JRC SCIENCE FOR POLICY REPORT

AI Watch
European Landscape on the Use of Artificial Intelligence by the Public Sector

Annex I

National AI Strategies: Country Factsheets

Joint Research Centre

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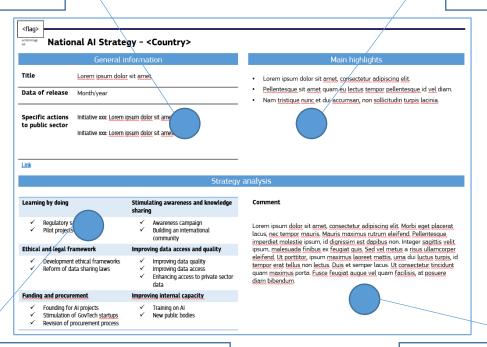
How to read the National Strategy Factsheet

General information
Table with:
- Title of the strategy
- Data of release
- Main areas of the strategy dedicated to the public sector (big initiatives, chapters, main actions, etc.)

Main highlights
Highlights from the strategy with respect to the development and uptake of AI in the public sector

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National AI Strategy – <Country>

General information

Title	Lorem ipsum dolor sit amet
Data of release	Month/year
Specific actions to public sector	Initiative xxx: Lorem ipsum dolor sit amet Initiative xxx: Lorem ipsum dolor sit amet

Link

Main highlights

- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Pellentesque sit amet quam eu lectus tempor pellentesque id vel diam.
- Nam tristique nunc et dui accumsan, non sollicitudin turpis lacinia.

Strategy analysis

Learning by doing
- ✓ Regulatory s...
- ✓ Pilot projects

Ethical and legal framework
- ✓ Development ethical frameworks
- ✓ Reform of data sharing laws

Funding and procurement
- ✓ Founding for AI projects
- ✓ Stimulation of GovTech startups
- ✓ Revision of procurement process

Stimulating awareness and knowledge sharing
- ✓ Awareness campaign
- ✓ Building an international community

Improving data access and quality
- ✓ Improving data quality
- ✓ Improving data access
- ✓ Enhancing access to private sector data

Improving internal capacity
- ✓ Training on AI
- ✓ New public bodies

Comment

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi eget placerat lacus, nec tempor mauris. Mauris maximus rutrum eleifend. Pellentesque imperdiet molestie ipsum, id dignissim est dapibus non. Integer sagittis velit ipsum, malesuada finibus ex feugiat quis. Sed vel metus a risus ullamcorper eleifend. Ut porttitor, ipsum maximus laoreet mattis, urna dui luctus turpis, id tempor erat tellus non lectus. Duis et semper lacus. Ut consectetur tincidunt quam maximus porta. Fusce feugiat augue vel quam facilisis, at posuere diam bibendum.

Strategy analysis – table
We listed a series of recurring initiatives among the strategies grouped in 6 areas (see the next slide for the overall list). Then for each strategy we checked the presence/absence of each initiative (ONLY the initiative listed in the next slides have been taken into account). Among the whole list, in the factsheet we then reported exclusively the initiatives that have been found in the country strategy

Strategy analysis – comment
A textual comment of the analysis, highlighting the main evidence for the specific country

Areas and policy initiatives for the analysis

#	Area	Description	Main policy initiatives
1	Stimulating awareness and knowledge sharing	This area includes initiatives that focus on stimulating awareness among civil servants on AI and on fostering mutual-learning initiatives for facilitating knowledge and experience transfer among public servants.	✓ Awareness campaigns ✓ Building an international community
2	Improving data access and quality	This area includes initiatives that aim at improving the data quality, availability and accessibility of the public sector in order to develop and implement AI.	✓ Improving data quality ✓ Improving data access ✓ Access to private sector data
3	Improving internal capacity	This area includes initiatives related to the improvement of the qualified internal capacity in Public Administrations. This implies also the design of initiatives for increasing public servants' AI-related skills.	✓ Training on AI ✓ New public bodies
4	Learning by doing: pilots and experiments	Since AI is still a new technology, there is a limited understanding of the way it is developed and applied in public sector contexts. This is why a variety of countries have mentioned some AI flagship projects which will be used to learn from AI implementations and their effects.	✓ Regulatory sandboxes ✓ Pilot projects
5	Ethical and legal AI guidelines	As there are many ethical concerns with the development and use of AI, many strategies are exploring the ethical considerations of using AI. Some strategies mention the intention to develop an ethical framework to act as a guide for all public sector AI usages.	✓ Development of ethical frameworks ✓ Reform on data sharing laws
6	Funding and procurement	This set of initiatives purposes to stimulate the development and uptake of AI by providing adequate funding, for example through special funding programmes to provide financial resources for AI experiments and projects.	✓ Funding for AI projects ✓ Stimulation of GovTech startups ✓ Revision of procurement processes

National AI Strategy - Austria

General information

Title	Artificial Intelligence Mission Austria 2030
Data of release	Sep 2021
Specific actions to public sector	Objective 1: evaluate administrative processes to which extent they are suited for AI as to improve efficiency, quality and accuracy for citizens Objective 2: use of AI in the public must be designed and developed successfully, AI competencies will have to be developed at different levels of the Austrian administration

Link

Main highlights

- Modernising public administrations key action to ensure AI ecosystem
- Use of AI in government should follow an impact assessment
- Legal framework for use of AI is to be evaluated and adjusted
- Federal ministries will create departmental specific data plans
- Training and AI competencies in administrations will be strengthened
- Extensive use of AI will require many process innovations and funding

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
n.a.	✓ Awareness campaigns ✓ Building an international community

Ethical and legal framework	Improving data access and quality
✓ Development of ethical frameworks ✓ Reform of data sharing laws	✓ Improving data quality ✓ Improving data access ✓ Access to private sector data

Funding and procurement	Improving internal capacity
✓ Funding for AI projects ✓ Stimulation of GovTech startups ✓ Revision of procurement processes	✓ Training on AI ✓ New public bodies

Comment

The strategy points out the need for an **ethical framework** specific for the design of an impact assessment that takes into account the rule of law and a people-centered approach.

