IMPLEMENT
CONSULTING GROUP_

The opportunity of AI in public administration in Italy

Capturing benefits of AI in public administration

Google

An Implement Consulting Group study commissioned by Google

October 2025

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

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

Italy'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, the report offers a quantitative estimate of the potential for use of generative AI in Italy's public administration.

69% of jobs in Italy's public administration have potential 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.

71% of public administration workers in Italy have experimented with AI tools, however, barriers to institutional adoption remain; most prominently the need for workforce upskilling and concerns about legal requirements.

Generative AI can add value to all levels of government, presenting a total opportunity of EUR 11 billion in 10 years.

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

Widespread adoption of generative AI in public administration could generate up to EUR 11 billion in additional value with the same resources. This potential stems from productivity gains driven by faster, higher-quality public services and the freeing up of time and resources, allowing civil servants to focus on new, high-value tasks. This report examines how generative AI can enhance productivity in Italy's public administration.

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 Italy

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

Public institutions in Italy are challenged by resource shortages

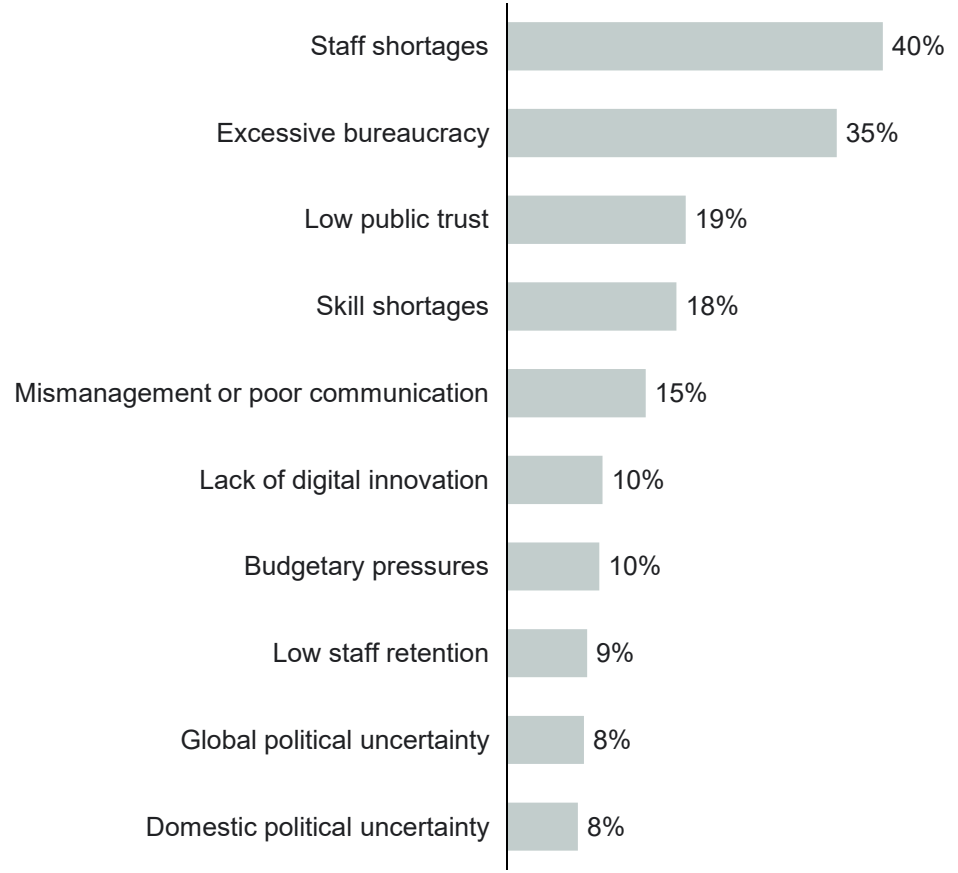
Public institutions in Italy are grappling with a clear set of challenges, with staffing shortages and excessive bureaucracy emerging as the most pressing concerns.

These issues dominate responses across all levels of government, highlighting a widespread strain on capacity and an urgent need to simplify administrative processes.

Further, concerns around low public trust and skill shortages point to deeper institutional challenges tied to reputation and workforce development.

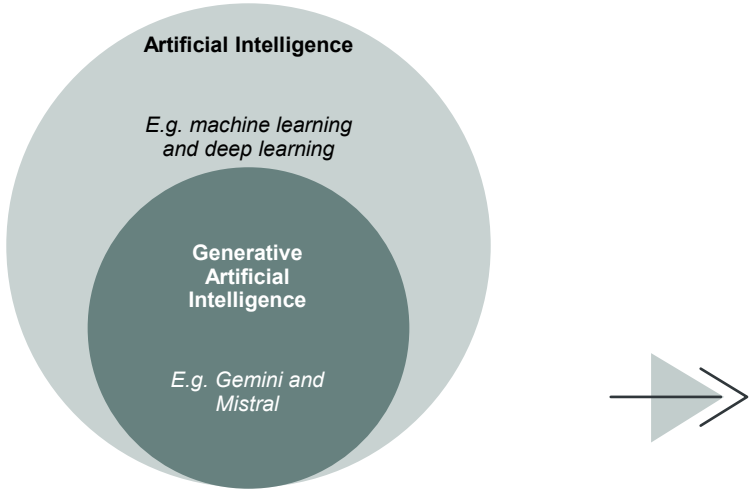
Public First poll

Which of the following are the biggest challenges facing the public sector institution that you work in?
% share of respondents, top 10 replies



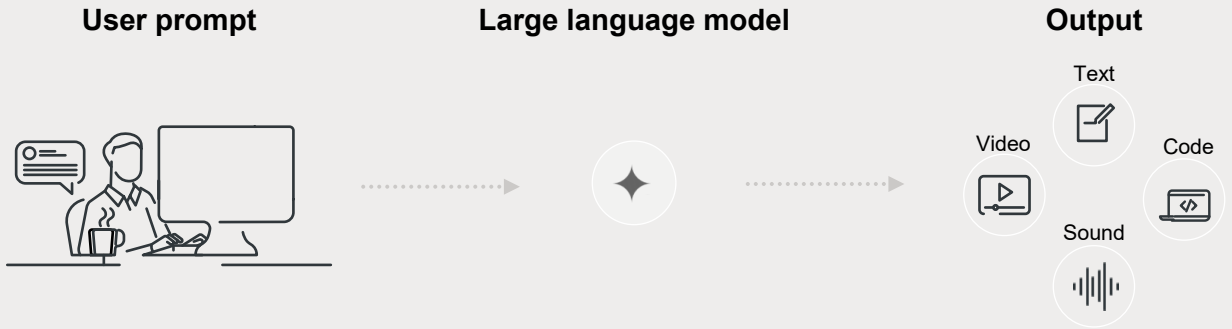
Sources: Implement Economics based on Public First (2025).
Notes: 303 respondents (Municipality = 81; Regional = 83, National =137).

