



*AI Watch*

# 4th Peer-Learning Workshop on the use and impact of AI in the public sector

**Presentation of the draft  
*Road to adoption of AI by the Public Sector***

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*Economy Unit, JRC/B6 – European Commission*

28<sup>th</sup> October 2021

Joint  
Research  
Centre

*The views expressed are those of the author and may not in any circumstances be regarded as stating an official position of the European Commission.*

# Road to the adoption of AI by the Public Sector: rationale and legal basis



**Berlin Declaration  
on  
Digital Society and  
Value-Based Digital Government**

at the ministerial meeting during the  
German Presidency of the Council of the European Union  
on 8 December 2020



**A European approach to Artificial Intelligence**

***WHITE PAPER On Artificial Intelligence - A European approach to excellence and trust***

***An EU Strategy***

***A proposal for a Regulation of AI***

***A Coordinated plan for AI 2021 review***

***Ethic guidelines for Trustworthy AI***

***Assessment List for Trustworthy Artificial Intelligence (ALTAI) for self-assessment***

***AI Watch: Observatory from the EC***



# AI Watch – the Knowledge Service to monitor the Development, Uptake and Impact of AI for Europe



AI for the public sector



AI Landscape and Dashboard



Strategic Actions and Coordination



AI History Timeline



European Policy on AI



A Storymap on AI in Europe



# Road to the adoption of AI by the Public Sector: *Content baseline and Scope*

**Building on** the results from the analysis of the **landscaping exercise**

- ***National Strategies*** from Members States and Coordinated Plan signatory Countries
- Identified ***AI cases on use and practices***
- Acknowledged ***studies and research literature***

**Supported by** *EU wide Survey*

# Road to a better use of AI for and by the Public Sector: *Content outline*

## Main sections of the Roadmap:

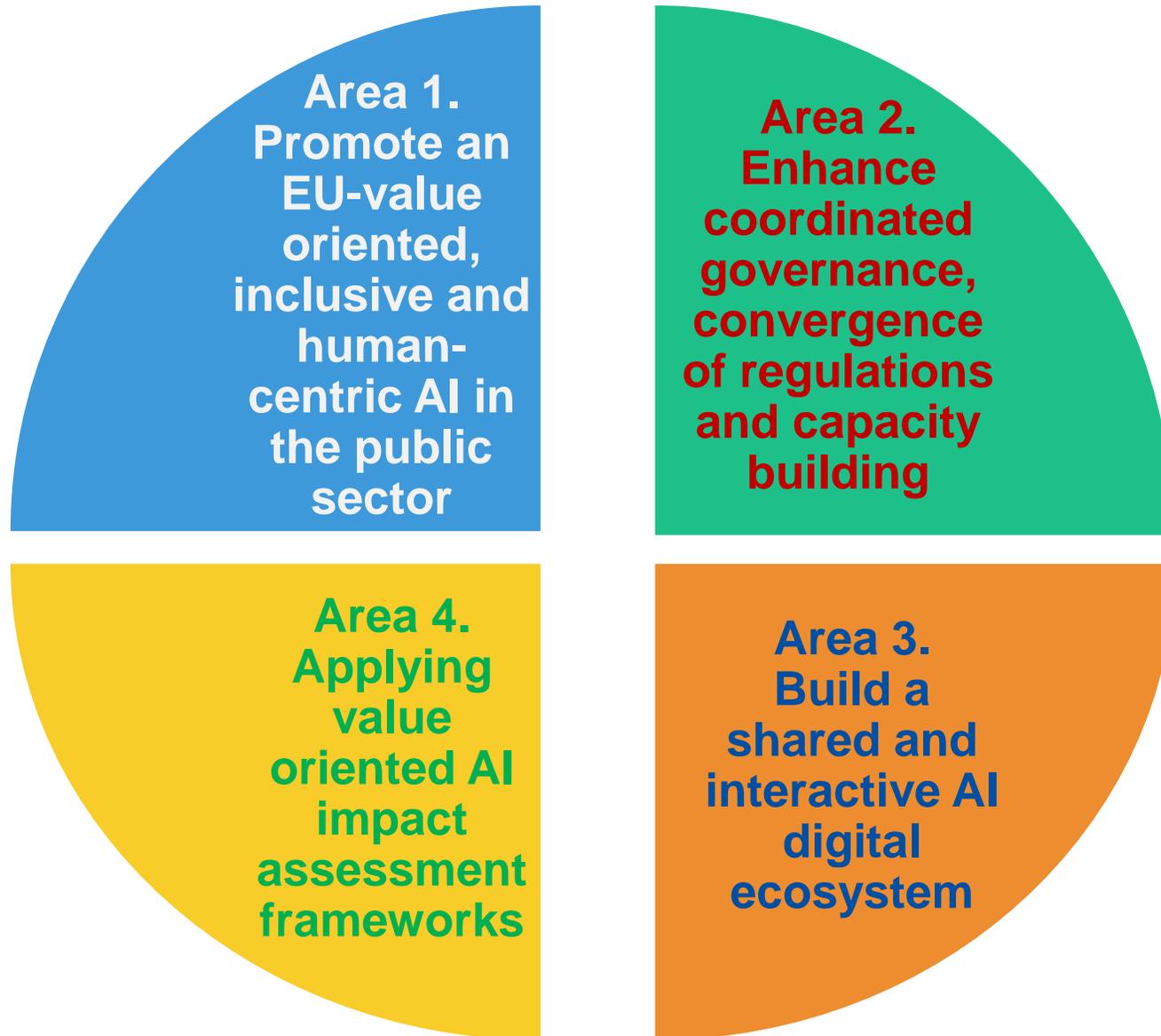
- **Introduction:** rationale to the issue at stake, the context and policy background at European level, AI used definition, and peculiarity of the Public Sector
- Identified **areas of interventions** around which the different recommendations are clustered
- A set of **recommendations** and related **actions** to the benefit of Policy makers, Public Administrators and practitioners

# ***SURVEY*** on AI Adoption and use of AI by the PS: from on-going projects throughout Europe

- **Objectives**  
Collect data from ongoing AI-projects in the Public Sector in support to the recommendations
- Targeted **actors**: MS practitioners of Public Administrations at all levels for both, internal use and for outreaching businesses and citizens
- **Key dimensions**: purpose of the AI based solution, areas, degree of automation, perceived adoption factors and impact, associated risks, likelihood of appropriation

***leading to the resulting recommendations***

# Road to the adoption of AI by the Public Sector: *Areas of interventions*



# Road to the adoption of AI by the Public Sector: *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 minimize 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*

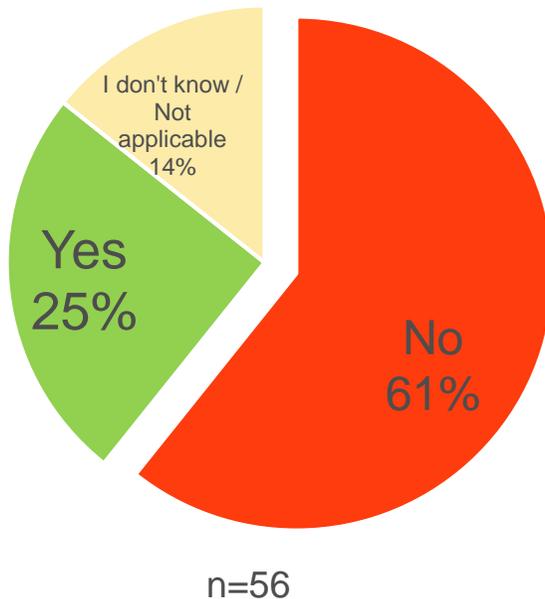
**Area 1.**

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

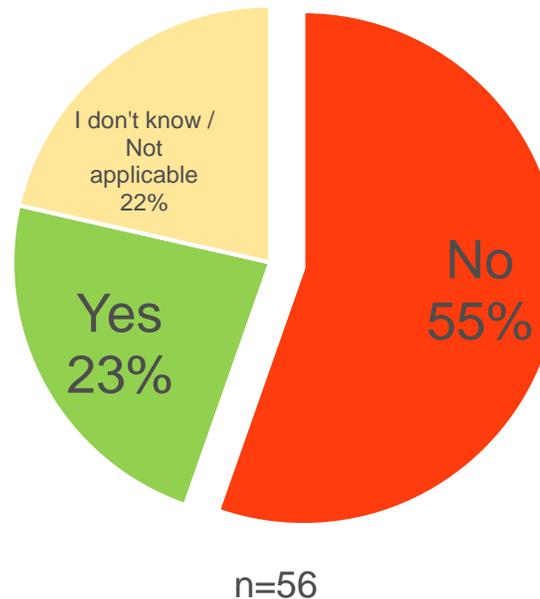
# Area 1. Can the following parts of the AI-enabled solution be **accessible by the public**?