Moreover, an effort is put into **knowledge sharing,** in particular through the development and expansion of AI observatories. Moreover, an interdisciplinary AI platform will be set up that aims to connect different relevant stakeholders, from both business, academia and the state administration.

Data access and quality, is also a key point for the strategy. Federal ministries will develop department-specific data strategies which will specify which data, and under which conditions, they can be made available.

Training courses are planned to make sure that the use of AI in the public is designed and development successfully, moreover the strategy stresses that public servants should be able to handle these AI applications and be able to act as a control function to ensure human oversight.

National AI Strategy - Bulgaria

General information

Title	CONCEPT FOR THE DEVELOPMENT OF ARTIFICIAL INTELLIGENCE IN BULGARIA UNTIL 2030
Data of release	Dec 2020
Specific actions to public sector	Chapter 4.5.: Introducing AI-based innovation in key sectors, public sector is one of them Chapter 6: The use of AI technologies in public services can be expanded and deepened, because the country has qualified specialists and experience in all of the above AI technologies.

Link

Main highlights

- Focus on public services are a key area for implementing AI
- More investments from the public and the private sector are needed
- Improve access to public data
- Facilitate financial instruments, consulting, infrastructure for testing AI
- Participate in European research and innovation programmes
- Develop Digital innovation Hubs
- Improvement of awareness of the benefits and risks of AI

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Regulatory sandboxes	✓ Awareness campaigns ✓ Building an international community

Ethical and legal framework	Improving data access and quality
✓ Development of ethical frameworks ✓ Reform of data sharing laws	✓ Improving data quality ✓ Improving data access

Funding and procurement	Improving internal capacity
✓ Funding for AI projects ✓ Stimulation of GovTech startups	n.a.

Comment

Access **to public data** to allow the creation of AI products and services for businesses, the public sector and academia are seen as a key priority. Hence, investments should be done in improving the data spaces, data sharing architectures, data management mechanisms and achieving interoperability of public data and information systems.

Digital Innovation Hubs are also seen as an important component for improving the **research and innovation ecosystem** of Bulgaria, but also to act as a hub to allow the dissemination of AI technologies to businesses, public administrations, and citizens.

The development and use of AI should be carried out responsibly, and effective public dialogue is a key factor to help create trust and sustainable policies to do so. Hence, **awareness campaigns** will be launched to provide information about the use of AI with different target groups – including public service institutions.

National AI Strategy – Cyprus

General information

Title	National Strategy for Artificial Intelligence (AI): Actions for the Exploitation and Development of AI in Cyprus
Data of release	Jan 2020
Specific actions to public sector	Chap 2.2: The role of Public Sector Chap 2.5: Actions for the Development of AI • 2.5..6 Upgrading Public Services & Creating new models of cooperation • Chap 2.5.8 Coordination for digitization

Link

Main highlights

- One of the key action areas of the strategy is to improve the quality of public services and the public administration
- Emphasis is given on the reform of the public administration with new technologies by improving infrastructure, analysis tools and collaboration with experts
- Public sector organisations should use more agile methodologies, trials and pilots. Testing and trial of AI is highly encouraged
- Public and private sector need to work together to remove obstacles to AI development and adoption
- Legislative framework for sharing data protection will be introduced to facilitate data sharing
- Opening up of more public and private sector data

Strategy analysis

Learning by doing	**Stimulating awareness and knowledge sharing**
✓ Regulatory sandboxes ✓ Pilot projects	✓ Awareness campaigns ✓ Building an international community
Ethical and legal framework	**Improving data access and quality**
✓ Development of ethical frameworks ✓ Reform of data sharing laws	✓ Improving data quality ✓ Improving data access
Funding and procurement	**Improving internal capacity**
✓ Funding for AI projects ✓ Stimulation of GovTech startups	✓ New public bodies

Comment

A specific section in the strategy is aimed at the use of AI in the public sector and public services.

The strategy explicitly highlights the importance of having the **public and private sector working together.** Trials and **pilots** are promoted in collaboration with start-ups and with SMEs. **Digital Innovation Hubs** to stimulate AI by boosting research and innovation are highly important.

The document explicitly mention **funding** programmes. It aims at promoting the start-up ecosystem through targeted investments. Moreover, the government will co-finance centres of excellence for Smart Cities.

In order to boos **data access and quality**, the government will further develop the National Open Data Portal and the National Research Data Portal. Moreover, the government will develop a **legislative framework regarding data protection.** This legislation aims to facilitate the interoperability of data with the aim of fostering the provision of APIs.

National AI Strategy – Czech Republic

Title	National Artificial Intelligence Strategy of the Czech Republic
Data of release	May 2019
Specific actions to public sector	Objective: start-up support programme to assist the establishment of businesses working on AI applications in the public sector Tool: making available and sharing of public sector data, in particular search for appropriate open data for open sharing, maintenance and updating Tool: supporting the development of AI solutions to ensure the effective functioning of law in the private and public sectors.

Link

Main highlights

- Strategy aims to create favourable conditions for use of AI in public administration, to make the government more productive.
- Involvement of public administration in knowledge transfer locations
- Introduction of AI pilot projects within the public administration
- Development of a binding public administration data availability plan for Ai, including data standard
- A start-up support programme focusing on AI application in the public sector.

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Regulatory sandboxes ✓ Pilot projects	✓ Awareness campaigns
Ethical and legal framework	**Improving data access and quality**
✓ Reform of data sharing laws ✓ Development of ethical frameworks	✓ Improving data quality ✓ Improving data access
Funding and procurement	**Improving internal capacity**
✓ Funding for AI projects ✓ Revision of procurement processes	n.a.

Comment

Public sector is seen **as a priority sector of the AI strategy**.

The strategy focusing **on data access and data quality** in order to also develop AI solutions with them, even from an ethical perspective, **reforming data sharing laws** when necessary.

To support the policy-making process during the development of AI solutions, it is planned **to establish regulatory AI sandboxes**.

To conduct a dialogue on possible new AI applications in public administration with private sector and their development and deployment, e.g. in the form of hackathons.

