- 1.2. Promote the adoption of ethical principles, the development of guidelines, and mitigating measures to minimise risks of deployment of AI by governments;
- 1.3. Develop and promote dedicated projects based on co-creation approaches to increase citizens' and business confidence in the use of AI-based solutions by the public sector.

Responses of the **EU-wide online survey** indicate that only a small portion of AI-enabled solutions paid attention to the accessibility of the relevant information by the general public a finding that highlights a need for transparency, which is what motivates the recommendation 1.1 ("Develop EU regulations to promote fair, non-discriminatory and transparent AI enabled public services for all citizens"). Moreover, the survey findings show that citizens were only rarely involved in the planning (19% of the respondents) and piloting (26%) of AI-enabled solutions and that most of public administrations do not expect AI-enabled solutions to enhance citizens' influence on government actions and policies (73%). The lack of citizen involvement and co-creation is the rationale for formulating recommendation 1.3 ('Develop and promote dedicated projects based on co-creation approaches to increase citizens 'and business confidence in the use of AI-based solutions by the public sector").

Area 2 ("Enhance coordinated governance, convergence of regulations and capacity building") includes five recommendations:

- 2.1. Create an EU-wide network of governance bodies for AI in the public sector;
- 2.2. Design national and European, capacity-building programs for public sector innovators willing to adopt AI in support to the Digital Transformation of the public sector;
- 2.3. Build upon and promote the use of regulatory sandboxes, allowing experimentation of AI enabled solutions in controlled environments;
- 2.4. Optimise funding in support to AI in government to promote the spreading and scaling of reusable solutions;
- 2.5. Promote the development of multilingual guidelines and tools for public procurement of AI solutions for Public Administrations throughout Europe.

Findings from two items in the **EU-wide online survey** support recommendations in this area. A survey question on the level of government in which AI-enabled solutions are adopted shows that the vast majority of initiatives take place at national level (47 out of 58 responses), with much fewer at municipal, regional, and supranational level. This unbalance in the distribution of initiatives across levels of government calls for an increased effort to improve the coordination among Member States, and diffuse good practices of AI within the EU: this is the rationale of recommendation 2.1 ("Create an EU-wide network of governance bodies for AI in the public sector").

Findings from another item in the survey showed that digital literacy of employees using AI systems and that the presence of in-house expert AI knowledge is rather low on average (respectively 2.9/5 and 3.1/5). Survey data indicate that there is a fragmented situation, with AI projects divided almost equally between organisations with digital literacy and in-house knowledge and cases where there is a lack of these elements. This situation calls for a systemic approach, envisioned in recommendation 2.2. ("Design national and European, capacity-building programs for public sector innovators willing to adopt AI in support to the Digital Transformation of the public sector").

Area 3 ("Build a shared and interactive AI digital ecosystem; Area 4. Applying value oriented AI impact assessment frameworks") includes four recommendations:

- 3.1. Support research and knowledge creation through an “AI research and knowledge alliance” amongst European universities and R&D institutions;
- 3.2. Build a common European Data Space for Public Sector bodies and their operators, based on the compilation of relevant AI datasets throughout Europe;
- 3.3. Reinforce and advance existing initiatives on open data and interoperability;
- 3.4. Share reusable and interoperable AI components at all levels of European public administrations;
- 3.5. Create a European marketplace for GovTech solutions in support of the public sector.

Survey data on the advancement status of AI projects show that a large portion (41%) of the respondents indicate that they are involved in projects that have moved beyond the planning and piloting phases, and are already deployed. The increasing availability of deployed solutions is the necessary condition for establishing the sharing of reusable and interoperable AI components (recommendation 3.4), and for building a common European Data Space for public sector bodies and their operators, based on the compilation of relevant AI datasets throughout Europe (recommendation 3.4).

Area 4 ("Applying value oriented AI impact assessment frameworks") includes three recommendations:

- 4.1. Promote the setting up of an EU Observatory on AI, built on a Pan-European network of National AI Observatories to gather, share and collectively manage best practices and experiences from different stakeholders in the Public Sector throughout Europe;
- 4.2. Develop and apply an umbrella impact assessment frameworks based on key influencing factors to measure the impact and related use of AI in the public sector;
- 4.3. Support Green AI in the Public Sector through environmental sustainability assessments and civic engagement.

For this area, survey data point to the need for recommendation 4.3 ("Support Green AI in the Public Sector through environmental sustainability assessments and civic engagement"). In fact, the majority of survey respondents indicate that they do not expect any effect from the AI-enabled solution on the natural environment – for instance on levels of energy consumption – (63%) showing a lack of awareness on the relations between AI and environmental sustainability.

At the end of the presentation of the rationale, elaboration process, and contents of the document, Marina Manzoni highlighted how the peer-learning exercise to be carried out during the workshop should be aimed at collecting rich feedback for improvement. This feedback will allow the *AI Watch* to refine a final document build thanks to the contribution of several key stakeholders. The final document "Road to the adoption of AI by the Public Sector" is expected to be published in early 2022.

