The opportunity of AI in public administration in Romania

Capturing the benefits of AI in public administration

An Implement Consulting Group study commissioned by Google

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AI presents an opportunity to make public administration more accessible, personalised and efficient

Romania's public sector provides essential services to citizens, and generative AI has the potential to enhance efficiency, quality, and citizen experience of these services.

Romania's public sector faces growing challenges due to strained budgets and increased demand and task complexity in public services.

The adoption of AI, especially generative AI, could play a transformative role in addressing these challenges by improving efficiency, service quality, and citizen experience.

To spark a meaningful conversation about the potentials and trade-offs, this report offers a quantitative estimate of the potential for use of generative AI in Romania's public administration.

69% of jobs in Romania's public administration have the opportunity to be complemented by generative AI.

Public administration involves text-heavy tasks, repetitive processes, and significant analytical complexity.

Generative AI can, over time, be integrated into daily work, increasing productivity and freeing up time for other value-creating activities.

54% of public administration workers already use AI tools in Romania, while barriers to institutional adoption remain; most prominently the lack of skills in the workforce and the cost of AI tools.

Generative AI can add value to all levels of government in Romania, presenting a total opportunity of €660 million.

Public administration employees work to implement policies efficiently, provide public services, and maintain social and economic stability in Romania.

This report finds that the widespread use of generative AI in public administration can create €660 million in additional value with the same resources. The potential can be realised through a productivity boost from increased quality and speed of public services as well as the reallocation of resources to focus on higher-value tasks.

Adopting AI in public administration in a bold and responsible manner with the citizens' interests at heart requires:

Providing AI skills training for civil servants to ensure secure and widespread adoption.

Establishing access to scalable AI infrastructure by ensuring culturally aligned language models and scalable computing.

Tailoring AI applications to public sector needs, integrating expert human knowledge and guidelines.

Establishing responsible guidelines to align regulations, foster innovation, and ensure public trust and data security.
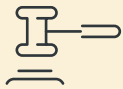
01

Introduction to AI in public administration in Romania

This report covers all types of AI, with a particular focus on generative AI.

Public administration in Romania faces increased demand and task complexity in public services

Changes in public administrative complexity include …

… leading to potential implications for public administrations

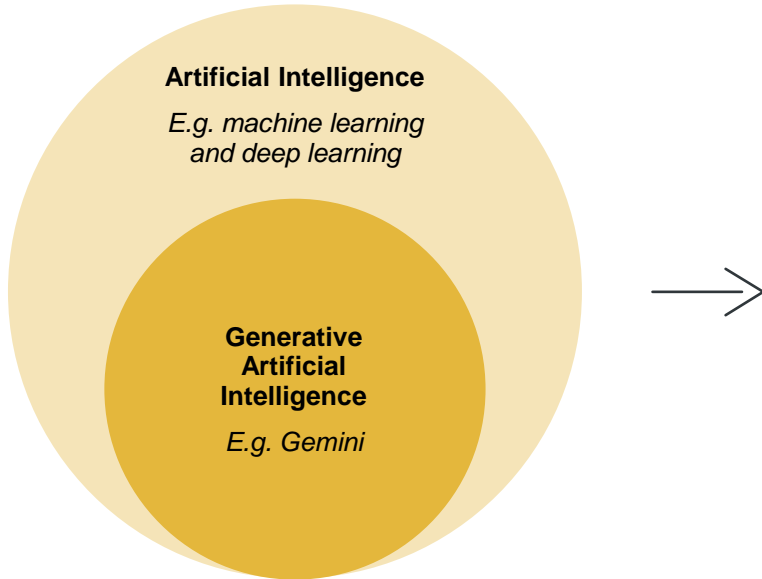| Increased regulatory complexity	Growing demand for accessibility	Greater need for personalised services	Delays and congestion in providing services	Deterioration in the quality of services	Erosion of trust in public institutions

Generative AI could be an important lever for public administration to improve efficiency and service quality while meeting the rising demand.

The emergence of generative AI makes AI more accessible and more capable than ever before

Artificial Intelligence

E.g. machine learning and deep learning

Generative Artificial Intelligence

E.g. Gemini

User prompt

Large language model

Output

Video

Text

Code

Sound

Easy to use in plain language

Does not require any coding skills

No or low data requirements

Pre-trained models are readily available for many tasks

Online and free of charge

Does not require local infrastructure

Pre-trained generative AI models, built on vast general datasets, have made AI more readily available and introduced new, unprecedented capabilities.