Czech Republic intends **to funding AI projects** with potential AI-based solutions for public administration. **Revision of procurement processes** to give better possibility for contracts for public administrations.

National AI Strategy - Denmark

General information

Title	National Strategy for Artificial Intelligence
Data of release	Mar 2019
Specific actions to public sector	Objective 4: The public sector should use artificial intelligence to offer world-class services 2 central initiatives: • Principles for responsible development and use of artificial intelligence • More open public-sector data for artificial intelligence

Link

Main highlights

- Public sector should use AI to offer world class services to citizens
- Create a responsible ethical and legal framework for use of AI in the public sector
- Improving data quality and quantity for AI
- Enhance the competencies on AI in the central government
- Allocation of funding to test and deploy new technologies
- Sharing of experiences of AI initiatives

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Pilot projects	✓ Awareness campaigns
Ethical and legal framework	**Improving data access and quality**
✓ Development of ethical frameworks	✓ Improving data quality ✓ Improving data access
Funding and procurement	**Improving internal capacity**
✓ Funding for AI projects	✓ Training on AI

Comment

In the strategy appears a general understanding that a public sector using AI could improve public services.

One of the overarching goals is related to the development and use of **frameworks and methods in a systematic way** to support the responsible use of AI. This in return ensures that the investment in AI is utilised as well as possible.

Another action is improving the **data quality and quantity**. The government expects that, making data available, will foster the development of higher-quality AI solutions by utilising high-quality public data.

In addition, the government will hold dialogues with **Danish universities working on AI to develop courses** for civil servants.

The National Centre for Public Sector Innovation will also support the deployment and use of AI across the public sector **by disseminating experience from research and projects.**

National AI Strategy - Estonia

General information

Title	National Artificial Intelligence Strategy 2019-2021
Data of release	Mar 2019
Specific actions to public sector	Activities listed in BOOSTING THE TAKE-UP OF CHALKS IN THE PUBLIC SECTOR (1.1, 1.3, 1.9, 1.10, 1.20,1.21, 1.22)

Link

Main highlights

- Strategy has specific section to advance the uptake of AI in the Estonian public sector
- Improving awareness and competences on AI and AI procurement
- Improving the existing technical infrastructure and data of the public sector for AI
- Focus on reusable AI components so successful AI can be shared with other administrations
- Funding mechanisms will be made available for AI projects in the government
- Establishing Chief Data Officers in every public administration

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Regulatory sandboxes ✓ Pilot projects	✓ Awareness campaigns ✓ Building an international community
Ethical and legal framework	**Improving data access and quality**
✓ Reform of data sharing laws	✓ Improving data quality ✓ Improving data access
Funding and procurement	**Improving internal capacity**
✓ Funding for AI projects ✓ Revision of procurement processes	✓ Training on AI ✓ New public bodies

Comment

Improving internal capacity is seen as a priority. There will be specific training courses for managers and specialists to highlight the value of data science and AI and for civil servants in the procurement of AI. Moreover, **to raise awareness** (success) stories of current AI projects will be published and will be scheduled regular meetings between the public sector AI network and other institutions to share experiences and discuss ongoing activities. On **data access and quality**, one of the actions involves promoting the availability of open data on the open data portal of Estonia. Moreover, data governance will be improved with data stewards in agencies and development of data governance tools. In 2021, Data Governance Competence Centre was launched to assist public bodies. A variety of **funding mechanisms** will be made available to finance AI projects within the government. Finally the strategy proposes the creation of a **technological sandbox** to test and develop public sector AI applications in a safe environment.

National AI Strategy - Finland

Title	Leading the way into the age of artificial intelligence
Data of release	Oct 2017 (update 2019)
Specific actions to public sector	Key Action 6: Build the world's best public services
	Key Action 10: The use of AI in public sector activities was examined from the viewpoints of ethics and societal acceptability

Link

Main highlights

- AI-powered public services are crucial for the Finnish economy and welfare
- AuroraAI is the key action to change public services with AI with a life-events approach together with private sector partners
- Capacity of civil servants to work with AI needs to be strengthened
- Definition of strong ethical considerations for using AI in public services
- Creation of a sandbox to test AI solutions for the public interest

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Regulatory sandboxes ✓ Pilot projects	✓ Awareness campaigns ✓ Building an international community
Ethical and legal framework	**Improving data access and quality**
✓ Development of ethical frameworks	✓ Improving data access ✓ Improving data quality
Funding and procurement	**Improving internal capacity**
✓ Revision of procurement processes	✓ New public bodies

Comment

Actions are embedded in the AuroraAI programme. The programme lays the foundations to transform the Finnish society towards an AI-society in a human-centred and ethically sustainable manner.

There are plans to publish an **ethical framework**, defining ethical design practices, monitoring administrations and involving citizens.

In addition, the strategy declare the creation of '**sandbox**' where AI could be developed and tested with personal data owned by public administrations.

Lastly, there is a recommendation given to review of **procurement processes**, and in particular the current Public Procurement Act in order to enable more effective public-private AI development.

National AI Strategy - France

General information

Title	National Strategy for Artificial Intelligence
Data of release	Mar 2018 (phase 1) ; Nov 2021 (phase 2)
Specific actions to public sector	Support public administrations in developing AI projects through a cross-sectors "Lab IA" ; Fund public transformation projects, such as forecasting firms bankruptcies by weak signals AI analysis; Set up a Health Data Hub, to facilitate the usage of data from the French health system for research and innovation.

