European Commission

Analysis of the generative AI landscape in the European public sector

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European Commission

Directorate-General for Digital Services
Directorate B — Digital Enablers & Innovation
Unit B2 — Interoperability and Digital Government (DIGIT.B.2)

Contact: KOTOGLOU Stefanos - Project Officer for the Public Sector Tech Watch
E-mail: Stefanos.KOTOGLOU@ec.europa.eu
European Commission
B-1049 Brussels

Personal Author(s)

Brizuela, Agustina;
Combetto, Marco;
Kotoglou, Stefanos;
Galasso, Giovanna;
Martin Bosch, Jaume;
Polli, Giovanni;
Tangi, Luca;

How to cite this report

"European Commission. Public Sector Tech Watch. Analysis of the generative AI landscape in the European public sector. Publications Office of the European Union, Luxemburg, 2025, ISBN 978-92-68-26008-1, doi: 10.2799/0409819"

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PDF ISBN: 978-92-68-26008-1 DOI: 10.2799/0409819 NO-01-25-001-EN-N

Linguistic Version: EN PDF Document published in 2025

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Abstract

This report provides a broad description of the adoption of generative AI (or GenAI) within the European public sector. It focuses on (i) guidelines and policies adopted within administrations to regulate the use of this emerging technology; and (ii) the multiple applications and use cases found in the Public Sector Tech Watch observatory. The public sector is quickly adopting GenAI solutions, but administrations are facing daily challenges related to implementation processes and effective public-private collaborations. Administrations are also facing other challenges in their regulatory efforts, primarily centred around human oversight; accountability; the importance of data protection; and governance, safety, fairness and transparency.

PUBLIC SECTOR TECH WATCH

The **Public Sector Tech Watch**[1] **(PTSW)** is an observatory **launched in 2023** by the European Commission and dedicated to monitoring, analysing and disseminating the use of AI, blockchain and other emerging technologies within the public sector in Europe. It is managed by the European Commission's **Directorate-General for Digital Services (DG DIGIT)** and the **Joint Research Centre (JRC)**, and is hosted within the Interoperable Europe Portal.

The PTSW functions as a **'one-stop shop' for all stakeholders – public sector officials, policymakers, private companies and academia** – who are looking for resources on the latest trends and developments in how emerging technologies can improve public sector operations and service delivery.

1 Public Sector Tech Watch website: https://interoperable-europe.ec.europa.eu/collection/public-sector-tech-watch

1 Overview

1.1 Context and objective of the report

The rapid emergence of generative artificial intelligence (generative AI or GenAI) has created transformative potential across a range of different sectors, including the public sector. Unlike traditional AI systems that are designed for specific tasks, GenAI systems can create new content (in the form of text, images or audio) and based on its training data. This capability has captured the attention of both the public and the private sectors, and adoption has accelerated as organisations experiment with its applications. EU public administrations are beginning to test and use GenAI tools for service delivery and administrative functions. This adoption presents a wide range of opportunities, but it also raises technical, organisational, legal and societal challenges.

This report examines how European public administrations are using emerging GenAI applications by leveraging data from the Public Sector Tech Watch (PSTW) observatory. It evaluates existing guidelines and procedures established by EU Member States to regulate how civil servants and employers use this technology; and analyses the GenAI use case repository provided by the PSTW. It also includes qualitative insights from five targeted interviews that the authors of this report conducted with public administration managers who are actively piloting and imlplementing GenAI solutions to improve administrative workflows and public service delivery.

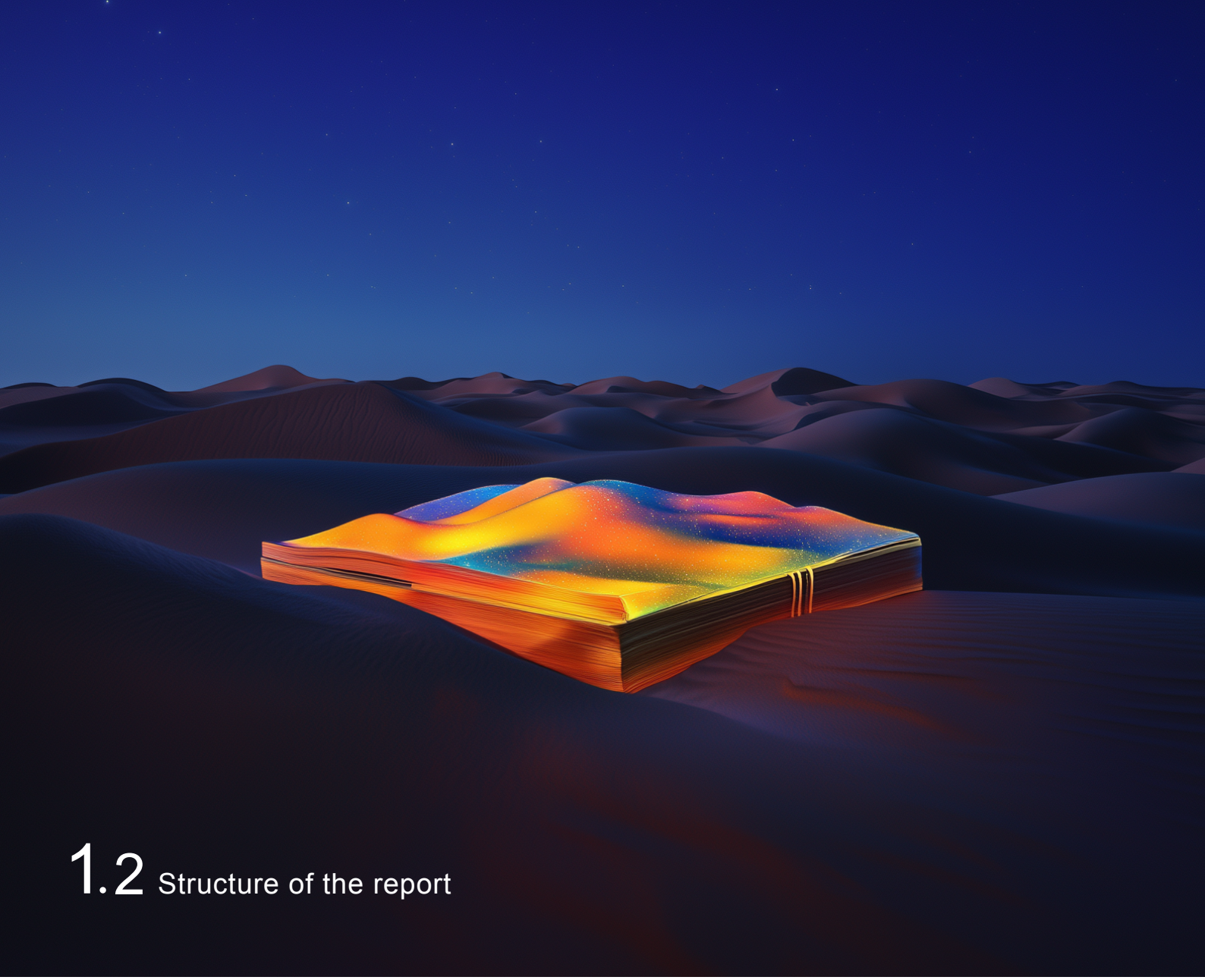
This report builds on previous reports that analyse the public sector's adoption of artificial intelligence (AI), blockchain and other emerging technologies. It is a first effort to build and share knowledge with specific regard to the adoption of GenAI technologies within European public administrations.

The report contributes to the body of knowledge in several ways. It shares up-to-date information on the adoption of GenAI within public administrations, providing stakeholders with a first overview of how European public administrations are starting to experiment with and use GenAI tools. Leveraging the PSTW online cases repository[2] allows this report to provide innovative data that provide insights into GenAI adoption. The number of use cases collected is lower than other AI-based technologies (representing only 4.24% of total AI use cases[3]), but it nonetheless signals a rapid uptake of the technology (with more than half of the cases being piloted or started in 2024 alone).

The report is also the first EU effort to map national, regional and local guidelines related to the use of GenAI within European public administrations. Moreover, the methodology used to gather, classify and analyse the identified documents can provide a methodological and taxonomic basis for future research on this matter, for EU bodies and academic researchers alike.

The report aims to improve knowledge-sharing and collaboration between European public administrations, encouraging continuous learning and improvement. It also aims to promote the ethical and effective use of GenAI in the public sector by giving stakeholders practical and strategic insights into its adoption and governance.

2 https://interoperable-europe.ec.europa.eu/collection/public-sector-tech-watch
3 This report analyses 61 GenAI cases, which are part of a collection of 1 343 AI use cases in the PSTW observatory collection.



1.2 Structure of the report

More specifically, this report contains the following sections.

- **Literature and policy landscape**

This section summarises the latest developments in GenAI literature, technology, systems and models; and provides a useful table explaining the key terms and concepts. It also includes a brief description of the EU's key GenAI policy instruments and support.

- **EU guidelines and policies on GenAI deployment and use**

This section analyses the mapped national, regional and local guidelines and policies that have been developed by EU Member States to shape and regulate the use of GenAI within their organisations.

- **Landscape of GenAI use cases in Europe**

This section gives a preliminary overview of all the GenAI use cases that the PSTW has collected. Building on quantitative and primary qualitative data analysis, it analyses the data of the use cases and focuses specifically on the relevant themes and patterns that were identified. A qualitative analysis based on five interviews with public administration managers actively piloting and implementing GenAI solutions identified some remarkable highlights that could be replicated in other public sector organisations.

- **Conclusion**

The conclusion summarises the key findings of the report and their implications for the future.

2 Literature and policy landscape

2.1 Generative AI: terminology and background

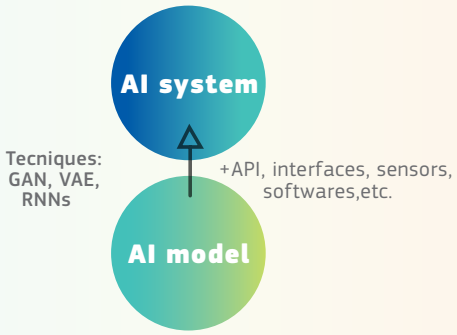
Terminology adopted

Before describing the latest GenAI developments, we provide a synthesis of a set of key concepts on the techniques employed and the models, systems and other aspects relevant to GenAI technologies, in alignment with the EU's AI Act. This report adopts the following definitions and aims at promoting the adoption of these concepts (Table 1).

Table 1. Generative AI Keywords

Keywords	Descriptions
Foundation model	The *foundation model* concept is a new machine-learning paradigm in which one large model is pretrained on a huge amount of data (broad data at scale) and can be used for many downstream tasks and applications (Bommasani et al., 2022). The learning objectives of foundation models tend to be general and largely focused on the structure of the data itself (i.e. learning representations directly from the data attributes without the need for a specific underlying truth). Examples of learning objectives are: (i) predicting the next word when given a sentence; (ii) capturing a distribution of images when given a text prompt; and (iii) capturing and encoding representative features of data (images, audio or text). Foundation models can therefore be the basis for GenAI. However, it should be noted that foundation models can also be used for 'non-generative' purposes. These would typically imply a more limited output (e.g. a numeric or discrete value) rather than generating a longer free-form output. Examples include text or image classification.
AI system vs AI model	An *AI system* is a machine-based system that (i) is designed to operate with varying levels of autonomy; (ii) may exhibit adaptiveness after deployment; and (iii) for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations or decisions that can influence physical or virtual environments (Regulation (EU) 2024/1689). An AI system comprises various components, including (in addition to the model or models) elements such as interfaces, sensors, conventional software, etc. Conversely, an AI model is the core computational engine of an AI system. From a scientific and technical standpoint and in accordance with ISO (2022) terminology, an AI model is a 'physical, mathematical, or otherwise logical representation of a system, entity, phenomenon, process or data' (Fernández-Llorca et al., 2024, p. 6) as described in Figure 1.
General-purpose AI system	A *general-purpose AI system* is 'an AI system which is based on a general-purpose AI model, and which has the capability to serve a variety of purposes, both for direct use as well as for integration in other AI systems' (Regulation (EU) 2024/1689 Article 3).
General-purpose AI model	A *general-purpose AI model* is an AI model 'that displays significant generality and is capable of competently performing a wide range of distinct tasks regardless of the way the model is placed on the market and that can be integrated into a variety of downstream systems or applications, except AI models that are used for research, development or prototyping activities before they are placed on the market' (Regulation (EU) 2024/1689).
Large language model (LLM)	*Large language models* (LLMs) are a type of AI model primarily used in natural language processing (NLP) and capable of specifically processing and generating human language, focusing on tasks like text completion, summarisation, translation and dialogue (Fernández-Llorca et al., 2024; OECD, 2023a). They are a type of generative AI model that can perform a wide range of different computational tasks (Fernández-Llorca et al., 2024). LLMs are built using machine-learning techniques (especially deep learning) and are trained on massive datasets that contain diverse texts. LLMs typically use architectures based on deep neural networks, specifically transformer models.
Pre-trained model	A *pre-trained model* is a machine-learning model that has already been trained on a large dataset and can often be adjusted for specific types of tasks. These models often serve as a useful starting-point for developing new machine-learning applications, because they come with pre-set weights that can be fine-tuned to meet the requirements of the target task (Encord, 2024)

Figure 1. Representation of an AI system and an AI model.



Source: Author`s own elaboration

Table 1. Generative AI Keywords

Keywords	Descriptions
Generative adversarial network (GAN)	A *generative adversarial network* (GAN) is a type of machine-learning model where two neural networks (known as the generator and the discriminator) compete against each other using deep learning techniques to improve their performance. GANs are unsupervised models and operate in a zero-sum game framework (Fernández-Llorca et al., 2024; OECD, 2023; TechTarget, 2024). During training, the generator's goal is to create data that the discriminator cannot easily identify as fake. Both networks are trained together, so the generator gets better at producing realistic outputs, while the discriminator becomes better at detecting artificially created data. This adversarial process continues in a feedback loop, driving the generator to produce higher-quality outputs. For example, GANs can generate highly realistic images of human faces that do not belong to any real person (TechTarget, 2024).
Variational autoencoder (VAE)	A *variational autoencoder* (VAE) is a type of generative model used in machine learning to create new data that resemble the input data they were trained on. VAEs consist of two main components: the encoder and the decoder. This allows VAEs to learn how to extract key features from the input data (encoder) and use those features to recreate the original input (decoder) (IBM, 2024).
Recurrent neural network (RNNs)	A *recurrent neural network* (RNN) is a type of deep-learning model able to process sequential or time-series data. RNNs excel in tasks where the input data varies in length and is ordered. RNNs work through a structure composed of a hidden state that captures past information and feedback loops that allow the network to feed the hidden state back into the model, thus enabling it to process sequences of data (MathWorks, 2024).
Transformers	*Transformers* (or transformer architectures) were introduced in 2017 and revolutionised natural language processing (NLP) by enabling models to handle long-range dependencies in text more efficiently than previous methods, such as recurrent neural networks (RNNs) and long short-term memory (LSTM) networks (OECD, 2023a). Key components of transformer architectures are: • *positional encoding*, which provides information on the position of each part of an input sequence (e.g. a sequence of text). Transformer models process data in parallel rather than sequentially, so positional encoding helps the model maintain the correct order of words when generating the output; • *the attention mechanism*, which draws connections between the different parts of the input sequence, thus allowing a language model to focus on previously hidden vectors in an input sequence to predict an output sequence; • *the self-attention mechanism*, which assigns varying levels of importance to different words within the same sentence. This helps the model capture dependencies between words.
AI hallucinations	*Hallucinations* are a phenomenon related to LLMs and other generative AI tools wherein the model occasionally generates non-existent or inaccurate content, which may not even be based on training data. These misinterpretations (also known as confabulations) occur due to various factors, such as overfitting, training data bias/inaccuracy and high model complexity (IBM, 2023). Purely connectionist systems, such as LLMs, might lack mechanisms for maintaining consistency and logical coherence, especially in tasks requiring abstract reasoning or symbolic representations. This can lead to the generation of hallucinations (Marcus, 2001).
Prompt engineering	*Prompt engineering* is the process of crafting and structuring instructions or 'prompts' for LLMs to optimise their performance for specific tasks. It is a form of programming where prompts define context, rules and desired outputs. It involves crafting clear, specific and detailed prompts that can guide the model's output with the main purpose of preventing hallucinations. Effective prompt engineering employs techniques like persona setting (where the LLM assumes a role), output customisation (which formats the responses) and question refinement (which suggests improved queries for better interaction). These methods, documented in reusable prompt patterns, help address common challenges in LLM interactions (e.g. accuracy, clarity and task automation) (White et al., 2023).

