IMPLEMENT
CONSULTING GROUP_

# The AI opportunity for eGovernment in Portugal

The opportunity for the Portuguese government to scale the benefits of AI across government institutions.

A study by Implement Consulting Group
Commissioned by Google
With the participation of Applied Research & Consulting – Católica Lisbon School of Business and Economics

October 2025

**Generative AI has significant potential to enhance productivity in public administration in Portugal, creating 9% more value for money, equivalent to an annual contribution of EUR 1.2 billion.**

**AI in public administration is a good place to start.** This report explores the substantial potential of generative AI in Portugal's public administration, which is well-suited for early AI benefits with low risk. The new digital strategy on generative AI, which encourages civil servants to make greater use of the technology to enhance citizen services, highlights this potential.

**Early AI adoption by the government can accelerate AI uptake across the economy** by setting an example within existing regulations**.** Furthermore, the government plays a crucial role in clarifying and simplifying the regulations governing AI use in Portugal.

**What is eGovernment?**

The European Commission defines eGovernment as:

*"Effective digital public services which can provide a wide variety of benefits. These include more efficiency and savings for governments and businesses, increased transparency, and greater participation of citizens in political life.*

*[…] eGovernment involves more than just the tools: it involves rethinking organisations and processes and changing behaviour so that public services are delivered more efficiently to people.*

*Implemented well, eGovernment enables citizens, enterprises and organisations to carry out their interactions with government more easily, more quickly and at lower cost."*

**The government must overcome five key barriers…**

- Fragmented decision-making
- Fear of breaking the rules
- Prioritising citizen impact
- Regulatory uncertainty
- Vendor lock-in risk

# Make the AI potential executable…

## Think task-based

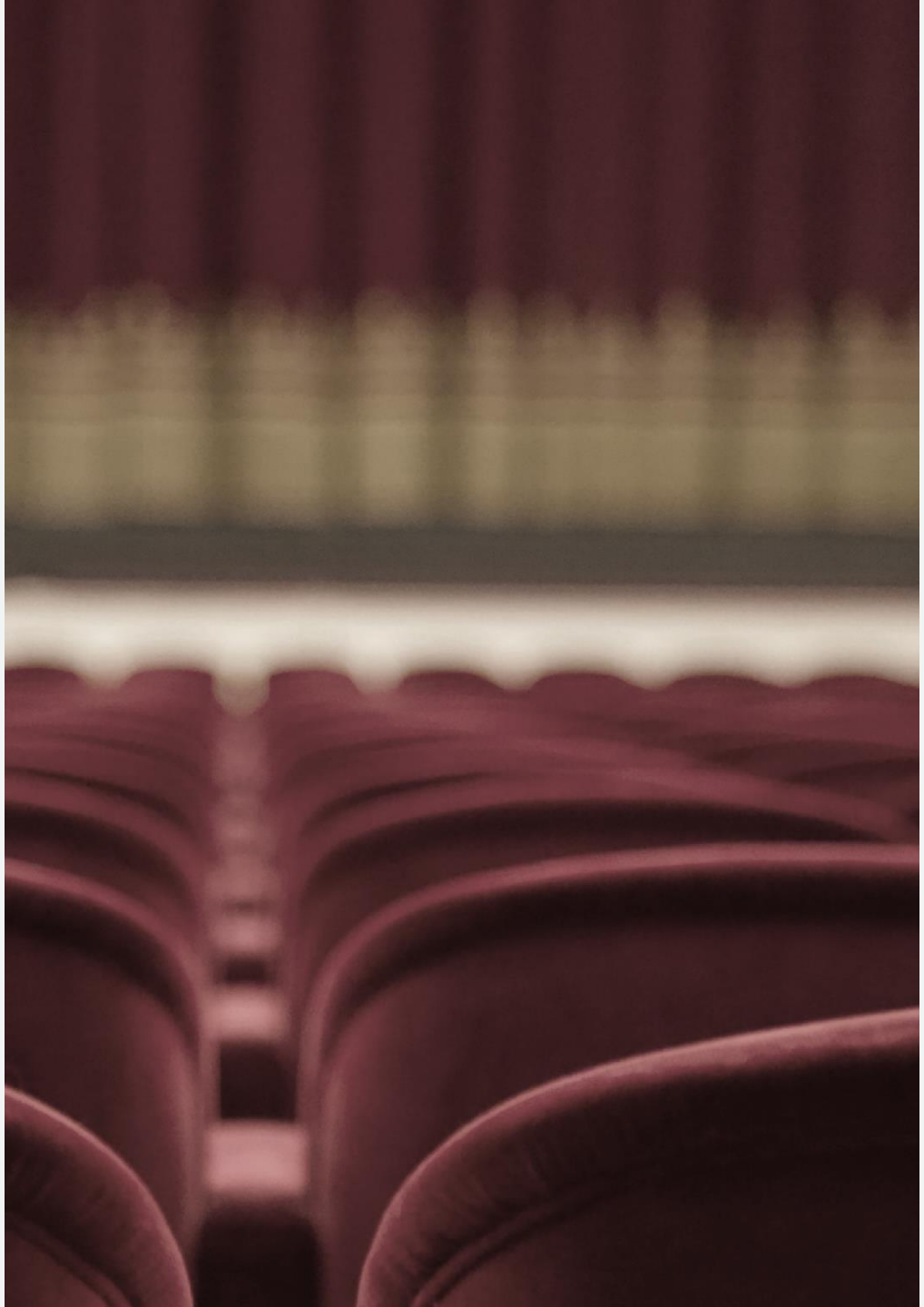
**Cross-cutting tasks underpin most jobs in public administration. We estimate that the top five tasks in Portugal represent 70% of the potential.** However, fragmented decision-making leads to many pilots without scalable impact. The government should focus on key cross-cutting tasks, such as individual case handling or finance and budgeting, to achieve economies of scale while addressing local needs. This requires a joint AI procurement plan, with clear roles and responsibilities to ensure alignment and scalability.

## Think risk-conscious

**Low-risk, internal AI applications are estimated to constitute 20% of the total potential.** The fear of breaking rules in a complex regulatory environment is slowing AI adoption. Therefore, the Portuguese government should begin with the low-risk applications and gradually move to user-sensitive, externally-facing applications to unlock the full potential.