Link

Main highlights

- Implement a Public data policy and a new open data legislation to improve data exchange between administrations and foster AI applications
- Support public administrations in developing AI projects through a cross-sectors "Lab IA", such as developing a pseudonymisation tool for national jurisdictions
- Animate AI and Data community of the public ecosystem
- Offer specific remunerations for AI and data science expert profiles
- Database of pre-trained AI models used in public administration for reuse;
- Train civil servants in AI/digital tools, as part of a broader education plan in AI
- Building a strategy for green AI both at the national/local levels (smart cities)
- Increase AI-based disrupting projects through additional funding ("FTAP"), like for instance forecast firms bankruptcies by weak signals AI analysis or improve littoral cartography through AI-based laser detection (Lidar)

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Regulatory sandboxes ✓ Pilot projects	✓ Awareness campaigns

Ethical and legal framework	Improving data access and quality
✓ Development of legal/ethical frameworks ✓ Reform of data sharing laws	✓ Improving data quality ✓ Improving data access ✓ Access to private sector data

Funding and procurement	Improving internal capacity
✓ Stimulation of GovTech startups ✓ Funding for AI projects	✓ Training on AI ✓ New public bodies

Comment

The AI strategy established a **National consultative committee** for AI ethics and started the development of **new legal frameworks for public AI**

New public bodies will be created and **growth of AI teams** in public bodies will be stimulated. High Officer for AI will be nominated, responsible for the coordination of the networks and contacts with ministries and other administrations. Skills will be fostered with **specific remunerations for expert profiles** required

There will be an increasing of funding towards **AI-based projects ("FTAP")**

Lastly, there is a focus on training civil servants: (i) in public assistance and digital tools (ii) to prevent subjective biases of automated procedures and (iii) to understand and tackle any form of algorithmic discrimination.

National AI Strategy - Germany

General information

Title	Artificial Intelligence Strategy
Data of release	Nov 2018 (Updated Dec 2020)
Specific actions to public sector	Objective 1: AI Adoption in PA ('Security and performance of communication and information systems in public administration') Objective 2: Creation of a Regulatory Framework ('for AI actors in science and research, at businesses and start-ups, as well as for the general public and public administration')

Link

Main highlights

- AI offers a lot of potential for German public administrations to make services more targeted, tailored and accessible to citizens

- Opening of public sector data is regarded as one of the key instruments to stimulate AI in government

- Government data will be open by default (unless specific exceptions apply).

- Funding will be made available for data management at all federal public authorities

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Regulatory sandboxes ✓ Pilot projects	✓ Awareness campaigns ✓ Building an international community
Ethical and legal framework	**Improving data access and quality**
✓ Development of ethical frameworks	✓ Improving data quality ✓ Improving data access
Funding and procurement	**Improving internal capacity**
✓ Funding for AI projects ✓ Revision of procurement processes	✓ Training on AI ✓ New public bodies

Comment

The opening of public sector data is highly stimulated. The current 2nd Open Data Act (in force since 2021) provides a normative basis for the publication of open public data "by default", unless specific exceptions apply. (e.g. personal or security-related data), moreover the Federal Government is willing to establish an open data platform.
On funding and procurement, start-ups and SMEs providing AI solutions will be supported by giving them greater consideration to in public contracts.
Additionally, the government will set up an Application Lab for AI and Big Data to develop data-based applications and to strengthen the cooperation between the Federal and Länder administrations.
A "Network AI in Labour and Social Administration" develops self-committing guidelines to ensure a responsible implementation of AI.
To build **networking and awareness**, the *Civic Innovation Platform* connects stakeholders in order to publish their ideas and find partners for AI related projects from civil society, the public, academic and private sectors. The platform also offers financial and non-material support.
Lastly, the strategy mentions the importance of **ethical standards**, to ensure non-discrimination, transparency, compliance with existing rules on data protection and cybersecurity and to ensure citizen's trust and confidence.

National AI Strategy - Hungary

General information

Title	Hungary's Artificial Intelligence Strategy 2020-30
Data of release	May 2020
Specific actions to public sector	4.2.4 State Administration – "Data-driven, service provider state" 4.3.4 Data wallet and personalized services 4.3.6 Automated administrative procedures in Hungarian

Link

Main highlights

- Public administration regarded as a key area for AI-based applications
- Key objective is to improve provision of private and state data for AI development
- AI training programmes will be prepared for experts in the public administration
- A research cluster will be established for researching AI in the public sector

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Pilot projects	✓ Awareness campaigns

Ethical and legal framework	Improving data access and quality
✓ Development of ethical frameworks ✓ Reform of data sharing laws	✓ Improving data quality ✓ Improving data access ✓ Access to private sector data

Funding and procurement	Improving internal capacity
n.a.	✓ Training on AI ✓ New public bodies

Comment

The strategy highlights some **pilot project** already developed in the public sector. However, the use of AI is currently limited to few organisations, according to the document. Therefore, the government aims to introduce a variety of initiatives to spread and apply AI technologies.

To do so, the strategy points the need for improving **data quality and access**. private sector data, a Data market platform will be introduced. Public sector data will be made available by a new institution, the National Data Assets Agency. Public funding will be made available to allow open access high value data inventories of the public sector.

AI programmes will be prepared for experts and a data asset management **training** for public servants.

Regarding **ethical frameworks**, an AI regulatory environment will be included and updated over time, which includes, for example, a Code of Ethics to ensure human-centricity and ethical AI. A new institution, the AI Regulation and Ethics Knowledge Centre (MISZET) will be tasked with resolving legal and ethical issues.

National AI Strategy - Ireland

Title	AI – Here for Good: National Artificial Intelligence Strategy for Ireland
Data of release	Jul 2021
Specific actions to public sector	Strand 4: AI Serving the Public 4.2 Enablers for AI in Public Services 4.3 Approach to AI Adoption by the Public Service 4.4 High Impact Sectors for AI in the Public Service

Link

Main highlights

- One of the key objectives is to have AI improve public service outcomes
- The GovTech Delivery Board will play a leading role in advancing AI adoption in public service
- Use of AI in government have to be informed by human rights and ethical assessments
- Innovative public procurement is seen as a crucial catalyst to drive AI innovations in society and administrations
- For successful adoption of AI, investments in training and skilling of civil servants is considered essential
- Wider collaboration and sharing of expertise between public, private and academic sector is actively encouraged

Strategy analysis

Learning by doing	**Stimulating awareness and knowledge sharing**
✓ Pilot projects	✓ Awareness campaigns ✓ Building an international community
Ethical and legal framework	**Improving data access and quality**
✓ Development of ethical frameworks ✓ Reform of data sharing laws	✓ Improving data quality ✓ Improving data access
Funding and procurement	**Improving internal capacity**
✓ Stimulation of GovTech startups ✓ Revision of procurement processes	✓ Training on AI ✓ New public bodies

Comment

To increase public trust and engagement in AI, an AI ambassador will be appointed to **promote awareness of AI** among the public and businesses. Work is ongoing to address **regulatory gaps** within a wide range of policy regimes, which include policing, justice, health and data protection. **Stimulation of GovTech** is key. The GovTech Delivery Board, already established, will be leading AI adoption in public services, by providing strategic leadership and coordinating a service-wide, strategic approach to AI implementation. Moreover, it will work with the Office of Government Procurement to consider mechanisms that enable public purchasing power as this catalyst through public procurement.