GenAI development: a background overview

In recent months, GenAI has rapidly become a focal point in discussions about technological innovation, capturing the attention of both the public and the private sectors. Unlike traditional AI systems designed for specific tasks, GenAI systems can create and generate new content in response to prompts, based on their training data. These models can generate not only text but also images, videos and audios (or combinations of all three of these elements). This capability is powered by deep-learning models that have been trained on vast amounts of data to learn underlying patterns and distributions (Lorenz et al., 2023).

Broadly speaking, **generative AI** can be conceptualised as a branch of deep-learning models. In fact, the term 'generative' as applied to AI comes from the term 'generative learning', which is well known in the machine-learning domain. Generative learning models are focused on learning how the data are distributed – in contrast to discriminative models, which are focused on predicting the labels of the data. The term 'generative AI' has become widely used, particularly after the emergence of consumer-facing products such as ChatGPT or Midjourney (Fernández-Llorca et al., 2024).

The first techniques developed in this field include generative adversarial networks (GANs), variational autoencoders (VAEs), recurrent neural networks (RNNs) and transformers (Fernández-Llorca et al., 2024; Goodfellow et al., 2014). Some of these older architectures (like VAEs, GANs and RNNs) have been used since at least 2014, but their limited scalability has prevented them from being considered as foundational models.

GenAI does not always involve the use of foundational models. However, the more powerful generative models, which are based on architectures like GPT and diffusion models, are now considered foundational and have most recently been associated with the GenAI concept. The underlying concept of GenAI has existed for a while, but the recent widespread use of the term is linked to newer, more powerful AI models rooted in the development of deep neural networks, which started in the 1950s and have progressed through vast research. The earliest developed generative models are a subset of the AI technologies that is known as natural language processing (NLP), and which understands and uses human language as an input.

"Recent progress in machine learning such as the publication of transformer architecture by Google researchers in 2017 (Vaswani et al., 2023)" has allowed improvements in large language models (LLMs) that enable text generation (Fernández-Llorca et al., 2024). Some examples are the conversational generative pre-trained transformer agents commonly known as GPTs (e.g. Open AI's ChatGPT, Google's Gemini and Microsoft's Copilot). Other actors that develop or support LLMs include Anthropic, DeepMind (owned by Google), Meta, as well as Baidu, the Beijing Academy of AI (BAAI), Amazon, Hugging Face, Yandex (OECD, 2023b). These models can perform tasks such as text completion, summarisation, translation and dialogue generation.

Besides human language creation, other generative models can generate images, video and audio using architectures like GANs, VAEs or diffusion models (Fernández-Llorca et al., 2024). Examples include DALL-E, Midjourney and Stable Diffusion for image generation, and WaveNet and DeepVoice for audio synthesis (OECD, 2023b). LLMs and these other generative models share some underlying technologies (e.g. transformer architectures) but are customised for different data types and tasks. For instance, image generation models may incorporate a text-processing

component to understand input prompts, but they are distinct from LLMs (Fernández-Llorca et al., 2024).

The future frontier is the creation of artificial general intelligence (AGI), which might resemble current general-purpose AI systems (e.g. advanced large language models like OpenAI's ChatGPT-4 and GPT-4o). With AGI, autonomous machines would become capable of general intelligent action that goes beyond language-processing and creation. Like humans, they would generalise and abstract learning across different cognitive functions. AGI would have a strong associative memory and be capable of judgement and decision making. It could solve complicated problems; learn through reading or experience; create concepts; perceive the world and itself; invent and be creative; react to the unexpected in complex environments; and anticipate (OECD, 2023b).

2.2 The EU policy landscape and future trends

The AI Act, the AI innovation package and the GENAI4EU initiative

GenAI models started proliferating after the EU institutions began their work on regulating AI. This prompted the EU's legislators to include and conceptualise GenAI systems in the final version of the EU AI Act. In the legislation, GenAI is covered under the regulation of **general-purpose AI (GPAI) models**, whose definition recognises broad and varied applications of this type of technologies.

'*General-purpose AI model*' means an AI model, including where such an **AI model is trained with a large amount of data using self-supervision at scale, that displays significant generality and is capable of competently performing a wide range of distinct tasks** regardless of the way the model is placed on the market and that can be integrated into a variety of downstream systems or applications, except AI models that are used for research, development or prototyping activities before they are placed on the market (Regulation (EU) 2024/1689, Article 3).

The AI Act applies a risk-based approach in which GPAI models are subject to certain regulatory standards, depending on their level of risk. The EU's AI Office launched a stakeholders consultation process on the future guidelines for GPAI systems and models that all private providers must respect in the future for a safe and secure deployment of AI models. At the time of writing this report in November 2024, the first draft of the first Code of Practice was released to the public and the final general-purpose AI Code of Practice was expected to be released and signed by GPAI providers in May 2025.

Following the political agreement reached on the EU AI Act, the Commission also released the new **AI Innovation Package** in January 2024. This was aimed at boosting the development of trustworthy AI by EU start-ups and small and medium-sized enterprises (SMEs). The Package establishes a new AI Office and releases funds for several measures. The Package also contains the **EU AI Start-Up and Innovation Communication** (whose aims include boosting innovative applications for GenAI in Europe's industrial ecosystems) while also upholding EU values, tackling risks and promoting the responsible use of AI.

The Package is intended to upgrade the EU's **supercomputing resources** and make them accessible to AI start-ups for developing and training GenAI systems, through the creation of **AI factories**. The Package also provides financial support for GenAI, investing around EUR 4 billion until 2027 through Horizon Europe and the Digital Europe Programme. The Commission will not only upgrade infrastructure but also support the development and implementation of Common European Data Spaces to ensure the availability of high-quality data repositories.

Initiatives to strengthen the **GenAI skills of the EU workforce** are planned for educating, training, skilling and reskilling workers.

The Package includes the **GenAI4EU initiative**, which aims to support emerging GenAI applications through the development of innovative use cases in 14 industrial ecosystems and across the public sector (including application areas include robotics, health, biotech, manufacturing, mobility, climate and virtual worlds).

The Commission is also encouraging organisations to prepare for the implementation of the upcoming AI Act through a voluntary initiative known as the **AI Pact**, which was launched in response to the AI Act coming into force. The Pact aims to promote the early implementation of the AI Act's provisions and is structured around two main pillars:

- **community building**, where the Pact aims to create a network of organisations committed to responsible AI. This network would both promote the exchange of best practices and provide practical guidance on implementing the AI Act through workshops and information sharing;

- **early implementation**, where the Pact encourages organisations to make voluntary pledges to implement certain aspects of the AI Act ahead of schedule (through actions like AI governance strategies, identifying high-risk AI systems, and promoting AI literacy among staff).

Challenges in the European public sector and related regulatory actions

The rapid spread, evolution and development of GenAI technologies presents public administrations with both **challenges and opportunities** when it comes to promoting the strengthening of EU GenAI industries, and trustworthy adoption and use across the private and public sectors.

Public administrations across the EU are facing increasing challenges related to t**echnological infrastructure** (particularly the availability of computational resources) in order to facilitate the

widespread adoption of GenAI across various sectors. Training large GenAI models requires substantial processing power and resources. The considerable costs associated with this pose entry barriers to start-ups and SMEs. To address this, the EU has amended the Regulation establishing the European High-Performance Computing Joint Undertaking in order to facilitate funding for the development of AI factories capable of training large general-purpose AI (GPAI) models; and to widen access to AI for a broader range of public and private users (including start-ups and SMEs).

Another key challenge is the **development of language models** for some European local languages other than English (especially regarding conversational models trained and able to interact based on European data). This is crucial for improving the performance of GenAI models in those languages; for improving the models' knowledge of European datasets; and for ensuring EU data sovereignty. 56% of open-source datasets available in the Hugging Face platform are in English (other European languages such as French, Spanish, German or Portuguese only account for 3.4%, 2.8%, 1.7% and 1.7% respectively). In 2024, the Commission therefore set up a new European Digital Infrastructure Consortium (the Alliance for Language Technologies EDIC (ALT-EDIC)) to allow the Member States to pool funding and other resources in order to promote the development of innovative LLMs with multilingual and multimodal capabilities[4].

Other challenges arise in relation to further resources needed, such as the availability of **high-quality, structured datasets** on the EU's and Member States' information in European languages to train EU models properly on history, economy, legislation, health, education, etc. This is also addressed by the ALT-EDIC, which leverages the European Language Data Space to create a common EU data infrastructure to train LLMs.

Another challenge facing public administrations is ensuring **regulatory compliance** with the AI Act and trustworthy use of AI – not only across industry and the private sector, but also in public sector organisations. The AI Act therefore requires each Member State to establish **regulatory sandboxes** (at national level or jointly with the competent authorities of other Member States) and to allocate sufficient resources to them. These sandboxes provide a controlled environment for developing and testing innovations in the pre-marketing phase and for proving compliance with the AI Act. The AI Act gathers regulations and principles such as the **General Data Protection Regulation** (GDPR) and the principles for **trustworthy AI**, based on the *European Declaration on Digital Rights* and Principles for the Digital Decade and the *Ethics guidelines for trustworthy AI* of the High-Level Expert Group on Artificial Intelligence.

EU Member States and public administrations are also currently addressing the practical implications of GenAI adoption. Measures include **promoting the responsible and spontaneous use of AI tools by public employees**; safeguarding citizen data; ensuring explainability and trustworthiness; and maintaining data sovereignty when procuring these kinds of systems. The increasing adoption of GenAI systems in the public sector means that it is crucial to **equip public employees with the necessary skills** to develop, test and responsibly use these technologies; and to properly communicate and explain them to the public. Public administrations are therefore developing guidelines, protocols and policies to promote good practices in the public sector.

4 The Consortium is coordinated by France and includes 17 Member States (Bulgaria, Croatia, Czechia, Denmark, Finland, France, Greece, Hungary, Ireland, Italy, the Netherlands, Latvia, Lithuania, Luxembourg, Poland, Slovenia and Spain) and 8 observing Member States (Austria, Belgium, Cyprus, Estonia, Malta, Portugal, Romania and Slovakia). For more information, see: https://language-data-space.ec.europa.eu/related-initiatives/alt-edic_en.

3 EU guidelines and policies on GenAI deployment and use

3.1 Methodology for the guidelines and policy-mapping

This report is the first deliberate effort to map (within the PSTW observatory and EU research) public administrations' measures to guide, shape or regulate the use of GenAI-powered tools – not only by public servants but also, to some extent, by businesses and the public. In researching it, we used a qualitative and quantitative analysis to identify policies, guidelines and other documents that EU Member States' public administrations had produced on the use of GenAI solutions within their organisations.

Data collection

Our research strategy was to collect publicly available information from official government websites, official repositories of international organisations, and research institutions. We conducted a wide-ranging desk review of online publicly available information to collect – for the first time – guidelines, rules and policies on the use of GenAI within EU administrations. Our structured methodology involved:

1. developing a **search strategy** to identify the relevant keywords, languages and administrations the research should cover;

2. using a systematic search approach to conduct **AI-powered keyword searches** in the **official languages** of each EU Member State across official government webpages, research institutions' repositories and international organisations' open data, in order to identify relevant documents;

3. including any local or regional administrations' guidelines or policies identified in the analysis, even though they were outside the original scope of this policy-mapping;

4. structuring and **cleaning the data, categorising** each guideline or policy according to a defined taxonomy that is presented below.

Taxonomy

The PSTW team developed a preliminary taxonomy to facilitate the qualitative analysis of the collected documents. This taxonomy was designed to provide an initial analytical framework. It drew on the classification system previously used to ensure that data fields are consistent and applicable to generative AI use cases, guidelines and policies. New data fields have been added in order to enable detailed analysis and categorisation of the mapped documents. Table 2 outlines the taxonomy fields.

Table 2. Guidelines and policy-mapping taxonomy.

Field	Description	Source
Name of the document	Indicates the official name of the document.	Document metadata
Link	Indicates the official website source (when possible) or another relevant source.	Web
Description	Briefly describes the document (possibly including context and main insights).	Produced by the author
Type of document	Indicates the typology of the document or initiative: • **Policy**: high-level document (e.g. a strategic outlook, policy strategy, agenda or strategic plan) that outlines overall goals, values and intentions, thus providing a guide for an action plan or more specific rules and procedures. • **Rule or regulation**: specific, enforceable statements (often adopted by legislative or regulatory bodies) that define what is allowed or prohibited. They provide clear boundaries for public servants' actions and are mandatory. • **Guidelines**: non-binding recommendations that offer advice and guidance on preferred methods, good practices or recommended approaches. • **Rules of procedure or protocol**: step-by-step instruction on how to carry out specific tasks or processes within the organisation. They are usually mandatory and applicable in a specific context, thus ensuring consistency and compliance.	Produced by the author based on EU vocabulary terms
Geographical extent, coverage (country) and NUTS 2021 code	Indicates whether the policy/rule/regulation/guideline/protocol has been implemented at local, regional, national or EU levels, the Member State and its NUTS 2021 code	Produced by the author or by EUROSTAT
Responsible organisation name and category	Indicates the responsible organisation or owner of the guidelines/ proposal and the type of administration (central government, regional government, local government, EU institution or agency, university or research institution).	Produced by the author
Status	Indicates the stage of implementation of the policy, guideline, procedure or rule.	Produced by the author
Year of publication/ approval	Indicates the year of publication of the guidelines or approval of the policy.	Produced by the author
Intended user	Indicates the target of the document: • **internal users within single public organisations**: the document applies only internally to employees within the administration or the body issuing the policy, guidelines or rules. • **public sector only**: the document targets all employees of public organisations within a state, region or municipality. • **public and private sectors**: the document targets all persons in public organisations and private entities willing to use GenAI tools.	Produced by the author
Target technology	Indicates whether the document focuses on: • **AI** in general (possibly including generative AI) • **generative AI** specifically (excludes other AI systems).	Produced by the author

Data analysis

The data analysis comprised both qualitative and basic quantitative analyses. Qualitative thematic analysis was conducted in order to identify and analyse the key themes and patterns emerging from the documents collected. The analysis was guided by the predefined taxonomy, which categorised documents based on their type (e.g. policy, guideline or procedure), geographical scope (e.g. national or regional), responsible organisation (e.g. central government or local government), status (e.g. in development or approved) and target technology (e.g. GenAI).