Only a small portion of AI-enabled solutions paid attention to the accessibility of the relevant information by the general public

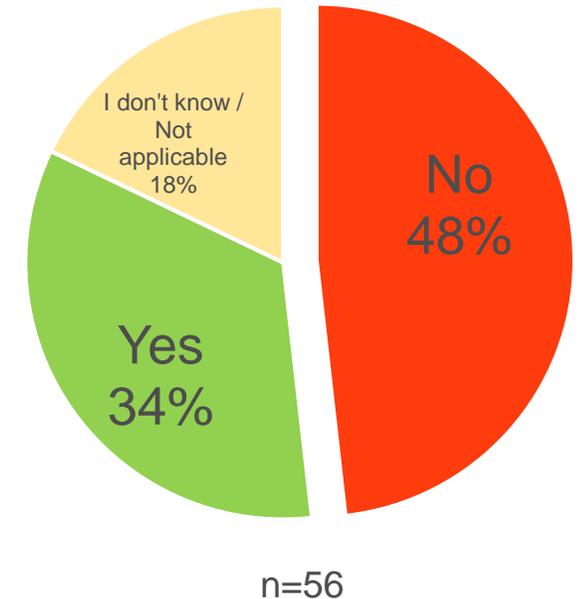
## The input data



## The processing algorithm



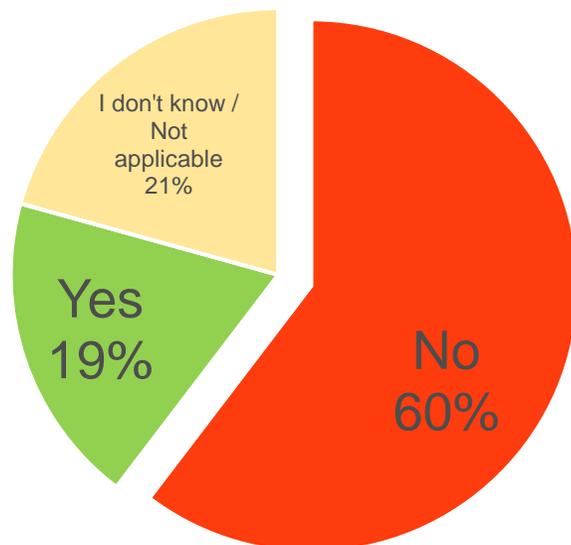
## The output data



# Area 1. Were citizens involved during the different phases of the AI-based solution?

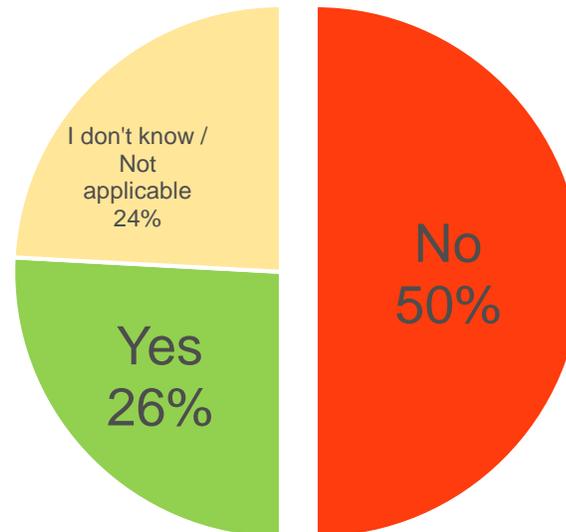
Rarely were citizens involved in the planning and piloting of AI-enabled solutions

## Planning phase



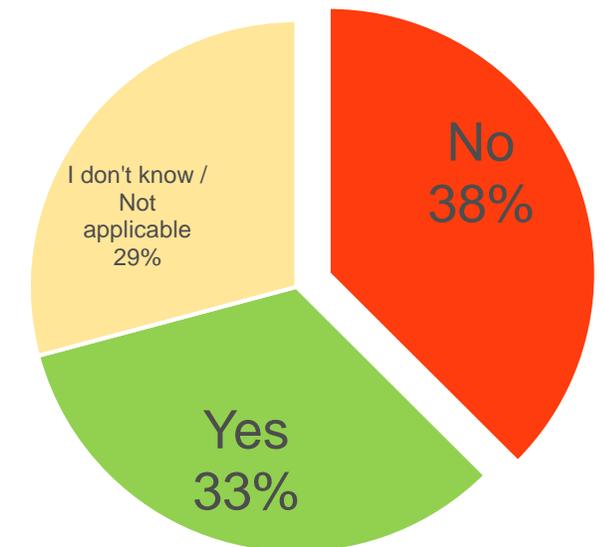
n=58

## Piloting phase



n=58

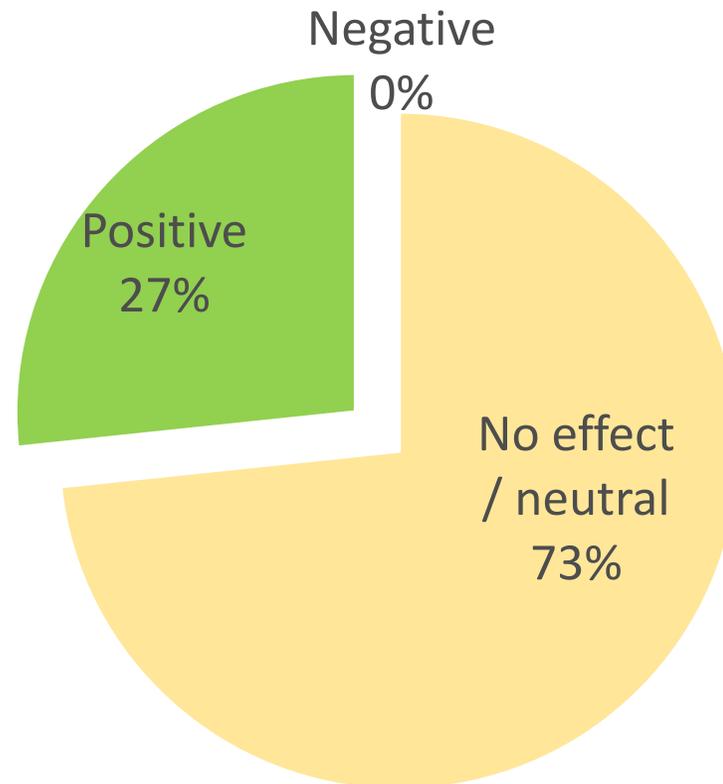
## Deployment phase



n=24

# Area 1. In your opinion, what is the **expected effect** of the AI-enabled solution on citizens' **influence** on government actions and policies?

Most of public administrations do not expect AI-enabled solutions to enhance citizens' influence on government actions and policies



n=45

# Road to the adoption of AI by the Public Sector: *Recommendations Area 2*

**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

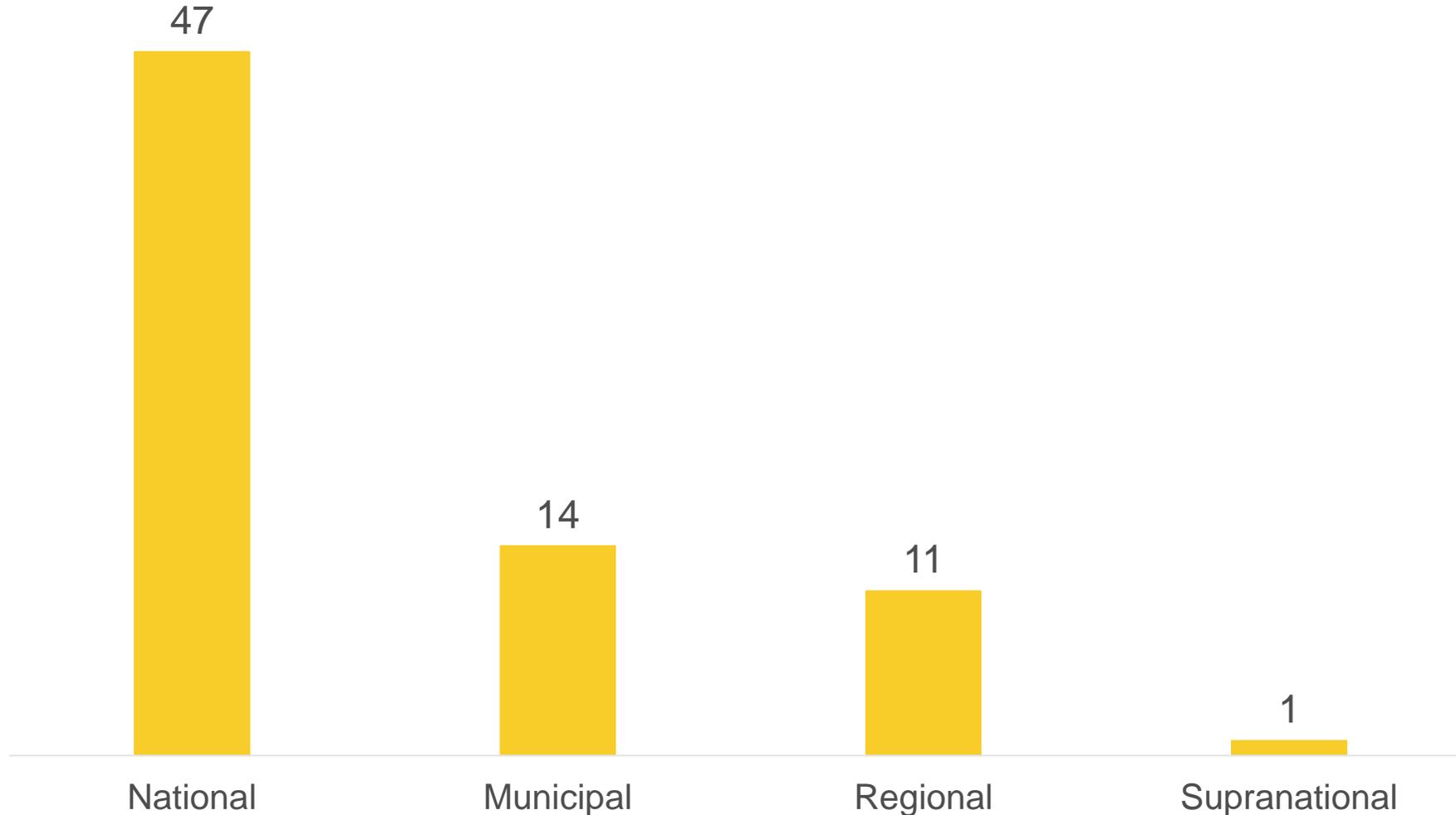
**2.3** Build upon and promote the use of **regulatory sandboxes**, allowing **experimentation** of AI enabled solutions in controlled environments