This reduces the barriers to AI adoption in public administration, while enabling its deployment across a broader range of tasks than ever before.
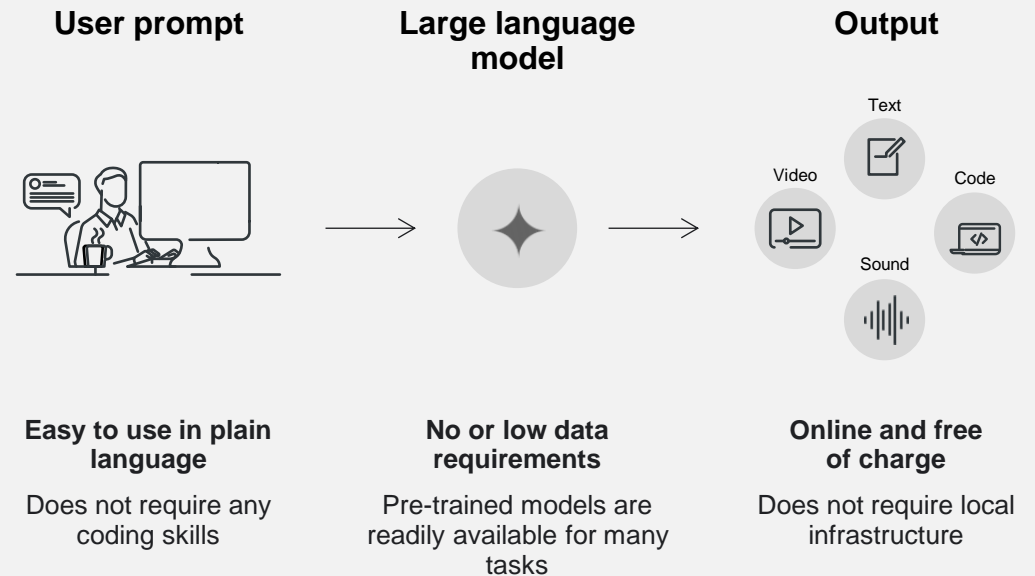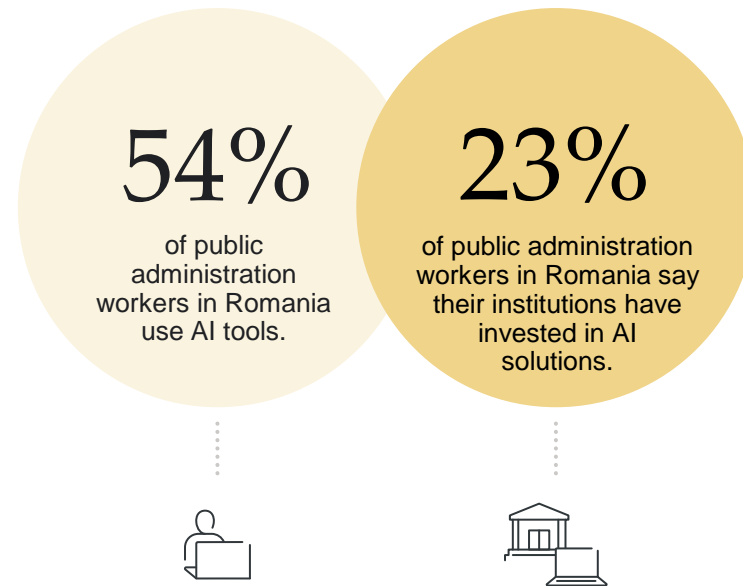
54% of workers in public administration in Romania already use AI

Generative AI models offer robust built-in capabilities and are user-friendly. Currently, more than half of workers in the public administration in Romania use AI tools.

Simultaneously, 23% of public administration workers say their institutions have invested in AI solutions, such as purchasing licenses or implementing local applications.

Despite this progress, generative AI is still in its nascent stages and has yet to attain widespread adoption at the institutional level.

54%
of public administration workers in Romania use AI tools.

23%
of public administration workers in Romania say their institutions have invested in AI solutions.

This report focuses specifically on public administration, as AI potentials in the sector are significant

Public administration is essential for delivering government services and managing public resources, making it a critical area for exploring innovations like generative AI to improve efficiency and quality.

This report focuses on the opportunity generative AI holds for supporting text-heavy tasks, repetitive processes, and complex decision-making within public administration.

Public administration has characteristics that allow it to benefit from generative AI, including…

Text-heavy products

Public administration involves a significant amount of documentation, reports, and communication.

Generative AI can support this work by automating the creation of text, summarising content, or generating templates for repetitive communications.

Repetitive tasks

Administrative processes are routine and involve structured tasks such as form-filling, document review, and responding to common inquiries.

Generative AI can support these tasks efficiently, allowing human workers to focus on more complex issues.

High analytical complexity

Public administrative work often requires deep analysis of regulations, data, and policy implications.

Generative AI can assist in synthesising vast amounts of information, providing insights, or generating reports that support informed decision-making.

02

AI opportunities in public administration

The main economic opportunity in public administration arises from humans working together *with* generative AI.

Generative AI can complement most jobs in public administration

Potential for using generative AI in public administration in Romania
% of jobs in public administration

420,000 jobs in
public administration

Limited use potential	24%
Medium use potential	69%
High use potential	8%
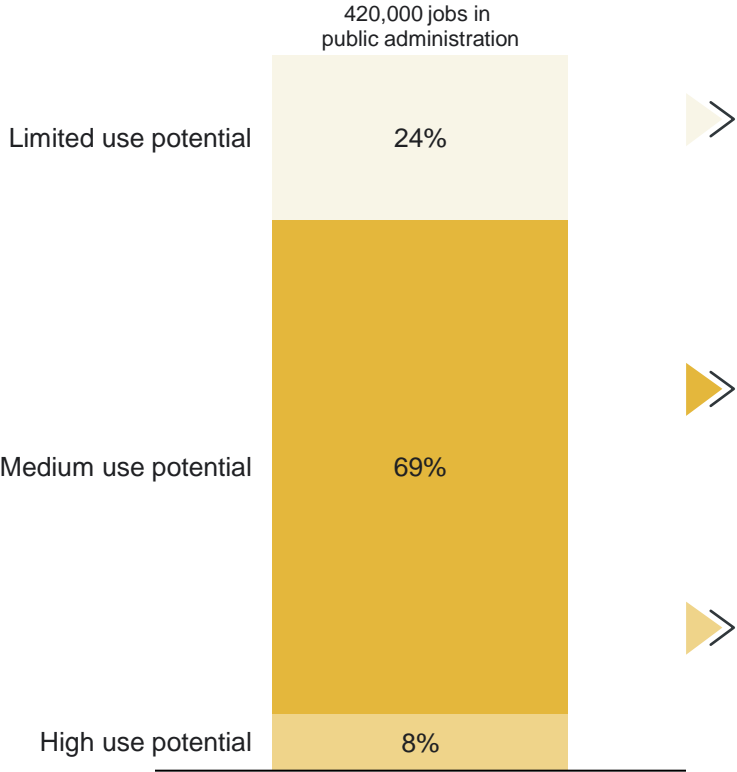
Note: Figures may not sum to 100%, due to rounding.
Source: Implement Economics based on Eurostat, O*Net and Briggs and Kodnani (2023a).