To identify thematic trends, the qualitative analysis used the seven key requirements (human agency and oversight, technical robustness and safety, privacy and data governance, transparency, diversity, non-discrimination and fairness, societal and environmental well-being and accountability) presented in the Ethics Guidelines for Trustworthy AI of the AI HLEG[5].

The characteristics of the collected dataset were summarised using descriptive statistics, such as the number of documents per country and the distribution of document types. A qualitative analysis of the documents addressed specific themes and themes common across all guidelines and policies.

Limitations

The methodology has some inherent limitations, because this mapping exercise was only a first approach to identifying documents relevant to GenAI use polices across the content and it relied exclusively on secondary data sources. The findings cannot therefore be considered as statistically representative for the purpose of understanding guideline development in the EU. Further research to amplify the variety of available data sources employed is to be encouraged. This present work aims to lay the groundwork for future studies and the further collection of guidelines in a structured manner, expanding the basis of the taxonomy proposed. As the research efforts continue, we expect more guidelines, policies and documents to be identified, enlarging this first repository.

5 Ethics guidelines for trustworthy AI: https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai.

3.2 Landscape of generative AI guidelines and policies across the EU

We collected a total of **33 documents** (including 29 documents in 17 EU Member States). These comprised:

- 4 documents from EU institutions and agencies;
- more than 1 document (including guidelines and policies released by local or regional administrations) for 9 Member States (5 for Sweden; 3 for Germany; and 2 each for Estonia, Ireland, Greece, Spain, France, Italy and Austria);
- 1 document each for 8 Member States (Belgium, Denmark, Cyprus, the Netherlands, Poland, Portugal, Romania and Finland).

Most (19) of these documents were produced by **national administrations**, who issue recommendations for internal purposes, for the public sector, or for the public and private sphere in general. **Local governments** produced 7, **EU authorities** produced 4 and **regional institutions** produced 3.

Broken down by document type, 23 of the documents are **guidelines**, 5 are **rules or regulations**, 3 are **policy documents**, and 2 are rules of **procedure or protocols**. Of the guidelines: 19 were developed by national administrations, 8 by local and regional authorities, 4 by EU institutions or agencies, and 2 by universities.

29 of the collected documents had already been approved or published at the time of writing this report. The remaining 4 were still at the drafting stage. Of the 29 documents already published, 26 were published in 2024 and 3 in 2023, which illustrates how very recent such documents are. The complete list of documents is in **Annex I**.

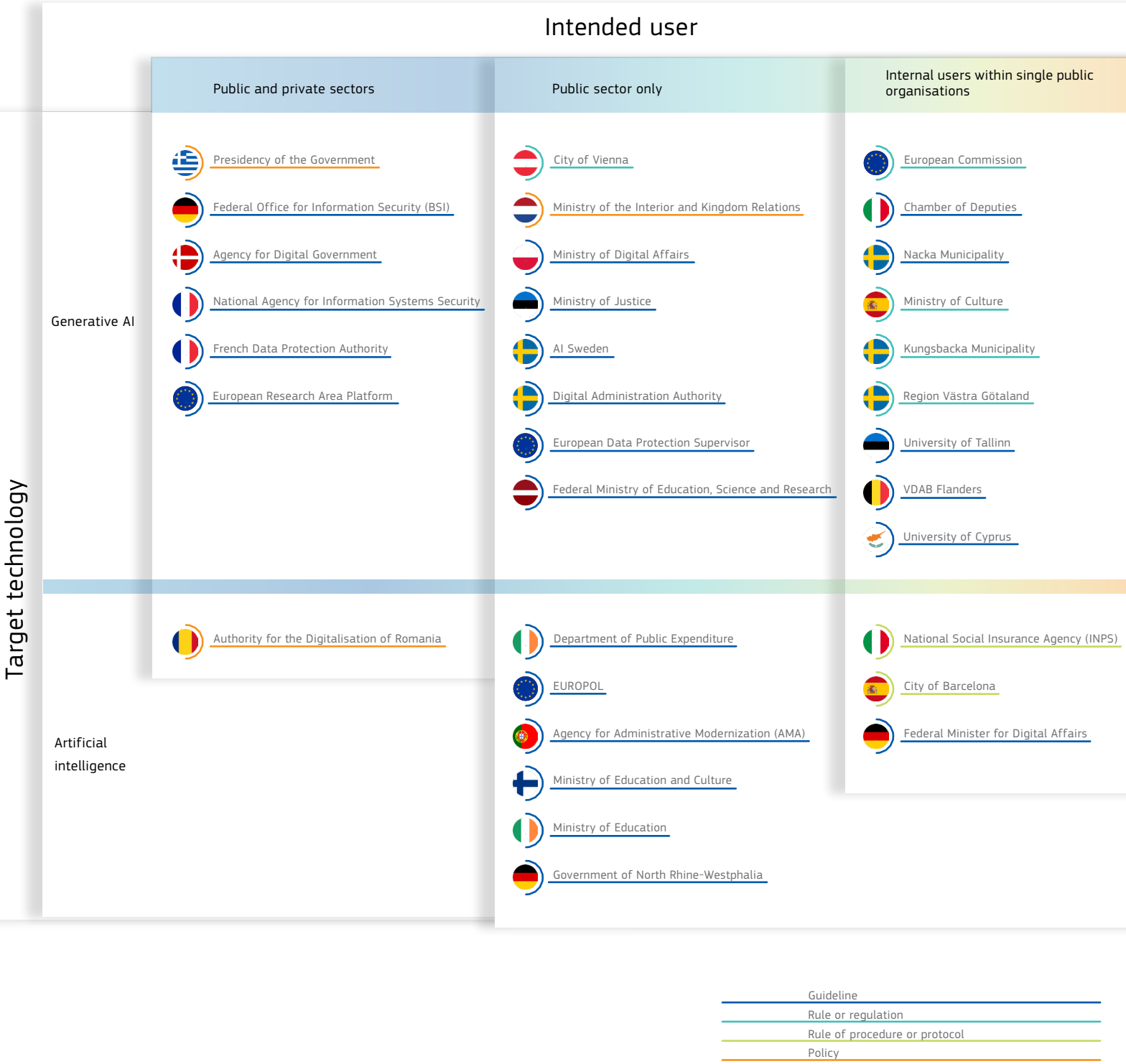
The documents were also classified according to **intended users and target technology** (see Section 3.1, Table 2 on the taxonomy) to have a better understanding of the status of guidelines and policies on GenAI. The **intended user** is defined as the stakeholder targeted by the document, either to ensure compliance or to promote compliance. Some of the documents address both public sector organisations and private companies (including the general public to some extent), while others target only public sector organisations or are internal documents for a single public administration. However, **target technology** refers to whether the document addresses AI in general (including but not limited to GenAI) or focuses exclusively on GenAI.

As **Figure 2** shows, most of the documents **are addressed either to both public and private sector organisations or only to public sector organisations (21 out of 33**, i.e. the first two columns in Figure 2). **14 of these 21 focus on generative AI only**. The fact that most of the documents specifically address GenAI is not surprising, given the emerging uncertainty regarding the challenges and risks inherent in these new AI models and systems. The guidelines and policies are usually written or published by government agencies for digital affairs or information security (e.g. in Denmark, Germany, France, Poland or Sweden) or EU-level agencies. Sweden has issued guidelines not only for national administrators but also for all local governments that wish to experiment, pilot and use GenAI for clerical or administrative tasks. Other interesting examples include the Estonian Ministry of Justice's guidelines for AI use in public bodies, the Austrian Ministry of Education's guidelines for the use of generative AI in schools, and the Dutch Ministry of Interior's strategy on GenAI for the whole government. The Italian Chamber of Deputies (one of the two national legislative bodies) has issued a report on how GenAI-based tools can support legislative documentation and parliamentary activities.

12 of the documents are guidelines or policies issued by individual organisations to regulate employees' use of AI and 9 focus specifically on GenAI (Figure 2, third column from the left). These documents address either the way in which employees use AI models to carry out daily administrative tasks or the safest way to integrate these tools into internal processes and IT procedures. GenAI models are used not only through online and publicly available tools (e.g. Open AI's ChatGPT) but also through internal systems designed and tailored by external providers. Examples of guidelines for employees of an individual organisation include the Commission's protocol for GenAI use and the Italian National Social Security Agency's guidelines for organisation-wide deployment of ad hoc solutions based on generative AI.

Figure 2 below gives an overview of the 33 documents mapped and explained above. The y-axis categorises documents based on their target technology (AI in general or generative AI specifically). The x-axis indicates the intended users (both public and private sector; public sector only; or internal users within an individual public organisation, as described above). The colour-coded boxes represent the type of document (as per the taxonomy presented in Section 3.1).

Figure 2. Guidelines, policies and rules on the use of GenAI within EU Member States.



3.3 Results analysis

A review of all the 33 documents revealed many common themes covering a wide range of organisational, legal and technical matters. To provide structured and meaningful insights, **a thematic analysis has been conducted of the documents based on the seven key requirements detailed in the AI** HLEG's Ethics Guidelines for Trustworthy AI, as described in the methodology (Section 2.1). The AI HLEG identified these seven key requirements in order to guide the implementation of trustworthy AI based on the **four ethical principles of respect for human autonomy, prevention of harm, fairness and explicability**. The seven key requirements are summarised below:

1. **Human agency and oversight**: 'AI systems should empower human beings, allowing them to make informed decisions and fostering their fundamental rights. At the same time, proper oversight mechanisms need to be ensured, which can be achieved through human-in-the-loop, human-on-the-loop, and human-in-command approaches.' (AI HLEG, 2019).

2. **Technical robustness and safety**: 'AI systems need to be resilient and secure. They need to be safe, ensuring a fall-back plan in case something goes wrong, as well as being accurate, reliable and reproducible. That is the only way to ensure that also unintentional harm can be minimised and prevented.' (AI HLEG, 2019).

3. **Privacy and data governance**: 'Besides ensuring full respect for privacy and data protection, adequate data governance mechanisms must also be ensured, taking into account the quality and integrity of the data, and ensuring legitimised access to data.' (AI HLEG, 2019).

4. **Transparency**: 'The data, system and AI business models should be transparent. Traceability mechanisms can help achieve this. Moreover, AI systems and their decisions should be explained in a manner adapted to the stakeholder concerned. Humans need to be aware that they are interacting with an AI system, and must be informed of the system's capabilities and limitations.' (AI HLEG, 2019).

5. **Diversity, non-discrimination and fairness**: 'Unfair bias must be avoided, as it could have multiple negative implications, from the marginalisation of vulnerable groups to the exacerbation of prejudice and discrimination. Fostering diversity, AI systems should be accessible to all, regardless of any disability, and involve relevant stakeholders throughout their entire life circle.' (AI HLEG, 2019).

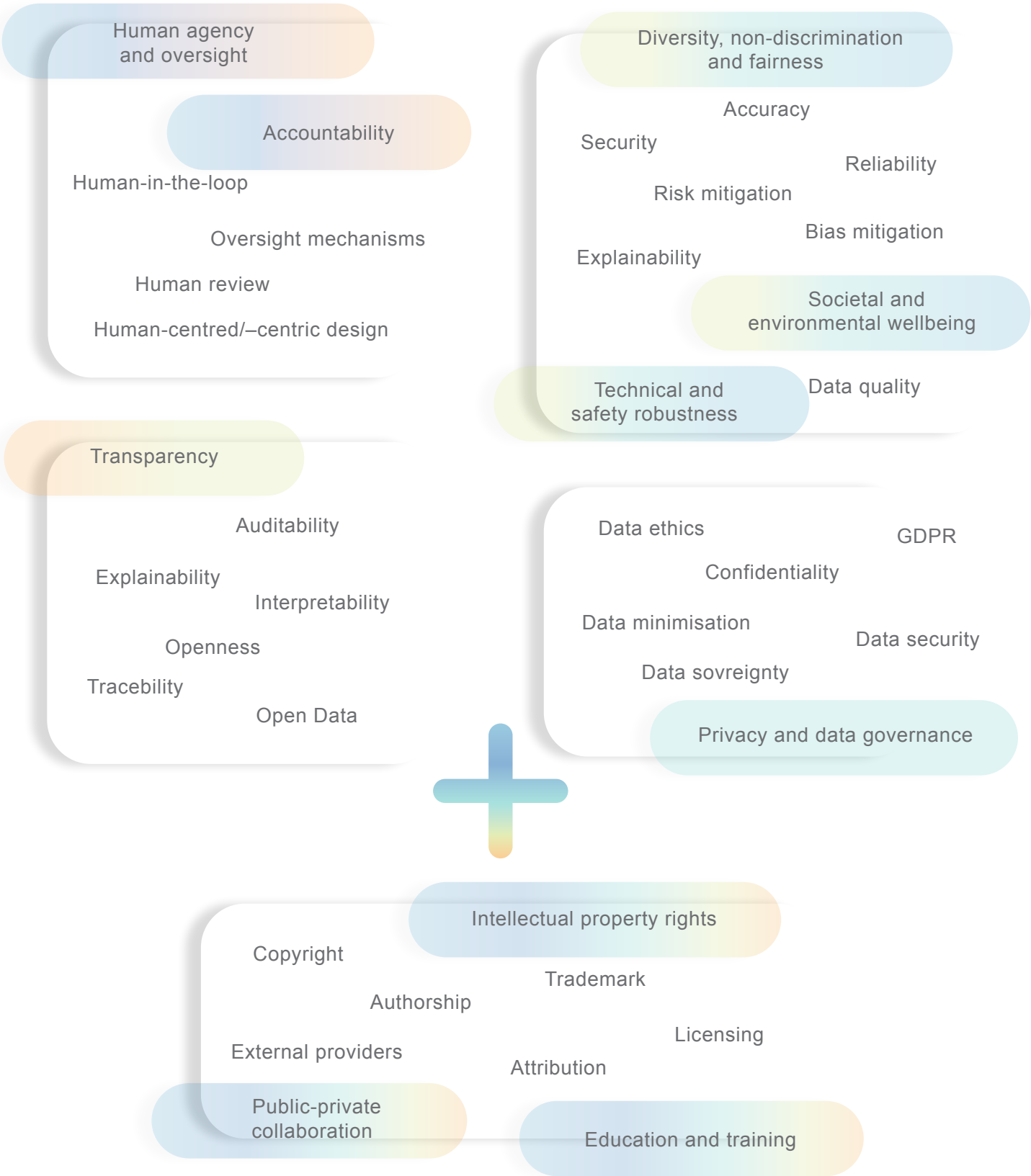
6. **Societal and environmental well-being**: 'AI systems should benefit all human beings, including future generations. It must hence be ensured that they are sustainable and environmentally friendly. Moreover, they should take into account the environment, including other living beings, and their social and societal impact should be carefully considered.' (AI HLEG, 2019).