**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

**Area 2.**  
**Enhance coordinated governance, convergence of regulations and capacity building**

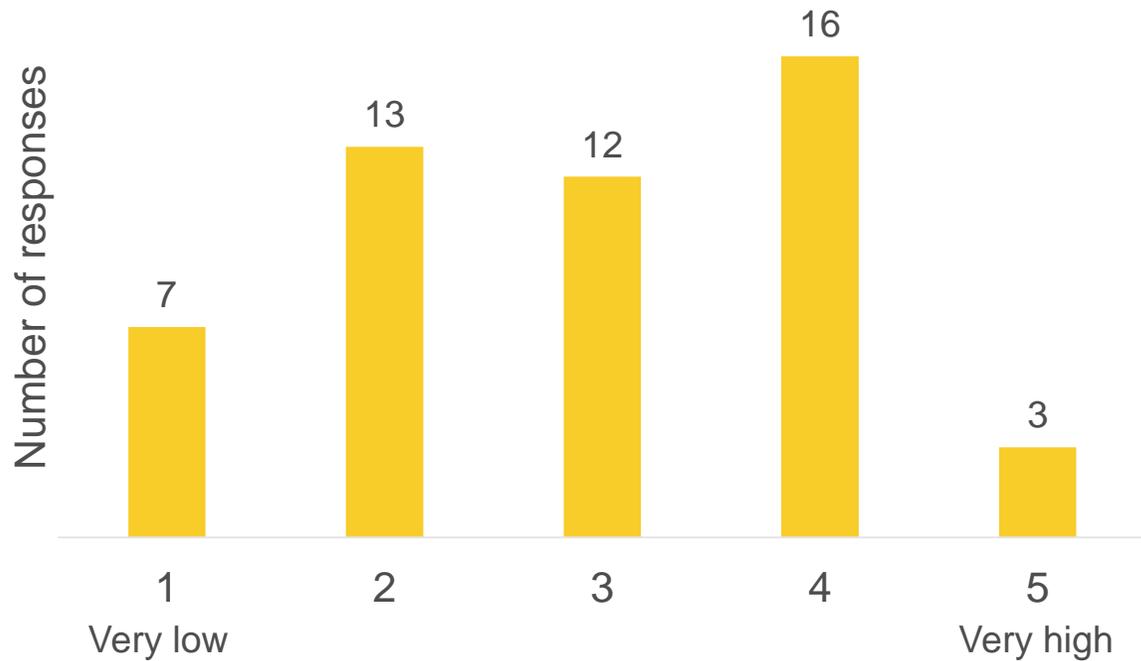
## **Area 2.** In which **level of government** does the AI-enabled solution take place?



9 multiple questions  
n=58

## Area 2. How would you assess the availability of the following resources in the organisation?

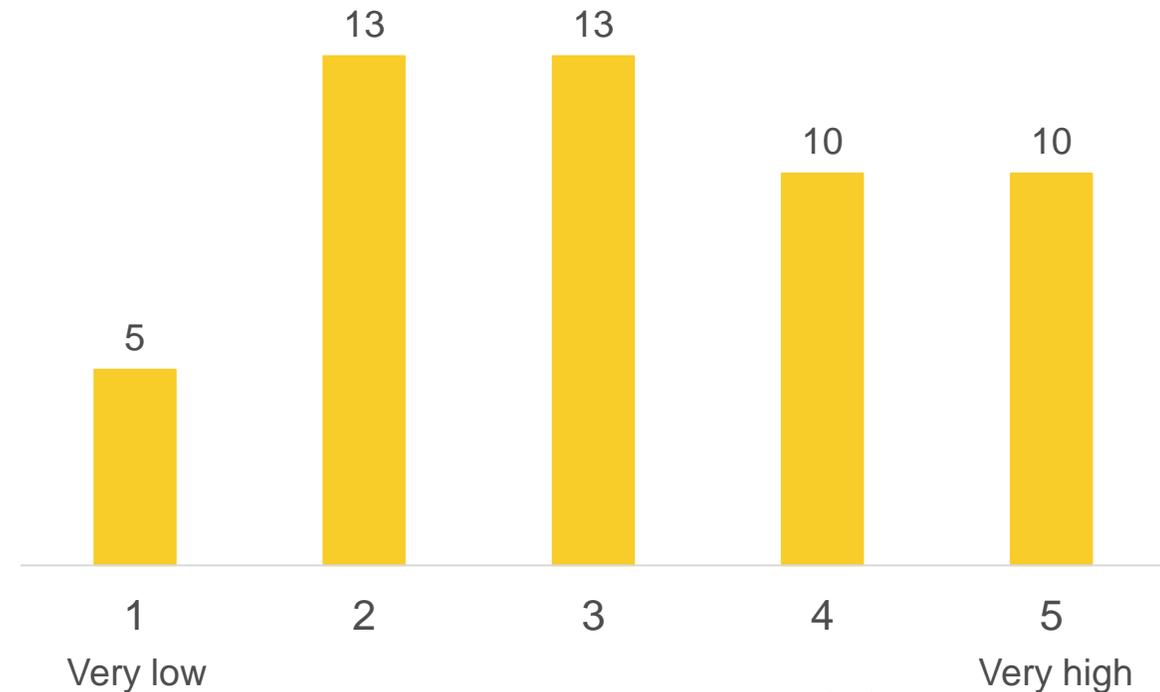
Digital literacy of employees using AI systems



Average: 2.9

n=51

In-house expert AI knowledge



Average: 3.1

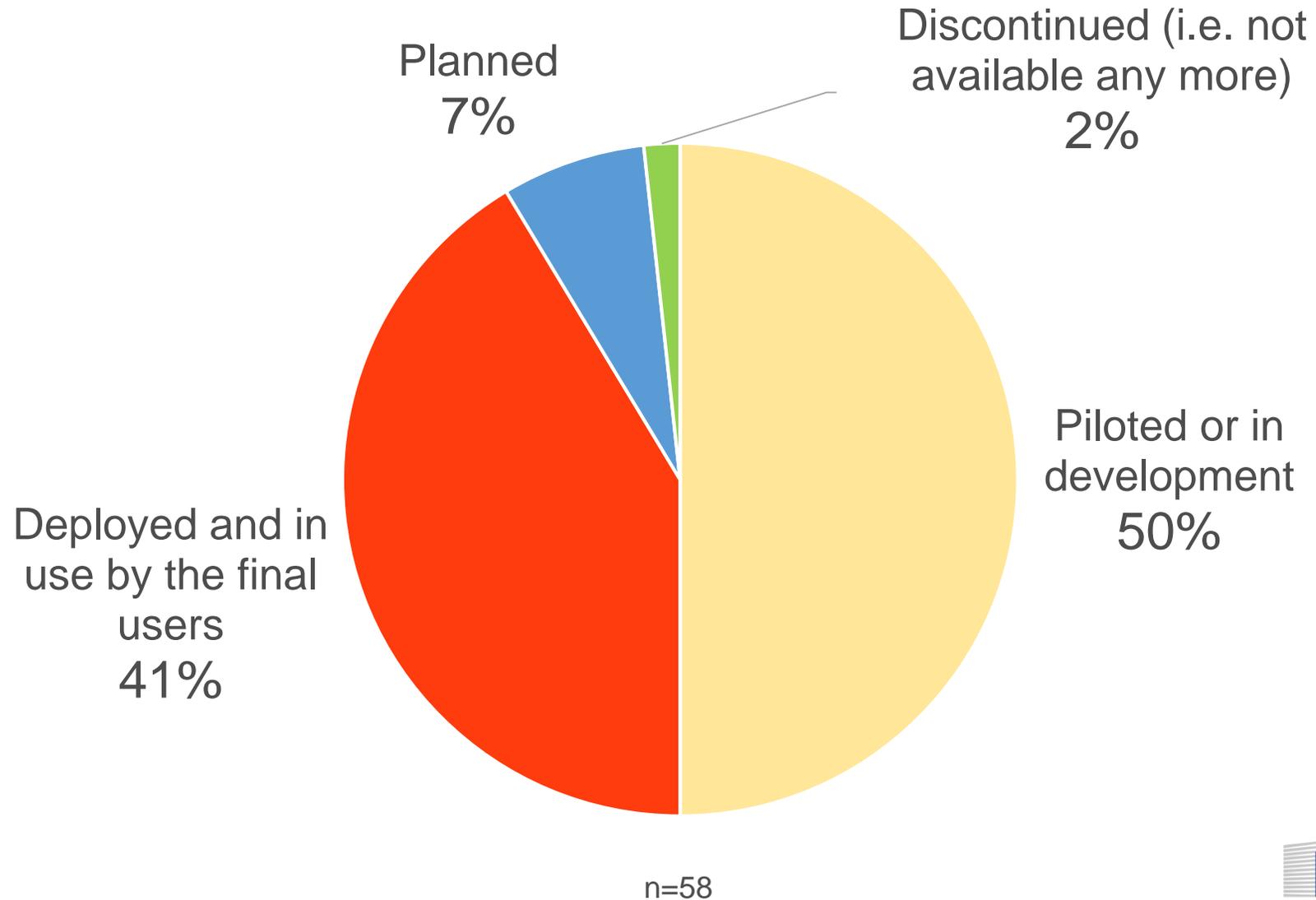
# Road to the adoption of AI by the Public Sector: *Recommendations Area 3*

- 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*
- 3.4** *Create a European **marketplace for GovTech** solutions in support to the public sector*