## Think impact-oriented

**The implementation of AI solutions should be motivated by the needs of citizens and businesses**, to improve the user experience. Survey data finds that Portuguese businesses think government bureaucracy is the most problematic factor for doing business. AI can relieve the administrative burden by reducing the time and hassle of interactions with the public administration.



Note: The term *public administration* in this report refers to the administration of public institutions, including the organisation and administration of public services and legislation, while **not** including health and education.

## Get critical enablers in place…

### Create cloud clarity

**A secure and competitive cloud infrastructure is crucial for cost-efficiently implementing advanced AI at scale.** However, misconceptions about security prevent public institutions from adopting cloud infrastructure. The government should establish a unified framework for secure and compliant cloud adoption, enabling public stakeholders to innovate while safeguarding digital sovereignty, business continuity and data protection.

### Make smart procurement choices

**Governments must carefully assess the risk of vendor lock-in and ensure an interoperable AI procurement framework.** Across Europe, 60% of surveyed IT decision-makers in the public sector cited restrictive licensing as a key barrier to switching. This form of vendor lock-in often stems from restrictive software licensing, which creates artificial barriers that limit customer choice and flexibility.

### Implement an ambitious AI strategy

**The upcoming Agenda Nacional de Inteligência Artificial should set ambitious targets and provide a clear roadmap** to unlock most of the public sector AI potential within five years and fully within ten. It should go beyond pilots and consolidate best practices into a coordinated plan for scaling use cases. The agenda should also address challenges of fragmented decision-making and legal uncertainty in Portugal to enable the cross-cutting potential.


# Introduction

## A large and untapped potential

To realise the AI potential in the public administration, Portugal must overcome five key barriers

> One of the great opportunities of this century is precisely Artificial Intelligence (AI). This strategy acknowledges and emphasises the pivotal role that AI will play in Portugal's digital future, with an escalating significance across all sectors of society.
>
> **Portugal Digital Strategy 2030**

# AI can enhance the efficiency and quality of public services, thereby benefitting citizens, businesses and employees

**According to Portuguese government officials and the OECD, AI could…**

## Create sustainable and inclusive growth

*The safe and ethical adoption of AI has the potential to transform the economy, generating innovation and creating an environment conducive to sustainable and inclusive growth.*

Portugal Digital Strategy 2030

## Increase public service responsiveness

*After the reform of Public Administration processes, […] the available technological capabilities – including artificial intelligence – will be applied, which can contribute significantly to accelerating decision-making times.*

Gonçalo Saraiva Matias, Minister in the Cabinet of the Prime Minister and of State Reform, Bernardo Correia, Secretary of State for Digitalisation, and Paulo Magro da Luz, Secretary of State for Government Simplification

## Improve quality of life for citizen

*[…] build a Portugal where digitalisation and AI are fully integrated across all sectors of the State and the economy, driving innovation, creating qualified jobs, and improving citizens' quality of life.*

Bernardo Correia, **Secretary of State for Digitalisation**

## Enhance public sector productivity

*[…] the use of AI in the public sector can help governments increase productivity with more efficient internal operations and more effective public policies.*

**OECD**

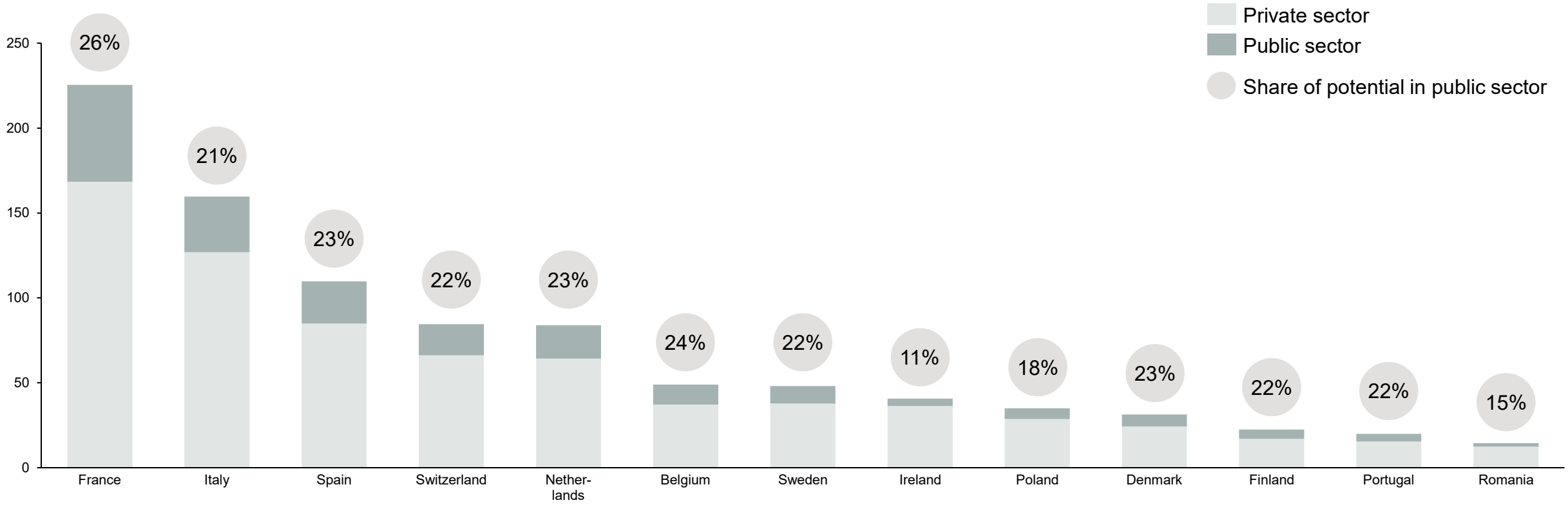
To realise these benefits, this report identifies five key barriers and outlines how to unlock the AI potential.

Source: Implement Economics based on the Portugal Digital Strategy 2030 and the OECD Artificial Intelligence Papers No. 20 (2024)

# The public sector accounts for 20-25% of generative AI potential in the EU

The public sector is an important part of the economy across European economies, providing healthcare, education and social security. It accounts for 27% of total employment and nearly a quarter of the economic potential of generative AI.