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



Pre-trained generative AI models, developed on vast general datasets, have made AI more accessible and unlocked unprecedented capabilities.

This lowers barriers to adoption in public administration and enables deployment across a wider range of tasks than ever before.



Easy to use in plain language

Does not require any coding skills

No or low data requirements

Pre-trained models are readily available for a wide range of tasks

Online and low-investment

Does not require local infrastructure

71% of workers in Italy's public administration have experimented with AI tools, yet usage remains limited in depth

AI experimentation is already widespread among public administration employees: 71% report having used AI at least once in their current role.

Yet usage remains limited in depth – only 15% engage daily and 24% weekly – indicating early-stage, exploratory adoption rather than systematic integration.

At the same time, institutional adoption is still limited. Only 25% of public institutions have invested in AI solutions such as licenses or local systems.

Generative AI in Italy's public sector is therefore best understood as broad experimentation at the individual level, with significant headroom for institutional integration and impact.

Public First poll

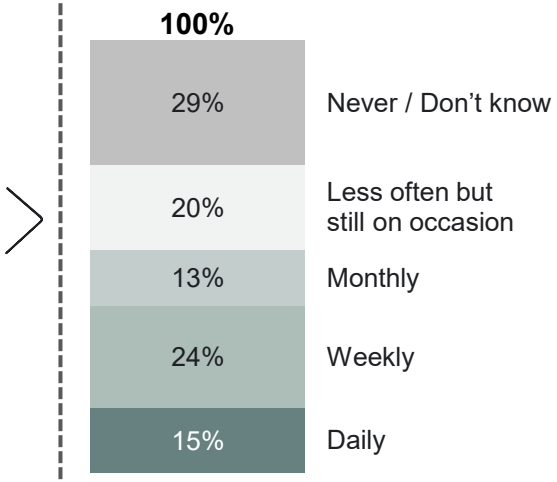
71%

of public administration workers use AI tools in Italy.

25%

of Italy's public institutions have invested in AI solutions

How often do you use AI tools at your current job, if at all?
% share of respondents



Notes: 303 respondents (Municipality = 81; Regional = 83, National =137). Top figure: *How often do you use AI tools at your current job, if at all?* Bottom figure: *Thinking now about the public sector institution that you work for. As far as you know, has it invested in AI tools, such as AI software licences or local automation systems?* Rounding may cause the figures to sum to slightly more or less than 100%
Sources: Implement Economics based on Public First polling (2025)..

Generative AI could transform public services in Italy

Public administration plays a critical role in delivering government services and managing resources. Generative AI offers a unique opportunity to boost efficiency, improve quality, and free up capacity for higher-value work.

Italy's public administration could serve as a bold example of how responsible AI adoption can support nation-wide productivity.

This report explores how generative AI can lift Italy's public administration by enhancing text-heavy tasks, streamlining repetitive processes, and supporting complex decision-making.

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

Text heavy work

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 often involve routine, structured tasks such as form filling, document review, and handling common inquiries.

Generative AI can perform these tasks efficiently, freeing public administration employees to focus on complex issues and more creative, value-added work.

High analytical complexity

Public administration often requires in-depth analysis of regulations, data, and policy implications.

Generative AI can synthesise large volumes of information, uncover insights, and produce reports that support faster, more informed decision-making.

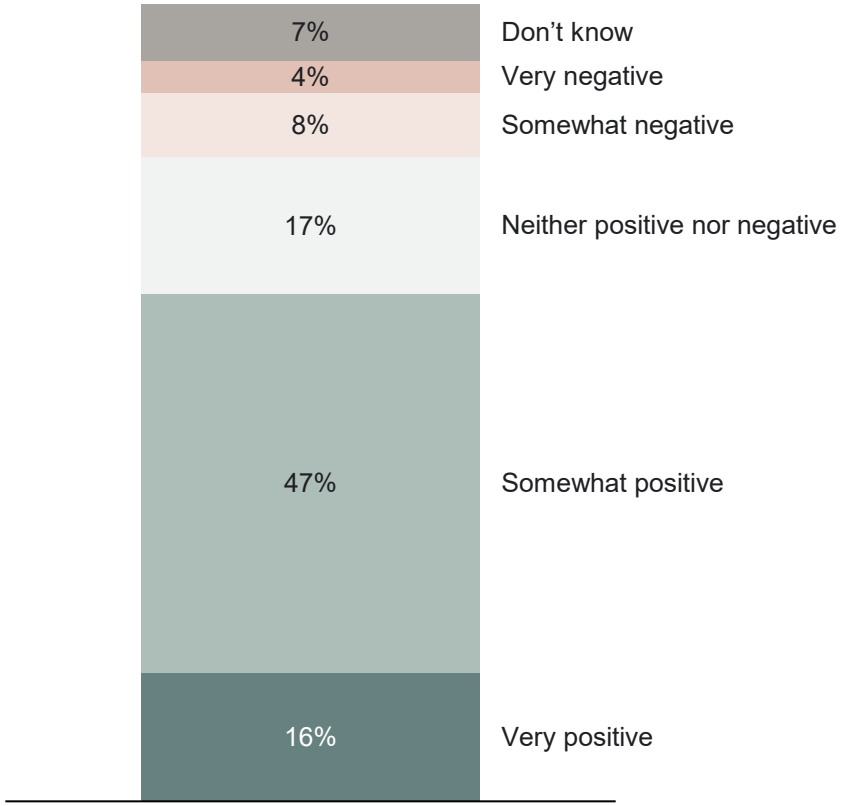
Italian public employees see AI as a positive force for the future

Across all levels of government, public employees in Italy express strong optimism about AI. Nearly two-thirds believe it will have a positive impact on the public sector, with the majority expecting meaningful improvements in the way services are delivered.

While a few remain uncertain or cautious, the dominant message is clear: AI is widely seen as a powerful opportunity to modernize public administration and create better outcomes for citizens.