The full potential in public administration is spread over many different job types and processes, requiring multiple tools and approaches to work at scale. A tailored AI adoption strategy is necessary – one size does not fit all.

Our approach applies the occupation-specific potential of generative AI in public administration jobs, such as clerical roles, managers and professionals incl. regulatory officers and social security officials.

24% of public administration jobs have low potential for generative AI use
Jobs where generative AI can assist with less than 10% of the current tasks

These jobs include manual or human-to-human work, where generative AI has little potential to impact work content.

69% of public administration jobs have medium potential for AI use
Jobs where generative AI can assist with 10-49% of the current tasks

These jobs can be complemented by generative AI, e.g. by helping to create content (text, code, and images) and collaborate with other workers on complex problems. The new technology can over time be integrated in daily work, increasing productivity and freeing up time for other value-creating activities.

The potential covers a wide variety of tasks, requiring a broad range of AI tools to assist with the specific tasks.

8% of public administration jobs have high potential for AI use
Jobs where generative AI can assist with 50% or more of the current tasks

These jobs include tasks such as data entry, report generation, and document analysis, where generative AI can potentially assist with 50% or more of the tasks conducted today.

This means that in the next 20-25 years, public administration leaders will need to reflect on the benefits and costs of these jobs. To meet the high demand for labour in public administration, it is important to consider the possibilities of freeing up resources in areas where they are needed most, either within public administration or in other parts of the public sector.

Public administrative employees carry out a range of tasks for the benefit of citizens

Citizen advisory

Assisting citizens by providing guidance and information on government services, legal rights, and administrative procedures.
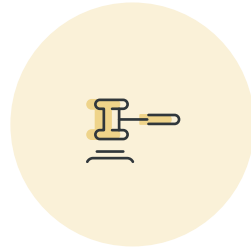
Case and application handling

Managing and processing citizen applications for various public services, ensuring compliance with regulations and legal standards.

Payments and social subsidies

Overseeing the disbursement of public funds, including social benefits, subsidies, and financial aid, ensuring that payments are made accurately and on time.

Auditing and maintenance

Conducting regular audits to ensure the proper use of public resources and the maintenance of infrastructure and public services.

Policy development

Drafting, evaluating, and implementing public policies to meet the needs of society and ensure government accountability.
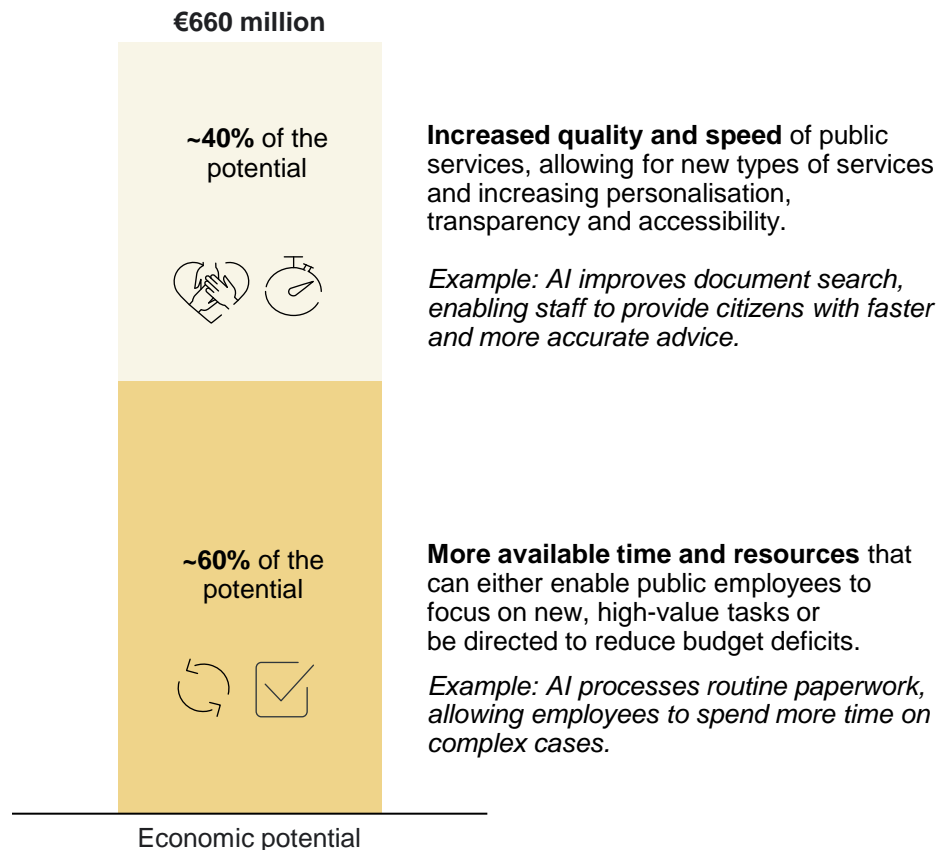
Generative AI can enhance productivity in Romanian public administration

IMI

Public administration is the backbone of the public sector. Public administrative employees are working to ensure the efficient implementation of government policies, the provision of public services, and the maintenance of social and economic stability.

Generative AI has the potential to elevate the value delivered by the public administration by increasing quality, speed and efficiency.

Over a ten-year adoption period, the use of generative AI in public administration in Romania can create €660 million in additional value with the same resources. The size of the potential is equivalent to 3% of the general government deficit in 2023.

Potential impact of generative AI on public administration in Romania
€ million increase from baseline GVA after a ten-year adoption period

€660 million

~40% of the potential

Increased quality and speed of public services, allowing for new types of services and increasing personalisation, transparency and accessibility.

Example: AI improves document search, enabling staff to provide citizens with faster and more accurate advice.

~60% of the potential

More available time and resources that can either enable public employees to focus on new, high-value tasks or be directed to reduce budget deficits.