## Area 3.

**Build a shared and interactive AI digital ecosystem**

## Area 3. What is the current **status** of the AI-enabled solution?



# Road to the adoption of AI by the Public Sector: *Recommendations Area 4*

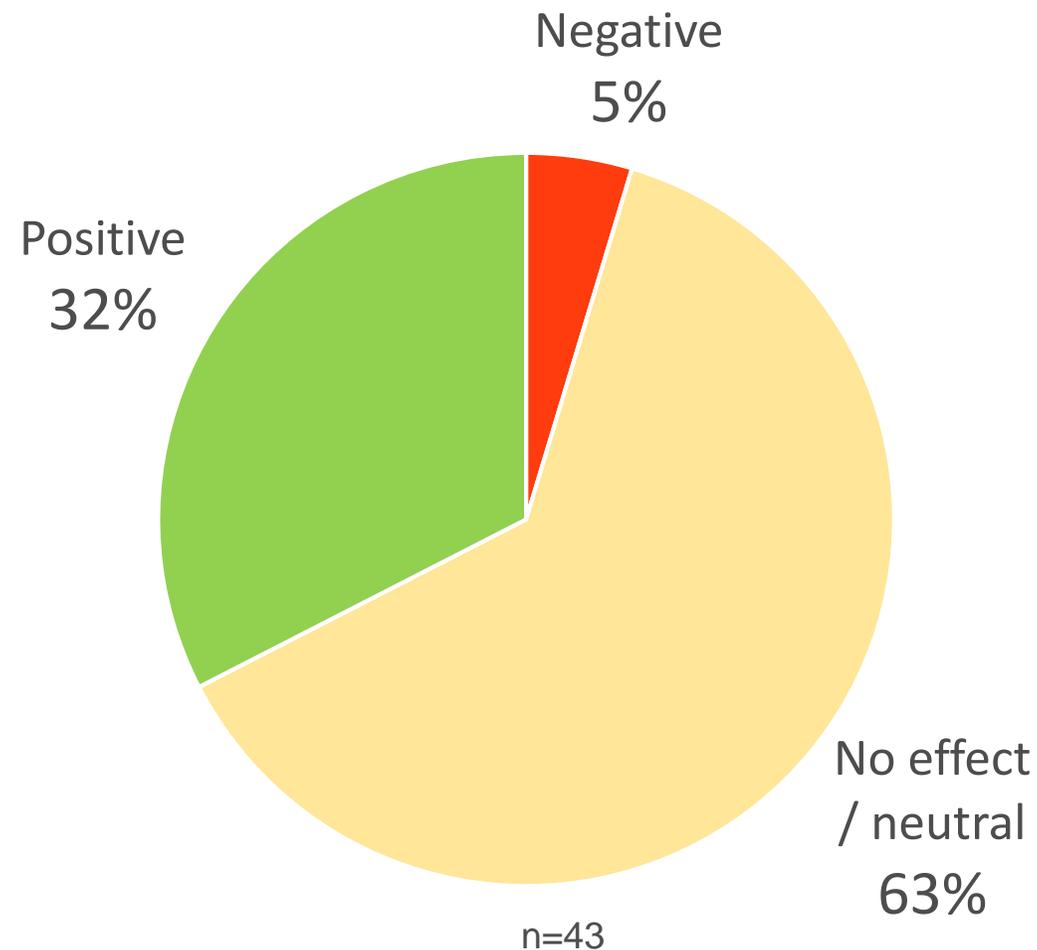
**4.1** *Promote the setting up of an **EU Observatory on AI**, built on a Pan-European network of **National AI Observatories** to gather, share and collectively manage best practices and experiences from different stakeholders in the Public Sector throughout Europe*

**4.2** *Develop and apply **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*

**Area 4.**  
**Applying value oriented AI impact assessment frameworks**

**Area 4.** In your opinion, what is the **expected overall effect** of the AI-enabled solution on the natural environment (e.g., energy consumption)?



# Road to the adoption of AI by the Public Sector: *Recommendations and related actions*

- To be regarded as ***Reference Framework***
- Is proposed starting point for ***discussion with stakeholders***
- Further ***complemented at*** operational regulatory and policy level
- Jointly ***Experimented &***
- Thoroughly ***Contextualised***
- Continuously ***updated***
- at ***all levels*** throughout *the value chain*

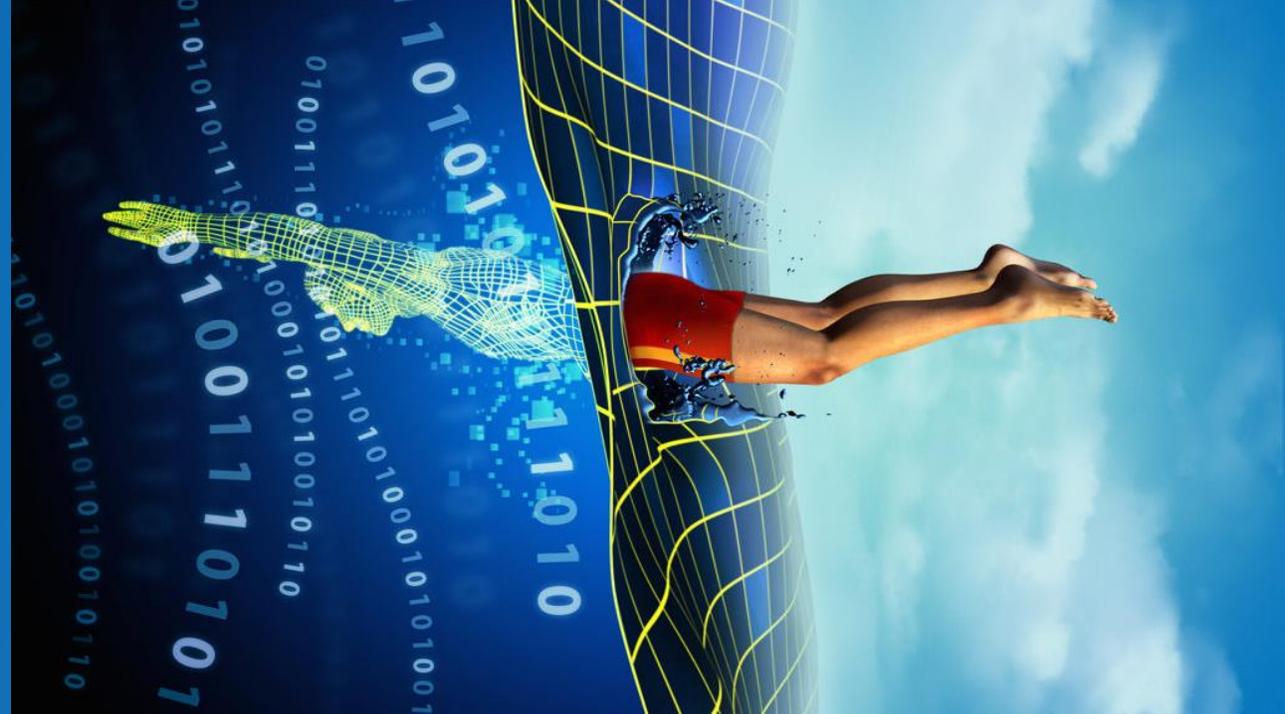
# *Road to a better use of AI for and by the Public Sector: Next Steps*

## Step-wise, **collaborative approach**

- Peer-learning exercises and validation workshop
- Feedback from MSs and Stakeholders till end of November
- Final draft December 2021

*...just the beginning of the journey*

# Thank you



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*AI Watch*

# 4<sup>th</sup> Peer-Learning Workshop on the use and impact of AI in the public sector

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

**Workshop instructions**

*Rony Medaglia, Professor at the Copenhagen Business School, AI Watch Expert*

*28 October 2021*

Joint  
Research  
Centre

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

## Workshop schedule

- 10:30 – 10:40 (10 minutes) – Workshop instructions
- 10:40 – 11:30 (50 minutes) – Breakout group session
- 11:30 – 12:20 (50 minutes) – Plenary session, reporting from the breakout groups
- 12:20 – END

- *Develop EU regulations to promote fair, non-discriminatory and transparent AI enabled public services for all citizens*
- *Promote the adoption of ethical principles the development of guidelines and mitigating measures to minimize risks of deployment of AI in government*
- *Develop and promote dedicated initiatives based on co-creation approaches to increase citizens' and business confidence in the use of AI-based solutions by the public sector*

**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**

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

- *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*
- *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*
- *Support Green AI in the Public Sector through environmental sustainability assessments and civic engagements*

**Area 4. Applying value oriented AI impact assessment frameworks**

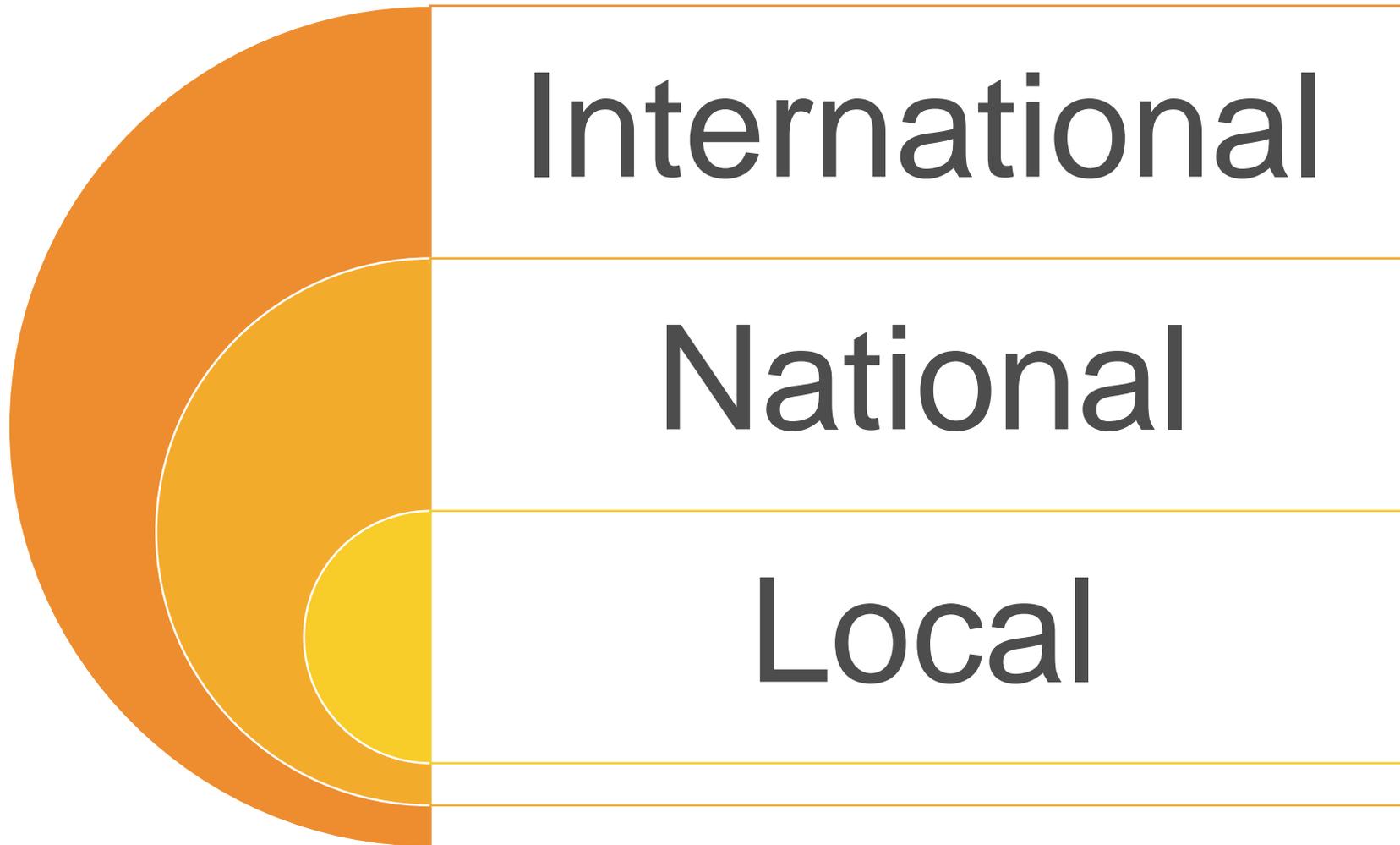
**Area 3. Build a shared and interactive AI digital ecosystem**