**GDP potential of generative AI divided between private and public sectors**
EUR billion




Note: The potential in the public sector includes: health and social work, public administration, education, and arts and recreation.
Source: Implement Economics based on Eurostat, O*Net, Briggs and Kodnani (2023a).

# The Portuguese government can get 9% more value for money by adopting generative AI

Generative AI presents a significant economic opportunity for Portugal, potentially contributing 8% (EUR 18-22 billion) to GDP annually over ten years.

In public administration, generative AI can significantly enhance productivity and drive cost-efficiency. Widespread adoption of generative AI in public administration can create EUR 1.2 billion in gross value added with the same resources. The potential is equivalent to 1.1% of public expenditure.

By showcasing a successful impact, the implementation of AI in public administration will be key to realising the economy-wide potential of generative AI.

The new government agency, ARTE, is tasked with leading the digital transformation of public administration, overseeing IT architecture, data policy, cybersecurity, AI adoption, and digital skills, and gaining greater management flexibility under the leadership of a State CTO.

**Economic potential of generative AI in Portugal**
EUR billion with widespread adoption


- **Public administration**
- Other public sectors, incl. health and education
- Private sectors

9% more value for money, equivalent to **EUR 1.2 billion** annual contribution

Note: The economic potential in public administration is measured in terms of gross value added (GVA). In GDP terms the impact is 1.3-1.4 billion using the GVA-to-GDP ratio for Portugal for 2023. GVA is the standard measure of economic value at the sector level and is a major part of the gross domestic product (GDP), which also includes net taxes. Thus, GDP = GVA + taxes on products – subsidies on products. See appendix for details. Public expenditure based on 2023 data. *Public administration* refers to NACE sector O (Public administration and defence; compulsory social security) and comprises activities related to the administration of the state and the economic and social policy of the community, but not health, education and activities performed by private organisations, voluntary associations, or businesses providing similar services.
Source: Implement Economics based on Statistics Portugal, Eurostat, O*NET, Briggs and Kodnani (2023) and own calculations.

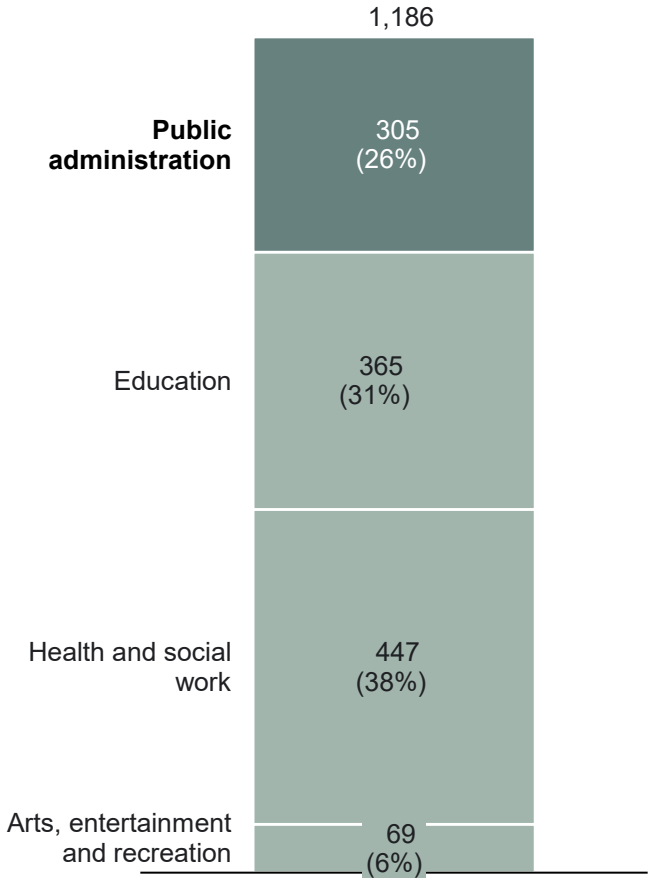
# Public administration is the backbone of the public sector in Portugal

The public sector is an important part of the Portuguese economy and society. Public expenditure is equivalent to 44% of Portugal's GDP. Further, the public sector accounts for around 23% of all jobs and delivers services benefitting citizens and businesses.

Public administration makes up 26% of public sector jobs. Their work has characteristics that allow it to benefit from generative AI, such as work with text, repetitive tasks and complex analysis.

Public administration includes all levels of government and forms the backbone of the public sector.

**Employment in the Portuguese public sector**
Thousand employees, 2022




**The public administration is the focus of this report.** It provides value through key functions such as:

- **Citizen advisory**: Providing guidance on government services, legal rights, and administrative procedures.
- **Individual case handling:** Processing citizen applications for public services.
- **Finance and budgeting:** Managing public funds and disbursing benefits, subsidies and aid.
- **General governance and regulation:** Drafting, evaluating, and implementing policies to address societal needs.

Note: Employment figures based on latest available data for this level of sectoral disaggregation from Eurostat (2023).
Source: Implement Economics based on Statistics Portugal, Eurostat (a) and (b).

# Most public administration jobs can be enhanced and augmented by generative AI

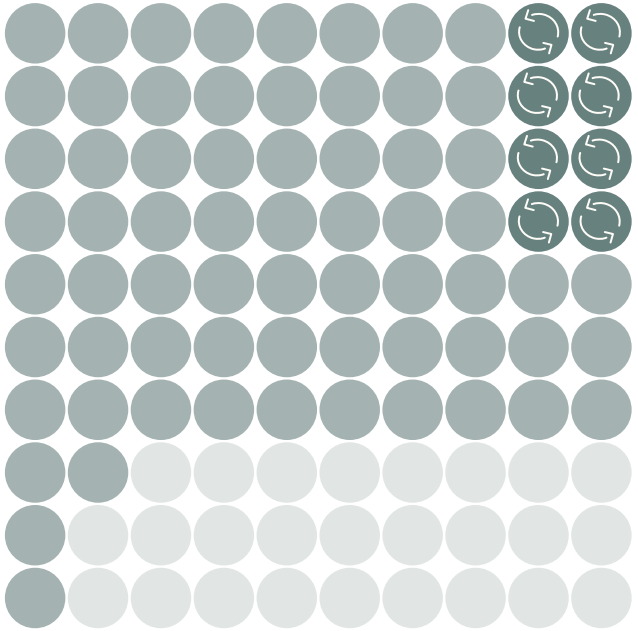
**Exposure to automation by generative AI**
% of jobs in public administration

Partial or full displacement | AI as a complement | No automation

**66% or ~200,000 jobs are likely to be augmented by generative AI.**

These workers will see the technology play an integral role in their daily work, increasing their productivity while freeing up time for other value-creating activities. This allows resources to be reallocated to areas within the public administration or other parts of the public sector where they are more needed.