Example: AI processes routine paperwork, allowing employees to spend more time on complex cases.

Economic potential

Note: The estimate assumes widespread adoption of generative AI over a ten-year period. There is uncertainty associated with the estimated size of the economic potential, which ranges from €640-680 million. The size of the productivity boost depends on the difficulty level of tasks that generative AI will be able to complete and the number of jobs it can automate.
Source: Implement Economics based on Eurostat, O*Net, Briggs and Kodnani (2023a), BNP Paribas (2023), and Dell'Acqua et al. (2023).
A detailed explanation of the economic modelling approach is contained in the appendix of our Economic Opportunity of Generative AI report.

Generative AI can improve efficiency and service quality of administrative tasks

Use cases for generative AI in public administrative functions

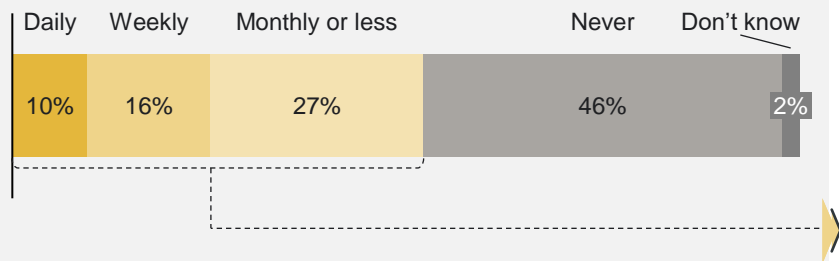| Public administrative functions		Examples of use cases
Citizen services	Information and guidance	**Proactive guidance.** AI handles resident inquiries in real time, providing immediate answers about bills or services, or directing them to the appropriate department.
	Case handling	**AI-assisted case management.** AI prioritises and processes citizen applications for building permits, ensuring faster approvals by automatically flagging missing documents or information.
Direct citizen contact	Citizen advisory	**AI-powered advisory services.** Civil servants use AI to find relevant case details and regulations, enabling quicker and more accurate responses to citizen inquiries.
Business and organisational services	Supervision	**Compliance monitoring.** AI audits documentation in large municipal projects, ensuring compliance with local regulations and identifying potential issues before they escalate.
	Grants and payments	**Grant application processing.** AI quickly assesses whether a project or community group qualifies for a grant and highlights any missing critical information in their application.
Administrative operations	Resource management	**Resource allocation.** AI optimises the distribution of waste management services, such as refuse trucks, based on current demand and historical data.
Policy and research	Research	**AI-driven data analysis.** AI analyses traffic data, informing the development of policies aimed at reducing congestion during peak hours.
	Policy development	**Legal cross-checking.** AI cross-references legal texts and policies automatically, ensuring that new regulations are aligned with existing laws and reducing the risk of legal conflicts.

Most external

Most internal

Workers in public administration already use AI tools to assist in a variety of tasks

More than half of Romanian public administrative employees have adopted generative AI tools to some degree in their personal work, while 46% never use the tools at work.

Top use cases include case handling, management of public records, and compliance tasks, indicating that generative AI already plays a role in core administrative functions in Romania.
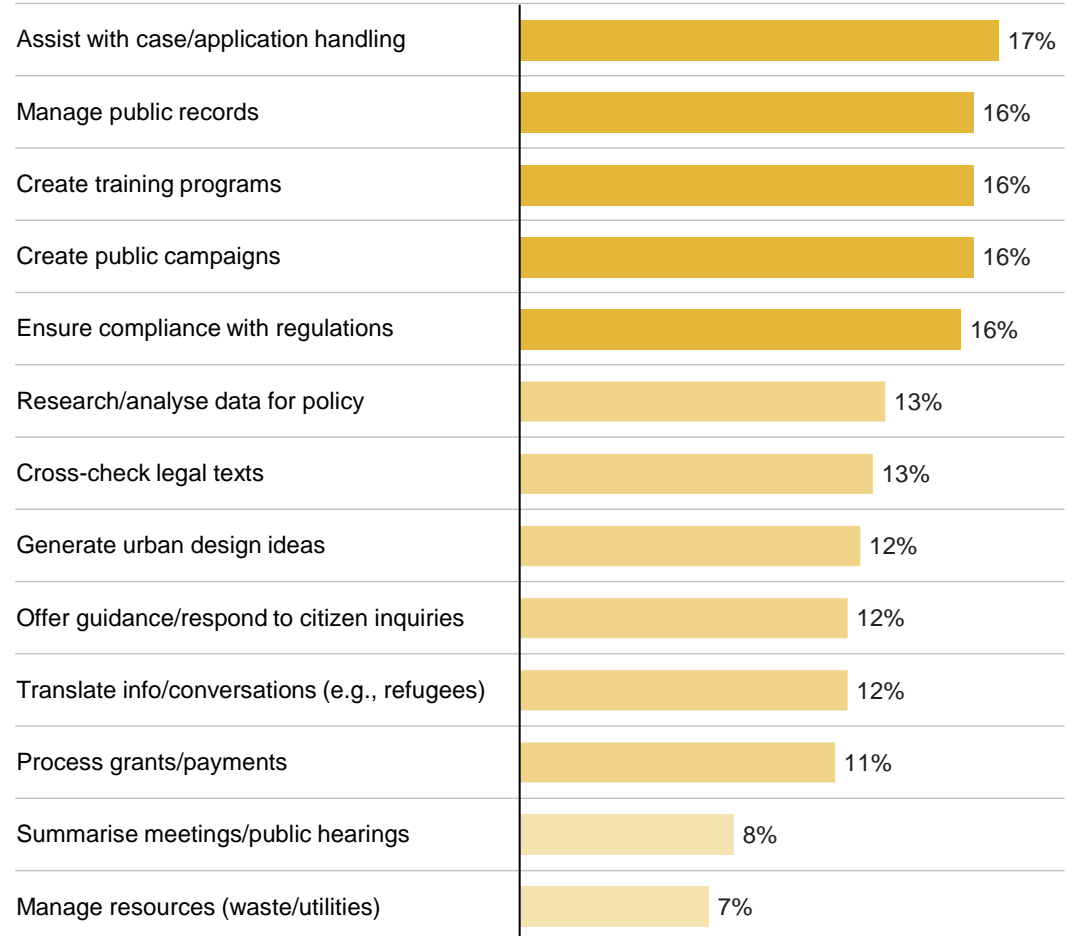
How often do you use AI tools at your current job, if at all?
% share of respondents