4. Feedback to the draft "Road to the adoption of AI by the Public Sector"

Chair: Rony Medaglia, Professor at the Copenhagen Business School

This session was focused on discussing the merits of the "Road to the adoption of AI by the Public Sector", and on **collecting structured feedback from participants**. The chair of this session, Rony Medaglia, presented the instructions for the group work into which the discussions would be organised. Participants were divided into **four groups**, each with the task of discussing and collecting feedback on one of the above mentioned four areas of recommendations:

Each of the four groups was assigned a moderator from the JRC team, and was instructed to nominate one of the group members as a rapporteur, who would be in charge of taking notes of the main points discussed during the groupwork session, and summarising them using a template provided by the JRC. The template consisted of a PowerPoint slide to be filled with feedback on three aspects for each of the recommendations: strengths, weaknesses, and suggestions for improvement.

The groupwork was kicked off by establishing **virtual breakout rooms**, with participants being assigned to the four virtual rooms on a random basis. At the end of the time allotted for the breakout room discussion (45 minutes), each group Rapporteur reported on the outcome of the discussions back in the plenary session.

Below is the summary of the feedback provided by each of the four groups to the recommendations included in the areas they had been assigned to, as reported by each group's Rapporteur. When a group was unable to nominate a Rapporteur, the assigned group Moderator took over the role of Rapporteur.

4.1. Feedback on recommendations in Area 1 (Promote an EU value oriented, inclusive and human-centric AI in the public sector)

In relation to **recommendation 1.1** ("Develop EU regulations to promote fair, non-discriminatory and transparent AI enabled public services for all citizens"), the group highlighted the following points:

- *Risk of over-regulation.* For many of the areas potentially affected by the impacts of AI in the public sector (e.g., privacy, fairness, the digital divide), there are already numerous pieces of legislation, guidelines, and regulations at national and at EU level, such as the GDPR. By adding additional regulations on top of existing ones without a clear and uniform view, there is a risk of over-regulating the deployment of AI in the public sector. The potentially negative outcomes can be twofold: on the one hand, unnecessary complexity in regulation would make it hard for stakeholders to lawfully navigate the path to successfully implementing AI in the public sector; on the other hand, excessive regulation would discourage innovation.
- *Slowness of regulation.* Creating new regulatory frameworks would imply engaging in a potentially lengthy cycle of law-making,. This slowness has to be taken into account when regulating AI for avoiding a stark contrast with the speed at which the field of AI for public services is evolving, making additional regulation counterproductive.
- *Excessive focus on regulation.* The presentation of recommendation 1.1 as the very first one in the document may be counterproductive, as it may unintentionally give the impression of an undue focus on a regulation-centred approach to AI in the public sector, at the expense of other efforts aimed at stimulating and facilitating its uptake.

Based on these main points, the group provided the following suggestions to improve recommendation 1.1:

- **Leverage existing regulation.** As numerous efforts at EU level have been put into providing detailed guidelines for the adoption of AI in public sector, the document should provide for a reflection on how to leverage these, rather than producing new regulations from scratch. For example, the recent proposal for a regulation of the European Parliament and the Council laying down harmonised rules on Artificial Intelligence (the "AI Act") provides detailed guidelines for AI in the public sector. Some of them are particularly insightful, such as the provision for establishing evaluation throughout and after the deployment of AI initiatives in the public sector.
- **Don't focus on technology in itself.** The recommendations should not have an exclusive focus on the technical features of AI, assuming that it is those technical features that automatically translate into impacts. AI is part of a wider, long trend of digital transformation in the public sector that includes

other technologies, and the characteristics of AI shares with this trend need to be taken into account. The document needs to not espouse a deterministic view of technology, but instead it needs to consider the AI phenomenon from a socio-technical perspective, where technology does not determine outcomes, but instead both shapes and is shaped by the complex features of the public sector, including organisational, cultural, and behavioural elements. A relevant metaphor would be that focusing on AI technological features in themselves, instead of looking at the complex interplay of factors that constitutes the phenomenon of AI in the public sector, would be the equivalent of trying to solve the issue of drunk driving by only focusing on the technical features of cars.

- **Move recommendations of Area 1 later in the document.** This would avoid giving readers an impression that regulating is more important than stimulating AI innovation.
- **Allow experimentation.** Within the boundaries of GDPR, AI regulation should allow those who are consenting to let the data handlers experiment with AI solutions.
- **Mitigate the importance of explainability in regulation.** While focusing on requirements of explainability of AI solutions is very important, regulators should keep in mind that complete explainability might be an excessively high bar. A key argument to take into account in putting it into context, is the fact that even complete explainability of human decisions is impossible, yet it is not considered such a pressing issue.