Such jobs include social workers, urban planners and general office clerks.



**8% or ~25,000 jobs are estimated to be highly exposed to generative AI, leading to some job transitions.**

These workers may experience a shift in responsibilities when tools – such as citizen-facing chatbots handling general enquiries – automate over half of their tasks. This will improve the speed and quality of administrative tasks, saving resources for the central and local governments. Such jobs include citizen service functions, lawyers, and budget analysts.

The report on Economic opportunity of generative AI in Portugal discusses the implications and assumptions for highly exposed jobs.

**26% or ~80,000 jobs in public administration face little or no automation from generative AI.**

These workers carry out manual or human-to-human work, including physical maintenance of public infrastructure and on-site inspections to ensure compliance and safety in public spaces.

Human agency must remain central to AI adoption to maximise societal benefits. In line with Portugal's national digital skills strategy and public administration training priorities under the Recovery and Resilience Plan, civil servants are increasingly offered training and guidance to ensure responsible and effective use of generative AI. These efforts go beyond basic literacy, supporting public employees in risk assessment and meaningful AI application, such as through INA's three-module AI programme. The government should continually work to reskill and support workers effectively, maximising the social and individual benefits of generative AI.

Note: Displaced workers could be reassigned to other public administration areas, such as health and education, potentially enhancing service quality or creating new services. However, the analysis does not take into account the need for workers' consent due to civil service regulations, nor the potential human cost of career status loss that may result from displacement.
Source: Implement Economics based on Eurostat and Briggs & Kodnani (2023).

# Generative AI is already having a positive impact on public institutions

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

Simultaneously, 20% of surveyed public administration workers say their institutions have invested in AI solutions, such as purchasing licences 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.

**80%**

of surveyed public administration employees believe that AI tools will be important for the public sector in the next 10 years.

Public First poll

**20%**

of surveyed public administration workers in Portugal say their institutions have invested in AI solutions, out of which…

**Impact on public institutions using AI**
% share of public administration respondents

**61%**

state that AI has already had a positive impact on their institution.

**48%**

state that AI has improved the productivity of their institution.

Note: 304 respondents (Local government = 149 ; Regional government = 52; Central government = 102). Based on survey questions: How often do you use AI tools at your current job, if at all? and Thinking now about the public sector institution that you work for. As far as you are aware, is it already making use of artificial intelligence in any way?
Source: Implement Economics based on Public First polling on behalf of Google.

# Portugal should prepare to ensure successful adoption

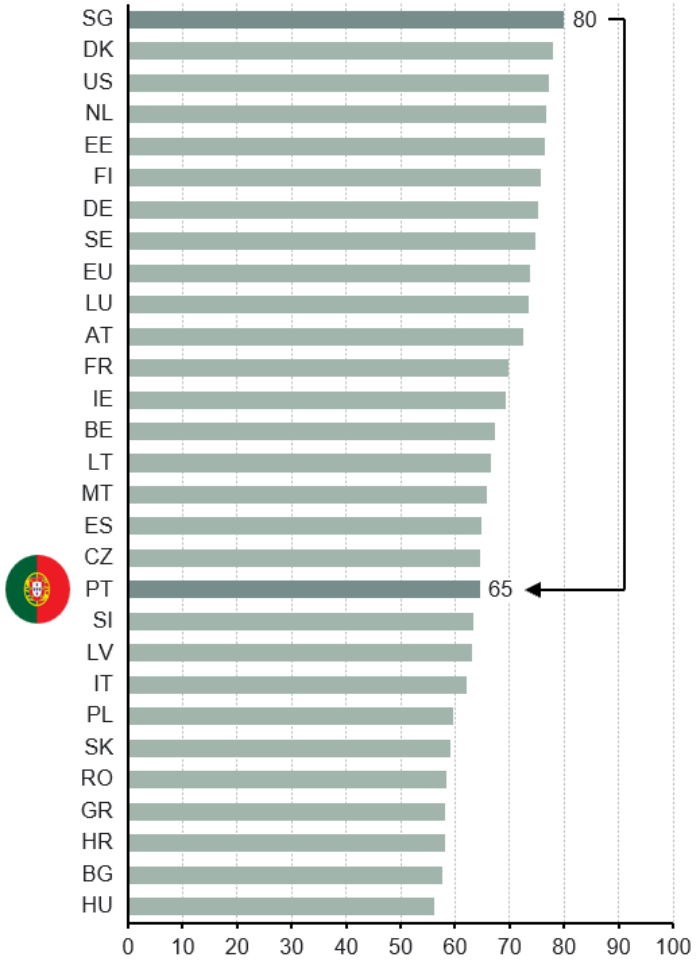
Portugal trails peers on AI capacity – 19th on the IMF AI Preparedness Index and below D9+ leaders (Netherlands, Denmark) on Tortoise's Government AI Strategy Index.

Yet its digital public services perform well: 84/100 in the June 2025 DESI (roughly on par with the EU average) and 81/100 in Capgemini's 2025 eGovernment Benchmark (EU average 76).