Daily	Weekly	Monthly or less	Never	Don't know
10%	16%	27%	46%	2%

Which of the following have you personally used AI tools for in your public sector position?
% share of respondents

Public First poll

Assist with case/application handling	17%
Manage public records	16%
Create training programs	16%
Create public campaigns	16%
Ensure compliance with regulations	16%
Research/analyse data for policy	13%
Cross-check legal texts	13%
Generate urban design ideas	12%
Offer guidance/respond to citizen inquiries	12%
Translate info/conversations (e.g., refugees)	12%
Process grants/payments	11%
Summarise meetings/public hearings	8%
Manage resources (waste/utilities)	7%

Note: 314 respondents (Local government = 152; Central government = 162).
Source: Implement Economics based on Public First polling.

Investments in AI are driven by potential productivity gains and concerns for employees' well-being

Investing in AI-based automation is primarily driven by the need for cost savings and enhanced productivity, with a strong emphasis on improving employee well-being and reducing frustrating tasks.
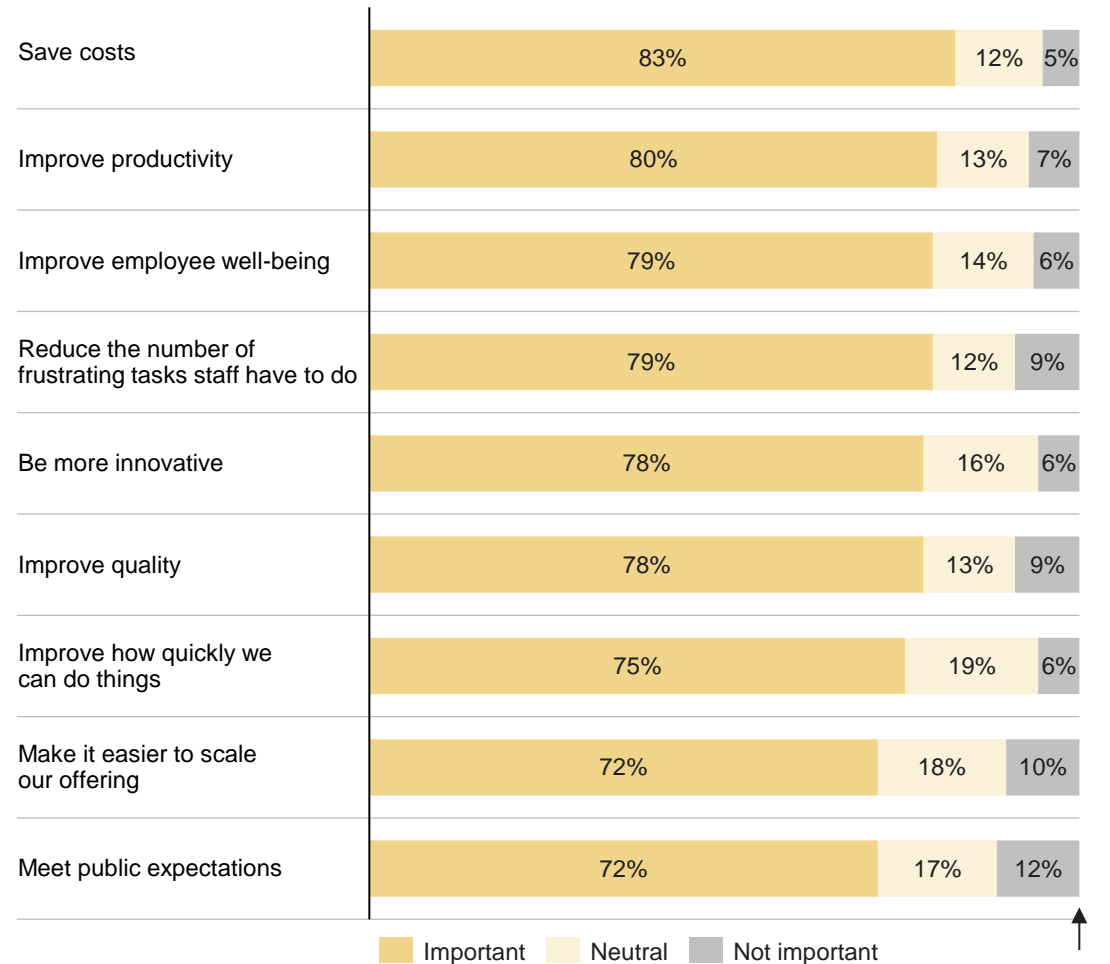
This highlights a focus on not only boosting operational effectiveness, but also the importance of service quality and responsiveness to public expectations.