7. **Accountability**: 'Mechanisms should be put in place to ensure responsibility and accountability for AI systems and their outcomes. Auditability, which enables the assessment of algorithms, data and design processes plays a key role therein, especially in critical applications. Moreover, adequate and accessible redress should be ensured.' (AI HLEG, 2019).

The analysis also identified three other major themes: **intellectual property rights protection; education and training** in using new tools; and **public-private collaboration** (particularly as regards privacy and data governance).
All these 10 themes are presented and aggregated in four groups (Figure 3) based on their thematic similarity, namely:

- human agency/oversight and accountability with respect to the use of GenAI tools;
- transparency in the use of these tools;
- diversity, non-discrimination and fairness, technical and safety robustness, and societal and environmental well-being safeguards linked to GenAI systems and models;
- privacy and data governance aspects when implementing GenAI solutions. The next section describes the insights from the thematic analysis in more detail.

Figure 3. Main themes identified in the guidelines and policies collected with respect to GenAI deployment.



Source: Authors' own elaboration

Main themes addressed

Human agency and oversight and accountability are among the most common themes, appearing in 29 documents out of 33. Public administrations explicitly state that human users should remain responsible for the content generated with AI tools, and that users should remain solely accountable for the content generated. The use of AI tools to generate and modify content might seem to shift accountability from the human to the machine, but users should be accountable and responsible for the results produced under their oversight. All the documents that were mapped were agreed on this principle. Some examples are cited below.

- The **City of Vienna** (Austria) emphasises the importance of human oversight in using text-based AI tools, acknowledging that they can generate inaccurate or misleading content (known as 'AI hallucinations' or 'confabulations'). It places the responsibility for the content created on the '(human) users' .

- The **Kungsbacka and Nacka municipalities** (Sweden) stress the importance both of inputting reliable data into AI systems and of ethically employing their output. They urge employers to mitigate risks while maximising the potential benefits of AI by checking the content generated and ensuring it is correct and ethical. They invite users to follow the applicable legislation and guidelines when handling information, so as to utilise the tools in a trustworthy manner.

- The **Italian Chamber of Deputies** notes that ownership, human accountability and control are fundamental in AI usage in order to ensure that legal and democratic procedures are upheld. Those involved in determining which AI systems are used and those who use them must be accountable for their decisions, thus helping to ensure compliance with parliamentary prerogatives and individual rights and freedoms.

- The **Irish Department of Public Expenditure** acknowledges AI can be used to generate evidence for improved decision-making but also emphasises that it cannot be used as a substitute for human judgement. Human decision-makers must ultimately make the final decisions In high-risk circumstances.

- The **Administrative Modernisation Agency** (Portugal) highlights the multifactorial and distributed nature of accountability in AI systems, involving interactions with various individuals such as designers, developers and end users. Human operators play a key role because they are responsible for their actions within the system's workflows. Actions should therefore be clearly traceable across the whole chain of responsibility, so that operators and users can be held accountable for how they interact with the AI system.

- The **Commission** prohibits the direct reproduction of generative AI model outputs created with online and publicly available tools in official Commission documents (particularly those that are legally binding).

Our research also identified **privacy and data governance** themes that concern both the public and the private sectors. These themes include GDPR standards for personal data protection and sensitive information security. All the guidelines and policies we collected addressed the topic of data protection (in line with GDPR requirements) but some particularly interesting insights are cited below.

- The **Commission** states that employees must refrain from sharing any non-public or personal data with generative AI models. A key risk is the unauthorised disclosure of information that has been shared during work because any input given to a generative AI service can be used to generate future outputs that may become publicly accessible.

- The **French Cybersecurity Agency** (ANSSI) and French **Data Protection Authority** (CNIL) state that models should consider data privacy issues by design – not only in the public sector but also in the private one – because GDPR guidelines apply everywhere.

- The **Polish government** advises against sharing sensitive data with generative AI and highlights the importance of using systems that prioritise confidentiality and data protection. It also urges caution when entering information (particularly classified, official or personal data) into AI tools.

The **technical robustness, safety, diversity, non-discrimination and fairness** of GenAI tools must be accurate and reliable. 20 of the documents we found address this need, because it is closely linked to **societal and environmental well-being**. Unfortunately, these models may suffer from AI hallucinations (see glossary above) which can produce unreliable, inaccurate and biased outputs, and ultimately affect users. AI-generated content should therefore be subject to critical review for accuracy and ethical acceptability. Examples include:

- The **City of Vienna** (Austria) and the **Flemish Digital Agency** (Belgium) address the issue of AI hallucinations. They recommend critical reviews, accuracy checks and assessments of ethical acceptability. Significant concerns with generative AI are the potential unreliability of the text produced, and the accuracy and integrity of the data on which the generated content is based. The model is trained on a wide range of texts from various sources, so it may include biases or generate hallucinations. Users are also advised to contribute their own insights and use their own judgement to validate the output generated.

- The **Polish government** also notes the risk that AI systems may generate misleading or inaccurate content (hallucinations) and requires officials to explicitly disclose the content generated by GenAI tools (including a footnote with the name of the tool and the date of output generation). It requires its employees to verify any AI-produced information, because it may sometimes include false information and sources.

- The **Austrian Federal Ministry of Education, Science and Research** and the **Government of North Rhine-Westphalia** (Germany) recommend clearly identifying AI-generated or AI-edited content. Ensuring accuracy and dependability is critical, especially in fields like research and education. Moreover, many universities in Member States such as Estonia and Cyprus are also working on creating regulations on the use of AI in academic work and evaluations.

Transparency is another key aspect identified across the guidelines and policies (it is addressed in 29 documents). It applies both to employees (who should be transparent when producing content using GenAI) and to public administrations (who should clearly indicate when they are using GenAI tools). Users should be aware when they are engaging with AI-generated content. Legally binding decisions should not be outsourced to generative AI models, because their internal workings are not transparent or known and they might therefore act as 'black boxes', leading to low levels of explicability and therefore transparency. External providers must also be transparent with administrations on data management and output creation, in compliance with the EU AI Act, and this is reflected in policies and guidelines as well.

- The **German Federal Office for Information Security** states that developers and operators need to provide adequate information on any AI tool they develop, so that users can make informed decisions about whether the AI model is suitable and appropriate for them. They should clearly explain the associated risks, safeguards implemented, and any residual risks or limitations. Better explanation of how LLMs generate content can also improve transparency at a technical level.

- The **Italian Chamber of Deputies** requires decisions and processes related to the use of AI systems to be explained, specifying that explanations must be public and understandable, and thus allow democratic control. It has mandated the Italian Parliament to obtain the information and rights needed in order to correctly explain how AI systems are being used and how they function. In addition, all AI-generated outputs need to be easily recognisable and distinguishable.

- The **City of Vienna** (Austria) requires any content produced with the support of AI tools to be clearly indicated.

- The **Danish Agency for Digital Government** requires careful assessment of whether or not AI models' results should be used to make decisions affecting citizens or businesses. Management are responsible for ensuring that AI tools are used appropriately and transparently, especially when used in public services.

Most of the documents (19) raised the new and overarching issue of compliance with intellectual property rights. AI models such as online chatbots might have been trained on material protected by copyright legislation – thus breaching copyright protection – but their users might not be aware of that.

- The **Flemish Digital Agency** (Belgium) tells public employees to check AI-generated output because publicly available materials might be used without permission – which could be considered an infringement of copyright and intellectual property.

- The **Danish Agency for Digital Government** warns that AI-generated outputs should be flagged as such and that intellectual property rights need to be considered, because generative AI may combine elements from copyrighted or trademarked content. It is advisable not to encourage AI tools to use or replicate content that is protected by copyright, trademarks and patents laws, because this might infringe legal rights.

Some guidelines and procedures address other issues related to the deployment and use of generative AI, such as how public employers could provide **education and training** to make both the adoption of generative AI tools and the digital transition process as secure, smooth and accessible as possible for all employees. Some guidelines and procedures also encourage **public-private collaboration** for the effective use of GenAI, recognising that public administrations often rely on external providers to adopt these tools. Transparency at every stage from design to implementation, respect for intellectual property rights, and clear accountability are essential to ensuring successful partnerships, and are the foundation for solid and effective public-private collaborations.

Some guidelines not only address ethical principles and the trustworthy use of the technologies described above, but also provide specific step-by-step practical advice on how to be compliant with those principles, like 7 documents collected that have **technical annexes**:

- The **Flemish Digital Agency**s guideline not only details prompting techniques for obtaining more effective GenAI results with GPT models, but also recommends the use of internal software that is already integrated with its work environment (this is more advisable for data privacy);

- The **French Cybersecurity Agency** has released guidelines on developing, training and deploying generative AI systems in an ethical and legally compliant way;

- The **Dutch government** has established the Government AI Validation Team to develop guard rails for generative AI models and guidelines to validate GenAI tools both inside and outside the public sector;

- The **Polish government** has issued a technical guideline for employers who are using GenAI online tools for the first time, noting that prompt engineering is considered essential in order to fully exploit the capability of generative AI models to provide real support for daily tasks. This guideline includes advice on 'How to have a constructive conversation with GenAI', for instance by providing precise context, examples, and additional information. It also covers how to determine the style and tone, and how to request multiple variants;

- **Five Swedish municipalities** (Malmö, Lund, Helsingborg, Höör and Skurup) have also come together to draft a user guide for their peers with the help of the AI Sweden national centre. This guide recommends practices (e.g. data-sharing awareness, accountability and transparency), addressing the main themes outlined above concisely and directly for municipal officials.

4 Landscape of GenAI use cases in Europe

Following an overview of the main guidelines and policies relating to GenAI deployment and use in administrations, the research has focused and analysed Generative AI use cases collected by the PSTW. The preliminary quantitative analysis of GenAI use cases is based on the PSTW's collection of cases. The methodology used in this form of case collection includes protocols established for data gathering and dataset maintenance, along with the taxonomy for categorising collected cases of emerging technologies. This methodology has been used in various reports, thus ensuring a robust and methodologically sound framework for the ongoing collection, analysis and dissemination of cases. The methodology is under constant review and is strengthened where necessary. The **data collection** and the **taxonomy** used to categorise the GenAI cases analysed here therefore follow the 'Methodology for the public sector Tech Watch use case collection – Taxonomy, data collection, and use case analysis procedures' (Tangi et al., 2024). Likewise, the limitations of the methodology referred to in this report are valid and applicable to this analysis.

The scope of qualitative analysis included in this report (Section 4.3) is based on **five interviews**, which the research team conducted with public administration managers who have started piloting and implementing such solutions in order to improve their administrative processes or public services. The organisations in question were:

- the City of Helsinki;
- the Government of Catalonia (specifically, the Centre for Telecommunications and Information Technologies, CTTI);
- the University of Bologna;
- the Bulgarian Institute for Computer Science, Artificial Intelligence and Technology;
- the Dublin City Council (the Tourism Unit).

4.1 Methodology for collecting and analysing GenAI use cases

The interviews were semi-structured and followed a pre-defined script aimed at gaining a more comprehensive understanding of various aspects of each use case (e.g. the initial problem to address, the main opportunities identified, the decision-making involved, and the implementation and adoption processes), including from an organisational point of view.

Regarding the implementation and adoption processes, topics such as procurement, interoperability, testing, training and skills, communication and feedback were analysed. Our interviews also addressed past and future risks and challenges relating to data protection, data ownership, data storage and trustworthiness.

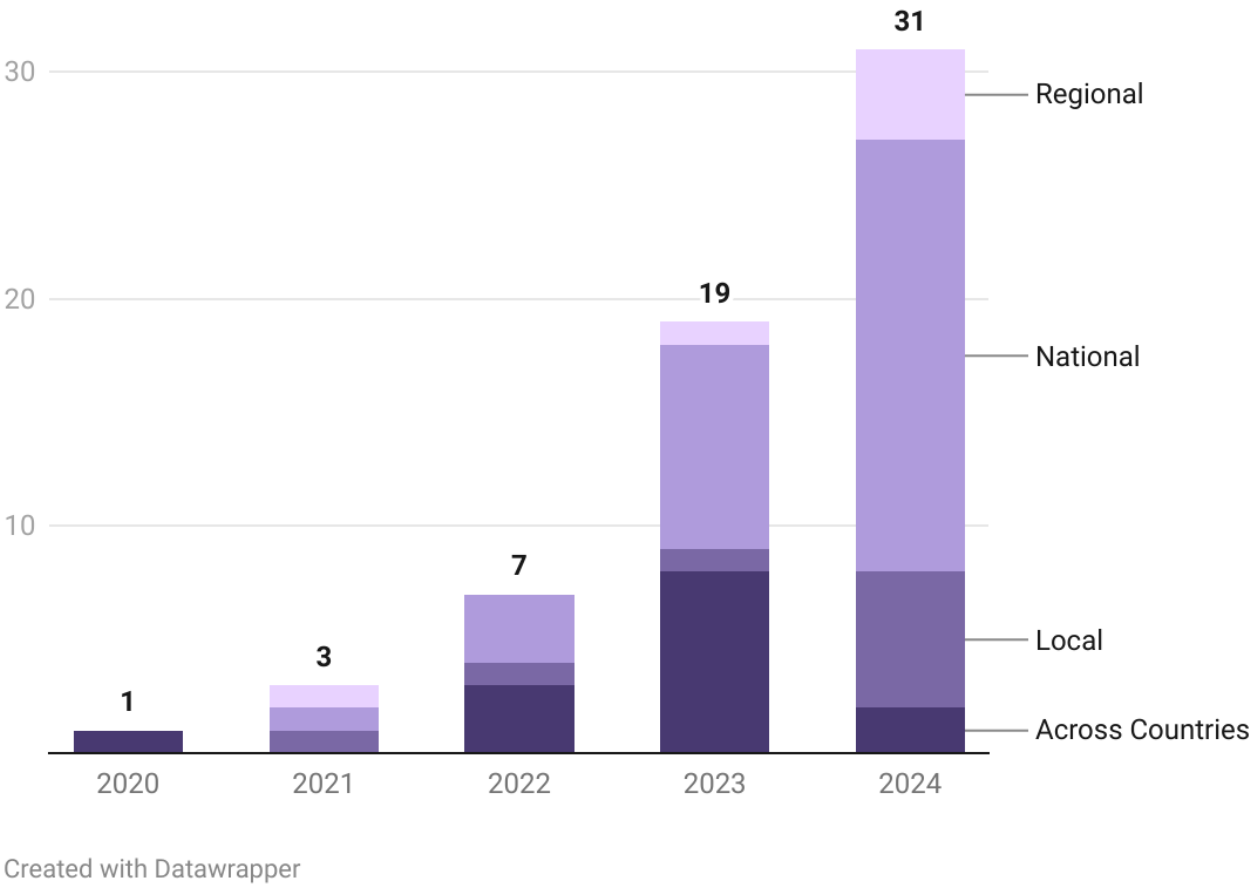
4.2 Use case analysis

At the time of writing, the PSTW database hosts 61 cases of generative AI solutions that have been identified in 20 different European countries and in the EU institutions. Of these 61 cases, 8 were identified in Italy, 6 each in Germany and the United Kingdom, and 5 each in Finland, Spain and the EU institutions. These use cases occur mainly in national administrations or across various countries, but a smaller number of them occur in local and regional governments (as shown in Figure 4). Further use cases continue to be identified. The total of 31 solutions reported for 2024 and collected across European public administrations indicates that an increasing number of administrations are starting to adopt this technology across all levels of administration. Overall, however, the small number of cases means that these findings should not be considered statistically significant.