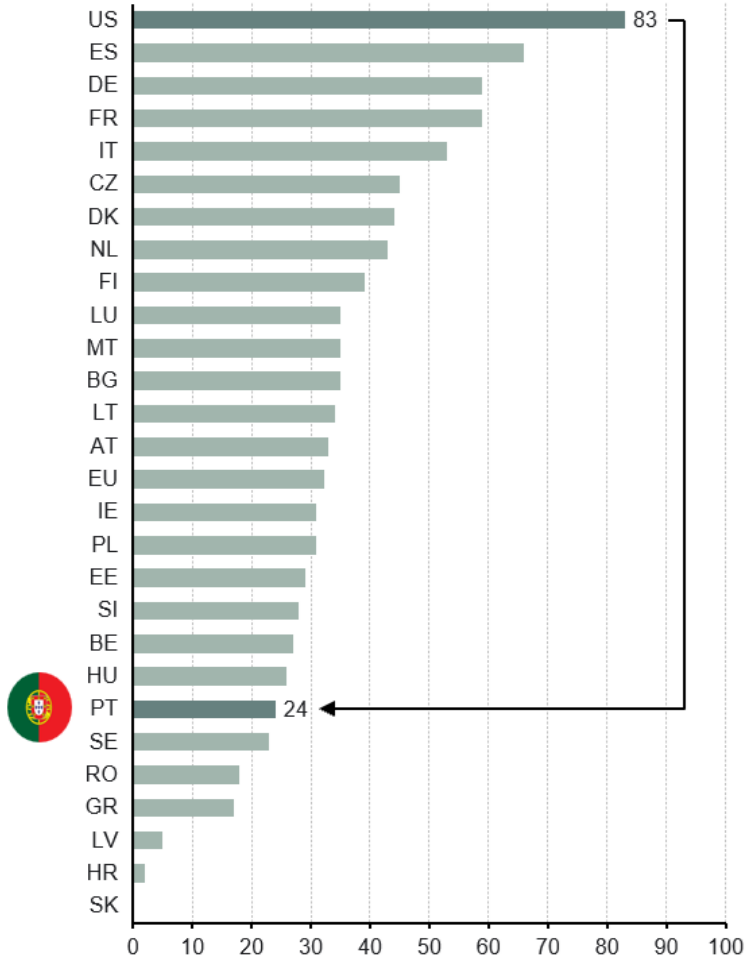
The 2024 Digital Transition Strategy puts AI at the core and sets up a National AI Agenda (expected early 2025), but stronger political commitment is needed to turn this groundwork into scaled implementation.

The 2024 Digital Strategy puts AI at the core and highlights the government's ambition to make Portugal a leader in the European digital landscape.

**AI Preparedness Index**
IMF, April 2024 (index max = 100)




**AI Capacity Index, Government Strategy**
Tortoise, 2024 (index max = 100, global leader)




Note: The AI Preparedness Index (AIPI) assesses the level of AI preparedness based on a rich set of macro-structural indicators that cover the countries' digital infrastructure, human capital and labour market policies, innovation and economic integration, and regulation and ethics. The D9+ group consists of Finland, Denmark, the Netherlands, Sweden, Ireland, Spain, Luxembourg, Estonia, Portugal, Belgium, Czechia and Poland.
Source: Implement Economics based on the CapGemini, European Commission (2024), DESI, IMF and Tortoise Media Global AI Index, 2024.

# Five key barriers hamper progress in Portugal

This report draws on research in the D9+ countries and the European Commission to identify five key barriers to be overcome for the AI adoption to be successful:

## PART I
Making the potential executable

### Fragmented decision-making

Fragmented decision-making in government leads to many pilot projects without achieving scalable results

### Fear of breaking the rules

Public institutions struggle to use advanced AI tools due to strict EU regulation and compliance requirements

### Prioritising citizen impact

Public support for AI solutions in public administration is needed to ensure successful adoption

## PART II
Getting the critical enablers in place

### Regulatory uncertainty

Public institutions hesitate to adopt AI tools due to regulatory uncertainties related to cloud computing

### A risk of vendor lock-in

Vendor lock-in can cause significant hidden costs for public institutions

**This report details solutions to each of the above-mentioned barriers**

### Think task-based

### Think risk-conscious

### Think impact-oriented

### Create cloud clarity

### Make smart procurement choices

Source: Implement Economics based on the European Commission (2024), Swedish AI Commission (2024), National Strategy for Artificial Intelligence (2019) and Portugal Digital Strategy.

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# PART I

## Making the potential executable

In designing a new national AI strategy, the Portuguese government should think **task-based, risk-conscious**, and **impact-oriented** to realise the potential of generative AI in public administration.

PART I

# Think task-based

Adopt a task-based framework to achieve scalability in AI solutions.

> The [AI] Agenda will include a set of new actions, which will be articulated with ongoing initiatives and projects in the Public Administration. This comprehensive approach will ensure that future AI initiatives adhere to the same guidelines, promoting resource synergies that will strengthen the impact of projects
>
> **Portugal Digital Strategy 2030**

# Fragmented decision-making across government levels leads to numerous pilots without scalable impact

Despite there being great opportunity to benefit from AI in public administration, fragmented decision-making presents three main challenges:

### Fragmented governance and isolated investments

Portugal's decentralised governance model can lead to fragmented decision-making and uncoordinated investments, as public funding is distributed across multiple regional and municipal entities with differing priorities. This may limit the ability of authorities to build on shared successes and scale AI solutions across the public sector. The recently established agency ARTE offers a platform to improve coordination and alignment going forward.

### Absence of common infrastructure

The lack of shared infrastructure for AI development can result in authorities choosing isolated solutions that are often incompatible with broader systems. This fragmentation is further exacerbated by the absence of open standards and APIs, which could otherwise facilitate interoperability between solutions. Without a unified platform for AI experimentation and deployment, good collaboration and resource optimisation remain unattainable.

### Barriers to data sharing

Portugal has extensive data resources, yet significant legal and technical barriers hinder their accessibility and exchange. GDPR, national privacy laws and inconsistencies in systems and standards create barriers to data sharing between authorities. As a result, authorities struggle to harness data effectively for AI-driven innovation.