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

## Breakout group session (50 minutes): 10:40 – 11:30

<b>Group number</b>	<b>Intervention Area</b>
Group 1	Intervention Area 1: Promote an EU value oriented, inclusive and human-centric AI in the public sector
Group 2	
Group 3	Intervention Area 2: Enhance coordinated governance, convergence of regulations and capacity building
Group 4	
Group 5	Intervention Area 3: Build a shared and interactive AI digital ecosystem
Group 6	
Group 7	Intervention Area 4: Applying value-oriented AI impact assessment frameworks
Group 8	

# Road to the adoption of AI by the Public Sector: *level of interventions* -some examples



# Breakout group session (50 minutes)

- Each participant is **automatically assigned** to a group (group 1 to 8)
- You need to accept the breakout group invitation by clicking on "**join**"
- One **rapporteur** per group nominated by the other group members
- One pre-assigned **moderator** from the JRC team will be present in each group
- The group **discusses** with the help of the JRC moderator
- The rapporteur **fills in the template in the slides** (available on the AGM website) with feedback on all the recommendations within the assigned Intervention Area:
  - **Strengths** of each recommendation
  - **Weaknesses** of each recommendation
  - **Suggestions** on how to improve each recommendation

# Breakout group session (50 minutes)

- Please **keep your camera** on whenever possible
- The breakout rooms will be **automatically closed** after 50 minutes
- The rapporteur prepares a 3-minute presentation of the outcome of the discussion and send its via mail to Rony Medaglia (**rony@cbs.dk**)



*AI Watch*

# 4<sup>th</sup> Peer-Learning Workshop on the use and impact of AI in the public sector

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

Group rapporteur notes

28 October 2021

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## Group 1– Intervention Area 1:

### Promote an EU value oriented, inclusive and human-centric AI in the public sector

Recommendation	Strengths	Weaknesses	Suggestions for improvement
1.1 Develop EU regulations to promote fair, non-discriminatory and transparent AI enabled public services for all citizens		<ul style="list-style-type: none"><li>• Risk of stacking up regulations (e.g., SIRI case in Netherlands)</li><li>• Regulations take a long time</li></ul>	<ul style="list-style-type: none"><li>• Look at existing regulation (e.g. AI act that also foresees evaluation after deployment)</li><li>• Don't focus on the technology itself ("focusing on cars instead of drunk driving")</li></ul>

# Group 1 – Intervention Area 1: Promote an EU value oriented, inclusive and human-centric AI in the public sector

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>1.1 Develop EU regulations to promote fair, non-discriminatory and transparent AI enabled public services for all citizens</p>		<ul style="list-style-type: none"> <li>• Risk of stacking up regulations/over-regulation restricting progress</li> <li>• Why do we start the recommendations with restrictions?</li> </ul>	<ul style="list-style-type: none"> <li>• Move Intervention Area 1 later in the text</li> <li>• Put emphasis on not restricting progress without also including analysis of <i>positive</i> impacts</li> <li>• Have a look first at regulation already applied to existing processes (non-AI based) to evaluate positive or negative impacts</li> <li>• Allow those who are consenting to experiment to let the data handlers experiment with AI solutions (a “democratic” approach). See GDPR</li> <li>• Highlight explainability (but do we ask for explainability in existing political processes?)</li> <li>• Highlight the liability issue for government in making the decision whether to use software</li> </ul>

## Group 1– Intervention Area 1:

### Promote an EU value oriented, inclusive and human-centric AI in the public sector

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>1.2 Promote the adoption of ethical principles and the development of guidelines and mitigating measures to minimize the risks of deploying AI in government</p>		<ul style="list-style-type: none"><li>• AI as applied math – how do you put IP on math??</li><li>• Impossibility to anticipate developments of AI</li><li>• In some cases (e.g., healthcare) you can only assess impacts after deployment. Need for sandboxes to monitor before deployment</li></ul>	<ul style="list-style-type: none"><li>• Focus on procurement and pre-procurement (e.g., sandboxing)</li><li>• Should public sector organizations engage with solutions by private sector (under IP)?</li><li>• Monitoring AI over time</li><li>• Criteria for accepting/rejecting an AI application</li><li>• “Europeanisation” of AI regulation</li><li>• Identify potential areas with damage</li><li>• Need for best (and worst) practices to see actual cases of transparency, fairness, etc. in order to create e.g., validation tools and processes</li></ul>

# Group 1– Intervention Area 1:

## Promote an EU value oriented, inclusive and human-centric AI in the public sector

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>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.</p>	<ul style="list-style-type: none"><li>• Co-creation very important (e.g., library of Helsinki)</li></ul>	<ul style="list-style-type: none"><li>• Very general in defining co-creation (if the team is biased the result will also be biased)</li><li>• How to involve citizens that do not want to (e.g., fraudsters in AI fraud recognition)?</li></ul>	<ul style="list-style-type: none"><li>• Focus on involvement of citizens from the beginning (design of AI-based services)</li><li>• Focus on social science approaches (e.g., the big society questions; highlight positive futures)</li><li>• Highlight the need for explainability</li><li>• Pay attention to the choice of citizens, there are ethical implications</li><li>• Consider context where co-creation is not desired</li><li>• Mention citizen science</li><li>• Highlight the importance of training</li><li>• Mention SDG</li></ul>

## Group 2– Intervention Area 2: Enhance coordinated governance, convergence of regulations and capacity building

Recommendation	Strenghts	Weaknesses	Suggestions for improvement
2.1 Create an EU-wide network of governance bodies for AI in the public sector	needed	Should be made more formalised	To act as « support mechanism » and included in the Regulation area

## Group 2 – Intervention Area 2: Enhance coordinated governance, convergence of regulations and capacity building

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>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</p>	<p>needed</p>		<p>Common content in the training programmes around common issues (standardisation interoperability, risks, ethics, )</p> <p>Dedicated modules for different contexts EU regulations vs national local regulations/laws, etc.)</p> <p>Use the Interoperability academy as a springboard/initial contact point</p> <p>Level</p>

## Group 2 – Intervention Area 2: Enhance coordinated governance, convergence of regulations and capacity building

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>2.3 Build upon and promote the use of regulatory sandboxes for Public Administrations, allowing experimentation of AI-enabled solutions in controlled environments</p>	<p>Needed</p>		<p>Hard to regulate something so fast evolving</p> <p>Yet needed to create the right conditions for applying AI in the right way</p> <p>Mash up approach = existing vs new and local versus international</p> <p>Use facilities at local level while also using cross border/countirs/international facilities/networks</p> <p>Yes for the development of common criteria for doing the above</p>

## Group 2 – Intervention Area 2: Enhance coordinated governance, convergence of regulations and capacity building

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>2.4 Optimise funding in support to AI in government to promote the spreading and scaling of reusable solutions</p>	<p>needed</p>		<p>As a pre-conditions = to grant a dedicated funding quota to this area in the EU different initiatives/programme</p> <p>Support the necessary conditions for scaling and spreading of components already at early phases of development of AI based solutions</p> <p>Use both dedicated international and national regional/local funds in a complementary manner</p>

## Group 2 – Intervention Area 2: Enhance coordinated governance, convergence of regulations and capacity building

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>2.5 Promote the development of multilingual guidelines and tools for Public Procurement of AI solutions for Public Administrations throughout Europe</p>	<p>needed</p>		<p>2 levels</p> <ul style="list-style-type: none"> <li>• guidelines to align EU principles to MSs laws and regulations</li> <li>• Multilingual Guidelines</li> </ul> <p>Common EU AI Procurement baseline guide providing criteria for building MSs guidelines in compliance with EU regulations</p>

## Group 3 – Intervention Area 3: Build a shared and interactive AI digital ecosystem

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>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&amp;D institutions</p>	<p>It is important for Europe to lead the world in AI research</p> <p>Focus Universities on research on particular applications of AI</p> <p>Clear guidance on how to produce anonymised data sets and a register of research carried out on those data sets</p>	<p>University research is not always the most suitable for publication</p>	<p>Reinforce multi-disciplinary research – less emphasis on particular types of schools</p> <p>Public service recommendation should be separated</p> <p>Clear funding and grants channels to pay for research, PHDs etc.</p>

## Group 3 – Intervention Area 3: Build a shared and interactive AI digital ecosystem

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>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</p> <p><b>(Not a central repository – a means of opening up data to stakeholders from the other Member States)</b></p>	<p>Much more and more valuable data sets</p>	<p>Costs of anonymisation</p>	<p>We need a reference to data trusts, data cooperatives and other new developments in Civic Society – e.g. uber drivers creating shared knowledge to build a data asset for the taxi drivers themselves.</p> <p>Data Spaces should be filled not only with public data but with other relevant data from actors – e.g. uber data per the example above.</p> <p>More focus on synthetic data sets.</p> <p>Recommendations required for use of privacy enhancing technology (this may need additional research)</p>