Regarding the function of government (COFOG), Figure 5 shows that most cases (35 out of 61) are in the area of **general public services**, followed by public order and safety (8), economic affairs (5) and use cases in the area of housing and community amenities (3).

Regarding the types of application, generative AI is being used for service personalisation (e.g. chatbots for citizens) and to support internal management processes (e.g. tools that summarise legislation for lawyers in the courts). GenAI can also support innovation in public policymaking: solutions such as UrbanistAI are helping to involve residents in urban planning, while other applications can support and streamline how legislation is being discussed in parliaments by supporting legislative drafting or legal consistency checks.

Figure 4. Further use cases continue to be identified. The total of 31 solutions reported for 2024 and collected across European public administrations



Source: Authors' own elaboration

Figure 5. Distribution of GenAI cases according to government function and application type.

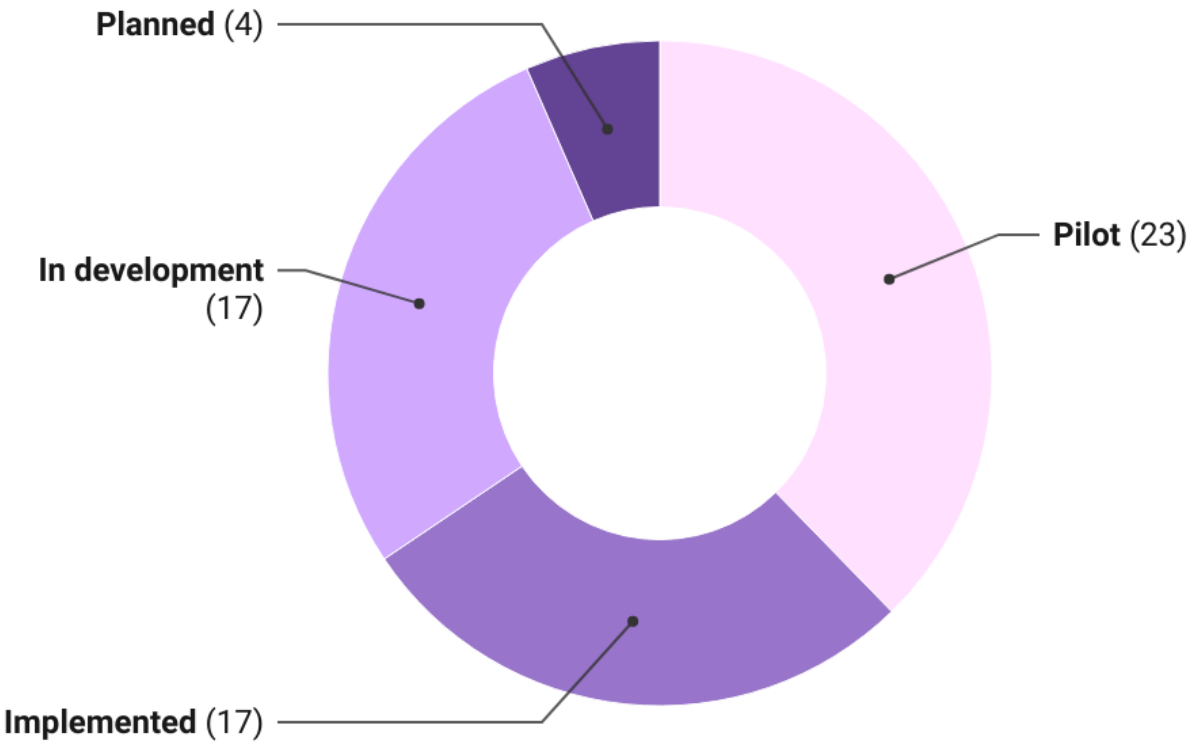
	General public services	Public order and safety	Economic affairs	Housing and community amenities	Education	Recreation, culture and religion	Environmental protection	Social protection	Defence	Health	**Grand total**
Service personalisation (various)	13	1	2			1		1		1	19
Internal support processes	10	1			1						12
Innovating public policy	5	1				1	1				8
Internal primary processes	4		1		1			1	1		8
Engagement management	3	1		3							7
Information analysis processes		4	1								5
Prediction and planning			1								1
Payments and international transactions							1				1
Grand total	35	8	5	3	2	2	2	2	1	1	61

Created with Datawrapper

Source: Authors' own elaboration

In terms of the state of play of the projects, **more than 60% of the cases are planned, in development or at the piloting stage** (Figure 6). These AI-based models are in their infancy, so this evidence confirms that the adoption of GenAI in the European public sector is still in its early stages. Even so, solutions have already been fully implemented for 17 of the 61 cases, so it is clear there have been some early full adoptions.

Figure 6. Distribution of GenAI cases according to state of development.



Source: Authors' own elaboration

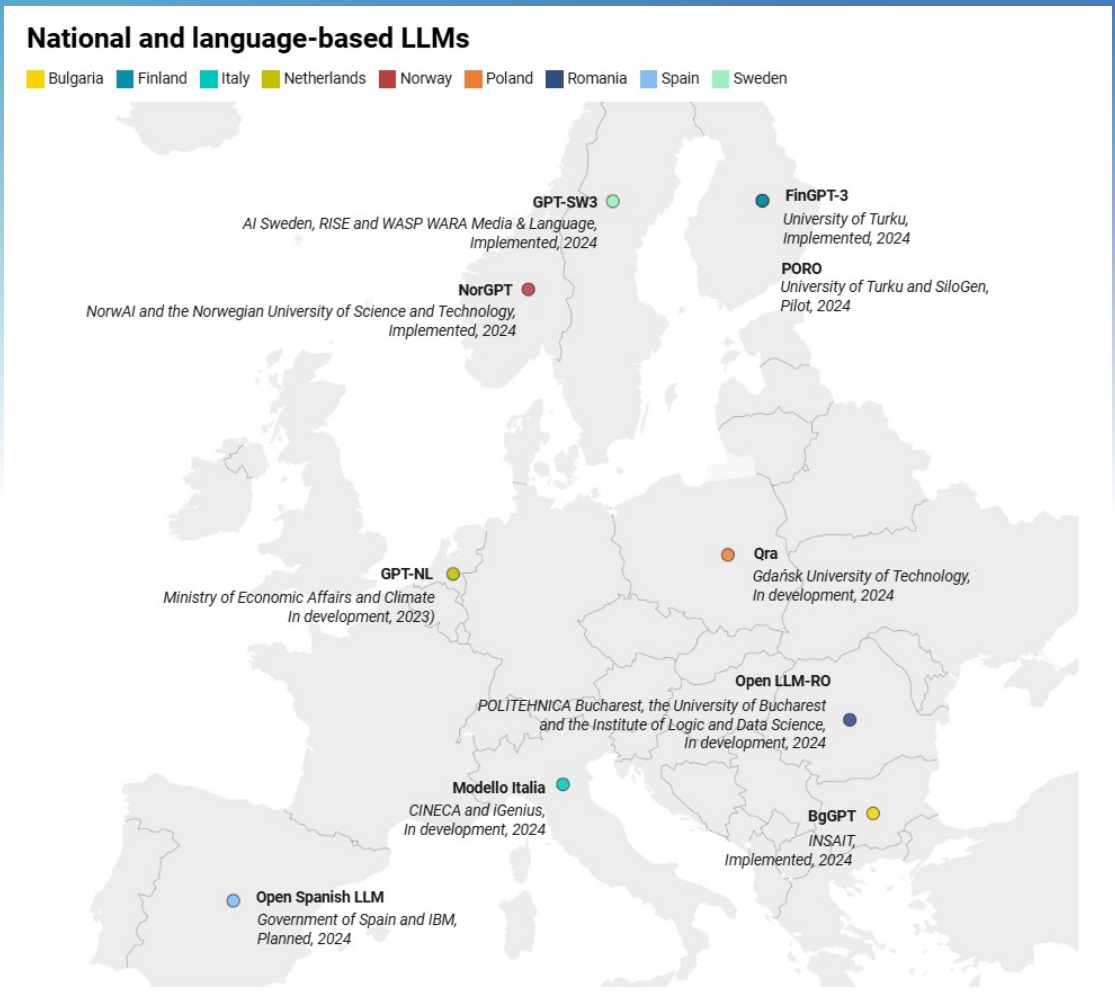
National large language models (LLMs) feature prominently among the solutions that have been implemented. Indeed, there is an EU-wide trend towards harnessing the potential of language models, tailoring them to national and local languages. Some of these solutions are already publicly available, such as BgGPT (Bulgarian), GPT-SW3 (Swedish), FinGPT.3 (Finnish) and NorGPT (Norwegian). These national models have been developed and made available as 'public goods' for citizens, businesses and administrations. It is believed that they are championing private models such as Open AI's ChatGPT, Microsoft's copilot, Google's Gemini and Meta's LLAMA as national GPT models used for local languages. Box 1 provides an overview of all the national LLMs that are publicly available and have been developed with public-sector involvement.

Box 1. The emergence of national large language models

An emerging trend can be : the development of national large language models (LLMs). These are a form of 'public good' that governments and research centres are working to provide to citizens, businesses, researchers and public authorities. They are trained using national data to ensure cultural relevance and accuracy, and are being developed in national languages. This trend is exemplified by some use cases identified by the PSTW observatory (e.g. BgGPT in Bulgaria, GPT-SW3 in Sweden, FinGPT and PORO in Finland, Modello Italia in Italy, NorGPT in Norway, OpenLLM-RO in Romania, GPT-NL in the Netherlands, Qra in Poland and Open Spanish LLM in Spain). Figure 6 presents these initiatives, indicating the Member State, implementing organisation, year of implementation and state of play.

Key expected benefits from these initiatives include fostering digital sovereignty; reducing reliance on global technology providers; and preserving linguistic and cultural heritage. These models are also viewed as foundational tools that can help with the creation of services and applications and in turn promote more equitable innovation processes in their respective ecosystems.

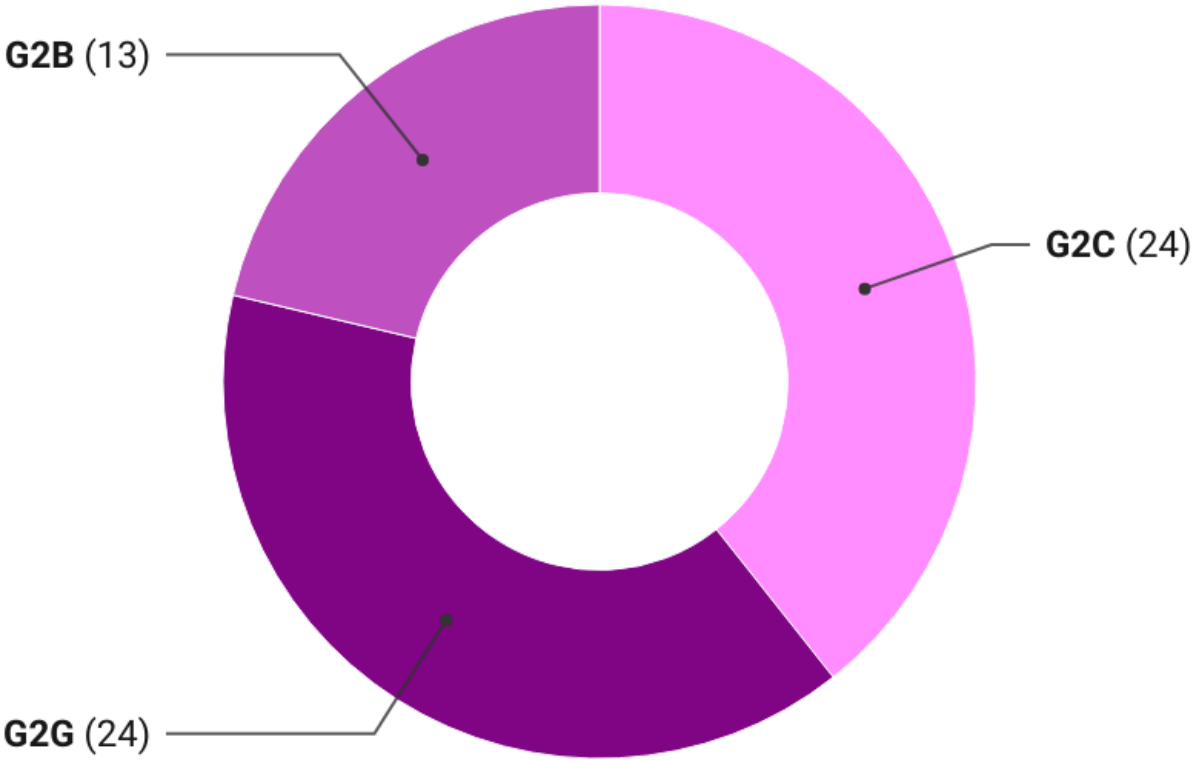
Figure 7. National and language-based LLMs



Source: Authors' own elaboration

As Figure 7 shows, **generative AI solutions are similarly used to improve government-to-citizens and government-to-government interactions**. This indicates that these models and systems can be tailored to respond to a wide range of needs, in terms of improving administrative efficiency (e.g. streamlining of administrative work) and enhancing public services for citizens (e.g. chatbots).

Figure 7. Distribution of GenAI cases according to type of e-government interaction.



Source: Authors' own elaboration

4.3 Analysis of the results of interviews

In addition to the quantitative analyses based on the PSTW's case collection, we also conducted five targeted interviews with public administrations across the EU (see Box 2), as described in the methodology presented above.

Box 2. Use cases and public organisations interviewed

- In Finland, the City of Helsinki piloted Microsoft 365 Copilot in 2024 to enhance employees' well-being and work by providing AI-powered assistance within the Microsoft 365 suite. This initiative was led by Tomas Lehtinen (the city's Head of Data and Analytics), who was interviewed for this analysis.

- In Ireland, Dublin City Council partnered with Open AI and Data and Design in 2024 to develop 'A Day in Dublin', a prototype AI-powered itinerary planner for personalised tourist experiences. The project team interviewed Barry Rogers (the city's Head of Tourism), and Rudy O'Reilly Meehan (the CEO of Data and Design).

- In Italy, the University of Bologna piloted GENAI4LEX-B in 2024. This is an AI-powered legislative support tool that helps the Italian Chamber of Deputies address the challenges of legal research and drafting bills. Insights into this project were provided in an interview with Professor Monica Palmirani (the initiative's coordinator) and Associate Professors Salvatore Sapienza and Michele Corazza from the University of Bologna.

- In Spain, the Publications Office of the Government of Catalonia implemented a generative AI tool in 2024 to summarise legal texts in plain language, thus helping the public to access and understand legal texts. The representatives interviewed were Daniel Marco i Pàrraga (Director of Innovation) and Josep Ignasi Bonet Pocino (the Digital Innovation Dynamisation Manager from the CTTI (Government of Catalonia's Centre for Telecommunications and Information Technologies.