Looking at the following, how important are these reasons for your institution planning to invest in AI?
% share of respondents that expect to invest in AI-based automation in the next five years

Public
First poll

Reason	Important	Neutral	Not important
Save costs	83%	12%	5%
Improve productivity	80%	13%	7%
Improve employee well-being	79%	14%	6%
Reduce the number of frustrating tasks staff have to do	79%	12%	9%
Be more innovative	78%	16%	6%
Improve quality	78%	13%	9%
Improve how quickly we can do things	75%	19%	6%
Make it easier to scale our offering	72%	18%	10%
Meet public expectations	72%	17%	12%

Important   Neutral   Not important

100%

The main barriers to implementing AI are the lack of skills in the workforce and the cost of AI tools

The most significant barrier to AI adoption in public institutions is the skills gap in the workforce, emphasising the urgent need for training programs to empower staff and enhance technological proficiency.
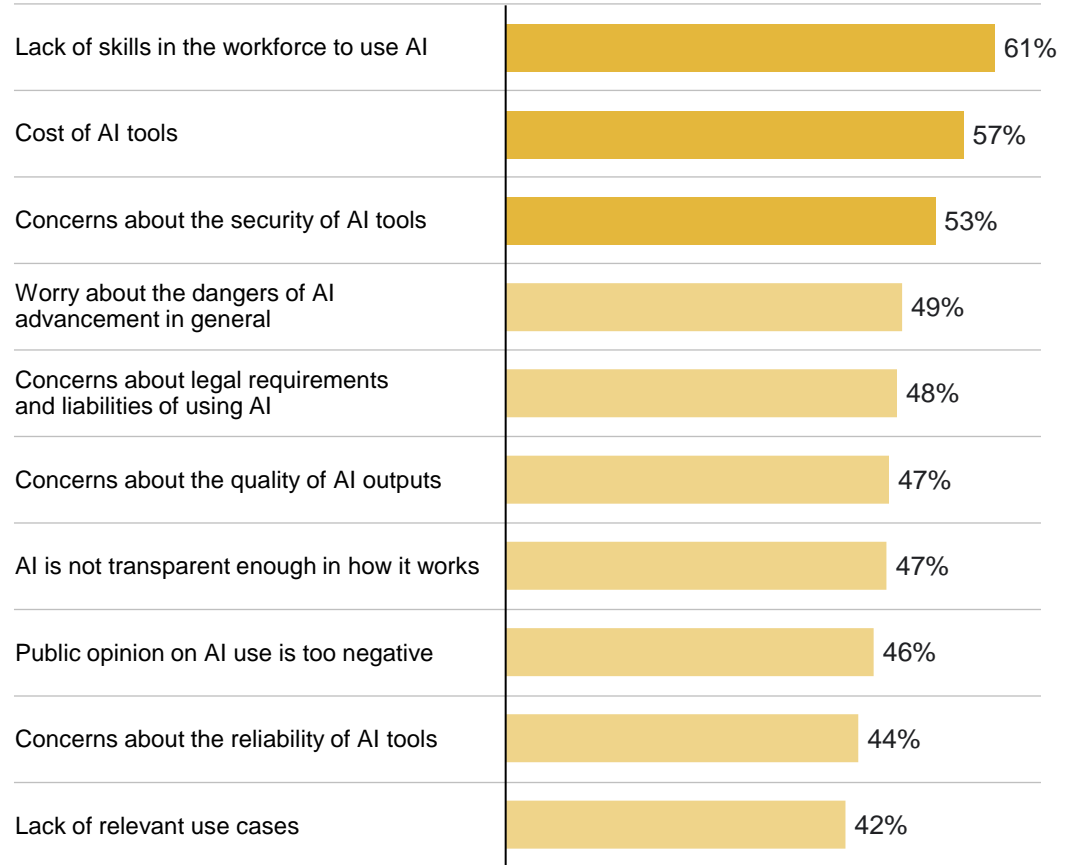
Concerns about the cost and security of AI tools further highlight the need for affordable and secure solutions to build confidence in their use.

Addressing issues related to AI advancements, legal liabilities, and transparency is crucial for improving public trust and effective integration into government operations.

Which of the following, if any, are barriers to your institution making further use of AI?
% share of respondents, top 10 replies

Public First poll

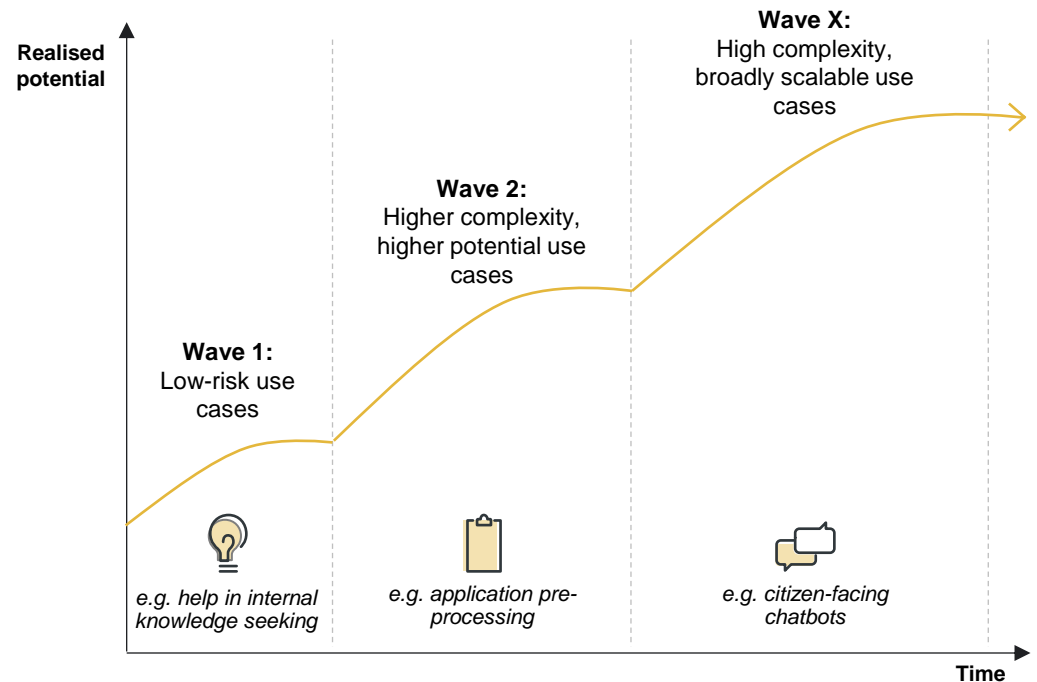| Barrier	%
Lack of skills in the workforce to use AI	61%
Cost of AI tools	57%
Concerns about the security of AI tools	53%
Worry about the dangers of AI advancement in general	49%
Concerns about legal requirements and liabilities of using AI	48%
Concerns about the quality of AI outputs	47%
AI is not transparent enough in how it works	47%
Public opinion on AI use is too negative	46%
Concerns about the reliability of AI tools	44%
Lack of relevant use cases	42%

Low-risk use cases offer great potential that should be realised first

Numerous low-risk use cases exist within public administration that can enhance operational efficiency and service quality without requiring access to personal data or directly impacting citizens. Romania should prioritise these as an initial step.