Public First poll

Overall, do you expect AI to have a positive or negative impact on the public sector in the future?
% share of respondents



Sources: Implement Economics based on Public First (2025).
Notes: 303 respondents (Municipality = 81; Regional = 83, National =137). Rounding may cause the figures to sum to slightly more or less than 100%

02

AI opportunities in public administration

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

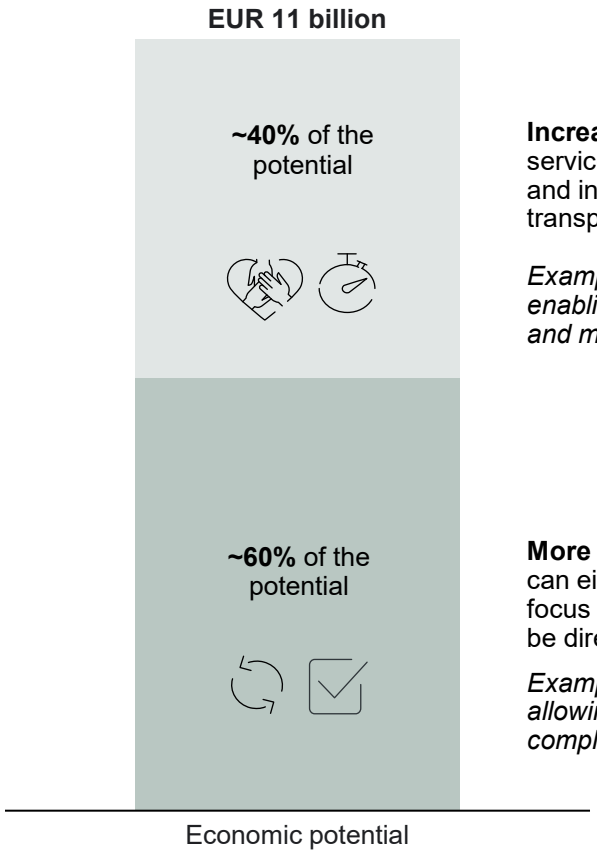
Generative AI frees up resources while enhancing the quality of public services

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 Italy can generate around EUR 11 billion in additional value with the same resources.

Potential impact of generative AI on public administration in Italy
EUR billion increase from baseline GVA after a ten-year adoption period



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.

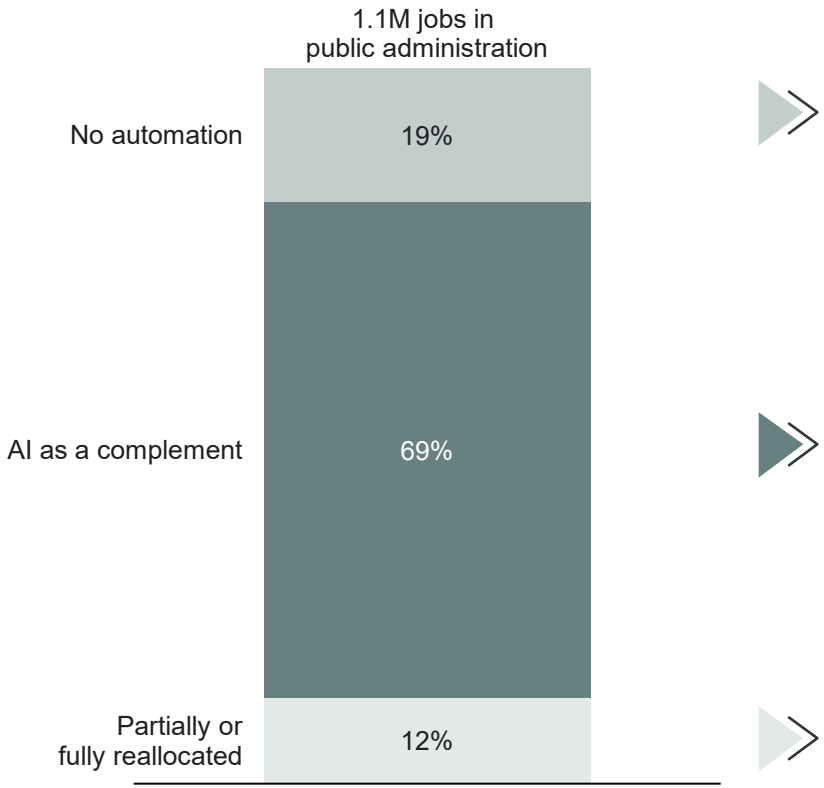
More available time and resources that can either enable public employees to focus on new, high-value tasks or be directed to reduce budget deficits.

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

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. The size of the productivity boost depends on the difficulty level of tasks that generative AI will be able to perform 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.

The potential is driven by people working together with generative AI

Exposure to automation by generative AI in public administration in Italy
% of jobs in public administration



~210,000 jobs are unlikely to be exposed to automation

19% of jobs in public administration face little or no automation from generative AI. These workers carry out manual or human-to-human work, where generative AI has little potential to impact work content.

These jobs include physical maintenance of public infrastructure and on-site inspections to ensure compliance and safety in public spaces.

~760,000 jobs are likely to be augmented by generative AI

The majority – 69% of jobs – will be complemented by generative AI. The new technology will play an integral role in their daily work, making them more productive and freeing up time for other value-creating activities.

Jobs include social workers, urban planners and general office clerks. These workers will use generative AI to help create content (text, code and images), collaborate with workers on complex problems.

~130,000 roles are likely to be fully or partially reallocated

12% of workers may experience a shift in responsibilities as generative AI automates over half of their tasks, like tools such as citizen-facing chatbots handling general inquiries automatically.

This improves speed and quality of administrative tasks, saving resources for the central and local governments. Jobs include citizen service functions, lawyers, and budget analysts.

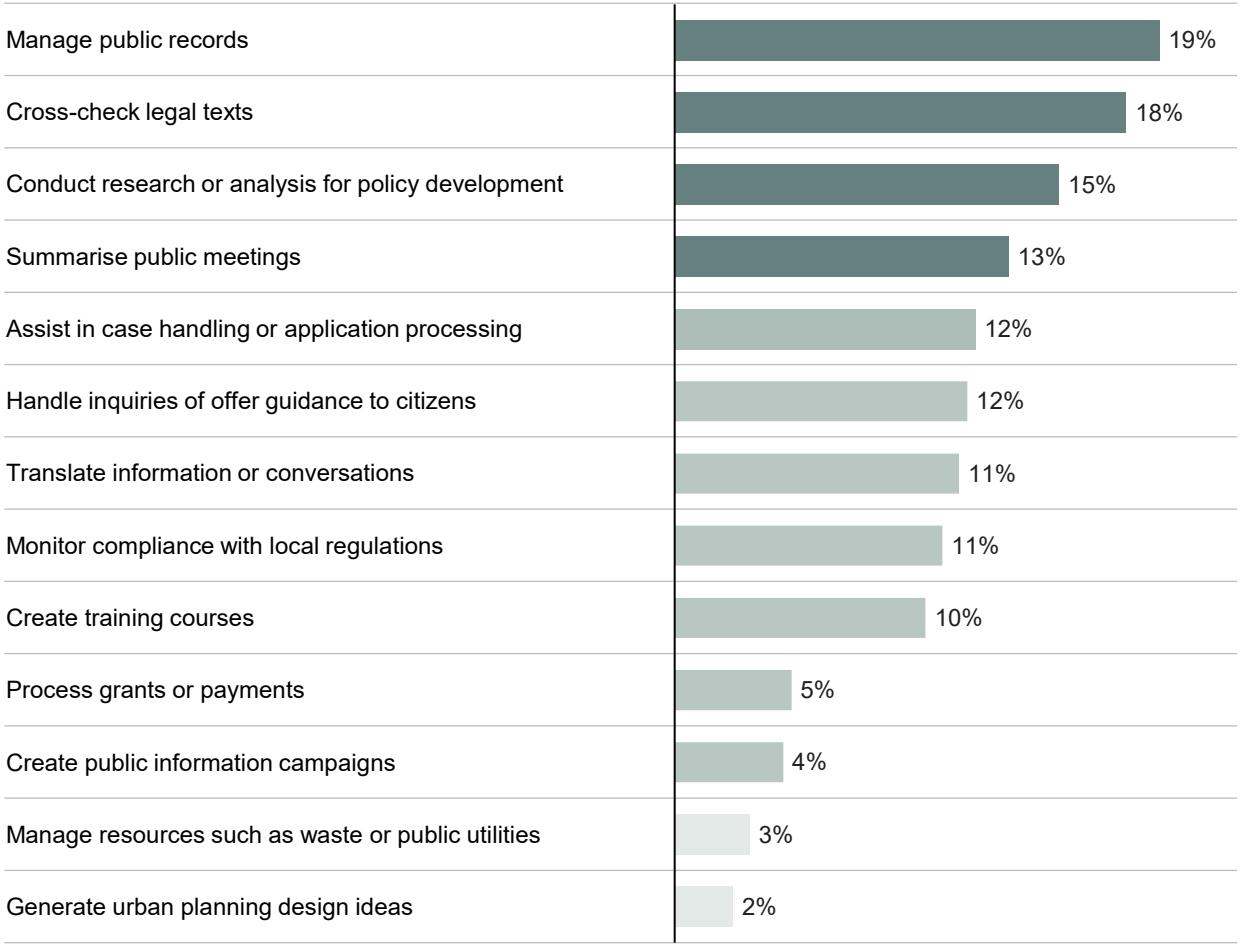
Workers in public administration who already use AI do it for a variety of tasks