- In Bulgaria, the Institute for Computer Science, Articificial Intelligence and Technology (INSAIT), which is funded by the Bulgarian government, implemented BgGPT, an open-source large language model for the Bulgarian language to foster public and private sector innovation. BgGPT supports public and private organisations in the development of specific applications using the model. An interview with Borislav Petrov (INSAIT's Executive Director) and Emiliyan Pavlov (INSAIT's Data Scientist) provided further details on this initiative.

During the five interviews, we collected interesting insights into strategic partnerships, benefits and ongoing challenges posed by this technology in terms of implementation and adoption.

Strategic partnerships

When it comes to implementing GenAI in the public sector, a key common practice that emerges is the establishment and development of partnerships. In this regard, the interviews highlighted the critical role of collaboration and partnerships in supporting the deployment of GenAI tools and solutions in the public sector, in the form of collaboration between and within public organisations and partnerships with the private sector.

Firstly, collaborative approaches have been identified **between public sector organisations** and research organisations with a view to harnessing capabilities and expertise. Collaboration with other public sector organisations and research institutions can lead to the pooling of expertise and resources, increased technological capacity and reduced innovation costs. One example of a use case developed through collaboration is the **GENAI4LEX project**, which provides a GenAI tool to assist the legislative drafting process. Following a call for projects from the Italian Chamber of Deputies, the University of Bologna entered into partnerships with a broad range of collaborators. This collaboration enabled the consortium leader to use the expertise of each partner to create a proof of concept. The project required a combination of technical AI expertise and legal knowledge to design a model capable of interpreting legislative texts. The Consortium included other academic institutions, such as LUISS CESP – the Center for Parliamentary Studies, the University of Verona and the University of Turin, in collaboration with the National Research Council (CNR)'s Institute of Legal Informatics and Judicial Systems, and three spin-off companies (BitNomos, Aptus and ASIMOV AI).

In Spain, a **GenAI tool has been developed to help summarise** publicly available **legislative information** for the Government of Catalonia. The Publications Office of the Government of Catalonia sought assistance from the Centre for Telecommunications and Information Technologies (CTTI) (the central IT provider for the Government of Catalonia) to investigate the potential use of GenAI to summarise legal texts to help the public understand legislation. By leveraging its technical expertise, the CTTI developed a solution tailored to the government's needs, thus providing a useful example of an effective and successful collaboration between public-sector organisations.

In Bulgaria, the Institute for Computer Science, Artificial Intelligence and Technology (INSAIT) has developed an **open-source LLM in Bulgarian (BgGPT)** and provides technical support and training to public organisations, such as the National Revenue Agency. This support is aimed at helping public organisations to use the BgGPT tool to develop specific applications for their use, build capacity within these organisations and promote the adoption of the model.

Secondly, **public administrations are also building public-private partnerships with private technological providers and innovation firms (both international companies and start-ups)**. Our research indicated that public administrations sometimes give preferential treatment to technological companies that are already providing them with services and platforms. This approach offers several advantages, such as being able to use existing procurement processes and contracts, and having an existing basis of trust and mutual understanding with those companies. Prior experience with these providers might also reduce the uncertainty associated with experimenting with GenAI for public administrations. Using existing contracts can also help administrations to test solutions in faster, iterative ways, thus generating significant lessons learned before launching large procurement processes.

For example, Dublin City Council entered into a partnership with a global company (OpenAI) and a local start-up, (Data and Design) to develop their **GPT-powered tourist itinerary planner,**

'A Day in Dublin'. The partnership established with Data and Design, which specialises in data visualisation and storytelling, provided the data analysis to offer recommendations according to users' preferences and expectations, matching them with activities, services, events and businesses in the city.

Similarly, the City of Helsinki chose **Microsoft Copilot to pilot GenAI tools to support employees** with administrative tasks. The city teams were already using Microsoft 365 services, so integrating Copilot into their existing workflow was a natural progression. Technical integration was seamless because Copilot was already integrated within their Microsoft ecosystem (Microsoft SharePoint and Teams, datasets, etc.) and because the fact that employees were already using these tools in their daily activities eased the adoption process.

Benefits of the implemented solutions

The implementation and piloting of these five GenAI solutions have brought benefits to the organisations, in terms of **organisation and daily work and enhancement of government transparency and openness**.

One finding that emerged from an internal survey is that Helsinki's pilot project has empowered city staff by providing them with a new technical tool and new skills not only to **improve their productivity at work**, but also to enhance their **well-being and job satisfaction**. From an organisational point of view, Copilot increased the ***efficiency*** of work across the city workstreams by enhancing the quality of work, thereby saving time in the long term. Another key benefit of the solution is that Copilot **guaranteed the security** of the data used, so none of the information entered into the Copilot tool by the employees would be used to train their language models. Likewise, the solution proposed by the GENAI4LEX-B project is also expected to improve daily work by **automating time-consuming tasks** such as legal research and summarising amendments. The automated summary feature will also help employees to prepare for City Chamber discussions and committees' presentations, which is another time-consuming task.

The solution implemented to summarise legal texts by the Government of Catalonia proved to be a **transparent and trustworthy** innovation in public services to **enhance government openness**. The tool is an example of how AI can be successfully used to bridge the communication gap between the government and the general public, employing AI tools in a controlled environment. The interviewees mentioned that the scheme gave them the opportunity to test GenAI in a non-sensitive and risk-free environment that brings benefits for government and society. Whereas Catalonia's tool benefits local people, the City of Dublin's pilot is meant to improve the experience of visitors to the city by **providing personalised itineraries** through the GPT-based chat, while at the same time benefiting local people by mitigating the negative impacts of overtourism. Indeed, the model can offer personalisation services that are based on the popularity of attractions while also encouraging tourists to visit less well-known attractions, thereby ensuring that visitors are dispersed more evenly across the city.

The BgGPT model is deemed beneficial for society as a whole and for the business environment in particular because of its **cost efficiency**. As the provider explained, the model reduces operational costs for users compared with commercially available alternatives. For instance, utilizing proprietary models for specific tasks could cost tens of thousands euros, whereas adopting and customizing the Bulgarian LLM might cost many times less. The open-source nature of the model makes it readily affordable, which is a significant benefit (especially for smaller organisations or public institutions with limited budgets).

Implementation and adoption challenges

Through the interviews conducted with the five public organisations (Par 4.3), we have identified and documented four key implementation and adoption challenges affecting the following aspects:

- the availability and quality of large datasets;
- the promotion and adoption of the tool;
- capacity-building within the organisation;
- legal, societal and ethical risks associated with the use of GenAI tools.

First, **technical challenges** might arise during the development and testing of the GenAI solutions. Ensuring the **accuracy of the models** in terms of the quality of outputs was a significant challenge in all the cases we examined. Reducing hallucinations and ensuring high levels of precision were particular challenges in this regard. In Spain, the CTTI Centre focused on prompt engineering to minimise hallucinations. During the proof-of-concept phase, different prompts were tested and fine-tuned to ensure accurate and reliable summaries of legal texts. This iterative process involved collaborating with legal experts to validate the AI-generated summaries and refine the prompt in order to improve accuracy. Another challenge to be addressed when adopting a GenAI solution is ensuring the **availability and quality of data** used to train and operate GenAI systems. In Ireland, Dublin City Council partnered with a local start-up to analyse large high-quality datasets using local information (such as event programming, local businesses, tourist services, and cultural and recreational activities) and their geo-localisation. Domain-specific datasets (including adequate formats, standards and ontologies) are crucial in training certain models for sector applications. The GENAI4LEX project stressed the importance of using annotated legal texts and ontologies to train the model in the legal domain, specifically on legislation applicable to Italy. Legal language is highly specialised and nuanced, and requires a comprehensive understanding of legal concepts and relationships. Annotated legal texts – where key terms and concepts are tagged and linked to ontologies (formal representations of knowledge) – provide the AI model with the necessary context and structure to interpret and analyse legal information.

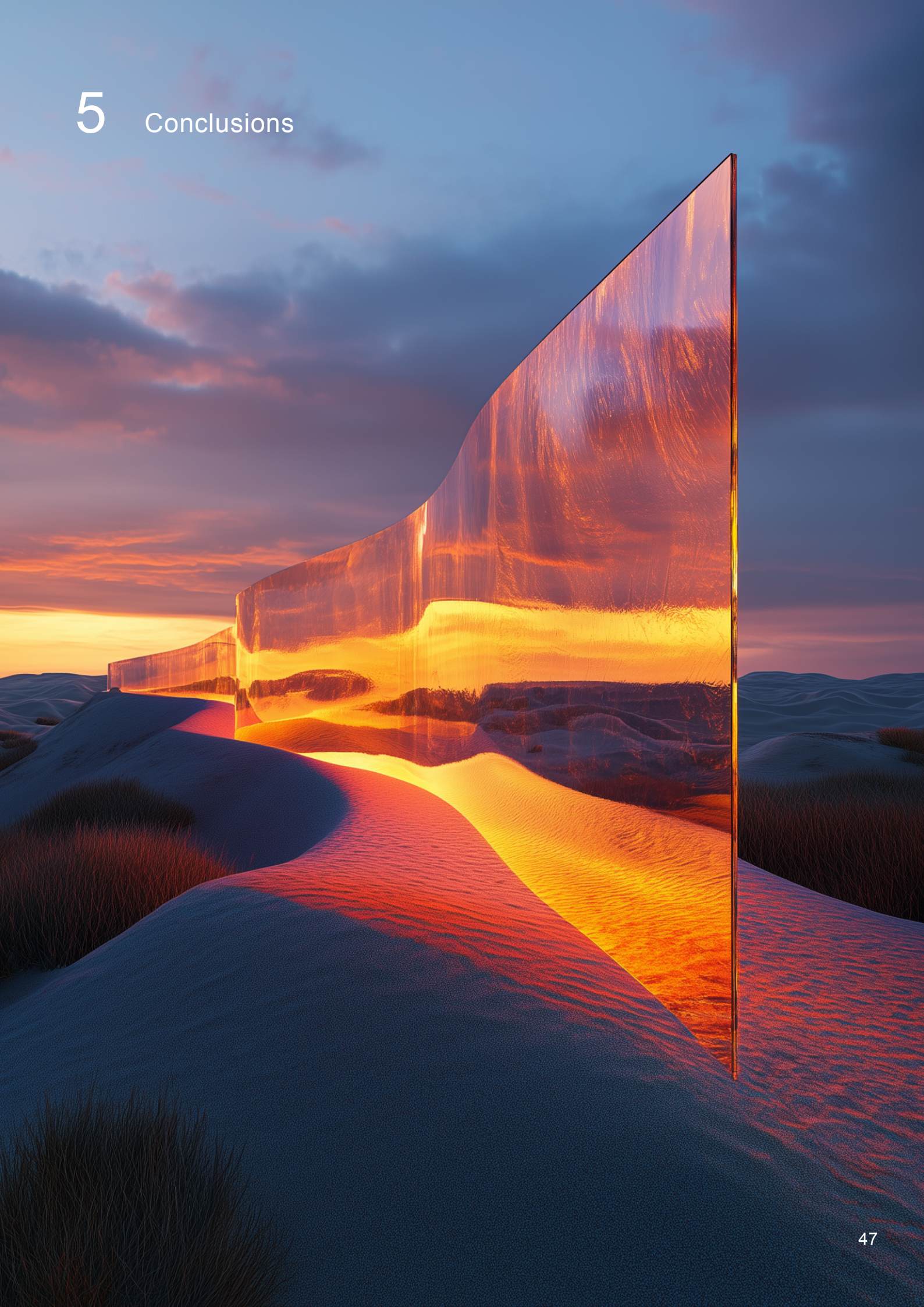
Second, the implementation of GenAI-powered solutions in the public sector goes beyond technical implementation and requires the addressing of **organisational challenges relating to skills, training and implementing the solution**. For example, in Helsinki's pilot project to implement Copilot across various teams, training and feedback sessions were conducted with the public officials who were taking part. This approach was intended to familiarise employees with the tool's capabilities, to address concerns and to gather valuable qualitative feedback for further improvement. Similarly, the University of Bologna, which was leading the development of the GENAI4LEX project, highlighted the need to educate members of parliament and office staff on the capabilities and limitations of GenAI tools to ensure the appropriate and responsible use of the system and correct interpretations of the AI-generated results.

Third, another crucial challenge is the **mitigation of legal, societal and ethical risks** associated with the use of GenAI tools, specifically the trustworthy use of these solutions. Specific challenges arise on issues such as bias or hallucinations, requiring more transparency and explainability. GenAI models can inherit **biases** that are already present in (i) the data on which they are trained; (ii) the construction of the models; or (iii) the prompts used – potentially leading to discriminatory outcomes. The GENAI4LEX project emphasised the importance of mitigating bias in training data and algorithms to prevent inaccurate outcomes impacting the legislation that is being drafted. To achieve this,

it is necessary to ensure that the AI system does not favour certain legal interpretations or prioritise information from specific sources; impartiality and fairness must be ensured in legislative processes. Similarly, Dublin City Council highlighted the point that its tool could potentially favour certain tourism recommendations because the output recommended certain options for each proposed activity in preference to other available options. The project aims to address this by incorporating randomness in the itinerary-generation process and permitting user choice by providing a range of alternative recommendations that match the visitors' preferences and that can be chosen from (rather than just one). As for the mitigation of risks, **communicating how GenAI systems produce their outputs and their limitations** is crucial for building trust and ensuring that public organisations are accountable to citizens. The Catalan CTTI and the Publications Office of the Government of Catalonia recognised the risks associated with simply providing AI-generated summaries of legal texts. To foster trust and accountability among citizens, they included clear explanations that not only described how AI was used to summarise the legal texts on the publication's website, but also pointed out that this might have limitations and that the summarised information did not have legal value.

Fourth, **protecting sensitive data, ensuring citizens' and employees' privacy and guaranteeing data sovereignty** is a common concern expressed by the public administrations that we interviewed. This finding corresponded to the guidelines and policies analysed in Section 3, because most of the identified documents focused on addressing these aspects explicitly. For example, the City of Helsinki focused on data privacy and security. It therefore signed a data protection agreement with the provider to ensure its alignment with the City's ethical AI principles. Selective participation in the pilot excluded departments that regularly handled sensitive data (e.g. the departments that work directly with citizens' data, and HR teams that manage employee information) in order to prevent personal or confidential information being exposed to the tool. The City of Helsinki further mitigated potential risks by disabling the web search feature integrated into Copilot for all participants.

5 Conclusions



This report is the first PSTW research intended to systematically analyse the emerging adoption of Generative AI within European public services and administrations. The analysis builds on previous reports on the public sector's adoption of AI, blockchain and other emerging technologies. It thus contributes to the PTSW's wider mission, which is to build and disseminate knowledge on emerging technologies and to promote the exchange of practices and learning by presenting use cases from public administrations across Europe. This report provides key terminology related to Generative AI technologies and a brief overview of the current policy landscape regarding this technology at EU level: the AI Act, the AI Innovation Package and the GenAI4EU initiative.

A set of guidelines and procedures approved by EU Member States to steer the use of this technology has been collected and evaluated. Further analysis offers a quantitative overview based on the PTSW's available data on how public administrations across Europe are experimenting with GenAI applications within their organisations. Furthermore, the report incorporates qualitative insights derived from five targeted interviews conducted by the research team with public-administration managers who are actively piloting and implementing GenAI solutions to enhance administrative workflows and delivery of public services.