In relation to **recommendation 1.2** ("Promote the adoption of ethical principles and the development of guidelines and mitigating measures to minimise the risks of deploying AI in government"), the group highlighted the following points:

- *Unpredictability of AI developments.* As the field of AI is developing at a quick pace, it is hard to predict its developments. This can represent a challenge when considering guidelines and mitigating measures.
- *Difficulty of ex-ante impact assessments.* In some areas, such as healthcare, impacts can only be assessed after the deployment of AI solutions, and this could represent a challenge for establishing principles and guidelines for emerging AI applications.

Based on these main points, the group provided the following suggestions to improve recommendation 1.2:

- **Focus on sandboxing.** The challenges related to having to wait for full deployment of AI solutions in order to understand their real impacts can be tackled by setting up limited regulatory spaces ("sandboxes") for experimenting with AI solutions and monitoring their impacts, before a full rollout. Sandboxing should also be used to contextualise regulations of AI that might be inspired from other contexts ("Europeanising AI regulation").
- **Monitor AI over time.** Monitoring activities need to be put in place to understand AI impacts, and compare them with impacts expected before rollout.
- **Share both best and worst practices.** Best practices should be shared among public authorities in Europe to learn from success stories. However, it is equally important to share less successful experiences ("worst practices"), to avoid duplication of errors (e.g. in managing transparency and fairness), and to enable the creation of better validation tools and processes.

In relation to **recommendation 1.3** ("Develop and promote dedicated initiatives based on co-creation approaches to increase citizens' and businesses' confidence in the use of AI-based solutions by the public sector"), the group highlighted the following points:

- *Definition of co-creation.* While co-creation is indeed very important in the development of AI in the public sector, the term needs to be carefully defined. Co-creation is, in fact, an umbrella term that includes different forms of engagement (consultation, co-decision, etc.), different types of stakeholders (individual citizens, organisations, businesses, etc.).
- *Unintended consequences of co-creation.* Involving diverse stakeholders in co-creation and can have unintended consequences. For example, co-created decisions will be biased if the sample of participating citizens is not representative. Moreover, co-creation becomes impossible when citizens are unwilling to participate. For example, when developing an AI system for fraud recognition, one cannot expect fraudsters to willingly participate in co-creation of the system that is geared towards targeting them.

Based on these main points, the group provided the following suggestions to improve recommendation 1.3:

- **Consider involving of citizens from early stages.** Citizen involvement should be considered from the early stages of the design of AI-based services, in order to reap the benefits of co-creation, but also to evaluate whether co-creation is desirable at all, and at which stage. A context where co-creation is not desirable, such as when co-creation may lead to unintended consequences of co-creation, should in fact be taken into account.
- **Carefully evaluate participating samples.** The outcomes of co-creation are only as good as the participants involved in it, as confirmed by well-established practices, such as the one of citizen science. This implies that special attention needs to be dedicated to who is involved in co-creation, to ensure the representativeness of decisions taken through co-creation, and avoid biases.
- **Use co-creation to tackle big societal questions.** Co-creation can be a key tool to formulate AI-related solutions to large, complex societal questions. A good example is the United Nations' Sustainable Development Goals, the achievement of which AI-powered public services can support. In order to design, implement, and manage such solutions, technical expertise should be coupled with social science approaches that can stem from the input of a wide array of stakeholders outside government.

4.2. Feedback on recommendations in Area 2 (Enhance coordinated governance, convergence of regulations and capacity building)

In relation to **recommendation 2.1** ("Create an EU-wide network of governance bodies for AI in the public sector"), the group highlighted that a network of governance bodies is needed, but that it should be more clearly and formally stated in the document. Moreover, the EU-wide network of governance bodies for AI in the public sector could act as a **support mechanism and formalised in a regulation**.

In relation to **recommendation 2.2** ("Design national and European capacity-building programs for public sector innovators (public officials) willing to adopt AI in support to the digital transformation of public services"), the group suggested the following points:

- **Establish common content across training programmes.** Training programmes should be harmonised to include common content such as, for instance, standardisation, interoperability, AI risks, AI ethics, etc.
- **Develop contextualised dedicated training modules.** Besides common content, training programmes should also include dedicated modules for different contexts, including EU regulations, national and local regulations, etc.

In relation to **recommendation 2.3** ("Build upon and promote the use of regulatory sandboxes for Public Administrations, allowing experimentation of AI-enabled solutions in controlled environments"), the group highlighted that, since it is hard to regulate a technology that is so quickly evolving such as AI, right conditions need to be created to ensure that AI is adopted appropriately. One possibility is to adopt a **mash up approach**, by combining existing and new regulatory inputs, and by combining international and local ones.

In relation to **recommendation 2.4** ("Optimise funding in support to AI in government to promote the spreading and scaling of reusable solutions"), the group provided the following suggestions:

- **Grant a dedicated funding quota to AI in the public sector in EU programmes.** A way to ensure a steady stream of funding to the area of AI in the public sector would be to include dedicated funding quotas in existing and upcoming EU initiatives related to the public sector. Such quota should be considered a pre-condition for new programmes to be established. Funding support should be provided already at early phases of the development of AI solutions, in order to enable the necessary conditions for scaling and spreading of solution components.
- **Use international and national regional/local funds in a complementary manner.** Funding from different levels should be used in a complementary manner, and create synergies.