71% of Italian public administrative employees have experimented with generative AI tools to some degree in their personal work.

Use cases and uptake differ across public administrative levels, with national and departmental employees reporting a wide range of administrative use cases, while use in regions and cities is more limited.

Public First poll

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

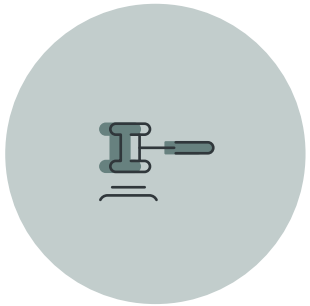


Notes: 303 respondents (Municipality = 81; Regional = 83, National =137). Categories *No personal use, Don't know* and *Other* not displayed.
Sources: Implement Economics based on Public First polling (2025).

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

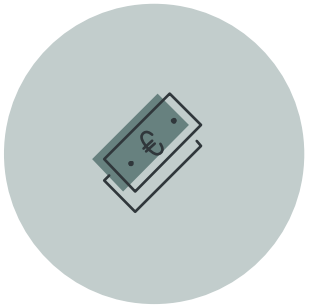
Citizen advisory

Assisting citizens by providing 24/7 access to guidance and information on government services, legal rights, and administrative procedures through chatbots.



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 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 scheduling and allocation of resources such as operating rooms, patient beds, and staff shifts based on hospital occupancy.
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

Investments in AI are motivated by expected productivity and quality gains

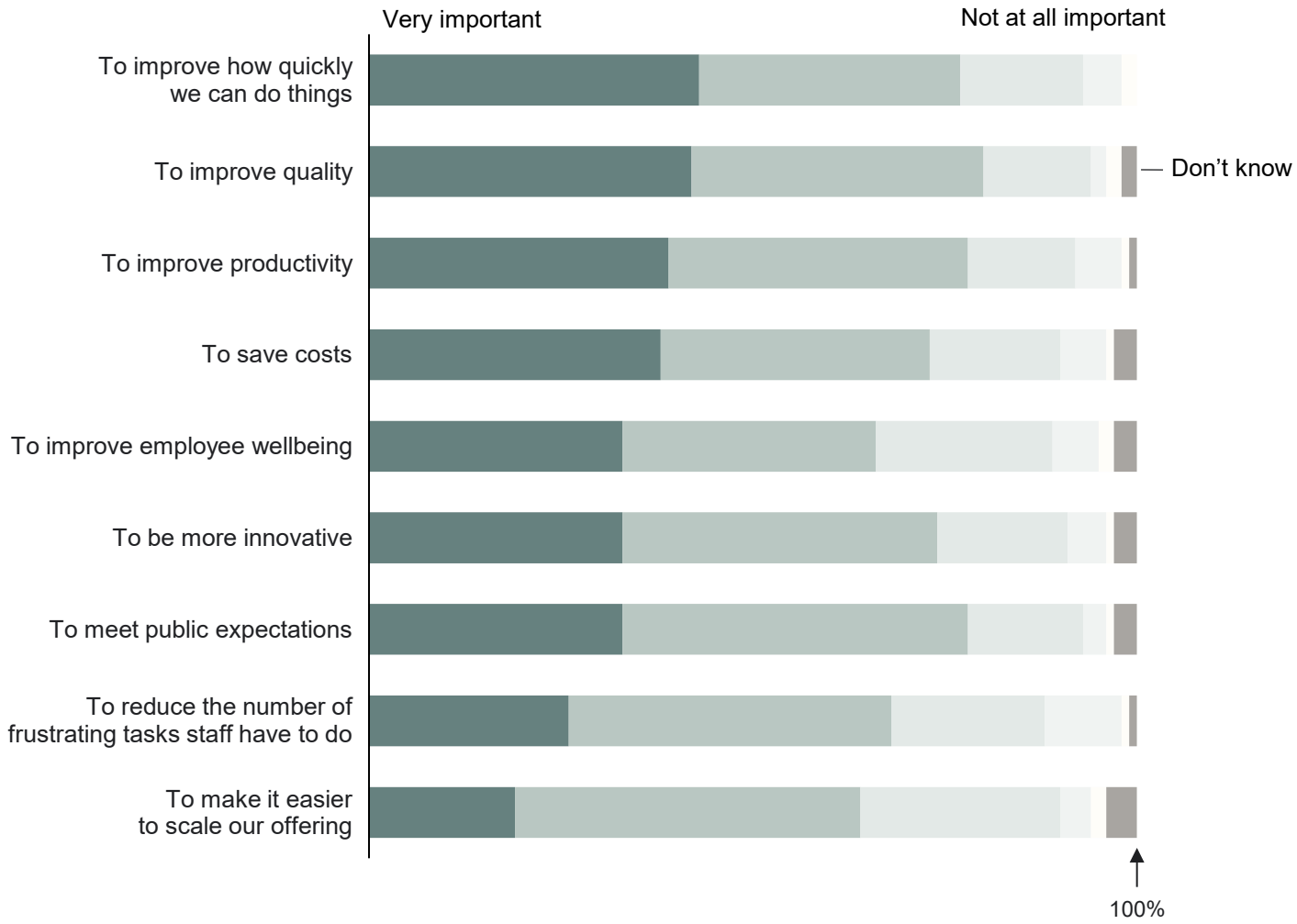
AI investments are driven above all by ambitions to speed up work and improve quality, both highlighted by over 40% of respondents as ‘very important’.