In addition, the GovTech Delivery Board will consider new models for working with experts from the **private and academic sectors**, such as a Public Sector Fellowship to attract highly skilled academics.

Finally, the Irish government considered essential to invest in programmes for the **training and upskilling of public sector workers**.

National AI Strategy – Italy

Title	Strategic Programme on Artificial Intelligence
Data of release	Nov 2021
Specific actions to public sector	1 objective ('Objective 5. Develop AI-driven policies and services in the public sector') 1 area of intervention: ('E. AI for a more modern public administration')

Link

Main highlights

- The public administration is one of the key areas of intervention in the strategy, considered a priority sector of the strategy
- Special PhD Programmes designed for the needs of AI will be established to improve AI related expertise in government
- Strong collaboration with the GovTech ecosystem essential to support development of AI solutions in public administration through an accelerator programme
- Various large datasets will be developed and shared for AI development for use in Italian public administrations

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Pilot projects	✓ Building an international community
Ethical and legal framework	**Improving data access and quality**
n.a.	✓ Improving data quality ✓ Improving data access
Funding and procurement	**Improving internal capacity**
✓ Funding for AI projects ✓ Stimulation of GovTech startups ✓ Revision of procurement processes	✓ Training on AI

Comment

Public sector is seen as a priority sector of the AI strategy.
The strategy has a strong focus **improving data access and quality** through **Open Data and Open AI models**. Various data will be created and integrated to make them interoperable and open. Any learning model and AI systems released will be open. The guidelines for reusable Open Data for AI models will be regularly updated.
The **relation between public and private sector is crucial**, hence actions for **funding and procurement** have been identified. The strategy reports an action for a strong collaboration with the GovTech ecosystem. Italy intends to start and accelerator-like program for identifying and supporting start-ups with potential AI-based solutions for public administration. A technical committee from the Ministry will assign prize awards, seed funding, mentoring as well as access to venture capital investors.

National AI Strategy - Latvia

General information

Title	Informatīvais ziņojums "Par mākslīgā intelekta risinājumu attīstību"
Data of release	Feb 2020
Specific actions to public sector	ACTION POINT 3:: Use of AI in the public sector. AI-inclusive solutions must be prioritised in public administration development processes. Line ministries need to assess the integration of automation and AI systems into their processes, including through the maintenance budget of existing information systems

Link

Main highlights

- Artificial Intelligence can realise a variety of e-Government objectives
- Latvian public sector can be a leader in implementing AI solutions, by focusing on adopting rather than developing new solutions
- Continuing open data initiatives for the development of public sector AI
- Improve the awareness of AI and the skillset to develop and use AI in the public sector
- Public service providers should have funding available for the testing of AI
- Include AI-related metrics in e-Government performance matrix for assess performance

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Pilot projects	✓ Building an international community

Ethical and legal framework	Improving data access and quality
✓ Development of ethical frameworks ✓ Reform of data sharing laws	✓ Improving data quality ✓ Improving data access ✓ Access to private sector data

Funding and procurement	Improving internal capacity
✓ Funding for AI projects ✓ Stimulation of GovTech startups	✓ Training on AI

Comment

The strategy lists a series of **pilot projects** developed in the public sector. Among them a focus was on virtual assistants that are promising, but challenging to train and at the same time ensure adherence to continuously evolving regulatory frameworks.

On **data access and quality** the strategy highlights how data should be open by default, taking into account personal data protections.

On **trainings**, the strategy highlights that AI skills should not only be acquired by ICT specialists, but by a wider range of users and managers. Therefore, actions will be undertaken in order to raise the level of understanding of AI as well as the development of AI related skillsets. Cooperation with the public and the **private sector** is considered crucial in implementing AI solutions.

Finally, it is promoted a separate **funding programme** for public service providers to test new AI solutions.

National AI Strategy - Lithuania

General information

Title	A VISION OF THE FUTURE Lithuanian Artificial Intelligence Strategy
Data of release	Apr 2019
Specific actions to public sector	PRINCIPLE 1: To advice the public sector on ethical ai regulation and implementation PRINCIPLE 3: Integration of artificial intelligence systems across all economic sectors (Public Sector)

Link

Main highlights

- AI promises advantages for the public sector and to improve citizen well-being
- Public administrations will have to develop AI-related skills and adopt a culture of innovation
- Development of a regulatory sandbox to allow the testing and use of AI in the public sector
- New public-private partnerships will be established
- The public sector should have an unified data management approach
- Funding will be provided for public sector data management plans its enforcement
- An AI ethics committee will be established which is tasked with reviewing the impact of AI on fundamental rights

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Regulatory sandboxes	✓ Awareness campaigns
Ethical and legal framework	**Improving data access and quality**
✓ Development of ethical frameworks	✓ Improving data quality ✓ Improving data access
Funding and procurement	**Improving internal capacity**
✓ Funding for AI projects ✓ Stimulation of GovTech startups	✓ Training on AI ✓ New public bodies

Comment

The strategy suggests that the public sector has to adopt a culture of innovation, especially with regards AI.

For doing so, Lithuania will work on **trainings**, in particular the AI ethics committee will foster the development of AI-related skills in the public sector. Moreover, it is planned the development of a **regulatory sandbox** to allow the use and testing of AI in the public sector for a limited time frame.