In relation to **recommendation 2.5** ("Promote the development of multilingual guidelines and tools for Public Procurement of AI solutions for Public Administrations throughout Europe"), the group highlighted the need to **align EU principles with Member States' laws and regulations**. A possible approach would be to devise

common EU AI procurement baseline guidelines, which provide criteria for building Member States' guidelines in compliance with EU regulations.

4.3. Feedback on recommendations in Area 3 (Build a shared and interactive AI digital ecosystem)

In relation to **recommendation 3.1** ("Support research and knowledge creation around AI for the Public Sector through the setting up of an "AI research and knowledge alliance" amongst European universities and R&D institutions"), the group highlighted the following points:

- *Europe needs to be a leader in AI research.* Given the global race to AI leadership, Europe needs to seek leadership in producing world-class research on AI in general, and on AI in the public sector in particular. European universities should focus on specific applications of AI.
- *Academic research is not the only option.* While there is a need to support research produced in European academia, should be complemented with other types of research that are able to reach a broader and more practitioner-oriented audience.

Based on these main points, the group provided the following suggestions to improve recommendation 3.1:

- **Strengthen multi-disciplinary research.** Research on AI in the public sector needs to cut across disciplinary boundaries: technical sciences, social sciences, and humanities. To this purpose, there should be less emphasis on the disciplinary belonging of particular types of schools in assigning research funding and developing research programmes.
- **Establish clear funding channels.** Access to funding linked to research on AI should be simplified, with clear channels established for supporting research centres, PhD positions, etc. Specific funding for AI for public services should be clearly signalled.

In relation to **recommendation 3.2** ("Build a common European Data Space for Public Sector bodies and their operators, building on the compilation of relevant AI datasets throughout Europe"), the group highlighted that a European Data Space would provide very valuable data sets. However, a data space should not be considered as a centralised repository, but instead as a means of opening data by stakeholders from Member States to each other. In this effort, it is important to keep in mind that anonymising data, which should be a requirement in creating a European Data Space, can be a costly endeavour.

Based on these main points, the group provided the following suggestions to improve recommendation 3.2:

- **Include reference to data trusts, data cooperatives and other new developments in civil society.** The recommendation should acknowledge and make reference to experiences of data sharing that are similar to a data space. These include data trust and data cooperatives. The recommendation should also reference other possible emerging initiatives aimed at data sharing that stem from non-governmental stakeholders in civil society.
- **Include a diverse array of data sources.** These spaces should not only include government-owned or government-generated data, but also data generated and owned by non-governmental actors -- businesses and civil society. An example of such data would be the ones generated by participants in sharing economy platforms, which could be pooled to build data assets to facilitate their operations (e.g., Uber drivers creating shared knowledge to build data assets for taxi drivers).
- **Focus on privacy-enhancing technologies.** In building a European Data Space, particular care should be put in preserving the privacy rights of participating stakeholders. To this end, a focus should be put on the adoption and use of privacy enhancing technologies, which should also be the subject of an increased research effort.

In relation to **recommendation 3.3** ("Reinforce and advance existing initiatives on open data and interoperability"), the group highlighted the following points:

- *Costs of opening up datasets.* Opening government data is often seen as a costly endeavour by public sector bodies. In addition, advantages of opening up datasets are not always clear to public managers. Moreover, data use and data analytics are not seen by governments as areas of budget priority.

- *Sensitive nature of certain types of datasets.* Given that some data are sensitive, governments are hesitant to open those datasets up. As a result of this, and of costs related to opening up datasets, some of the most important datasets might remain inaccessible.

Based on these main points, the group provided the following suggestions to improve recommendation 3.3:

- ***Find incentives to support the production and sharing of quality data.*** Given the costs and perceived risks associated with opening up datasets, public sector bodies should be provided with incentives to engage in producing and sharing high quality data. There is a need to “close the loop” on the added value of open data: if public sector organisations receive benefit from the data they provide, they would be incentivised.
- ***Educate public managers on the value of open data.*** The perception of value of opening up datasets depends on how aware decision-makers are of the potential advantages of open data. To increase such awareness, there is a need to educate and train public managers to better understand how investing in data infrastructures and sharing open data can provide organisational and societal value. This will contribute to overcome the narrative of seeing open data exclusively as an administrative burden.

In relation to **recommendation 3.4** (“Share reusable and interoperable AI components at all levels of European Public Administrations”), the group highlighted that, while sharing reusable and interoperable AI components can potentially help all public administrations move at the same pace, it can be hard to find relevant components to be shared.

Based on these main points, the group provided the suggestion to ***align AI components to problems.*** In sharing reusable and interoperable AI components, they should be organised around the policy problems they can contribute to solve. For example, a public manager looking for solutions related to health or housing should be able to browse an easily accessible directory to find helpful AI components from other Members States. Such directory should also include access to experts, standards, performance metrics, and methodologies to help less experienced public managers to draw on shared AI components in order to run a project from beginning to end.