Source: Implement Economics based on IncoDe.2030

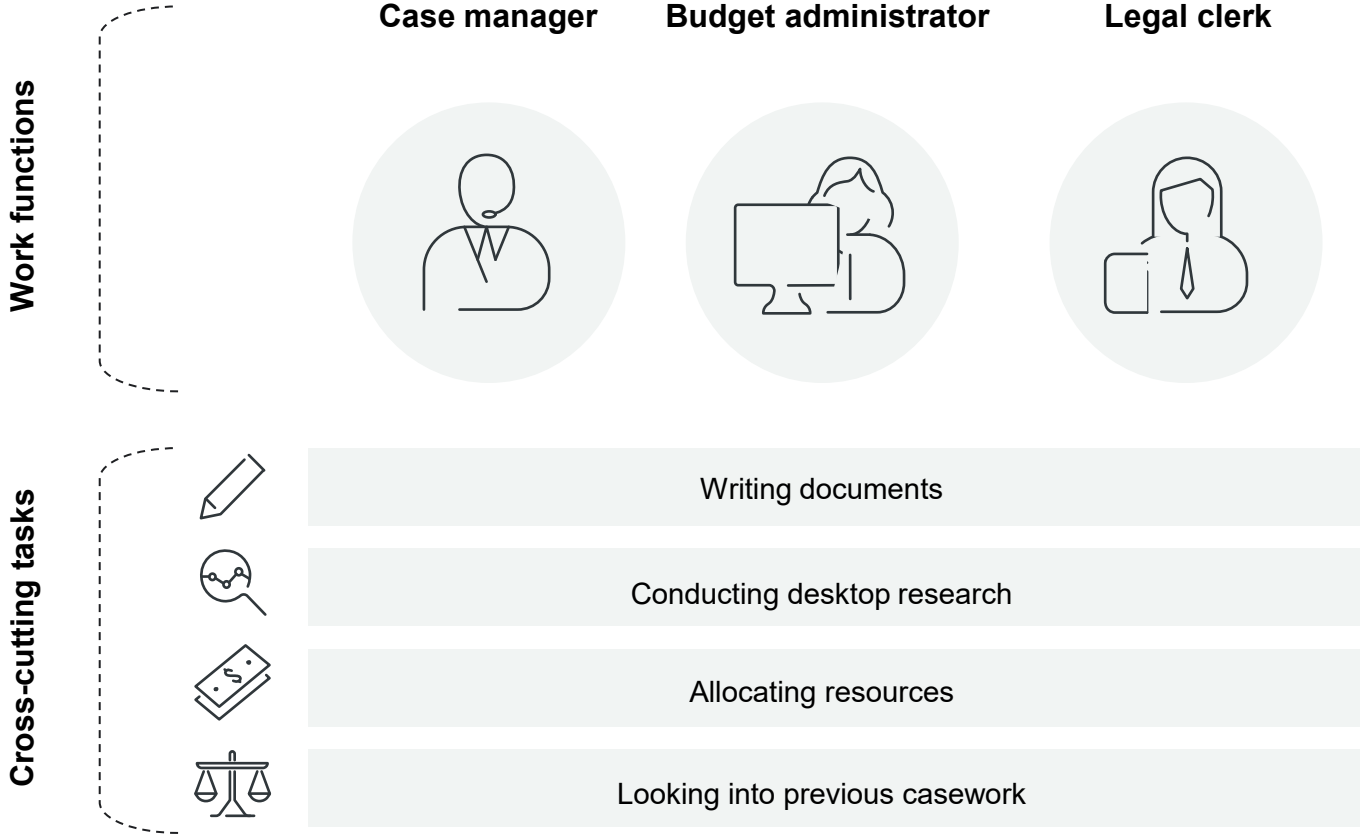
# Cross-cutting tasks form the basis of most public administration jobs

The public sector is the largest employer in Portugal, with public administration employees making up around a fifth of the sector. Despite the diversity of the roles and fields of these employees, they carry out similar key tasks that follow comparable processes.

For example, tasks such as case handling are carried out by employees with varying job titles across multiple institutions.

To effectively implement AI in public administration, using a task-based framework that focuses on shared processes is essential for achieving scalable solutions.

**Examples of work functions and cross-cutting tasks in public administration**




Source: Implement Economics based on ISCO level 1 employment data from Portugal as well as employment data on ISCO level 4 from Belgium, Netherlands, Poland, Norway, Finland and Denmark from Eurostat, and O*NET.

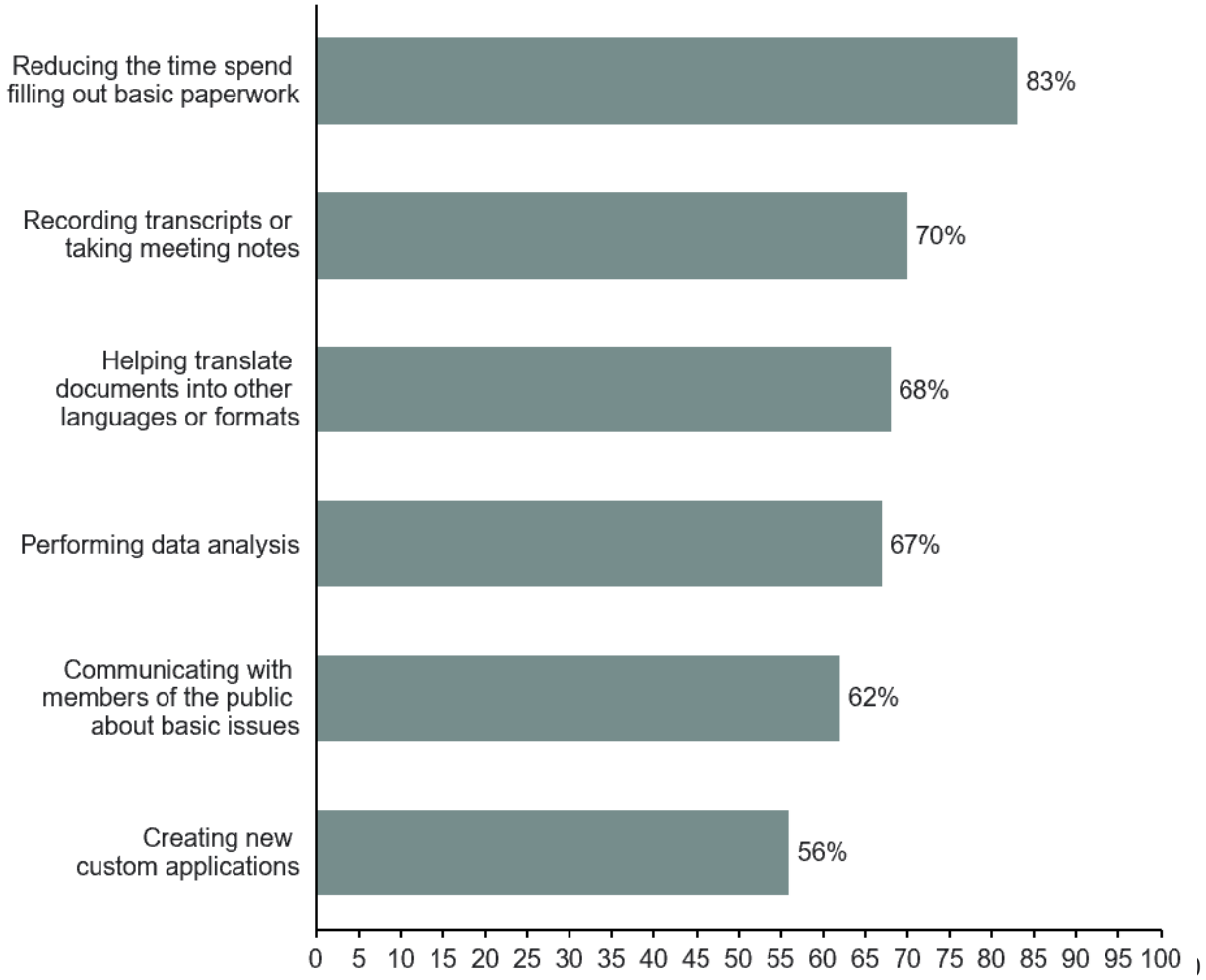
# Most public administration employees in Portugal see potential in AI tools