New **public-private partnerships** will be created in order to establish better conditions for the development of AI systems.

A strong focus in on **data access and quality.** The public sector should create a unified approach to data management which is favourable for the use in AI systems. Moreover, a centralised hub for data in the public sector might be established to improve data accessibility and enable standards for data literacy. **Funding** will be also made available to support data management and data standards.

National AI Strategy - Luxembourg

General information

Title	Artificial Intelligence: a strategic vision for Luxembourg
Data of release	May 2019
Specific actions to public sector	Focus Area 5: AI for the public sector Fostering research and innovation that assess AI systems for the public sector; developing expertise combined with CivicTech applications and disseminating results and questions to the Public

Link

Main highlights

- The strategy highlights the potential of AI to make public services better and more personalised for citizens
- Ongoing eGovernment initiatives and multilingual solutions will provide the groundwork for AI applications in the public service
- Provide an overview of potential AI projects to create human-centric AI for citizens
- Engage in peer-learning activities with other EU Member States
- Foster research and innovation for the public sector

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Pilot projects	✓ Awareness campaigns ✓ Building an international community
Ethical and legal framework	**Improving data access and quality**
n.a.	✓ Improving data quality ✓ Improving data access
Funding and procurement	**Improving internal capacity**
✓ Stimulation of GovTech startups	n.a.

Comment

The Government aims to follow a **human-centric approach** to change the private, professional and public life of citizens. AI could simplify many citizen-to-government interactions which will result in time-saving, increased transparency and more customer-oriented services.

AI strategy for the public sector follows the existing development of administrative simplification and the investment already done in e-government.

The aim is to invest in **projects,** starting from the development of a comprehensive overview of potential projects based on criteria, such as feasibility, necessity and human-centricity.

Moreover, the strategy has an **international focus**, on engaging with EU member states in peer-learning activities.

On **data**, the strategy proposes to investigate the possibility to create a structured public database ecosystem aimed at eliminating technical barriers for AI use cases.

National AI Strategy - Malta

General information

Title	Malta, the ultimate AI launchpad
Data of release	Oct 2019
Specific actions to public sector	Chap 3: Public Sector Adoption: • Create an AI-powered Government • Encourage the procurement of smart technologies • Implement high-profile AI pilot projects

Link

Main highlights

- AI can play a significant role in the transformation of government and public services
- Chief Information Officers in each ministry will explore how AI can be deployed in their administrations
- Launch of awareness campaigns to increase public officials' understanding of AI
- AI-related courses will be included in public service training
- Guidance documents will be made available public sector AI projects
- Public procurement processes will be adapted to support procurement of AI

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Pilot projects	✓ Awareness campaigns
Ethical and legal framework	**Improving data access and quality**
n.a.	✓ Improving data quality ✓ Improving data access
Funding and procurement	**Improving internal capacity**
✓ Revision of procurement processes	✓ Training on AI

Comment

Each ministry's Chief Information Officers will be tasked with exploring how AI can be deployed in different areas of the public administration.

An important **awareness campaign** will be launched for public officials in order to increase understanding on AI. Events will be held for all senior officials in the public sector in order to build deeper insight into the AI Strategy.

Different types of trainings will be launched. Existing courses will be updated to include AI-related courses. In addition, a training and awareness programme for procurement with AI will be developed. Finally, public officials who wish to obtain (external) certifications in AI will gain financial support.

The public procurement processes will be revised in order to support the procurement of emerging technologies such as AI.

Lastly, the strategy also lists a number of high-profile AI **projects** which are expected to have a large and positive impact in the Maltese society.

National AI Strategy - Netherlands

General information

Title	Strategic Action plan for Artificial Intelligence
Data of release	Oct 2019
Specific actions to public sector	Track 1 | Exploit social and economic opportunities. "The government makes optimal use of AI in public task performance".

Link

Main highlights

- AI can assist governments tackle many of the current challenges and improve government processes
- The government should work with companies to tackle current policy issues and actively use innovative procurement methods
- Digital courses on AI will be provided on the governmental digitalisation academy
- An implementation toolkit for innovative technologies will be developed and experiences from AI pilots will be shared
- Government use of AI will have to follow transparency requirements
- Stimulate human-centric AI in government with the use of impact assessment frameworks, certificates and audits

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Pilot projects	✓ Awareness campaigns ✓ Building an international community

Ethical and legal framework	Improving data access and quality
✓ Development of ethical frameworks	✓ Improving data quality ✓ Improving data access ✓ Access to private sector data

Funding and procurement	Improving internal capacity
✓ Revision of procurement processes	✓ Training on AI

Comment

The strategy lists a number of actions the government is aiming to enable this adoption.

First, **improving internal capacity** is seen as key. In order to improve the knowledge of civil servants on AI, digital courses will be provided on the governmental digitalisation academy.

To foster public-private partnerships the Dutch strategy incentivises the **use of innovative procurement** methods in order to assist SME's in developing innovative AI applications for the public sector.

To stimulate awareness the government is also aiming **to learn from a number of experiments and pilots** on AI within the Dutch government. Ad hoc meetings will be scheduled.

For all the AI used in governmental organisations, the Dutch government stresses that the algorithm should be **human-centric and trustworthy**. Hence, the government will stimulate the use of AI Impact Assessment tools, audits or certifications. Moreover, the Ministry of Health is exploring the legal and ethical challenges connected to the use of AI.