In relation to **recommendation 3.5** (“Create a European marketplace for GovTech solutions in support to the public sector”), the group highlighted the issue that the current procurement framework discriminates against European start-ups and small and medium enterprises (SMEs) who cannot compete against the large multi-national players.

Based on these main points, the group provided the suggestion to ***establish problem-led procurement processes to give European start-ups and SMEs an advantage.*** In order for the public sector to exploit the innovative potential of the private sector in full, a problem-led procurement vehicle is needed and would give innovative and agile start-ups/SMEs an advantage, with respect to bigger companies and multi-national players. In this context, consideration should be given to the identification and development of measures to stimulate both the supply and the demand side of the European GovTech ecosystem. It was suggested to explore ways to use specific procurement framework and conditions dedicated to support European start-ups and SMEs, for example with the use of Art. 32 of Directive 2014/24/EU¹¹.

4.4. Feedback on recommendations in Area 4 (Applying value-oriented AI impact assessment frameworks)

In relation to **recommendation 4.1** (“Promote the setting up of a Pan-European network of AI observatory to gather, share and collectively manage best practices and experiences learned from different stakeholders in the Public Sector throughout Europe”), the group highlighted the following points:

- *Risk of duplicating existing monitoring efforts.* The establishment of an EU-wide network of observatories on AI in the public sector runs the risk of unnecessarily duplicating work already carried out by other, non-EU bodies. In particular, the monitoring activity carried out by the OECD.AI observatory should be mentioned in the document and taken into account.

¹¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0024>

- *Establishing AI observatories can be time consuming.* The resources and time required to gather all the data necessary to establish an effective observatory can be substantial, and need to be carefully considered.
- *Risk of evidence gaps due to a lack of overview in Member States.* The resulting datasets of monitoring activities might feature “false” gaps if there is no clear overview of activities ongoing in the Member States.

Based on these main points, the group provided the following suggestions to improve recommendation 4.1:

- ***Coordinate actions with existing observatories.*** This would avoid duplication of existing monitoring efforts, done for instance by OECD and UNESCO.
- ***Extend the scope of monitoring.*** Monitoring in the observatories should not only track the offering and use of AI solutions, but also the emergence of new technologies and new standards, and monitor barriers and needs associated with the adoption of AI in the public sector in Member States.
- ***Provide Member States with methodologies and incentives to establish observatories.*** Public authorities in each Member States should be provided guidance on how to establish observatories in the form of methodological tools to monitor AI uptake. Moreover, since monitoring efforts are resource-intensive, there should be tangible incentives for public managers to embark on monitoring activities.
- ***Provide interactive interfaces.*** The data collected by observatories should be presented with interactive features, for instance, to allow the comparison of AI solutions and tools by users.

In relation to **recommendation 4.2** (“Develop and apply umbrella impact assessment frameworks based on key influencing factors to measure the impact and related use of AI in the public sector”), the group highlighted the fact that an umbrella assessment framework that could be used across different Member States and across policy area is greatly needed. However, for such a framework to be successful there would have to be an EU-wide legislation in place to ensure compliance and a technology standard - something that is still missing as the EU “AI Act” is still not being finalised.

Based on these main points, the group provided the following suggestion to improve recommendation 4.2:

- ***Expand the array of areas included in assessing impacts.*** Impact assessment should include a multitude of areas that go beyond economic performance or citizen satisfaction. Impacts should be distinguished between technical and functional impacts. Technical impacts include elements such as technical standards, robustness, interoperability, data governance, life expectancy, cost, service level agreements, and external sourcing. Functional impacts include elements such as trust towards AI solutions, risk of people doing their job wrong (developers, etc.), outcome and reach of the solutions.

In relation to **recommendation 4.3** (“Support Green AI in the Public Sector through environmental sustainability assessments and civic engagement”), the group highlighted the fact that, while it is very important to reconcile AI and environmental impacts, it can be hard to find accountability in many AI projects, since most IT infrastructure is not provided by public sector, but by the private sector.

Based on this main point, in order to improve recommendation 4.3, the group suggested considering **the work carried out by the OECD** in previous years on Green ICT, whose main tenets are still valid. Moreover, the issue of lack of accountability could be tackled by embedding analysis of AI impacts on the environment already at the **procurement stage** of AI solutions by the public sector.

5. The way ahead at EU and national level

Chair: Marina Manzoni, Project Officer - Digital Economy Unit, JRC/B6 - European Commission.

The Chair of this session opened the floor for the presentation of the experience of adoption and use of AI in and for the public sector by three Member States: **Italy**, **Denmark**, and **Portugal**.

5.1. Member States' experiences of adoption and use of AI in and for the public sector

5.1.1. Italy

Daniela Battisti, Head of International Relations, Ministry for Technological Innovation and Digital Transition, Italy.