Productivity gains and cost savings follow closely, while goals such as boosting employee wellbeing or fostering innovation are also widely valued.

Fewer respondents place primary emphasis on reducing frustrating tasks or enabling scaling, but almost no one sees these drivers as unimportant – pointing to broad confidence in AI’s potential across many dimensions.

Public First poll

Looking at the following, how important are these reasons your institution would plan to invest in AI?
% share of respondents



Notes: 303 respondents (Municipality = 81; Regional = 83, National =137).
Sources: Implement Economics based on Public First polling (2025).

Skills gap hinders AI adoption

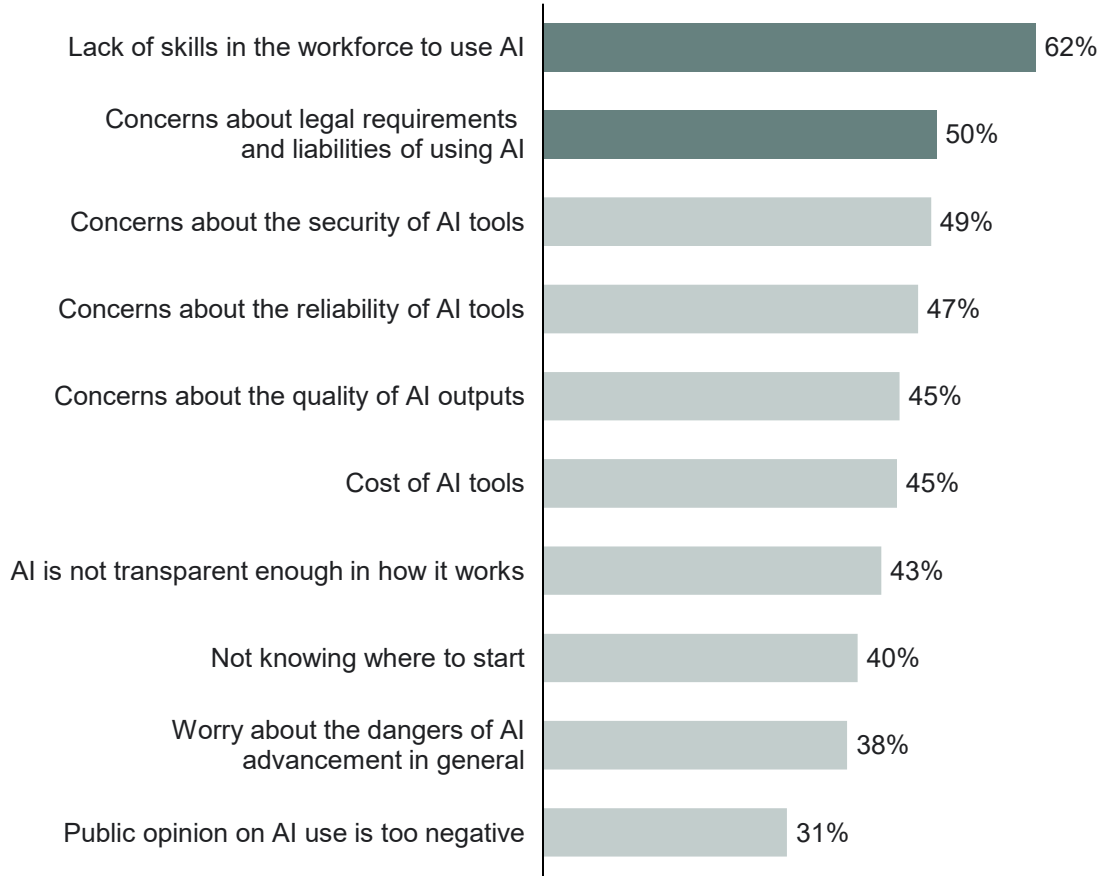
For Italian public officials, the main obstacle to adopting AI is a lack of workforce skills, cited by nearly two-thirds of respondents. Legal requirements and liabilities form the next major barrier, alongside worries about security, reliability, and cost.

Uncertainty about transparency and how to get started adds to the hesitation, while public opinion and general fears about AI play a comparatively minor role.

The challenge is less about AI's potential usefulness and more about building the capacity and confidence to use it responsibly.

Public First poll

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



Notes: 303 respondents (Municipality = 81; Regional = 83, National =137). Share is based on the replies *This is a significant barrier* and *This is a barrier*.
Sources: Implement Economics based on Public First polling (2025).

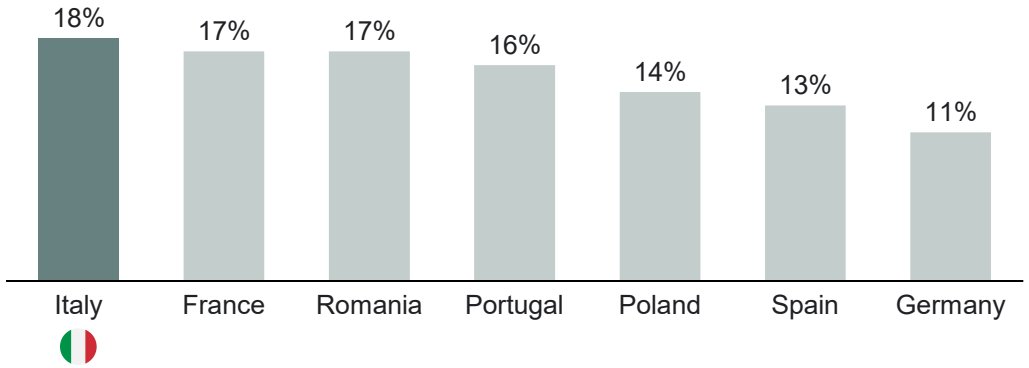
Upskilling is vital for Italy's AI ambitions

In Italy's public administration, internal upskilling emerges as the top priority, with 18% of workers ranking it among the three most important institutional changes – higher than in any other surveyed country.

