



Initial summary¹ of key findings from the Joint Theme Development Workshop “AI in the Public Sector”

- The first Joint Theme Development Workshop (TDW) co-organised by [CLAIRE](#), [TAILOR](#) and [VISION](#)² on “AI in the Public Sector” took place on the 7th and 9th of September 2021 and aimed to develop and identify the most promising and emerging AI topics in the public sector.
- At this two half-day workshop, experts from public and governmental institutions, industry and academia jointly developed initial input for the European AI research and innovation roadmap.
- A welcome message was provided by Ammar Alkassar (State Commissioner for strategy, CDO & CIO at the Saarland State Government) who stressed the importance of AI in government and the ongoing digitization of public services, as the COVID-19 crisis has once again clearly shown; he also pointed out that Trustworthy AI as well as security aspects are crucial for having the acceptance of new solutions by public administrations and citizens.
- Inspired by introductory speeches and presentations from selected experts, the participants actively discussed a wide variety of topics during the breakout sessions and shared their main results in the subsequent plenary presentations. Furthermore, some initial ideas for follow-up activities and further collaborations were identified.

Attendance and audience

- The high international interest that was expressed in response to the announcement of the AI in the Public Sector TDW, translated into excellent attendance of the event: In total, 56 participants joined the two workshop days, with around 1/3 of participants being female.
- Twelve countries were represented in the workshop, with most participants coming from EU countries, but also important participation from non-EU countries such as the UK.
- Academia and the public sector/industry were almost equally represented, with 43% of participants being high-level researchers and 57% being managers from public institutions and industry.

¹ This initial document contains a first summary of the key results from the Theme Development Workshop. A more detailed report will be generated in the next weeks and be published via the organiser’s websites to make the results available to a broader audience, and the European AI community in particular.

² In alphabetical order.



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- The workshop also caught the attention of high-level political institutions, thus representatives of the European Commission, the United Nations Interregional Crime and Justice Research Institute (UNICRI), the UK Office for National Statistics, the State Chancellery of Saarbrücken, the Den Haag Ministry of Interior & Kingdom Relations, City of Amsterdam, and City of Frankfurt/Main joined the workshop.

The first day: Focus on application areas

- The TDW was opened by the Co-Chairs Silke Balzert-Walter ([German Research Center for Artificial Intelligence, DFKI](#)) and Freek Bomhof ([TNO](#)) on behalf of the Organising Committee (OC), which included further representatives from [CBS](#), [CLAIRE](#), [Engineering Ingegneria Informatica](#), [FBK](#) and [Intellera Consulting](#); they outlined the objectives of the TDW as well as the agenda and programme for the two days.
- The first day of the TDW was focussed around application areas for AI in the public sector; the topics for the breakout sessions were prepared by the OC, and the community had the opportunity to suggest further topics via an online form before the workshop.
- The first introductory presentation by Daniel Sarasa Funes (Director of Fundación Zaragoza Ciudad del Conocimiento) provided an interesting insight into the 'Etopia Centro de Arte y Tecnología', a flagship urban lab focused on experimentation, participation and cooperation for the development and testing of sustainable innovation and transformation processes in cities; he also stressed the importance of accountability for AI in the public sector, because municipalities are the institutions closest to citizens.
- The second introductory presentation by Rasmus Hauch and Christine Kvist (CTO and Public Sector Lead of 2021.AI) outlined the specific perspective of an AI startup/scale-up providing services to the public sector; they also provided some unique insights to ongoing activities in Denmark as well as an overview of potential use cases in the public sector (e.g., chatbot assistance, AI assisted tax calculations).
- Breakout session 1 mainly focussed on a fundamental tension in **law enforcement** as well as some first ideas on how to address this issue: Combining of data across different public organisation and private actors, and the building of AI-enabled tools, is increasingly necessary to combat new forms of (cyber)crime, but at the same time, this sharing and AI system development creates incredibly powerful tools that, if used without care/principle, for the wrong reasons or problems or in the hands of the wrong actors, may lead to serious forms of harm.
- In breakout session 2, the experts discussed the key future innovative AI technologies for the planning and management of **urban mobility** for citizens, civil servants and decision-makers. The discussion covered various concepts and topics, from the availability of data to the transparency and trust of solutions to be adopted by the public sector.