Dr Battisti's presentation started by showcasing some of the work carried out in 2021 by the **Italian G20 Presidency** in collaboration with the OECD, to inform discussion within the Digital Economy Task Force (DETF), which was then transformed into the Digital Economy Working Group (DEWG) in August 2021. The work consisted of three reports, titled "G20 Compendium on the use of digital tools for public service continuity"; "G20 Collection of Digital Identity practices"; and "Survey on agile regulation across G20 Members". The reports highlighted the importance of establishing reliable systems for verifying digital identities in Member States, in order to reinforce citizen trust in AI-based public sector initiatives. The experience with drafting these three reports highlighted the fact that agile regulation can be a powerful approach to AI: by establishing **regulatory sandboxes**, in fact, the need for regulating AI can be more successfully balanced with the need to stimulate innovation and experimentation in this field. Dr Battisti stressed the need for an **agile approach to regulation** for AI, citing cases where young entrepreneurs could not apply what they had developed, and ended up selling their product and expertise abroad, thus widening the gap between Europe and China/US.

Dr Battisti then argued for the need to promote digital transformation by establishing a **safe and transparent context** to secure the public sector's operations and service delivery by combating and preventing corruption. To that purpose, providing public incentives for the private sector to invest in the development of transferable skills is of key importance. In particular, Dr Battisti highlighted the importance of **promoting digital skills for women, young people, and low-skilled workers**, by establishing training and upskilling programmes.

Echoing the discussions carried out during the breakout sessions of the workshop, the presentation highlighted the important role of government in **procuring AI**. Governments, in fact, should promote sustainable growth for SMEs and micro enterprises, leveraging their role as procurers of AI solutions.

The presentation then zoomed in on initiatives taken in the area of public sector AI in Italy. In particular, reference was made to an EU-supported project launched by the Italian Revenue Agency, consisting of a **system to detect tax evasion** based on machine learning technologies. The project was referred to as a concrete example of an AI-enabled solution in the taxation area that was developed by **involving all relevant stakeholders** (taxation authorities, developers, service providers, and users), and that has been informed by a user-friendly and data-driven approach.

Summing up, the experience matured at the Ministry for Technological Innovation and Digital Transition in collaboration with the OECD has shown that digital government maturity, including common tools and enablers, are fundamental in securing governments' capacity and capability to respond effectively. In particular, digital tools and platforms (including AI-enabled ones, such as chatbots) provided an optimal way to secure the continuity of public services in the face of a major disruption, such as the one of the COVID-19 pandemic.

5.1.2. Denmark

Lasse Olsen, Policy Officer at the Agency for Digitisation, Denmark.

The presentation by Lasse Olsen focused on showing the results of the Knowledge assessment of projects of the Danish National Artificial Intelligence Uptake Fund. The **Danish National AI Uptake Fund** is an investment fund for new technologies established for the period 2019-2022 between the Danish national government, Local Government Denmark and the Danish Regions to support projects using AI to increase the quality and efficiency of key tasks in the public sector.

The goal of the knowledge assessment that has been carried out by the Danish Agency for Digitisation is threefold: to **share knowledge** between existing AI projects; to **provide knowledge** on cross-cutting challenges and input for the future joint governmental collaboration; and to **disseminate experiences** to public authorities and stakeholders. The summary of the knowledge assessment has also been translated to English.

The knowledge assessment drew on three sources of data: interviews with the managers of 15 "signature" projects (7 at municipal level, 8 at regional level), spanning the areas of health, cancer treatment, employment, administration, and welfare; desk research; and subsequent written feedback from the managers.

Findings from the knowledge assessment identified **seven areas of challenges** experienced by the projects. These areas are (in decreasing order of prevalence): insufficient quality of data; uncertainty regarding the interpretation of the GDPR; limited technical access to data; lack of access to legal expertise; difficulties in navigating ethical considerations; insufficient management support; and challenges in collaborating with suppliers.

The presentation zoomed in on the three areas of challenge perceived as most significant by the managers: the one related to data; the one related to law; and the one related to IT infrastructure.

In relation to **data**, findings of the knowledge assessment show that over half of the projects experienced a lack of technical access to data in existing systems. This happens because managers experience that the systems are not built for data extraction, or because authorities need to pay a supplier to access their own data. A specific example of this challenge is the one evidenced at the Zealand University Hospital, where managers have experienced difficulties in accessing data from the electronic healthcare record system platform (*Sundhed* platform).

In relation to **law**, the biggest perceived challenge is the interpretation of the GDPR. In particular, data from the knowledge assessment evidence difficulties in managing the usage of data for other purposes than the ones for which data was originally intended, as provided for by the GDPR.

In relation to **IT infrastructure**, findings from the knowledge assessment indicate that several projects are challenged by insufficient amounts of data, or data that is of insufficient quality. An additional challenge is the lack of data standards. For example, the Copenhagen hospital *Rigshospitalet* reports a lack of protocols for data standardisation, resulting in data naming that changes from department to department.