5.1 Main findings

First, the mapping of existing guidelines and policies contains a total of 33 official documents from 17 EU Member States and 4 EU institutions. Most of 33 guidelines and policies in the sample are non-binding guidelines, followed by a smaller number of rules, policies and protocols. National administrations contributed the most documents, followed by local governments, EU institutions and regional administrations. 23 of the documents focused on **generative AI and on addressing its unique challenges**, including human oversight, data protection, technical robustness and transparency. Common themes among these documents included human responsibility and accountability; data protection and privacy concerns; the accuracy and reliability of GenAI tools; transparency; and the need for educationand training.

Second, the preliminary overview of the 61 generative AI use cases across 20 EU Member States shows that these solutions are predominantly implemented in **general public services**, followed by other government functions such as **public order and safety, economic affairs, and housing**. Generative AI has been used to improve both government-to-citizen interactions and government-to-government interactions, enabling more personalised public services and streamlined administrative processes. Most use cases are still at the planning, development or piloting stages, but 17 have been fully implemented and proved to be **early successes**. Emerging trends include the development of national language models aimed at enhancing digital sovereignty and addressing localised needs.

Third, targeted interviews with representatives from five public administrations across the EU provided further insight into the practical challenges and opportunities associated with GenAI implementation. Key takeaways include the importance of establishing **inter-organisational and intra-organisational collaborations and public-private partnerships** – both for ensuring trustworthy and safe implementation, and for addressing challenges relating to **data availability, skills training and risk mitigation.** We identified a number of challenges and particularly those of **ensuring transparency, addressing biases, and protecting data sovereignty and citizens' privacy.** Many organisations also highlighted the need to encourage the adoption of Generative AI tools by training public employees in their responsible and effective use, thereby ensuring – most importantly – its ethical deployment. The implementation of these solutions has also demonstrated **significant benefits** for public administrations, such as **improved productivity; enhanced job satisfaction and well-being;** increased **government transparency; cost efficiency**; and **more effective engagement with the general public.**

5.2 Future steps

This report is an initial basis for the PSTW to pursue further research in the nascent field of GenAI adoption in European public administrations. Our analysis indicates a **growing trend of GenAI experimentation and implementation across the public sector**, together with an increasing awareness of the challenges associated with responsible and transparent use. **This highlights the need for continuing research** in this area to support public administrations in understanding GenAI technologies, mitigating risks and ensuring their responsible and effective application for improved delivery of public services and public-administration processes.

6 Annex I

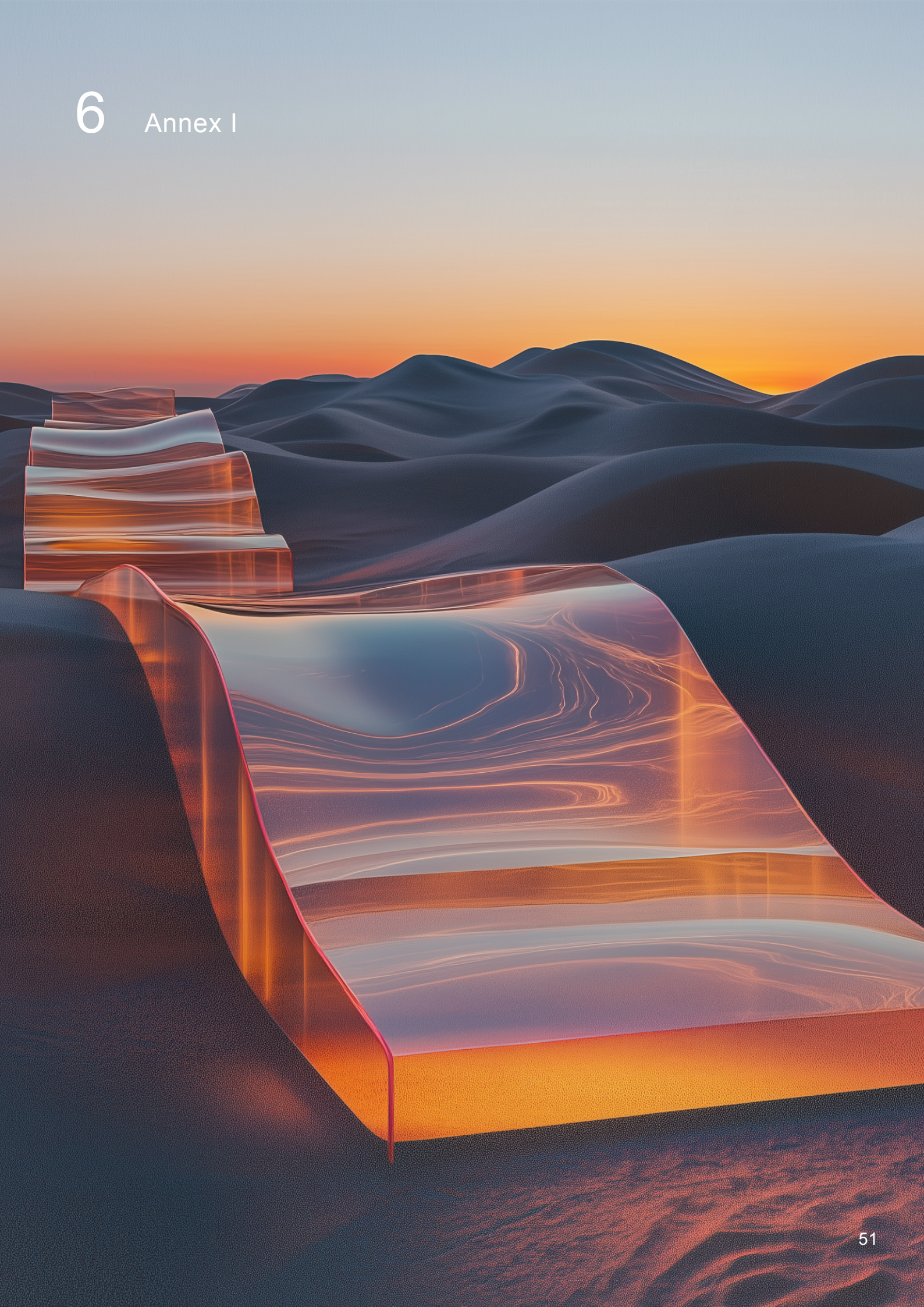


Table 2. Guidelines, policies and rules on generative AI use within administration – a complete list.

ID	Document	Country	Responsible Organisation	Administrative level	Type of document	Year	Link
1	Generative AI Models – Opportunities and Risks for Industry and Authorities	Germany	Federal Office for Information Security (BSI)	National	Guideline	2024	https://www.bsi.bund.de/SharedDocs/Downloads/EN/BSI/KI/Generative_AI_Models.pdf?__blob=-publicationFile&v=4
2	City of Vienna – Digital Compass on Generative AI	Austria	City of Vienna	Local	Rule or regulation	2023	https://digitales.wien.gv.at/ki-kompass-fuer-bedienstete-der-stadt-wien/
3	National guidelines on the use of AI in school	Austria	Federal Ministry of Education, Science and Research	National	Guideline	2024	https://www.bmbwf.gv.at/Themen/schule/zrp/ki.html
4	Living guidelines on the responsible use of generative AI in research published	European Union	European Research Area Platform	Across-countries	Guideline	2024	https://european-research-area.ec.europa.eu/news/living-guidelines-responsible-use-generative-ai-research-published
5	Government-wide vision on generative AI in the Netherlands	Netherlands	Ministry of the Interior and Kingdom Relations	National	Policy	2024	https://www.government.nl/documents/parliamentary-documents/2024/01/17/government-wide-vision-on-generative-ai-of-the-netherlands
6	Irish Ministry of Education pledge to establish guidelines on the use of AI	Ireland	Ministry of Education	National	Guideline	2024	https://www.gov.ie/en/press-release/87b43-minister-foley-pledges-commitment-to-establishing-guidelines-on-the-use-of-ai/
7	Guide for Danish public authorities on the responsible use of generative AI	Denmark	Agency for Digital Government – Danish government	National	Guideline	2024	https://en.digst.dk/news/news-archive/2024/maj/the-agency-for-digital-government-publishes-ai-guides/
8	European Data Protection Supervisor guidelines on generative AI	European Union	European Data Protection Supervisor	across-countries	Guideline	2024	https://www.edps.europa.eu/system/files/2024-06/24-06-03_genai_orientations_en.pdf

Table 2. Guidelines, policies and rules on generative AI use within administration – a complete list.

ID	Document	Country	Responsible Organisation	Administrative level	Type of document	Year	Link
9	Interim Guidelines for Use of (Generative) AI	Ireland	Department of Public Expenditure, NDP Delivery and Reform	National	Guideline	2024	https://assets.gov.ie/280459/73ce75af-0015-46af-a9f6-b54f0a3c4fd0.pdf
10	European Commission internal guidelines	European Union	European Commission	across-countries	Rule or regulation	2023	https://www.asktheeu.org/en/request/13063/response/45877/attach/3/guidelines%20on%20the%20use%20of%20online%20generative%20artificial%20intelligence%20tools.pdf?cookie_passthrough=1
11	CNILNos Q&A on the use of generative AI systems	France	Commission Nationale de l'Informatique et des Libertés – French Data Protection Authority	National	Guideline	2024	https://www.cnil.fr/fr/ai-how-to-sheets
12	Recommandations de sécurité pour un système d'IA générative	France	Commission Nationale de l'Informatique et des Libertés – French Data Protection Authority	National	Guideline	2024	https://cyber.gouv.fr/publications/recommandations-de-securite-pour-un-systeme-dia-generative
13	Finnish guidelines on the use of AI in education	Finland	Board of Education – Ministry of Education and Culture	National	Guideline	2024	https://www.oph.fi/fi/tekoaly-koulutuksessa-lainsaadanto-ja-suositukset
14	National strategic framework in the field of artificial intelligence 2024-2027	Romania	Authority for the Digitalisation of Romania	National	Policy	2024	https://www.adr.gov.ro/wp-content/uploads/2024/06/Strategia-Nationala-pentru-Inteligenta-Artificiala.pdf
15	Generative AI &Greece 2030: Potential Futures for Generative AI in Greece	Greece	Special Secretariat for Long-Term Planning, Greek Government	National	Policy	2024	https://foresight.gov.gr/wp-content/uploads/2024/01/GenAI_Greece_2030.pdf

Table 2. Guidelines, policies and rules on generative AI use within administration – a complete list.

ID	Document	Country	Responsible Organisation	Administrative level	Type of document	Year	Link
16	Guidelines on the use of generative AI in the Swedish public	Sweden	Digital Administration Authority and the Swedish Privacy Protection	National	Guideline	2024	https://www.regeringen.se/regeringsuppdrag/2024/08/uppdrag-till-myndigheten-for-digital-forvaltning-och-integritetsskydds-myndigheten-att-ta-fram-riktlinjer-for-anvandningen-av-generativ-artificiell-intelligens-inom-den-offentliga-forvaltningen/
17	AI and policing the benefits and challenges of artificial intelligence for law enforcement	European Union	EUROPOL	across-countries	Guideline	2024	https://www.europol.europa.eu/publication-events/main-reports/ai-and-policing
18	Rules for Gen AI use in the Kungsbacka Communal authority	Sweden	Kungsbacka kommun	Local	Rule of	2024	https://kungsbacka.se/download/18.1d09d024193954e4ee646542/1733825622735/AI,%20regler.pdf
19	Rules for Gen AI use in the Nacka Communal	Sweden	Nacka kommun	Local	Guideline	2024	https://www.nacka.se/medarbetare/digitalisering/stod-for-medarbetare/jobba-sakert/informationssakerhet-i-kommunen/ai-nacka-kommun/
20	Teaching and learning with AI – recommendations from the Taskforce on 'Artificial intelligence in education' to the government of North Rhine-Westphalia	Germany	Government of North Rhine-Westphalia	Regional	Guideline	2024	https://www.ki.nrw/en/teaching-and-learning-with-ai-taskforce-artificial-intelligence-in-education-presents-recommendations-to-the-government-of-north-rhine-westphalia/
21	New guidelines for more AI in administration	Germany	Federal Minister for Digital Affairs	National	Guideline	2024	https://bmdv.bund.de/SharedDocs/DE/Pressemitteilungen/2024/047-wissing-ki-richtlinie.html?nn=13326 https://bmdv.bund.de/SharedDocs/DE/Anlage/K/presse/pm-047-ki-richtlinie.pdf?__blob=publicationFile

Table 2. Guidelines, policies and rules on generative AI use within administration – a complete list.

ID	Document	Country	Responsible Organisation	Administrative level	Type of document	Year	Link
22	Guidelines on the use of publicly accessible generative AI	Belgium	VDAB Flanders	Regional	Guideline	2024	https://assets.vlaanderen.be/image/upload/v1708593245/Richtlijnen_voor_het_gebruik_van_publiek_toegankelijke_generatieve_AI_210224_wvkxtj_ntpezx.pdf
23	Recommendations on the use of AI in the educational process	Cyprus	University of Cyprus	Local	Guideline	2023	https://www.ucy.ac.cy/graduateschool/wp-content/uploads/sites/45/2023/10/
24	University of Tallin guidelines	Estonia	University of Tallin	Local	Guideline	2024	https://www.tlu.ee/tehisintellekt#soovitused-on-koostanud-tlu-tehisintellekti-noukoda-kevadsemester-2024
25	Generative artificial intelligence in the work of lawyers and officials	Estonia	Legal Adviser on New Technologies and Digitalisation at the Ministry of Justice	National	Guideline	2024	https://www.just.ee/sites/default/files/documents/2024-04/1.%20Trasberg.%20AI%20juristide%20ja%20ametnike%20t%C3%B6%C3%B6s.pdf
26	Guidelines on the use of GenAI in the INPS	Italy	National Social Insurance Agency (INPS)	National	Rule of procedure or protocol	2024	https://www.inps.it/it/it/inps-comunica/atti/circolari-messaggi-e-normativa/dettaglio.circolari-e-messaggi.2024.04.messaggio-numero-1384-del-08-04-2024_14541.html
27	Use of generative AI in the Italian Parliament	Italy	Chamber of Deputies	National	Guideline	2024	https://comunicazione.camera.it/sites/comunicazione/files/notiz_prima_pag/allegati/Rapporto_IA.pdf
28	Generative AI at the service of government employees – first steps	Poland	Ministry of Digital Affairs	National	Guideline	2024	https://www.gov.pl/web/ai/generatywna-sztuczna-inteligencja-w-sluzbie-pracownikow-administracji-publicznej---pierwsze-kroki
29	Guidelines on the use of AI in public administration	Portugal	Agency for Administrative Modernisation, I.P. (AMA)	National	Guideline	2024	https://bussola.gov.pt/Guias%20Prticos/Guia%20para%20a%20Intelig%C3%AAncia%20Artificial%20na%20Administra%C3%A7%C3%A3o%20P%C3%BAblica.pdf

Table 2. Guidelines, policies and rules on generative AI use within administration – a complete list.