National AI Strategy - Norway

General information

Title	National Strategy for Artificial Intelligence
Data of release	Jan 2020
Specific actions to public sector	Section 4.2 AI-based innovation in the public sector Section 2.1 Data and data management Section 2.3 Regulations

Link

Main highlights

- Strategy aims to support value creation and use of AI in the public sector
- Facilitate the sharing of public sector data among public sector agencies
- Legal barriers to public sector AI will be reviewed and updated, in particular issues regarding data protection and statutory authority
- All AI used in the government have to be transparent and explainable
- Guidelines will be made available to help public administrations overcome uncertainties
- Public procurement can be an instrument to adopt AI in Norwegian public administrations. Innovation partnerships and innovative procurement may be good tools for this

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Regulatory sandboxes ✓ Pilot projects	✓ Awareness campaigns ✓ Building an international community

Ethical and legal framework	Improving data access and quality
✓ Development of ethical frameworks ✓ Reform of data sharing laws	✓ Improving data quality ✓ Improving data access ✓ Access to private sector data

Funding and procurement	Improving internal capacity
✓ Stimulation of GovTech startups ✓ Revision of procurement processes	✓ Training on AI

Comment

Collaboration between the public and the private sector will contribute to unlocking the innovative potential of AI in Norway. The strategy focuses on the **procurement process**, mentioning that the public sector should actively explore opportunities provided through the market and using (innovative) procurement when appropriate. Innovative projects within public sector enterprises are also highlighted.

Access to high quality datasets is seen as a key priority. All information should be made accessible as open data. To assist data sharing Norway has established a national resource centre for data sharing in the Norwegian Digitalization Agency. The Norwegian strategy also highlights the importance of data sharing among public sector agencies. A National Data Catalogue provides an overview of datasets, descriptions, concepts, APIs and information models.

A **Pilot Schemes** in the Public Administration Act allows public administrations to gain permission to test their new ways of working for up to four 4 year.

National AI Strategy – Poland

General information

Title	Policy for the Development of Artificial Intelligence in Poland from 2020
Data of release	Dec 2020
Specific actions to public sector	Area 6 – AI and the public sector

Link

Main highlights

- AI can help Polish public administrations create public value
- Large investments are recommended to improve digital infrastructure of public institutions
- Creation of a data policy framework to open up public and private data resources for access
- Requalification of public sector employees to improve digital and AI competences
- Public procurement of AI is heavily stimulated, with all local governments being recommended to allocate 10% of their procurement budget to AI
- GovTech Polska will be a central hub in connecting public and private stakeholders to discuss, collaborate and initiate AI projects for the public sector

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Regulatory Sandboxes AI ✓ Pilot Projects	✓ Networking and international events

Ethical and legal framework	Improving data access and quality
✓ n.a.	✓ Improving data quality ✓ Improving data access ✓ Access to private sector data

Funding and procurement	Improving internal capacity
✓ Funding for AI projects ✓ Stimulation GovTech startups ✓ Revision procurement processes	✓ General AI training ✓ Specialist AI training ✓ New positions on institutions

Comment

The strategy focuses **on data access and data quality,** in particular large investments are expected to improve the digital infrastructure, such as the collection of high-quality data.

Strong effort will be dedicated **to improve public sector internal capacity,** training activities will be held to improve the competences of decision-makers in the public administration.

The Polish government will define conditions for the **financing** of AI through grants. Moreover, the Public Procurement Office will prepare good practice manuals and conferences dedicated to AI Procurement.

On **pilot projects and sandboxing**, the Virtual Research Institutes for AI Development will be introduced, which will work together with government and other sectors to develop AI research and assist in the adoption.

Moreover, GovTech Polska has been created to improve the dialogue between public administrations and innovators from the private and academic sector. Finally, the **Digital Sandbox Administration** project will test AI projects.

National AI Strategy – Portugal

General information

Title	AI PORTUGAL 2030
Data of release	Jun 2019
Specific actions to public sector	ACTION: Public administration and its modernisation

Link

Main highlights

- AI and data science are seen as important tools for better public services and public policies
- Continued to fund collaborative projects to foster AI in public administrations
- Creation of a data infrastructure acting as a centralised repository for administrative data
- Make administrative data easier for research units and, public and private to access providing a secure access and respecting personal privacy issues
- Data science and AI skillset programme for public administration will be reinforced
- Establishment of a Collaborative Laboratory for AI in the public sector, public sector organisations will be inserted in the ethics committee for AI

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Pilot projects	✓ Awareness campaigns

Ethical and legal framework	Improving data access and quality
✓ Development of ethical frameworks	✓ Improving data quality ✓ Improving data access

Funding and procurement	Improving internal capacity
✓ Stimulation of GovTech startups	✓ Training on AI ✓ New public bodies

Comment

Tre strategy aims at reinforcing AI and data science skill qualification programmes within the public sector. **Trainings on data management** are seen as key for Portugal. The strategy aims to contribute to strengthening the scientific and technological competencies to deal with the large amounts of data within the Portuguese public administration.

•Collaborative projects between the public, private and/or academic sector will be funded. In particular a specific programme ("'Mobilising programme to foster AI in public administration'") is **funding** 19 R&D **projects.**

On **data,** the strategy aims at making administrative data more easy to access by academic, public & private actors while providing a secure and privacy-protecting access. For doing so, a National Data Infrastructure will be developed and will act as a centralised repository for administrative data.

National AI Strategy - Slovakia

General information

Title	Action plan for the digital transformation of Slovakia for 2019 – 2022
Data of release	Oct 2019
Specific actions to public sector	Strategic objective 3: "We will improve abilities of the public administration to innovate and use data for the benefit of citizens"

Link

Main highlights

- AI is seen as one of the priority technologies for the Slovakian government
- Digital Innovation Hubs will play an important role in supporting uptake of AI in public sector organisations
- Innovation laboratories will be introduced within public administrations, acting as a key unit to introduce pilots, collaborate with private and academic stakeholders and ensure funding
- Local governments will be supported to implement AI
- A focus will be put on improving the availability and use of data within public administrations

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Regulatory sandboxes ✓ Pilot projects	✓ Awareness campaigns ✓ Building an international community
Ethical and legal framework	**Improving data access and quality**
✓ Development of ethical frameworks ✓ Reform of data sharing laws	✓ Improving data quality ✓ Improving data access
Funding and procurement	**Improving internal capacity**
✓ Funding for AI projects ✓ Stimulation of GovTech startups	✓ Training on AI ✓ New public bodies

Comment

Slovakia's strategy puts a focus l**earning by doing: experiment, sandboxing and piloting**. In particular it highlight the importance of Digital Innovation Hubs in supporting the uptake of AI and other innovative technologies in public sector organisations and SME's.