In conclusion, the knowledge assessment solicited recommendations from the managers involved in the projects. These recommendations are summarised in 10 items:

1. Create an overview of the data and understand the data needs;
2. Do not underestimate the need for establishing a legal basis for the project;
3. Establish an overview of existing and potential IT systems;
4. Everyone who is affected by the project should be included;
5. Make time to assemble the right project group with the necessary skills;
6. Respect data and data ethics;
7. Ensure support from the management;
8. Avoid technology fixation;
9. View AI projects as core projects in the organisation;
10. Find good collaboration partners.

5.1.3. Portugal

Paulo Quaresma, Professor, Member of the Board of Directors of the Science and Technology Foundation (FCT), Portugal.

The presentation by Prof. Quaresma focused on the initiatives related to AI in the public sector carried out in connection with **INCoDe, the Portuguese program for Digital Competences**. The presentation first introduced some information on FCT, the Portuguese Science and Technology Foundation. FCT is a public agency funding a number of AI-related research centres and associated labs, AI projects, and PhD grants and researcher contracts. The funding is assigned through open calls. In particular, in the past few years, FCT has published specific calls for projects on AI in the public administration, with the goal of attracting proposals on a wide variety of areas, and the requirement for the applying consortia to include both research institutions and a public administration. FCT currently funds around 40 projects on AI in public administration, for a total of a bit less than 10 million euro. In addition, FCT funds the use and access to advanced computing resources, including

the Portuguese Advanced Computing Network, and a recent call for the use of AI cloud services, to which public administrations are also expected to apply.

INCoDe is the main Portuguese program for Digital Competences, and consists of an integrated public policy initiative aimed at enhancing digital competences across different ministries, with the time horizon of 2030. The programme runs across five action lines: **education and training; qualification and requalification; inclusion; advanced training; and research**.

The presentation then focused on the **Portuguese national strategy for AI**, titled “AI Portugal 2030”. The national strategy includes a focus on public administration and its modernisation. A working group named “AI for the public sector” has also been established under the umbrella of INCoDe to monitor, assess, and help AI for the public sector initiatives to achieve success. The assessments carried out by the working group, it is noted, are not aimed at replacing assessments already carried out by the funding agencies.

The working group identified a total of **70 projects** on AI in the public sector started in the period 2019-2020 from open calls by the FCT, or from initiatives by the Agency for Administrative Modernization (AMA). These projects are distributed across five areas: 18 projects in the health area (for example, the project titled “Use of AI to enhance dermatological screening”, to enable skin cancer monitoring via videoconference, which is now quite close to deployment; and the project titled “Application of AI and NLP Methodologies in the Screening, Counseling and Referral Service of the phone line NHS24”, to help nurses and doctors classifying phone calls from patients); 11 projects in education (for example, the project titled “Permanent Observatory of School Dropout and School Success”); 11 projects in territory (for example, the project titled “IPSentinel Land Recognition System”); 17 projects in citizen and consumption (for example, the project titled “Detection of addiction patterns in online game”); and 13 projects in public services (for example, the project titled “BALCAT: AI for ballistics analysis”, which is an already a quite mature project).

In conclusion, the presentation summarised the main achievements of this array of activities, which are publishing the national strategy for AI, establishing the INCoDe working group, publishing open calls for AI in the public sector projects, and supporting the establishment of 70 ongoing R&D projects, which should start to be used by the public sector in 2022. The list of efforts to still be completed, on the other hand, includes closer monitoring and proactive support to the ongoing projects, focusing on the public procurement of innovation, and establishing stronger links with existing EU networks and public sector initiatives.

5.2. Summary and discussion of Member States' feedback

Rony Medaglia presented a summary of the feedback provided by the workshop participants during the previous breakout session followed by the plenary discussion.

The summary was structured along with the four Intervention Areas in which recommendations are grouped. **Five overall principles** emerged in discussions across the different Intervention Areas and across the discussion groups:

1. Avoid duplications where there is room for reusing existing resources

There are already existing initiatives on almost all aspects related to AI adoption and use in the public. Those initiatives have to be taken into account. These aspects include technology procurement, training, monitoring activities, best practices, ethical principles and regulations. It is important to build on the existing base of knowledge and practice without reinventing things that have been already discovered. This will allow Member States to avoid duplication and unnecessary waste of resources

2. Importance of training a wide array of stakeholders.

Stakeholders involved and potentially affected by AI adoption and use in the public sector are numerous and diverse. They include not only governments, but also startups, SMEs, non-governmental organisations, large corporations, and individual citizens. Each of these stakeholders needs to have the awareness and possess proper skills to tackle the complex phenomena brought about by AI in the public sector. In order to achieve this awareness and skills equipment, education and training are crucial.

3. Re-think procurement practices.

The adoption and use of AI is even more challenging when it occurs in a public sector context. One of the reasons for this is that the public sector plays the crucial role of the procurer of technology solutions, with key responsibilities towards citizen stakeholders. Traditional procurement practices are challenged by the swiftly evolving nature of AI, on the one hand, and by the fact that AI systems are very hard to inspect and assess

before their actual deployment. This calls for a fundamental re-thinking of procurement practices, to allow government to effectively play both roles of mitigating potential unintended consequences of AI, and enabling the innovation processes that it brings about.