Unlocking higher potential applications will necessitate the establishment of unified legal and technical frameworks as well as ethical guidelines, enabling the deployment of more complex tasks and scalable AI solutions across the public sector.

The potential can be realised in waves, starting with the least complicated use cases…

Realised potential

Wave X:
High complexity, broadly scalable use cases

Wave 2:
Higher complexity, higher potential use cases

Wave 1:
Low-risk use cases

e.g. help in internal knowledge seeking

e.g. application pre-processing

e.g. citizen-facing chatbots

Time

03

The way forward

Romania can leverage AI to improve public administration by taking inspiration in regional best practices and strengthening the necessary drivers.

Romania can leverage best practices from regional peers in AI adoption

Administrative functions

Citizen service
Civil servants provide information, guidance, and manage case handling for citizens.

Business and organisational services
Civil servants oversee supervision tasks and handle grants and payments.

Administrative operations
Civil servants spend time on internal administrative processes like registration and compliance checks.

Research and policy
Public administration conducts research and develops policies to guide political decision-processes.

Regional best practice examples

Chatbots in public services (Poland, 2023). Various municipalities have adopted AI-driven chatbots to handle citizen inquiries as part of the **Polish Smart Cities Initiative**. These bots assist in guiding users through procedures such as tax filings or administrative appointments, increasing accessibility to government services without the need for direct human involvement.

AI for illegal logging detection (Romania, 2023). Romania partnered with Google and Zitec to implement an AI-based system using satellite imagery and LiDAR sensors to detect **illegal timber transport**. This system automates the processing of over 400,000 transport permits monthly, improving fraud detection and protecting Romania's valuable forests.

Automated document processing (Poland, 2024). The Polish Development Fund (PFR) introduced **AI to streamline HR and administrative processes**, particularly for document analysis and legal compliance. By automating verification, AI reduces errors and accelerates processing times, allowing for quicker approvals and decisions. This automation not only improves efficiency but also frees up time to focus on more strategic tasks.

GovTech sandbox (Lithuania, 2024). Lithuania's GovTech Sandbox aims to test AI in public services by uniting government institutions to enhance tasks like document management, fraud detection, and decision-making. In 2024, 14 institutions used AI to automate tasks and boost service efficiency.

Source: Inspectoratul Padurii (2024), GovTech Lab (2024), Ministry of Digital Affairs, Poland (2024) and Polish Development Fund (2024)

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Succeeding with AI in public administration comes from empowering civil servants, providing solid infrastructure and applications, and establishing clear governance

Skills

All civil servants need basic AI skills to effectively use and understand AI tools, while experts are essential for driving advanced AI applications in the public sector.

- Romania is advancing AI literacy among civil servants through PNRR-funded **training programmes,** aiming to educate 30,000 civil servants in advanced digital skills, including data analysis and programming.
- However, the overall low level of digital literacy within public administration remains a barrier, and future efforts should focus on expanding AI-specific training and strengthening foundational digital competencies.

Infrastructure

Public AI initiatives require access to culturally adapted LLMs and powerful computing resources, such as GPUs or cloud infrastructure

- Romania's AI infrastructure for public institutions is evolving through initiatives like **OpenLLM-Ro** and the **National Cloud Infrastructure**, which aim to address computational needs and create AI models tailored to Romanian contexts.
- Expanding access to these resources for more institutions and local innovators could further enhance the impact across public services.

Applications

AI must be tailored into specialised tools to support or replace workflows, requiring integration of expert knowledge and guidelines.

- Romania's **AI strategy for 2024-2027** aims to advance AI applications in healthcare, transportation, public services, and education, with AI already being implemented in tax administration to improve risk analysis and public tenders.
- Future efforts should focus on collaborating with suppliers and innovators to develop task-specific AI tools for administrative functions. It could include the ambition of scaling successful pilots in collaboration with commercial suppliers.

Regulation

Guidelines and regulations should ensure responsible AI use, public trust, and protection of sensitive data.

- Romania's public sector AI governance is anchored by the **National AI Strategy**, which sets ethical, transparent, and accountable standards for AI use. This is supported by GDPR-based regulations and strengthened by the **National Cybersecurity Strategy** to ensure secure AI systems across public institutions.
- To encourage AI adoption, coordination between regulatory bodies should be streamlined and resources enhanced, simplifying AI governance for institutions while promoting innovation.