## Group 3 – Intervention Area 3: Build a shared and interactive AI digital ecosystem

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>3.3 Reinforce and advance existing initiatives on open data and interoperability</p>	<p>Added value of more data</p>	<p>Cost to public sector bodies</p> <p>Concerns about sensitivity of certain data types</p> <p>Data use and data analytics are not seen by governments as areas of budget priority</p> <p>The most important data sets remain closed.</p>	<p>How do we incentivise public sector to support the production of higher quality data?</p> <p>Better understanding from public service of how donating open data can assist society and not be seen as a burden</p> <p>We need to “close the loop” on added value of open data – if public service received benefit from the data they provide, they would be incentivised.</p> <p>More education of politicians and governments in the value of investment in data infrastructures</p>

## Group 3 – Intervention Area 3: Build a shared and interactive AI digital ecosystem

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>3.4 Share reusable and interoperable AI components at all levels of European Public Administrations</p>	<p>Can help everyone move at the same pace</p>	<p>Hard to find relevant components</p>	<p>Can we align components to problems? For example, if you are wanting to direct policy on health or housing, could there be an easy directory to help find work completed in other Member States, speak to experts etc.</p> <p>This should include methodologies to help a Member State less experienced to run through a project from beginning to end.</p> <p>Combine with a repository of standards, performance metrics, etc.</p>

## Groups 3 – Intervention Area 3: Build a shared and interactive AI digital ecosystem

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>3.5 Create a European marketplace for GovTech solutions in support to the public sector</p>		<p>Lack of agility of current procurement</p>	<p>The current procurement framework discriminates against European start-ups and SMEs who cannot compete against the multi-national players.</p> <p>We need a procurement vehicle which gives innovative and agile start-ups/SMEs an advantage</p> <p>Problem-led procurement</p> <p>Use a tool similar to the one we used during the pandemic (Article 32 or 35)?</p>

## Group 4 – Intervention Area 4: Applying value-oriented AI impact assessment frameworks

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>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</p>	<ul style="list-style-type: none"> <li>- Having one place to gather all the info.</li> <li>- Support sharing of experiences and learning.</li> </ul>	<ul style="list-style-type: none"> <li>- Risk to duplicate efforts of OECD.AI</li> <li>- Time consuming to gather all this information.</li> <li>- Risk of evidence gaps due to lack of overview in MS.</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinate with OECD.AI to avoid overlap.</li> <li>- Do not only track use of AI solution, but also technology, standards, etc.</li> <li>- Coordinate with OECD on trustworthy AI to make framework tool more interactive.</li> <li>- Make observatory interactive and open/ allow comparison of tools.</li> <li>- Observatory should gather assessment of main barriers to AI adoption in MS public sector. Identify main needs.</li> <li>- Observatory should have compulsory element to get administrations in MS to report their use of AI.</li> <li>- Share methodologies and approaches for gathering cases across MS.</li> <li>- Offer benefit to public bodies when they report cases (self assessment Portugal)</li> </ul>

## Group 4 – Intervention Area 4: Applying value-oriented AI impact assessment frameworks

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>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</p>	<ul style="list-style-type: none"> <li>- Applicable across different countries and sectors.</li> </ul>	<ul style="list-style-type: none"> <li>- Missing EU wide legislation causes issues with EU wide compliance (AI Act still not there)</li> <li>- Missing tech standard</li> </ul>	<ul style="list-style-type: none"> <li>- Pool of data to build AI solutions is needed. Some lack of clarity around GDPR.</li> <li>- Link impact assessment to principles of trustworthy AI use (OECD, EU, ...)</li> <li>- Need to understand pillars of impact assessment. Need to understand what we want to assess and how.</li> <li>- Divide impact in Technical and functional:</li> <li>- Functional -&gt; trust of general public for use of AI solutions (how to measure?)</li> <li>- Technical: technical standards, robustness, life expectancy, cost, service level agreements, external sourcing.</li> <li>- Assessment dimensions: Data governance, technologies used, interoperability, risk of people doing their job wrong (developers, etc ), outcome and reach of the solution</li> </ul>

## Group 4 – Intervention Area 4: Applying value-oriented AI impact assessment frameworks

Recommendation	Strengths	Weaknesses	Suggestions for improvement
<p>4.3 Support Green AI in the Public Sector through environmental sustainability assessments and civic engagement</p>	<p>- Important to reconcile AI and environment.</p>	<p>- Most IT infrastructure is not provided by public sector, but by private sector -&gt; how to impact that (procurement)? How to make providers accountable for env. Impact (energy consumption)</p>	<p>- Work by OECD from some years ago. Recommendation about greening ICT. Still valid. - Need to understand env. Impact of AI.</p>



*AI Watch*

# 4<sup>th</sup> Peer-Learning Workshop on the use and impact of AI in the public sector

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

**Feedback summary**

*Rony Medaglia, Professor at the Copenhagen Business School, AI Watch Expert*

*28 October 2021*

Joint  
Research  
Centre

*The views expressed are those of the author and may not in any circumstances be regarded as stating an official position of the European Commission.*

- 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 minimize risks of deployment of AI in government
- 3 Develop and promote dedicated initiatives based on co-creation approaches to increase citizens' and business confidence in the use of AI-based solutions by the public sector

**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**

- 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 by 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

**Area 4.  
Applying value oriented AI impact assessment frameworks**

**Area 3. Build a shared and interactive AI digital ecosystem**

- 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 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 engagements

- 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, building 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 to the public sector

## Intervention Area 1: Promote an EU value oriented, inclusive and human-centric AI in the public sector

### Intervention Area 1

- Avoid **duplication** of existing regulation (also non-AI related)
- Balance emphasis between **restricting** and **enabling**
- *Move Intervention Area 1 later in the text?*

## Intervention Area 2: Enhance coordinated governance, convergence of regulations and capacity building

### Intervention Area 2

- Modulate **training** efforts based on context (e.g. institutional levels, policy areas...)
- Expand and modulate **funding** opportunities based on context (institutional levels, degrees of deployment...)
- Link **multilingual** guidelines to re-thinking procurement processes

## Intervention Area 3: Build a shared and interactive AI digital ecosystem

### Intervention Area 3

- Focus on **multi-disciplinary** research
- The **European Data Space** as a means of opening up data to stakeholders from Member States
- Incentivize and educate about **Open Government Data**
- Focus on **start-ups** and **SMEs**

Intervention Area 4:  
Applying value-oriented AI impact assessment frameworks

Intervention Area 4

- Avoid **duplications**
- **Incentivize** monitoring and assessment
- **Refine** monitoring tools (SDGs?)

# Overall principles

1. Avoid "re-inventing the wheel"
2. Importance of training a **wide array** of stakeholders
3. Re-think **procurement** practices
4. **Evaluating and monitoring** *ex-ante* and *ex-post* linked to **sandboxing**
5. Refine the understanding of implications of **co-creation**

# The Adoption and use of AI by and for the Public Sector



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E LA TRANSIZIONE DIGITALE

Daniela Battisti  
*Head of International Relations*

28.10.2021

# G20 Digital Ministers' Declaration

In 2021, the Italian G20 Presidency developed, in collaboration with the OECD, 3 reports to inform discussions within the Digital Economy Task Force (DETF), then transformed into the Digital Economy Working Group (DEWG) in August 2021.

- *G20 Compendium on the use of digital tools for public service continuity*
- *G20 Collection of Digital Identity practices*
- *Survey on agile regulation across G20 Members*



# Promoting the Digital Transformation of Government

- We can promote the Digital Transformation process by further tap on the value of digital tools, by:
  - ◆ Establishing a **safe and transparent context to secure the public sectors' operations and service delivery** by combating and preventing corruption;
  - ◆ Foster human development via quality education and **training programs in digital skills**, also by providing public incentives for the private sector to invest in the development of transferable skills;
  - ◆ **Promote Digital Skills for women**, young people and low-skilled workers to counter existing and emerging inequalities by promoting training and upskilling programs;
  - ◆ Leveraging emerging **technologies for sustainable growth and mSMEs**;
- Promote **agile approaches to regulation** for performance-based **experimentation and risk-based testing**, in safe environments through the **use of regulatory sandboxes**.
- Adopt **Digital Identity solutions to enable trustworthy interactions** through secure and usable digital public services.



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# Principles for AI Solutions Development

In line with the *OECD Recommendation on AI*, AI-based solutions should be developed to be user friendly for the perspective of all parties involved:

- Provider (Public Administrations / Government Officials);
- End users (businesses and citizens).

In Italy, such user-friendly and data-driven approach has been adopted to tackle tax evasion by the **Italian Revenue Agency**.

This project is a concrete and useful example of AI enabled solution in the Fiscal/Taxation Area that is:

- Based on ML and HMI technologies;
- Developed by involving all relevant stakeholders (e.g. Taxation authorities, developers, service providers and users).



# Leaveriging AI/ ML tools in the Italian public sector



In Italy, the data-driven approach to tackle tax evasion adopted by the **Italian Revenue Agency** is a successful example of AI/ML implementation within the public sector.

The project aims at creating an integrated system to support decision-making through the use of innovative methodologies and technologies:

- **Network Science:** a strong integration across different databases will be implemented in order to identify indirect relationships among subjects (for instance, relationships among companies). The network representation of data allows for an easier identification of “hidden” relationships that may be used for the purpose of tax evasion or for putting in place tax avoidance schemes;
- **Information Visual Analysis:** The adoption of innovative human-machine interfaces to enhance analysts' skills will ameliorate decision-making processes by enhancing the cognitive abilities of analysts, making the process of acquiring information more intuitive;
- **Artificial Intelligence:** The application of machine learning algorithms and the related development of risk indicators can accelerate decision-making processes and increase their relative levels of accuracy.



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# Key Findings as way forward

- Digital government maturity, including common tools and enablers, proved to be fundamental in securing governments' capacity and capability to respond effectively;
- Digital tools and platforms (e.g. apps, chatbots) provided an optimal way to secure the continuity of public services in the face of major disruptions and across the different stages of the pandemic (from outbreak to vaccination efforts);
- Majority of governments among G20 members seized the challenges presented by the COVID-19 pandemic to improve public sector competence and public services' digitalisation. The continuity of these efforts will prove key in the long run;
- Data-driven approaches also increased, as governments were pushed to be resourceful and innovate by better tapping on the value of data access and sharing to design and deliver public services.



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# Thank you!