4. Monitoring ex-ante and ex-post through observatories and experimenting via sandboxing.

Monitoring activities and impacts assessment are key in the adoption and use of AI in the public sector. There is a need for new and comprehensive indicators to understand the expected *ex-ante* and actual *ex-post* effects of AI. Given that the potential risks of full AI rollouts might be too great to be acceptable, the practice of sandboxing can represent a pragmatic strategy for the public sector to strike the necessary balance between controlling AI and enabling its potential.

5. Refine the understanding of implications of co-creation.

Co-creation is more than a buzzword. It carries in fact the potential to not only increase the transparency and democratic nature of government action, but also of leverage untapped reserves of knowledge and skills that reside outside the boundaries of government, which are required to solve complex problems. As a powerful approach, however, co-creation needs to be carefully defined, and thus designed. How to identify stakeholders to co-create with? How to avoid biases that can result from skewed participation in co-creation processes? How to govern co-creation? The EU public sector needs to provide clear answers to these questions when adopting co-creation approaches for using AI in public service delivery.

6. AI Watch for the public sector: conclusions and the way forward, announcements

Dietmar Gattwinkel, Policy Officer - eGovernment and Trust Unit, CNECT/H4 -- European Commission

Mr Gattwinkel provided **concluding remarks** to the workshop, and outlined some ways forward in the EU journey towards AI in the public sector. The 4th Peer-Learning Workshop came after two other *AI Watch* peer-learning workshops in 2020 and one in 2021, where progress made by Member States in the area of AI in the public sector has been interesting to notice and discuss. Deliverables stemming from the workshop will be completed by **early 2022**, and will include a final version of the roadmap document, besides a report on the workshop activities.

Parallel EU initiatives that are of relevance for policy on AI in the public sector include:

- a GovTech incubator as part of the Digital Europe Programme possibly creating a marketplace also for AI;
- the "Adopt AI" programme to support public procurement of AI systems;
- the Digital Urban European Twins project, which leverages the capabilities of emerging technologies, including AI, for smarter decision making;
- and the Digital Earth initiative, which aims to model, monitor and simulate Earth's natural phenomena and related human activities, and can also facilitate the uptake of AI in the public sector.

In thanking all participants for joining the 4th Peer-Learning Workshop on the use and impact of AI in public services, Mr Gattwinkel noted that not only Artificial Intelligence can bring value to the EU public sector, but **the EU public sector can also bring something to AI**. This is not only the purchasing power of public administration, but also the possibility for the public sector to showcase how to establish transparency, avoid vendor lock-in and involve citizens. These ingredients represent the perfect recipe for establishing an AI that really works for people. In this sense, the EU public sector can be a role model for the adoption and use of AI by the rest of society.

Annex

Workshop Agenda

09:00 – 09:30	<i>Connecting to the system, testing the connection, video and sound</i>	
09:30 – 10:30	Introduction and presentation of the latest research results <i>Chair: Eva Martinez Rodriguez, Digital Economy Unit, JRC/B6 - European Commission</i>	
09:30 – 09:40	Welcome from the host Objectives and agenda	Carlos Torrecilla Salinas , Head of Unit, Digital Economy Unit JRC/B6 - European Commission
09:40 – 10:20	Presentation of the draft "Road to the adoption of AI by the Public Sector"	Marina Manzoni & Luca Tangi , Digital Economy Unit, JRC/B6 - European Commission
10:20 – 10:30	Short break	
10:30 – 12:30	Participants' discussion & feedback on research results <i>Chair: Rony Medaglia, Professor at the Copenhagen Business School – AI Watch expert</i>	
10:30 – 10:40	Workshop Organisation Instructions	
10:40 – 11:30	Breakout sessions: feedback to the draft "Road to the adoption of AI by the Public Sector"	
11:30 – 12:20	Plenary meeting: reporting from breakout sessions	
12:20 – 12:30	Short break	
12:30 – 13:30	The way ahead at EU and national level <i>Chair: Marina Manzoni, Digital Economy Unit, JRC/B6 - European Commission</i>	
12:30 – 13:00	Member States' experiences of adoption and use of AI in and for the public sector	Daniela Battisti , Italy – Minister for Technological Innovation and Digital Transition Lasse Olsen , Denmark – Policy Officer of Artificial intelligence at the Danish agency for Digitisation Paulo Quaresma , Portugal – FCT, Foundation for Science and Technology
13:00 – 13:20	Summary and discussion of Member States' feedback	Rony Medaglia , Professor at the Copenhagen Business School – AI Watch expert
13:20 – 13:30	AI Watch for the public sector: conclusions and the way forward, announcements	Dietmar Gattwinkel , Policy Officer – eGovernment and Trust Unit, CNECT/H4 -- European Commission
13:30	<i>End of online workshop</i>	

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