Repetitive tasks, such as filling out basic paperwork, consume time without adding value to citizen interactions.

Most public administration employees believe that automating routine tasks – like taking meeting notes – would bring value to their organisation.

Polling results show that leaders are twice as likely as employees to view AI positively. This suggests that leaders should ensure employees have the necessary resources and training to use AI effectively in their daily tasks, improving work quality and saving time.

**Thinking about the future, which of the following do you think would be valuable use cases for AI tools in your organisation?**
% share of public administration respondents



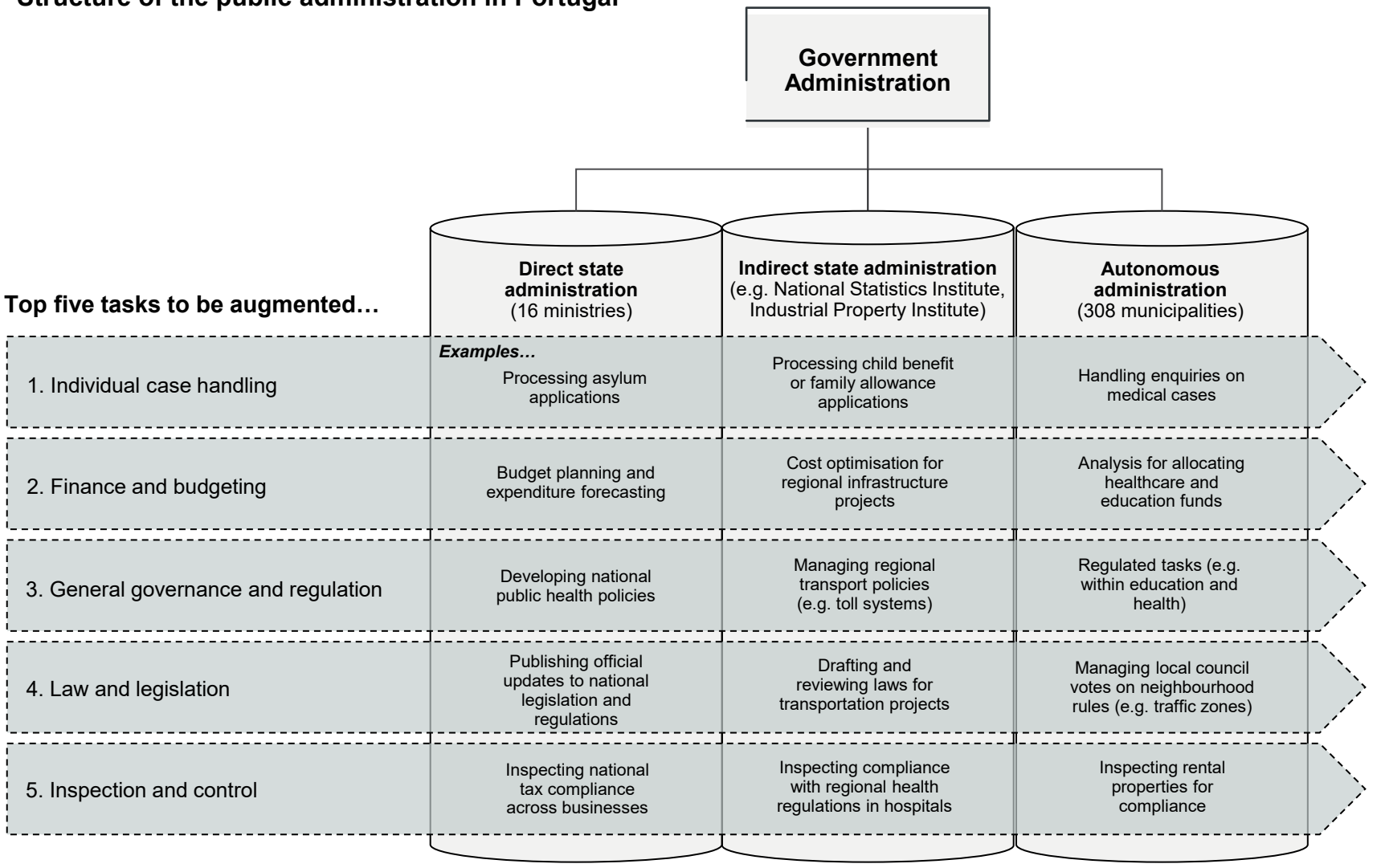

Source: Implement Economics based on Public First polling on behalf of Google. 304 respondents (Local government = 149 ; Regional government = 52; Central government = 102)

# Generative AI can augment tasks performed across all public institutions in Portugal

The Portuguese public sector consists of direct state administration comprising 16 ministries, indirect state administrative entities such as the National Statistics Institute and finally local authorities comprising 308 municipalities.