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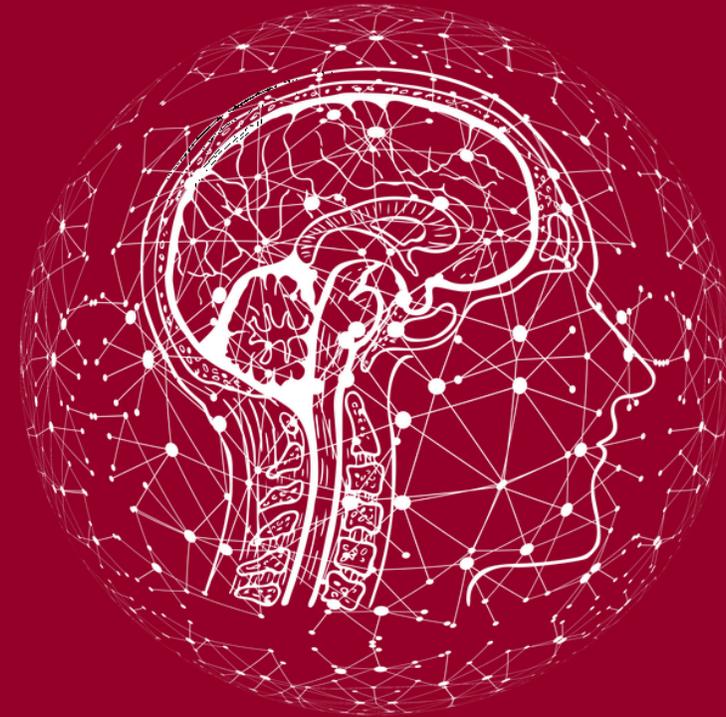
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# Knowledge Assessment of Projects of the Danish National Artificial Intelligence Uptake Fund

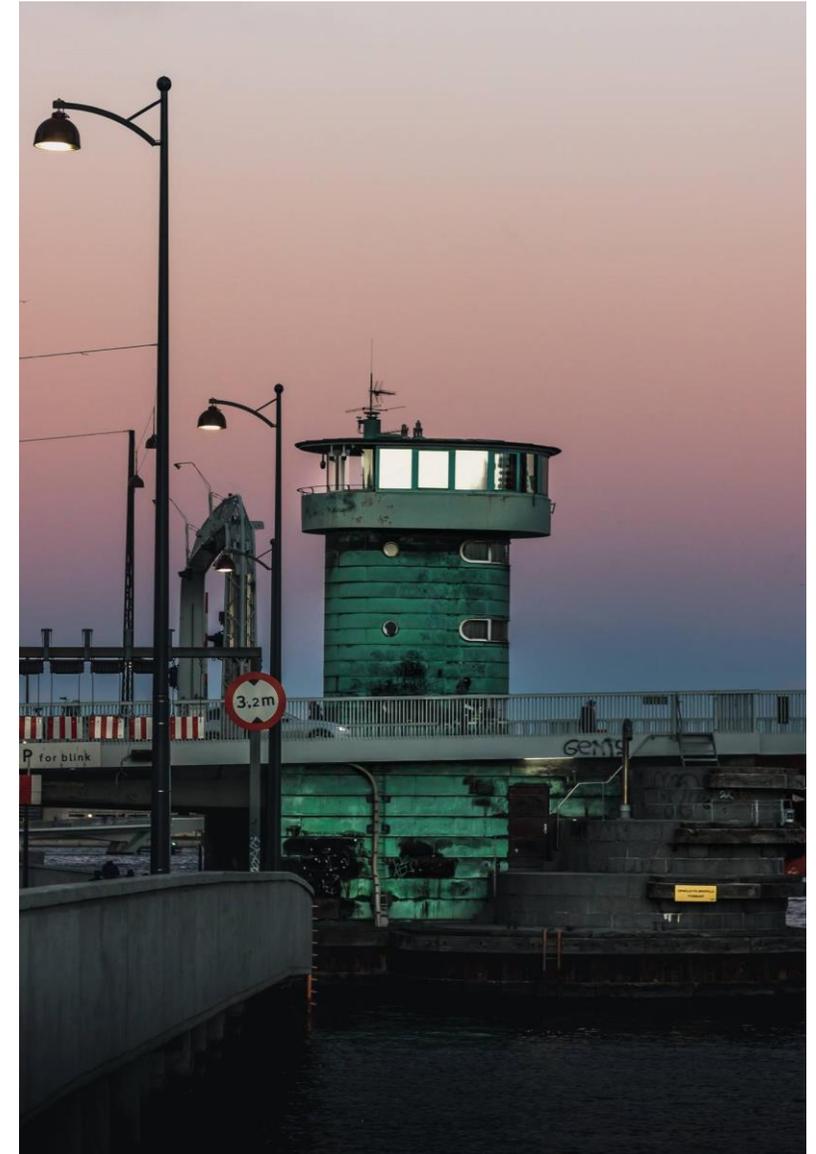
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October 2021