ID	Document	Country	Responsible Organisation	Administrative level	Type of document	Year	Link
30	The Ministry of Culture is drawing up guidelines of good AI practices	Spain	Ministry of Culture	National	Rule or regulation	2024	https://www.cultura.gob.es/actualidad/2024/02/240219-inteligencia-artificial.html
31	Protocol for implementing AI in all municipal services in Barcelona	Spain	Barcelona Digital City	Local	Rule of procedure or protocol	2024	https://ajuntament.barcelona.cat/digital/es/hagamos-accesible-la-tecnologia/uso-etico-inteligencia-artificial/uso-etico-de-la-inteligencia-1
32	Use of AI-based chatbots in Västra Götalandsregionen	Sweden	Västra Götalandsregionen	Regional	Rule or	2024	https://aihubtest-bucket.s3.eu-north-1.amazonaws.com/public/storage/resources/8b-guc0z1qEq091quvgcSa-4daK3BFurOy0jlGqzmr.pdf
33	Use of Generative AI – jointly produced guidelines for Swedish municipalities	Sweden	AI Sweden	Local	Guideline	2024	https://aihubtest-bucket.s3.eu-north-1.amazonaws.com/public/storage/resources/HRYluagR0GT-nTOiBv2oa3oRcrhrbd-vCpPLX1lBzE.pdf

7 Annex II

The Table below includes an overview of the 61 cases used to carry out the high-level analysis of Section 4. These cases were taken from the PSTW Dataset available at: https://interoperable-europe.ec.europa.eu/collection/public-sector-tech-watch/data-download.

PSTW ID	Case	Country	Responsible Organisation	Link
PSTW-1454	Classification and automatic sorting of CEMs at the Italian National Institute for Social Security (INPS)	Italy	National Institute for Social Security	https://www.agendadigitale.eu/cittadinanza-digitale/inps-ecco-come-usiamo-lia-a-vantaggio-dei-cittadini/
PSTW-1456	Virtual Assistant based on generative AI at INPS	Italy	National Institute for Social Security	https://www.inps.it/it/it/inps-comunica/atti/circolari-messaggi-e-normativa/dettaglio.circolari-e-messaggi.2023.07.messaggio-numero-2659-del-14-07-2023_14221.html
PSTW-1735	ChatGPT as a tool for education	Italy	Accademia Belle Arti – Roma	https://www.agendadigitale.eu/scuola-digitale/chi-ha-paura-di-chatgpt-a-scuola-impariamo-piuttosto-a-collaborarci/
PSTW-1745	The Ministry of Justice will use ChatGPT technology to respond to citizens	Portugal	Ministry of Justice	https://www.publico.pt/2023/02/17/tecnologia/noticia/ministerio-justica-vai-usar-tecnologia-chatgpt-responder-cidadaos-2039270
PSTW-1838	The City of Helsinki is investigating the benefits of generative artificial intelligence in various work tasks	Finland	City of Helsinki	https://www.hel.fi/en/news/the-city-of-helsinki-is-investigating-the-benefits-of-artificial-intelligence-in-various-work-tasks
PSTW-1850	'LLMoin' pilot project to provide insight into Hamburg's medium-term LLM strategy	Germany	City of Hamburg	https://hamburg-business.com/en/news/hamburgs-local-government-testing-large-language-model
PSTW-1899	Practical learning-based tools for finding and fixing bugs	Germany	University of Stuttgart	https://cordis.europa.eu/project/id/101155832
PSTW-1910	How Iceland is using GPT-4 to preserve its language	Iceland	Language Planning Department of the Government of Iceland	https://openai.com/customer-stories/government-of-iceland
PSTW-1913	Generative AI Transformation Project with Derby City	United Kingdom	Derby City Council	https://www.ics.ai/post/ics-ai-announces-7-million-generative-ai-transformation-project-with-derby-city-council
PSTW-1939	Politsei.ee large-language model LLM trained on data	Estonia	Ministry of Economic Affairs and Communications	https://www.kratid.ee/kasutuslood-kratid
PSTW-1944	Digital Europe Language Tools – eBriefing	Belgium	European Commission	https://language-tools.ec.europa.eu/EBriefingServices/Briefing

PSTW ID	Case	Country	Responsible Organisation	Link
PSTW-1993	Dublin City Council and OpenAI partnership to show the potential of AI to support Europe`s tourism Industry	Ireland	Dublin City Council	https://irishtechnews.ie/dublin-city-council-and-openai-ai-europes-tourism/
PSTW-1996	ChatGPT-powered GOV. UK chatbot on trial	United Kingdom	UK Government Digital Service	https://www.publictechnology.net/2024/01/23/uncategorised/were-not-moving-fast-and-breaking-things-chatgpt-powered-gov-uk-chatbot-trials-show-promise-but-uncover-issues-of-accuracy-and-reliability/
PSTW-2001	UrbanistAI, a generative AI platform for participatory planning and co-design: Helsinki use case	Finland	City of Helsinki	https://urbanistai.com/
PSTW-2020	Albania to speed up EU accession using ChatGPT	Albania	Albanian government	https://www.euractiv.com/section/politics/news/albania-to-speed-up-eu-accession-using-chatgpt/
PSTW-2036	CINDERELLA – clinical validation of an AI-based approach to improve the shared decision-making process and outcomes in breast cancer patients proposed for loco-regional treatment	Portugal	Champalimaud Foundation	https://cordis.europa.eu/project/id/101057389
PSTW-2109	Machine learning in simulation for imaging improvement	Germany	Bundesamt für Ausrüstung, Informationstechnik und Nutzung der Bundeswehr	https://www.iosb.fraunhofer.de/en/competences/optronics/visual-inspection-systems/services/machine-learning.html
PSTW-2115	PORO an LLM for Finland	Finland	SILO.AI	https://www.silo.ai/blog/poro-a-family-of-open-models-that-bring-european-languages-to-the-frontier
PSTW-2116	Modello Italia, the first Italian foundational LLM	Italy	CINECA	https://www.igenius.ai/blog/igenius-and-cineca-announce-modello-italia
PSTW-2117	Usage of generative AI in Spain's justice system	Spain	Ministry of Justice	https://rm.coe.int/20240220-javier-hernandez-cepej-ia-gen-present-and-future-v-final/1680ae9ae9
PSTW-2118	Vël'OK: cycling for survcoins	Luxembourg	Vël'Ok	https://www.tageblatt.lu/nachrichten/luxemburg/velok-radeln-fuer-survcoins-wird-belohnt/

PSTW	Case	Country	Responsible Organisation	Link
PSTW-2119	Generative AI for German public administration	Germany	Aleph Alpha	https://www.linkedin.com/posts/govtechcampusde_aleph-alpha-raises-a-total-investment-of-activity-7127283659346190338-arnO?utm_source=share&utm_medium=member_desktop
PSTW-2120	Leveraging LLMs for topic classification in public affairs	Spain	BiDA – Lab, Universidad Autónoma de	https://arxiv.org/abs/2306.02864
PSTW-2125	UrbanistAI, a generative AI platform for participatory planning and co-design: Jyväskylä use case	Finland	City of Jyväskylä	https://urbanistai.com/
PSTW-2126	UrbanistAI, a generative AI platform for participatory planning and co-design: Narva use case	Estonia	City of Narva	https://urbanistai.com/
PSTW-2152	Titormos – citizens assist chatbot in the Municipality of Agrinio	Greece	Municipality of Agrinio	https://agrinio.gov.gr/agrinio
PSTW-2153	Large-scale high-engagement citizen participation withgenerative AI	Netherlands	Municipality of Eindhoven	https://innovationorigins.com/en/eindhoven-pioneers-with-ai-driven-city-consultation/
PSTW-2161	Application of generative AI at the Generalitat de Catalunya to facilitate citizens' understanding of legal texts	Spain	Autonomous Entitat Autònoma del Diari Oficial i de Publications (EADOP)	https://govern.cat/salapremsa/notes-premsa/622202/el-govern-utilitza-el-llenguatge-planer-per-facilitar-la-comprensio-dels-textos-juridics-a-la-ciutadania
PSTW-2173	Alliance for Language Technologies (ALT-EDIC)	European Union	European Digital Infrastructure Consortium (EDIC)	https://gpt-nl.nl/gpt-nl/
PSTW-2174	GPT-NL – a language model for Dutch language and culture	Netherlands	Ministry of Economic Affairs and Climate	https://chat.bggpt.ai/
PSTW-2175	BgGPT – a Bulgarian LLM	Bulgaria	INSAIT – Institute for Computer Science, Artificial Intelligence and Technology	https://eufarmbook.eu/it/about, https://www.tno.nl/en/digital/digital-innovations/data-sharing/generative-ai/
PSTW-2176	GenAI chatbot on the EU-FarmBook platform	European Union	EU-FarmBook	https://digital-strategy.ec.europa.eu/en/policies/edic
PSTW-2177	CitiVERSE – LDT CitiVERSE EDIC	European Union	LDT CitiVERSE EDIC	https://www.ai.se/en/project/gpt-sw3

PSTW	Case	Country	Responsible Organisation	Link
PSTW-2178	GPT-SW3 – the first large-scale generative language model for the Swedish language	Sweden	AI Sweden	https://www.ai.se/en/project/shared-digital-assistant-public-sector
PSTW-2179	Svea – a shared digital assistant for the public sector	Sweden	Kungsbacka municipality, Tjörn municipality, Gothenburg city, Region Skåne, Region Halland, and Västra Götaland Region	https://www.lighton.ai/fr/success-stories
PSTW-2180	LightOn's Paradigm platform – generative AI in the Île-de-France Regional Council	France	Île-de-France Regional Council	https://ai4science-amsterdam.github.io/ai4smm_projects/#machine-learning-based-models-of-plant-protein-mixtures-for-sustainable-food-design
PSTW-2184	SOLARIS – democratic responses to the challenges of deepfakes and infodemics	European Union	University of Amsterdam	https://projects.illc.uva.nl/solaris/Project-Summary/
PSTW-2193	TrustLLM – democratise trustworthy and efficient LLM	European Union	Linkopings Universitet	https://cordis.europa.eu/project/id/101135724, https://luminous-horizon.eu/
PSTW-2194	GENAI4LEX-B	Italy	Alma Mater Studiorum – University of Bologna ALMA-AI	https://trustllm.eu/
PSTW-2195	F13, the LLM used by the State of Baden-Württemberg in collaboration with Aleph Alpha	Germany	State of Baden-Württemberg	https://www.cnr.it/it/news/12868/il-progetto-genai4lex-b-premiato-alla-camera-dei-deputati-intelligenza-artificiale-generativa-per-i-lavori-parlamentari
PSTW-2197	ALEIA digital assistant – GenAI at the Île-de-France Regional Council	france	Île-de-France Regional Counci	https://aleph-alpha.com/de/mit-dem-neuen-f13-in-die-verwaltung-der-zukunft-baden-wurttemberg-geht-mit-f13-produktiv/
PSTW-2199	Open Spanish LLM in collaboration with IBM	Spain	Government of Spain	https://www.banquedesterritoires.fr/la-region-ile-de-france-presente-son-demonstrateur-dia-de-service-public
PSTW-2200	OpenGPT-X project to create a 'Made in Germany' LLM	Germany	OpenGPT-X	https://research.ibm.com/blog/new-spanish-llm-ai
PSTW-2201	Development of a GenAI-based tool for education by gov.uk – 'Building a proof of concept for Generative AI feedback and resource generation in education contexts'	United Kingdom	Department for Education – UK Government	https://opengpt-x.de/en/

PSTW	Case	Country	Responsible Organisation	Link
PSTW-2202	Developing a GenAI platform for construction cost management	United Kingdom	Leeds Beckett University	https://assets.publishing.service.gov.uk/media/66cdb0cc239c5e6b4dc0533a/Use_cases_for_generative_AI_in_education_technical_report.pdf
PSTW-2204	Amsterdam: generating sustainable materials with GenAI	Netherlands	University of Amsterdam	https://www.leedsbeckett.ac.uk/blogs/school-of-beec/2024/09/ai-for-construction-cost-management/
PSTW-2205	Qra – the first Polish open-source LLM	Poland	Gdańsk University of Technology	https://www.weforum.org/agenda/2024/07/generative-ai-smart-cities/, https://www.uva.nl/en/shared-content/faculteiten/en/faculteit-der-natuurwetenschappen-wiskunde-en-informatica/news/2024/02/shaping-the-future-of-materials-using-artificial-intelligence.html
PSTW-2206	OpenLLM-Ro – the first LLM in Romanian	Romania	POLITEHNICA Bucharest, the University of Bucharest and the Institute of Logic and Data Science	https://opi.org.pl/sukces-wspolpracy-pg-i-opi-w-obszarze-ai/
PSTW-2208	GenAI-based chatbot to help the public access services on official websites	Ireland	Government of Ireland	https://opi.org.pl/sukces-wspolpracy-pg-i-opi-w-obszarze-ai/
PSTW-2209	FinGPT-3 – the open Finnish LLM	Finland	TurkuGPT – University of Turku of Eindhoven	https://openllm.ro/
PSTW-2210	NorGPT – the open 'Made in Norway' LLM	Norway	NorwAI and NTNU	https://www.ntnu.edu/norwai/norgpt-language-models
PSTW-2211	'Democratic Engagement through a Public Chatbot' (DepuChat) – how GenAI can increase transparency	Italy	University of Roma Tre	https://turkunlp.org/gpt3-finnish
PSTW-2213	Supporting civil servants with generative AI	France	Ministry of Processing and Function Public Interministerial Directorate for Public Transformation (DITP) and the Interministerial Digital Directorate (DINUM),	https://www.ntnu.edu/norwai/norgpt-language-models, https://www.uio.no/dscience/english/news-and-events/news/presentation-from-nordic-perspectives-on-ai/4jon-atle-gulla_norgpt_131023-np.pdf, https://www.ntnu.edu/norllm/four-models-built-four-new-ones-in-the-pipeline
PSTW-2215	Legislab – monitoring legislative quality with GenAI	Italy	The Polytechnic University of Milan	https://www.quotidiano.net/politica/lintelligenza-generativa-camera-deputati-44462545
PSTW-2216	Leveraging LLMs for topic classification in public affairs	Spain	BiDA – Lab, Universidad Autónoma de Madrid	https://arxiv.org/abs/2306.02864

PSTW	Case	Country	Responsible Organisation	Link
PSTW-2218	ITALIAN-LEGAL-BERT: a Pre-trained Transformer Language Model for Italian Law	Italy	Sant'Anna School of Advanced Studies	https://ceur-ws.org/Vol-3256/km4law3.pdf
PSTW-2219	LEGAL-BERT: The Muppets straight out of Law School	Greece	Athens university of economics and business	https://aclanthology.org/2020.findings-emnlp.261/
PSTW-2221	Predictice – Summaries of Court Decisions	France	Predictice	https://www.lemondedudroit.fr/professions/337-legaltech/85951-chatgpt-predictice-integremoteur-recherche.html
PSTW-2222	Henchman – contract drafting with AI support	Belgium	Hanchman.io	https://henchman.io/how-does-it-work
PSTW-2223	Robin AI – LLM for supporting Lawyers	United Kingdom	RobinAI	https://www.robinai.com/
PSTW-2224	Harvey – LLM for supporting contract analysis	United Kingdom	Harvey.ai	https://innovationorigins.com/en/eindhoven-pioneers-with-ai-driven-city-consultation/

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