In addition to enhancing their own efficiency and quality, governments must leverage AI to drive innovation and efficiency across sectors

Public institutions can take on several roles to boost AI adoption, innovation and competitiveness…

Research investor	Innovation enabler	Process optimiser	Access facilitator	Rules implementer
Provide funding for AI related research and innovation	**Foster AI Innovation through collaboration**	**Streamline interaction with governments with AI**	**Empower local innovators with AI infrastructure**	**Provide simplicity and clarity for public and private actors**
• Governments can provide funding for AI research and development for novel AI algorithms, tools, and techniques. Programmes can target a variety of AI themes and grant awards to create new AI and quantum information R&D institutes. • Likewise, funding can be granted to researchers focused on advanced AI aimed at developing fundamental and novel AI techniques, algorithms, and adjacent technologies.	• National public administrations should harmonise and coordinate AI sandbox regimes to allow companies to experiment with AI technologies while addressing regulatory barriers. • They are encouraged to facilitate innovation by offering funding and regulatory exemptions for companies involved in an "AI Vertical Priorities Plan", promoting breakthroughs in high potential AI sectors.	• National administrations can use AI-powered software to significantly reduce compliance and administrative costs for startups, SMEs, and local innovators by implementing harmonised reporting templates and centralised, multilingual reporting systems. • They should aim to leverage AI to cut reporting obligations by 25-50%, automate regulatory processes and make governance more efficient for small businesses.	• Governments can facilitate access to high-performance computing (HPC) resources, enabling startups and SMEs to leverage vital AI training and algorithm development tools without requiring the state to develop these resources directly. • Administrations are encouraged to establish frameworks where HPC resources can be provided to innovative SMEs in exchange for financial returns, fostering local AI entrepreneurship.	• Ensuring clear guidance on rules and regulation can reduce major uncertainties that might otherwise hold back investment and innovation in AI. • Simplicity in applying these rules with a focus on ensuring low compliance and low adjustment costs for companies and public institutions is crucial for fostering good conditions for the adoption of AI tools and related innovations.

Source: Implement Economics based on Mario Draghi (2024). *The future of European competitiveness: A competitiveness strategy for Europe*

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Public administration leaders are facing important choices on how to purchase AI tools and access AI infrastructure and compute power

The decision between 'make or buy' presents a set of dilemmas

AI applications

- **Control vs. speed to market:** Developing AI in-house maximises control over data and customization, while hybrid models—leveraging both internal and external resources—enable faster deployment without compromising key priorities.
- **Fit to current practice vs. adaptability:** In-house solutions ensure close alignment with current practices, while hybrid and cloud-based AI systems offer greater flexibility to adapt to emerging technologies and shifting public sector demands.
- **Data security vs. collaborative expertise:** Developing in-house ensures complete control over sensitive data, but hybrid and multi-cloud solutions can provide access to external expertise and innovation while maintaining security.

AI infrastructure

- **Data control vs. cost flexibility:** On-premise infrastructure provides full control over sensitive data, while hybrid models can offer a scalable, cost-effective alternative without compromising data sovereignty or compliance.
- **Customisation vs. speed and scalability:** Building infrastructure in-house enables deep customisation, but hybrid models, combining on-premise and cloud solutions, offer rapid scalability and faster implementation timelines.
- **Path dependency vs. future flexibility**: Fully in-house infrastructure can limit future adaptability, whereas hybrid and edge solutions provide the flexibility to evolve with changing technological landscapes.

Governments must carefully assess the risk of vendor lock-in, considering restrictive software licensing that may limit future flexibility and create dependencies on specific providers.

Government should seek vendors that…

- ○ **Guarantee data security and compliance,** ensuring adherence to national and EU laws (e.g. GDPR) while maintaining strict security protocols.

- ○ **Align with public sector ethical standards,** ensuring AI solutions promote fairness and transparency, and mitigate risks like algorithmic bias.

- ○ **Ensure interoperability with existing systems and external services,** enabling integration with current government IT infrastructure as well as third-party platforms to reduce disruption, implementation costs, and vendor lock-in.

- ○ **Offer scalable and flexible infrastructure,** capable of adjusting resources based on the changing needs of public administration while ensuring reliable performance.

- ○ **Provide clear service level agreements** with accountability, ensuring defined performance metrics, uptime guarantees, and fast response times for addressing service failures.

- ○ **Provide carbon footprint data** using state-of-the-art data on the hour-by-hour carbon free energy for the operational emissions of the data centre.

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Appendix

Modelling the economic impact

Overview of the methodological approach to calculating economic growth and productivity impact from generative AI

The economic effects are calculated in the following steps

1 **Automation potential of work activities:** First, the exposure to generative AI is calculated by breaking down the automation potential of 39 different work activities/tasks in the occupational task database O*NET. The database includes an estimate of the share of each activity (e.g. getting information, performing administrative activities etc.) that can be automated by generative AI (if the activity is above level 4 on an O*NET-defined scale of difficulty 1-7, no automation potential is assumed).

2 **Mapping automation potential of work activities to occupations:** The automation potential of the work activities is mapped in ten European industry aggregates in two sub-steps. First, the 39 work activities for 900 US occupations are mapped using importance-average activities for each occupation, providing an estimate of the share of each occupation's total workload that AI has the potential to automate. Secondly, this number is projected from US to European occupations through the European Commission's crosswalk between ESCO and O*NET and finally compiled into aggregated occupations (using the sub-occupation employment). This leaves us with the three shares that describe how big a share of the work activates for each occupation is expected to see: No automation, AI complement and Likely replacement.

3 **Quantifying productivity gains in each sector:** Generative AI is assumed to affect the productivity of the work activities for each occupation as follows (see section 3 for further details). The "No automation" share of work activities is assumed to be unaffected by generative AI. "AI complement" work activities experience a productivity boost from automation. "Likely replacement" is the share of work activities in a sector that is expected to be entirely automated/replaced. These workers are expected to be re-employed in slightly less productive jobs. The three effects are calculated across sectors and scaled by each sector's value added to determine the full productivity potential/generation of new jobs from generative AI across the economy, once the technology adoption peaks.

4 **Aggregate GDP impact:** Based on the estimated increase in labour productivity resulting from AI adoption, the result is aggregated to an overall GDP. Only part of the total long-run productivity increases from generative AI is expected to materialise in the economy during the initial ten-year period of technology adoption following an S-curve adoption trajectory.

> The method used to calculate productivity and GDP effects of generative AI in this paper is in line with the methodology developed by Briggs and Kodnani (2023) in "The Potentially Large Effects of Artificial Intelligence on Economic Growth".

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Disclaimer

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