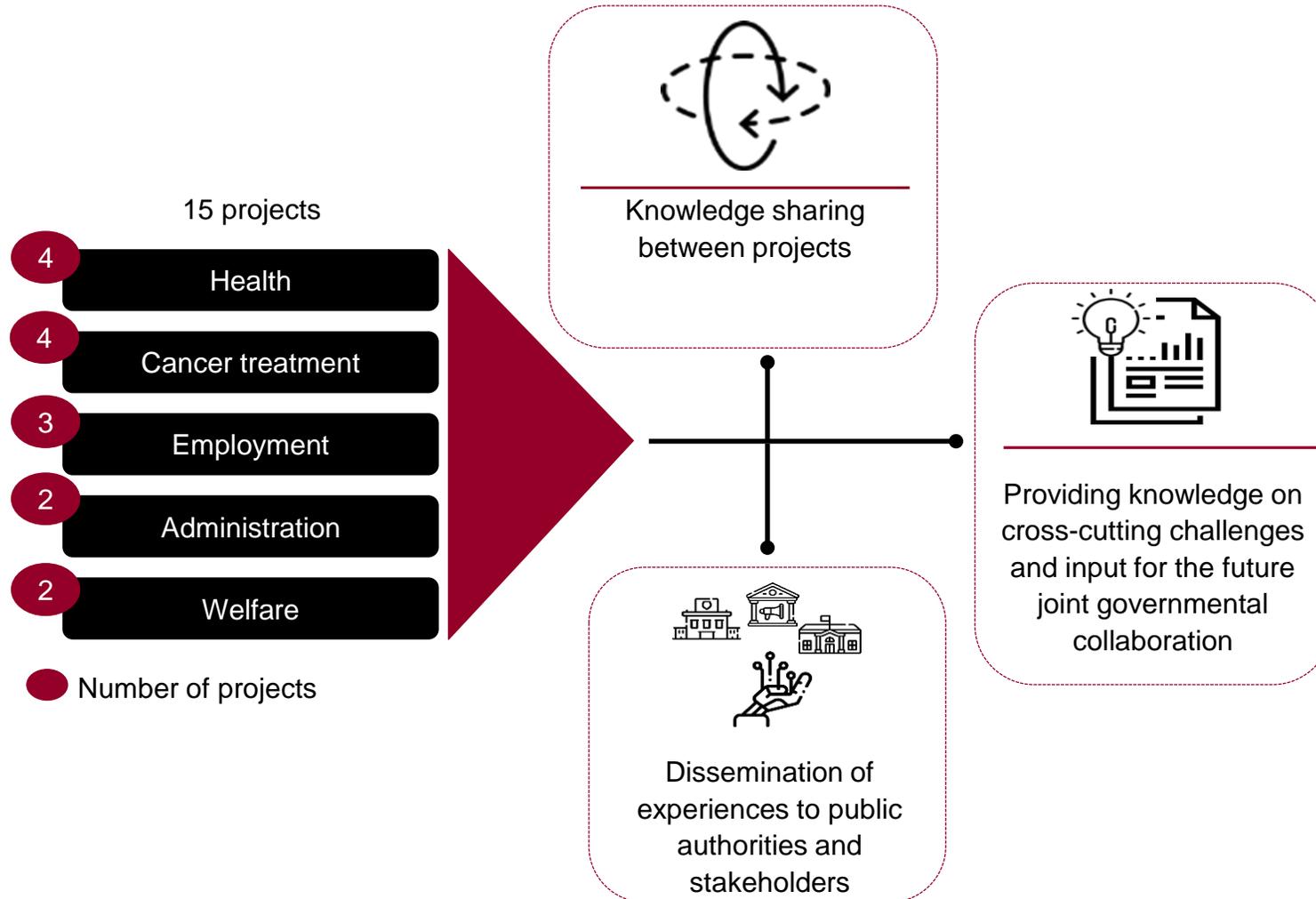


# The Danish national AI Uptake Fund

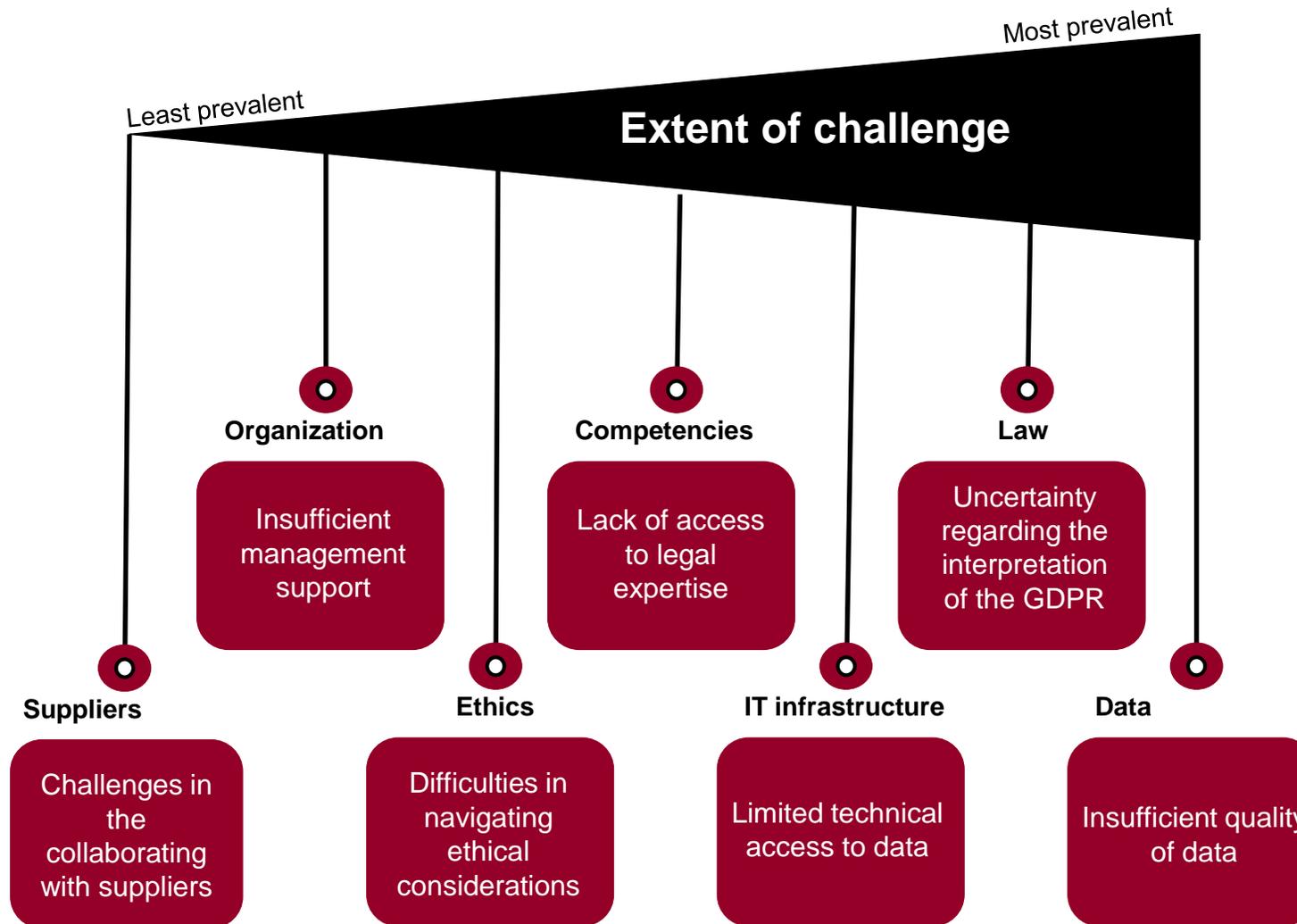
- An investment fund for new technologies between the government, Local Government Denmark and Danish Regions
- The Danish national AI Uptake Fund supports projects using artificial intelligence in order to increase the quality and efficiency of key tasks in the public sector
- The purpose is to provide experience with the use of AI in the public sector and knowledge of challenges when using the technology



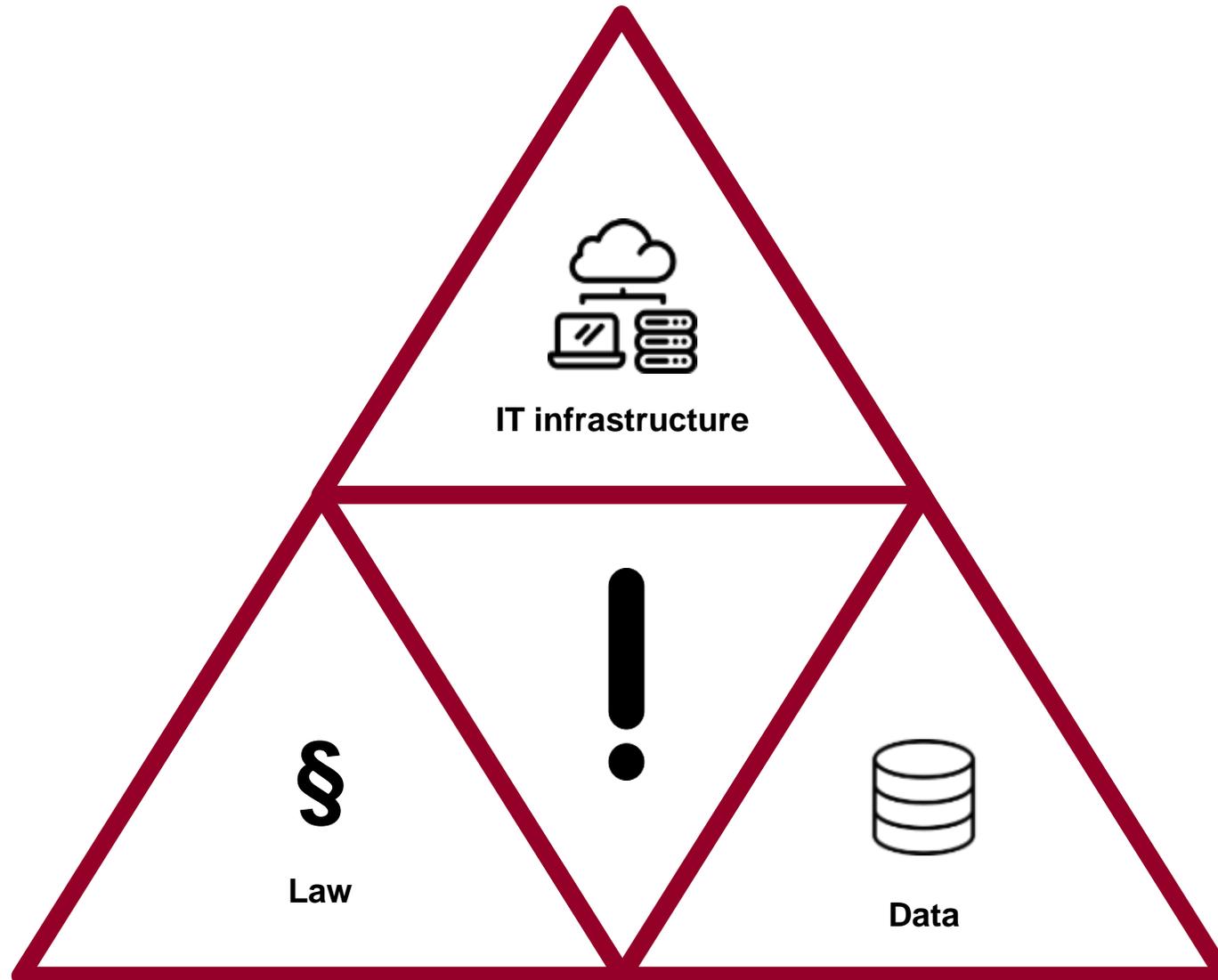
# Purpose of the knowledge assessment



# The Experiences from the Projects of the AI Uptake Fund



# Three Challenges Perceived as Most Significant



# Recommendations for New Projects



Create an overview of the data and understand the data needs



Do not underestimate the need for establishing a legal basis for the project



Establish an overview of existing and potential IT systems



Everyone who is affected by the project should be included



Make time to assemble the right project group with the necessary skills



Respect data and data ethics



Ensure support from the management



Avoid technology fixation



View AI projects as core projects in the organisation



Find good collaboration partners

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**AGENCY FOR DIGITISATION**  
MINISTRY OF FINANCE

Paulo Quaresma

Member of the Board of Directors of FCT

2021/10/28

# Outline

- Context
- INCoDe – Portuguese program for Digital Competences
  - Workgroup “AI for the Public Sector Initiatives”
  - Identified projects
- Conclusions

## Context: FCT and AI

- Portuguese public funding agency of
  - AI related Research Centers and Associated Labs
  - AI projects
  - PhD grants, contracts of researchers
- Open calls for
  - AI in the Public Administration
  - Advanced Computing resources
    - Portuguese Advanced Computing Network
    - Cloud (e.g. Google AI cloud services)

- INCoDe.2030 – Portuguese program for Digital Competences
  - “An integrated public policy initiative aimed at enhancing digital competences”
  - Action lines:
    - Education and training
    - Qualification and requalification
    - Inclusion
    - Advanced training
    - Research

- National Strategy for AI: “AI Portugal 2030”
  - Actions
    - Areas of specialisation: NLP, Real Time AI, AI for Software development, AI for edge-computing
    - Areas for R&D in international networks: smart Cities, sustainable energy, biodiversity, mobility, cybersecurity, health, industry
    - Fundamental research
    - **Public Administration and its modernization**
    - Qualification and specialization
    - Inclusion and education
    - New trends: high performance computing and quantum computing
    - Societal challenges: ethics and safety

## INCoDe: Workgroup “AI for the Public Sector”

- WG major goals:
  - To monitor, to assess, and **to help AI for the public sector initiatives to achieve success**
- WG identified 5 thematic areas:
  - Health
  - Education
  - Territory
  - Citizen and consumption
  - Public Services

## INCoDe: Workgroup “AI for the Public Sector”

- Identified projects, from FCT open calls on “AI for the PS” and AMA (Agency for Administrative Modernization) initiatives:
  - 70 ongoing projects in the period 2019-2020:
    - Health: 18
    - Education: 11
    - Territory: 11
    - Citizen and consumption: 17
    - Public services: 13

# INCoDe: Workgroup “AI for the Public Sector”

- Examples:
  - Health:
    - “Use of AI to enhance dermatological screening”
    - “Application of AI and NLP Methodologies in the Screening, Counseling and Referral Service of the phone line NHS24”
  - Education: “Permanent Observatory of School Dropout and School Success”
  - Territory: “IPSentinel Land Recognition System”
  - Citizen and consumption: “Detection of addiction patterns in online game”
  - Public services: “BALCAT: AI for ballistics analysis”

# Conclusions

- Some “good” things were already done / are being done:
  - National Strategy for AI
  - INCoDE and INCoDe working group
  - Open calls for AI in the public sector projects
  - Ongoing R&D projects (70), which should start to be used by the PS in 2022.
  - Several AI “ad hoc” solutions were/are being developed
- Many “things” to do!
  - Closer monitoring and proactive support to the ongoing projects
  - Public procurement of innovation
  - Stronger links/connection with EU networks and PS initiatives
  - ...

Thank you!

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