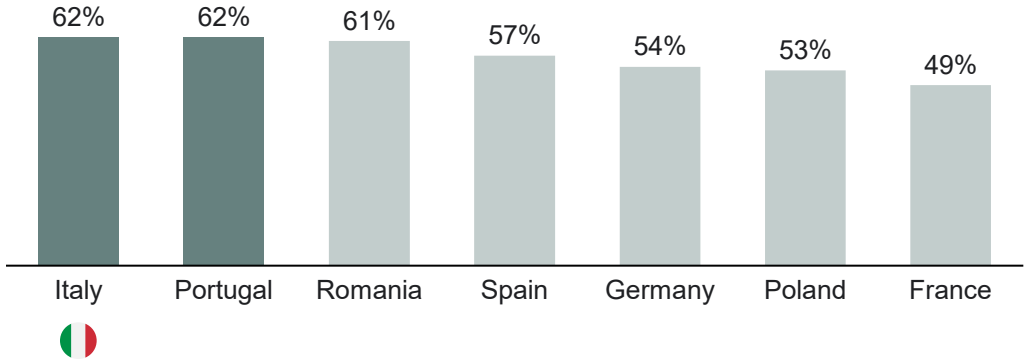
At the same time, skill shortages are seen as a major barrier to AI adoption, with 62% of workers in the Italian public administration citing a lack of workforce skills as an obstacle – one of the highest rates among the countries surveyed.

This highlights a clear tension between the ambition to modernise through AI and the current capabilities of the workforce, pointing to upskilling as a critical enabler for Italy's AI transformation.

Public administration workers who state internal upskilling is one of the top three changes needed in their institution overall.
% share of respondents



Public administration workers considering lack of skills in the workforce to use AI as a barrier to further adoption
% share of respondents



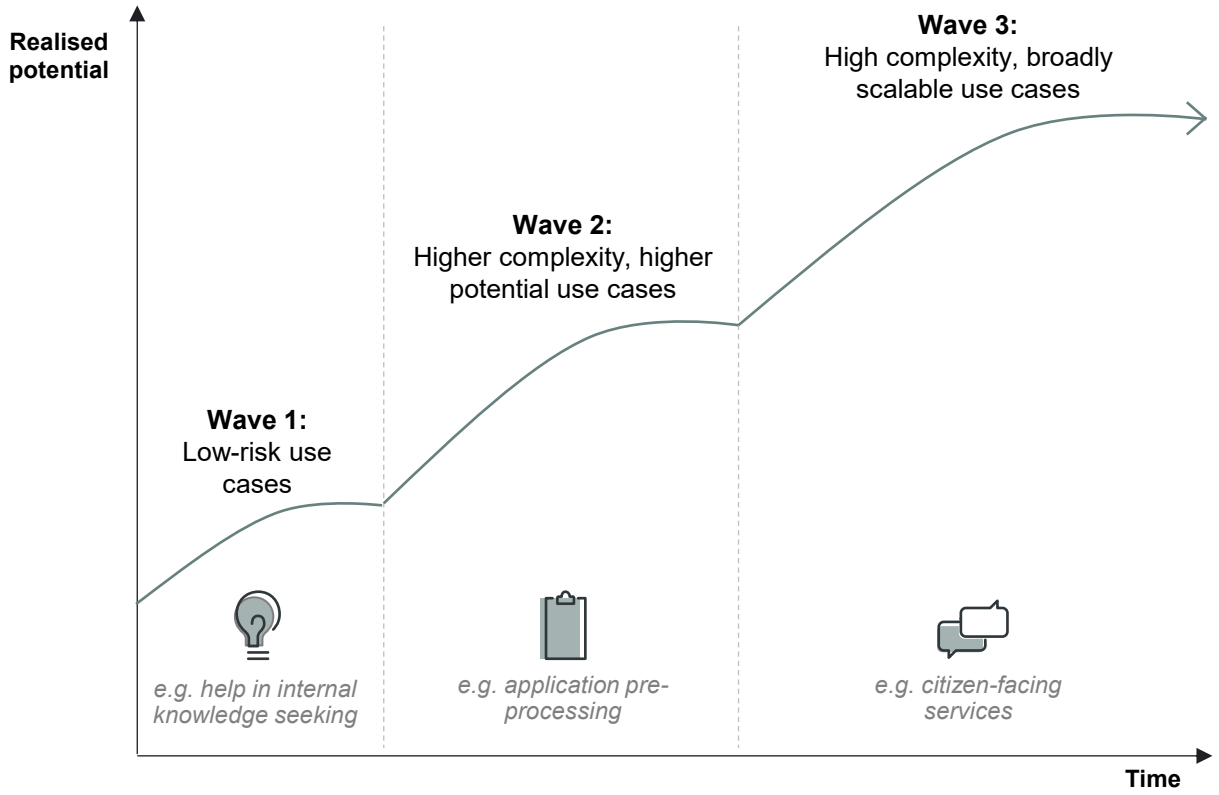
Source: Survey of public administration workers conducted by Public First, Germany (Aug 2024), France (Sep–Oct 2024), Romania (Oct 2024), Spain (Feb 2025), Poland (Mar–Apr 2025), Portugal (Apr 2025), Italy (Jul 2025)

Low-risk use cases offering great potential 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 affecting citizens. Italy should prioritise these as an initial step.

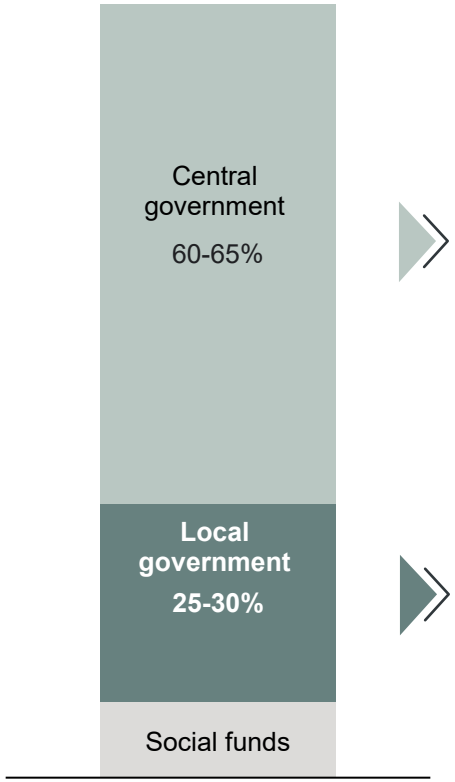
Unlocking higher-potential applications will require the establishment of unified legal and technical frameworks, as well as ethical guidelines, enabling the deployment of more complex tasks and scalable AI solutions across the public sector.

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



AI can add value across levels of government

Administration expenditure
%



Main expenditures

Central government mainly spends resources on military defence, policing, government affairs and secondary education.

Local government mainly spends resources on general services like administration of civil service and social planning services, policing, research and tertiary education.

Use case

Central government tasks involve implementing national policies and providing large-scale public services, where AI can assist in analysis and enhancing data-driven decision-making. AI is already being leveraged in central public administration, e.g.:

- **The National Institute for Social Security (INPS)** has implemented AI solutions to streamline operations and improve service delivery. These applications encompass automated customer service systems and predictive analytics for resource allocation.

Local governments manage direct citizen services and community planning, where generative AI can support by offering on-demand citizen support and improving transparency in local operations. At a local level, AI is already being leveraged, for example:

- **The Municipality of Padova** has implemented an AI-driven virtual assistant to enhance citizen services, providing real-time information on municipal procedures, answering frequently asked questions, and sharing updates on local events, all through its website and mobile applications.