Coherently the **relation between public and private sector is crucial**. Innovation laboratories will be introduced for public administrations to solutions for problems in government sectors, legislative changes, new pilots, experiments, monitoring. These innovation laboratories will establish partnerships with the public, private and academia which should be part of the innovation ecosystem.

To improve the **data access and quality**, the Data Office Department will grow ensuring that public sector data will be published. Moreover, the strategy has a specific section aimed at improving the use of data in public administrations.

National AI Strategy - Slovenia

General information

Title	National programme for promotion of development and use of artificial intelligence in the Republic of Slovenia until 2025 (NpUI)
Data of release	May 2021
Specific actions to public sector	SC2: Education and enhancement of human resources SC4: Introduction of reference solutions for AI in the economy, the public sector, public and state administration and society SC7: Increasing public trust in AI

Link

Main highlights

- Strategy has a specific focus on the use of AI in public administration as it is a strategic objective to introduce AI within the public administrations
- Staff training programmes will be introduced in the public administration to reduce the staff shortage challenges
- A core focus of the strategy is to integrate AI research findings in the government as quickly as possible
- Open public sector data is made available to a wide range of stakeholders
- Various awareness raising programmes will be launched to increase understanding of opportunities and risks of AI and data sharing

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Regulatory sandboxes ✓ Pilot projects	✓ Awareness campaigns ✓ Building an international community
Ethical and legal framework	**Improving data access and quality**
✓ Development of ethical frameworks	✓ Improving data quality ✓ Improving data access ✓ Access to private sector data
Funding and procurement	**Improving internal capacity**
✓ Funding for AI projects ✓ Revision of procurement processes	✓ Training on AI ✓ New public bodies

Comment

The strategy highlights that the public administration can be a first mover and an example for others to follow by using responsible AI. Therefore, one of the strategic objectives of the strategy is to introduce AI solutions into the public sector.

At least one **digital innovation hub** will be established, for advising on the development and deployment of AI within the private and public sector. Given a recognised skill shortage, support will be giving for **staff training and awareness-raising programmes**, such as courses or seminars, to acquire new skills and qualifications on AI related fields.

On data, the state will ensure that open public sector data will be available to a wide range of stakeholders in the Slovenian government.

Moreover, awareness of both the opportunities and the dangers of data integration, sharing and use between the public sector and the private/academic sector will be arose.

National AI Strategy - Spain

General information

Title	Estrategia Nacional de Inteligencia Artificial
Data of release	Dec 2020
Specific actions to public sector	STRATEGIC AXIS 3. Develop data platforms and technological infrastructures that support AI including in public administration STRATEGIC AXIS 5. Promote the use of AI in public administration and in national strategic missions

Link

Main highlights

- Promoting the use of AI in Spanish public administration is a priority action
- Guide will be introduced to help align with ethical principles and legislation
- Platforms for cooperation in research will help attract research on AI and transfer results
- Digital Innovation Hubs will provide a centre of excellence for public administrations on AI
- Improving internal capacity by providing training, making public sector jobs more attractive, introducing a master education on public sector AI and flexible recruitment processes
- A registry for AI applications in government will be launched
- Private sector will be involved to create high quality AI applications to be procured with innovative procurement processes

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Regulatory sandboxes	✓ Awareness campaigns ✓ Building an international community
Ethical and legal framework	**Improving data access and quality**
✓ Development of ethical frameworks ✓ Reform of data sharing laws	✓ Improving data quality ✓ Improving data access
Funding and procurement	**Improving internal capacity**
✓ Funding for AI projects ✓ Stimulation of GovTech startups ✓ Revision of procurement processes	✓ Training on AI ✓ New public bodies

Comment

In order to help the introduction of AI in the government, **a framework or guide** will be introduced which will adhere to ethical principles as well as the current legislation. To foster a **learning by doing process,** Digital Innovation Hubs will act as a one-stop shop where companies and public administrations can find a network to improve their digital transformation with AI. An innovation laboratory (GovTech Lab) is expected to be launched to develop new services and applications of AI in the public administration .

Spanish public administrations should also improve their training and the attraction of talent in AI. Hence, **AI training programmes** will be launched and included in promotion plans and professional careers.

Moreover, the strategy highlights the need to have **large volumes of high quality of data**. For doing so, a public data platforms will be created with the aim to secure data from different sectors which can be re-used in procedures of the various public administrations. The private sector will also be able to base their AI-based solutions on these datasets.

National AI Strategy – Sweden

Title	A National Approach to Artificial Intelligence
Data of release	May 2018
Specific actions to public sector	Key condition 2: Research. Sweden needs strong collaboration between business, the public sector and research in AI. Key condition 3: Innovation and use. Sweden needs pilot projects, testbeds and environments for development of AI applications in the public sector.

Link

Main highlights

- AI can contribute to a more effective public sector
- AI knowledge and expertise should be present in government agencies or accessible through the collaborative networks
- Pilot projects, testbeds and environments should be introduced to stimulate uptake in the public sector
- Ethical and regulatory framework will be introduced to mitigate ethical risks
- Need to develop collaborations and partnerships with other European countries

Strategy analysis

Learning by doing	Stimulating awareness and knowledge sharing
✓ Regulatory sandboxes ✓ Pilots projects	✓ Building an international community
Ethical and legal framework	**Improving data access and quality**
✓ Development of ethical frameworks	✓ Improving data quality ✓ Improving data access
Funding and procurement	**Improving internal capacity**
n.a.	✓ Training on AI

Comment

In order to accelerate the introduction of AI, it is mentioned that Sweden needs **pilot projects**, testbeds and environments for the development of AI in the public sector.

Sweden aims to take the lead in ethical, safe, secure and sustainable use of AI. Therefore, an **ethical and regulatory framework** is required with principles, norms, standards and rules to balance fundamental needs for privacy, ethics, trust and social protection with access to the data needed for AI.

The strategy recognises **data** as the lifeblood of AI. It also highlight that the Swedish public sector already has a high amount of high-quality data. Hence the usage of those data for AI development is considered a key aspect.

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