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- Breakout session 3 looked at the topic of AI for **reliable statistics**, accordingly how to guarantee the quality of the used data was an important topic, including how to define certain quality aspects that need to be taken into account for the reliability of statistics; another key element addressed in this session was the role to produce trustworthy and transparent statistics.
- Breakout session 4 focused on the **next generation of public services** based on AI, mainly addressing a seamless interaction of the user with the services provided by public administrations and authorities; the experts discussed the need for transparency for the acceptance by the user and also some barriers which need to be overcome by the authorities.
- In breakout session 5 several challenges that the public sector faces in **attracting talents** and **empowering their employees** to provide AI-based solutions were discussed; this included some specific needs for AI training and upskilling programmes, and how these needs could be aligned with existing academic activities.

The second day: Focus on Trustworthy AI

- The second day of the TDW changed the perspective towards horizontal topics of AI spanning many application areas; in particular, the discussions were focussed on different aspects of Trustworthy AI, including some topics for breakout sessions which emerged during the first workshop day.
- This perspective was taken up and further elaborated on by Andrea Renda (Senior Research Fellow and Head of Governance, Innovation & Digital at the Centre for European Policy Studies, CEPS) in his introductory presentation, including some insights into the work of the High-Level Expert Group on AI that has designed the Ethics Guidelines for Trustworthy AI; based on this, he introduced the three pillars of Trustworthy AI – lawful AI, ethical AI and robust AI – as well as the four key ethical principles any Trustworthy AI systems should have: (1) respect for human autonomy, (2) prevention of harm, (3) fairness and (4) explicability.
- The second introductory presentation by Marieke van Putten (Senior Innovation Manager at the Ministry of the Interior & Kingdom Relations Den Haag), pointed out the evolution towards more complex AI solutions in the public sector, with a variety of different inputs, levels of complexity and types of applications; she also provided interesting insights about the work on Trustworthy AI in the Ministry of the Interior & Kingdom Relations in The Hague.
- Breakout session 1 continued the discussions from the first day around **reliable statistics**, while shifting the focus to include more generic monitoring instruments for AI. The experts identified five key elements for monitoring AI usage and accountability in this area: (1) a certification approach (including governance) as a suitable area to consider for trustworthy AI applications, (2) research into possible uses of an algorithm register to improve transparency of AI, (3) the possibility of



making source code available to the public (open source), (4) measuring the performance of AI ecosystems and (5) how diversity and bias can be measured.

- The second breakout session was focussed specifically on **Transparency**, and the experts discussed mainly – but not only – about data transparency. One of the main takeaways of the session was, that there are many facets and requirements to fully implement transparency which should be accomplished together with all involved stakeholders.
- Breakout session 3 was focussed around a more **systemic analysis of AI effects**, a topic that came up during the first workshop day; one of the main insights was, that considering AI technology alone is not sufficient, but a more systems-based approach is necessary, also in order to guarantee system safety for example; as one idea to address this, sandboxes to reproduce some algorithmic decisions were discussed.
- The fourth breakout session addressed the topic of **Public Trust in AI**, which was also discussed frequently during the first day. The experts identified four important topics/actions which have to be taken into account to achieve a beneficial use of AI: (1) Ensure trustworthiness at both the technical and process levels, (2) education of the public, the professional users, and developers/designers in AI, (3) better communication and explanation of the term AI and (4) development of a life-cycle approach.
- The discussions in breakout session 5 were centered around the topic, how the **public and private sector** can effectively **collaborate**, including how to balance the necessary public requirements with the justified needs of private companies; one idea of the experts was to develop structured innovation partnerships between the public and private sector in order to enhance the collaboration, facilitating the co-creation and co-development of AI applications.

Outlook and next steps

- The results of the TDW will be further analysed by the Organising Committee in order to
 - ❖ generate the final report about this first Joint Theme Development Workshop,
 - ❖ derive some input for the European AI research and innovation roadmap,
 - ❖ develop some ideas for concrete follow-up activities, within and beyond the TAILOR network and VISION project.
- Many participants expressed interest to connect and stay in touch with each other after this initial TDW. The organisers will facilitate this, for example by providing a dedicated channel on the Mattermost installation for the European AI Community (via the [VISION project](#)).

The organisers would like to thank all participants for their valuable input and contributions to the Theme Development Workshop!