Notes: Public expenditure on administration is defined as compensation of employees in administrative occupations. This sum is calculated using government expenditure data according to COFOG, including compensation figures for most government activities (GF01-GF06 & GF08) and calculated shares of overall expenditure on GF07 Health, GF09 Education and GF10 Social protection devoted to administrative duties. "Government affairs" comprises Executive and legislative organs, financial and fiscal affairs, external affairs. Social funds" comprise public expenditures in Italy dedicated to social protection programs, including pensions, health insurance, unemployment benefits, and family support.
Sources: Implement Economics based on Eurostat, O*Net, Briggs and Kodnani (2023a)

03

The way forward

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

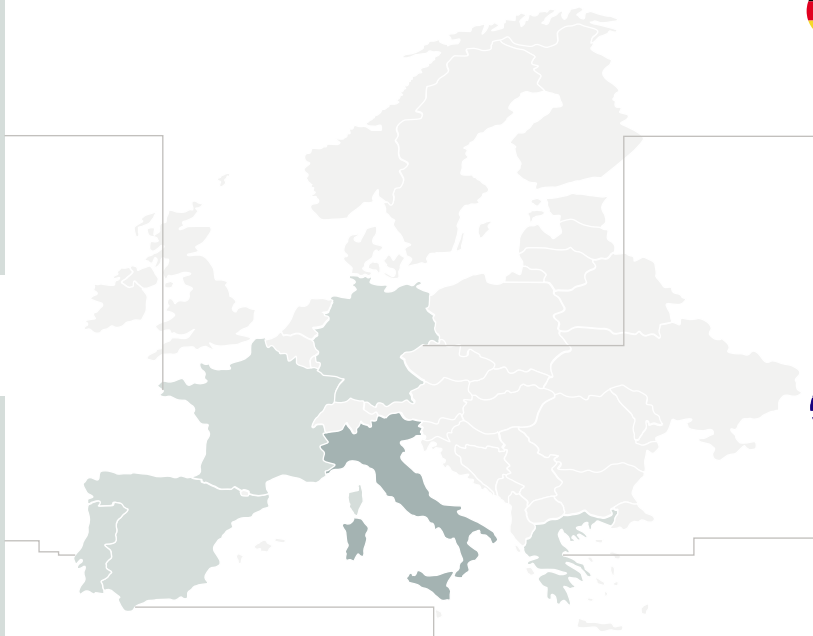
Italy already leverages AI across administrative functions at both national and local levels

Administrative functions	Best practice examples
Citizen service Civil servants provide information, guidance, and manage case handling for citizens.	INPS Chatbot **(National):** The Italian National Social Security Institute (INPS) has launched a generative AI-based virtual assistant on its website, enabling users to engage in conversational interactions after submitting a query through the site's search engine. This AI-driven assistant provides precise answers and guides users through the various services and benefits offered by INPS, aiming to improve accessibility and efficiency in line with the National Recovery and Resilience Plan (PNRR).
Care administration Administrators oversee policies, resource distribution, and data management to improve support services for citizens.	Project 'Cura' **(Milan):** The Municipality of Milan, in collaboration with cooperatives and technological partners, has launched the 'Cura' project. This initiative provides intensive home assistance to elderly individuals using domotics and remote monitoring systems. The goal is to delay or avoid admission to residential care facilities by offering continuous support and monitoring within the home environment.
Administrative operations Civil servants spend time on internal administrative processes like registration and compliance checks.	Formez PA – AI in Public Administration **(National):** Formez PA has initiated the use of AI to improve internal processes and public services. This includes the development of AI-driven tools to assist in drafting administrative acts and analyzing public consultation contributions, aiming to enhance efficiency and inclusivity in public administration.
Security and fraud detection Civil servants work to prevent fraud, monitor compliance, and ensure the protection of sensitive information.	Agenzia delle Entrate – Fraud Detection System **(National):** The Italian Revenue Agency utilizes machine learning algorithms to analyze patterns and suspicious behaviors, aiding in the prevention and detection of tax fraud. This system enhances the agency's ability to identify fraudulent activities more efficiently.

Italy can further leverage best practice examples from peers

Albert AI : Albert AI is an open-source, sovereign platform developed by France's DINUM to assist public sector employees in efficiently managing routine administrative tasks and providing accurate, real-time support for citizen inquiries.

Citizen inquiries A concrete pilot on Albert had 1,000 volunteers use generative AI in responding to citizen inquiries, halving response times from seven to three days while allowing agents to review and personalize replies before sending.



Tax Administration AI: AI automates routine decision-making in tax administration across several German states, quickly processing simple tax returns and directing complex cases to human reviewers to maintain accuracy.

Building Permit automation: Frankfurt's building authority uses AI to streamline routine permit processing as part of the "DigiBauG" initiative, enabling faster reviews and digital submissions.

Virtual Assistant: Portugal's Virtual Assistant uses AI with voice recognition and natural language processing to provide 24/7 support, helping citizens access and navigate public services .

Predictive analytics for public policy: AI models assess data to predict trends in areas like healthcare, employment, and social services, helping policymakers anticipate and address emerging needs more proactively

mAigov AI: Launched on Greece's gov.gr, this digital assistant allows citizens to access over 1,600 services by typing or speaking queries, streamlining interactions with the state. It directs users to services and procedural details, including steps, required documents, and fees.

Tax Bureau AI: Greece's tax authority uses AI to analyze financial patterns, enhancing fraud detection and taxpayer support through automated tools.

AI for tax compliance and fraud detection: The Spanish Tax Agency uses AI to detect tax irregularities, focusing on high-risk cases to improve compliance and reduce tax fraud.

'ARI' support robot for seniors: The ARI robot provides companionship, medication reminders, and emergency monitoring for elderly individuals living alone, enhancing their safety and well-being.

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

Prerequisites for successful public AI implementations include…

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.

- Initiatives like the "Ri-formare la PA" program and Syllabus Platform provide foundational training in AI use, yet it remains a challenge to provide adequate foundational AI skills to enable civil servants to use generative AI effectively.
- A key next step would be to establish public-private AI training partnerships to provide specialized, up-to-date training sessions and practical workshops, enhancing civil servants' skills in real-world AI-application that boosts their own productivity.

Infrastructure

AI for the public sector needs LLMs specifically trained for Italian and the local context, as well as powerful resources such as GPUs, for efficient operation

- Italy's public sector AI infrastructure is strengthened by initiatives like the supercomputer Leonardo and the Modello Italia language model, providing substantial computational resources and tailored AI tools.
- In order to facilitate effective and widespread AI adoption across the public administration, it is essential to improve data governance and data sharing frameworks as well as ensuring equitable access to AI infrastructure across all public institutions.

Applications

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

- The Italian public sector has made significant strides in deploying specialized AI solutions, such as Formez's document drafting system and INPS's chatbot, to streamline administrative functions and improve citizen services.
- To build on this momentum, sharing standardized AI frameworks and infrastructure tailored to common use cases across authorities will be crucial for scaling these initiatives effectively across diverse administrative levels.

Governance

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

- Italy's Strategia Italiana per l'Intelligenza Artificiale 2024-2026 provides a structured framework promoting ethical, efficient AI use in public administration.
- Meanwhile, the financial sector's regulatory sandbox, managed by the Bank of Italy serves as an example of a controlled testing environment of digital innovations. Replicating this sandbox model to cover AI applications in the public sector could streamline approvals and accelerate responsible AI integration across government services.

Sources: Agenzia per l'Italia Digitale (2024), INPS (2023), iGenius (2024), Cineca (2024), MIUR (2024).

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

Provide funding for AI related research and innovation

- 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.

Innovation enabler

Foster AI Innovation through collaboration

- 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.

Process optimiser

Streamline interaction with governments with AI

- 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.

Access facilitator

Empower local innovators with AI infrastructure

- 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.

Rules implementer

Provide simplicity and clarity for public and private actors

- 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.

Sources: Implement Economics based on Mario Draghi (2024).

Vendor lock-in is a risk for public institutions

Public institutions often rely on specialised IT systems tailored to complex, sector-specific needs. These tightly integrated solutions limit flexibility, making it challenging to adapt to new technologies like generative AI.

Vendor lock-in occurs when institutions depend on a single or few suppliers, restricting their adaptability and causing significant costs.

This lock-in effect arises from:

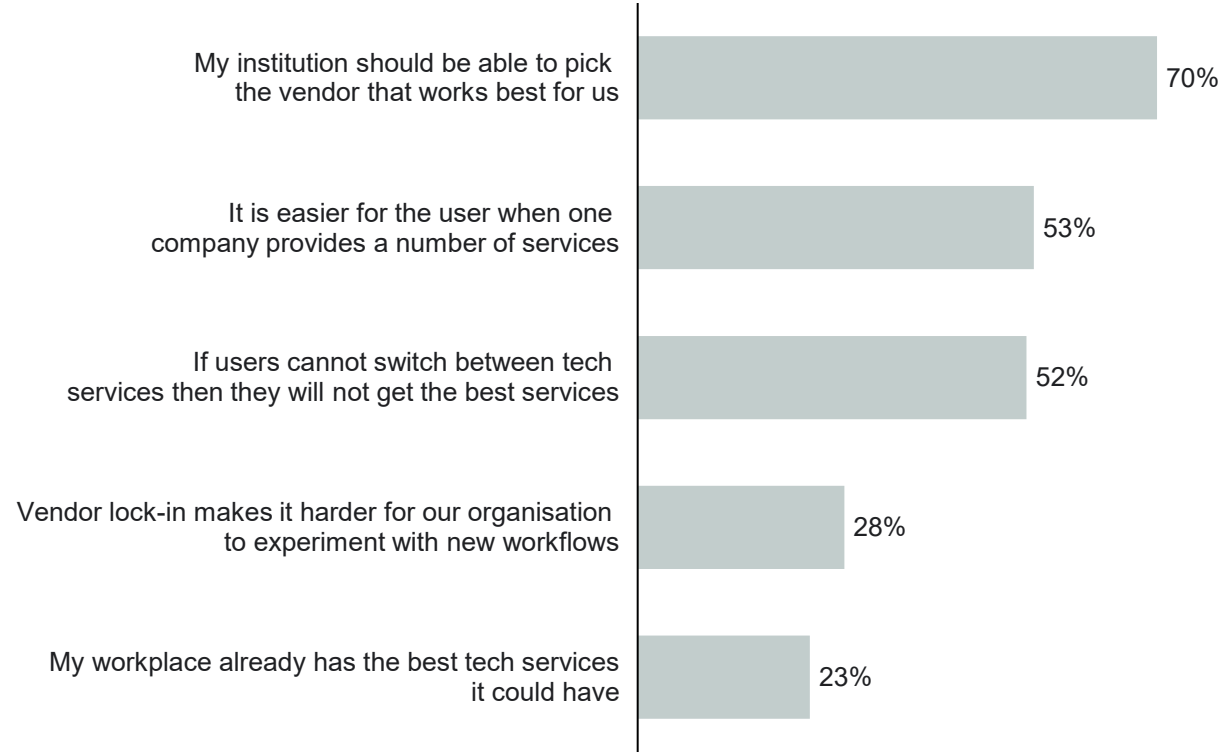
- **Technology dependence**: High switching costs and resistance to change due to dominant solutions.
- **Vendor dependence:** Limited competitive alternatives drive up costs when dominant suppliers exist

Italian public officials place high importance on having the freedom to choose the best vendors, viewing switching options as essential to securing the best services.

Around a third see vendor lock-in as a barrier to experimenting with new ways of working, and fewer than a quarter believe their workplace already has the best services available.

Public First poll

To what extent do you agree or disagree with the following?
% share of respondents



Notes: 303 respondents (Municipality = 81; Regional = 83, National =137). Share is based on replies *Strongly agree* and *Agree*.
Sources: Implement Economics based on Public First polling (2025).

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

AI applications

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

- **Control vs. speed to market:** Developing AI tools internally may help with customisation and data control, but external solutions can offer faster deployment and cutting-edge technology.
- **Fit to current practice vs. adaptability:** Building AI solutions in-house allows for detailed support of current practices, while external tools offer greater adaptability to evolving technologies and changing public sector needs.
- **Data security vs. expertise access:** In-house development ensures direct control and sovereignty over data, but external vendors may offer higher levels of expertise and innovative solutions, while still meeting stringent security requirements.

AI infrastructure

- **Data control vs. cost flexibility:** In-house HPC infrastructure provides direct control over sensitive data, while external services can offer flexible, scalable solutions without necessarily compromising data control or national boundary compliance.
- **Customisation vs. speed and scalability:** In-house infrastructure allows for deep customisation tailored to government needs, but external vendors can often offer equally tailored solutions with faster setup times and greater scalability to handle fluctuating demands.
- **Path dependency vs. future flexibility**: Building in-house can lead to path dependency, as it locks the government into existing technologies and approaches, while outsourcing provides more flexibility to adopt new innovations and adjust to future technological shifts.

Government must carefully assess the risk of vendor lock-in, considering long-term contracts or subscription models that may limit future flexibility and create dependencies on specific providers.

Vendors should…

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, enabling seamless integration with current government IT infrastructure to reduce disruption and implementation costs.

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

Provide clear SLAs 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.

04

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. 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".

Note: Methodology is based on Briggs and Kodnani (2023).
Source: Implement Economics based on the European Commission, Eurostat, O*Net and Briggs and Kodnani (2023).

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Disclaimer

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