Many public administration tasks overlap, making them ideal for scalable AI solutions. Implementing AI can streamline operations, boost efficiency and improve collaboration across public institutions.

**Structure of the public administration in Portugal**




Source: Implement Economics based on DGAEP, Portuguese Government, O*NET and ISCO level 4 data from multiple European countries and ISCO level 1 employment data for Portugal from Eurostat.

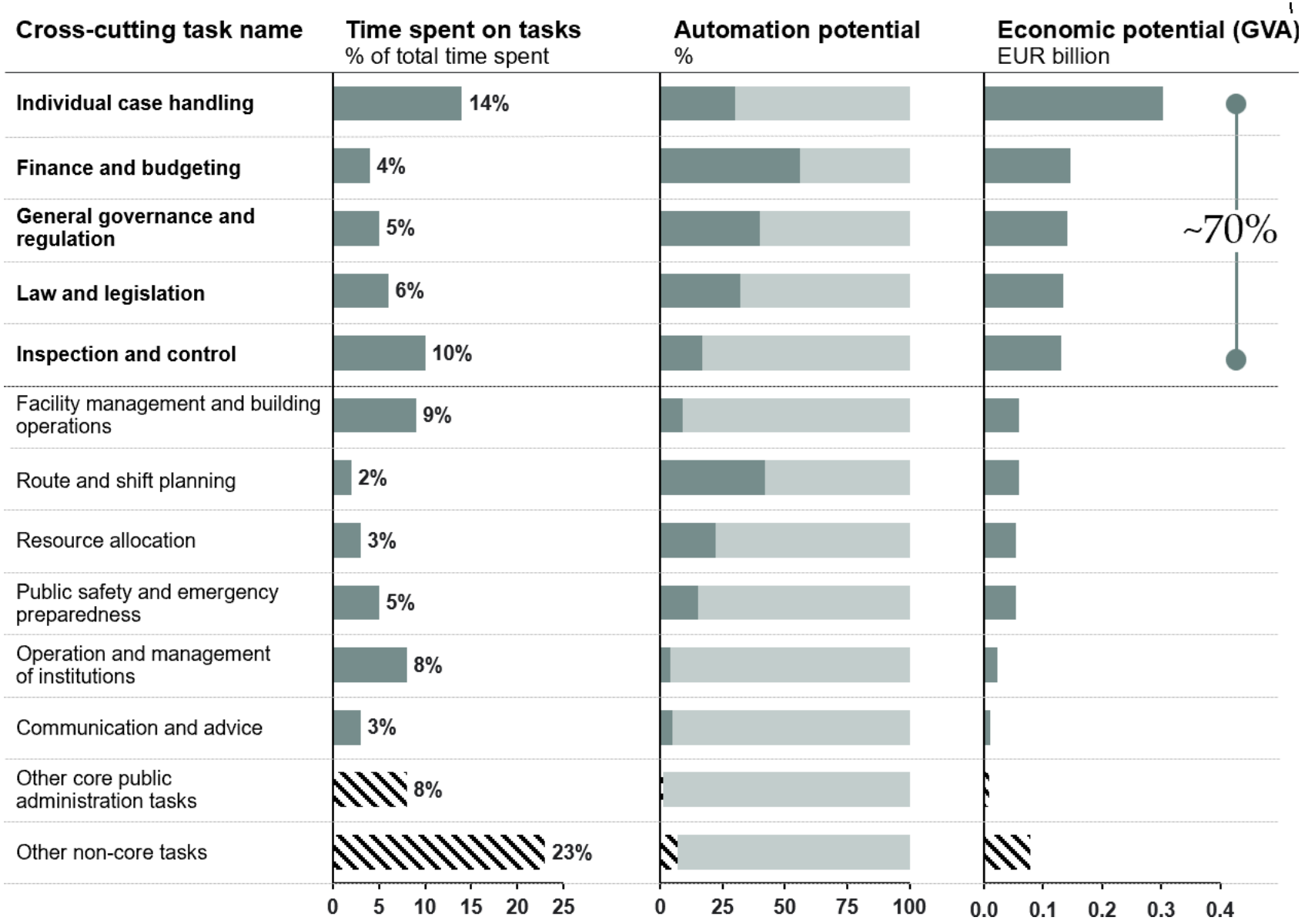
# Cross-country estimation reveals that the five most common tasks could realise ~70% of the potential

Implement Economics has analysed the economic potential for automation using Portuguese employment data together with granular data for multiple European countries.

We identified that most of the potential in public administration is found within five large cross-cutting tasks:

- Individual case handling, e.g. recording and managing personal information.
- Finance and budgeting, e.g. estimating costs and preparing budgets.
- General governance and regulation, e.g. maintaining records to demonstrate compliance.
- Law and legislation, e.g. analysing local and national implications of proposed legislation.
- Inspection and control, e.g. examining documents to ensure validity.

Although these tasks are estimated to make up around 39% of the time spent by Portuguese civil servants, they account for about 70% of the economic potential due to the high degree of automatability.




Note: There is considerable uncertainty regarding the capability and adoption timeline of generative AI. The estimation of the potential of AI across key cross-cutting tasks is based on an augmentation of Briggs & Kodnani (2023) with granular Portuguese employment data and an expert-assessed, exhaustive framework of the task composition within public administration, which is mapped to the rich database of task descriptions within O*NET. Our estimate is the isolated potential of generative AI upon widespread adoption. The estimated boost from generative AI may not be fully additive to growth projections. The automation potential of cross-cutting tasks may vary from country to country due to the occupation composition of the workforce carrying out the tasks.
Source: Implement Economics based on ISCO level 1 employment data from Portugal as well as employment data on ISCO level 4 from Belgium, Netherlands, Poland, Norway, Finland and Denmark, O*NET, Briggs & Kodnani (2023) and Eurostat.

# Generative AI can complement cross-cutting tasks in several aspects

## Individual case handling

Generative AI can review application forms for missing documentation, pinpoint follow-up questions that need input from the applicant and route cases directly to the relevant department. This can significantly reduce waiting times for processes like those for immigrants at AIMA.

## Finance and budgeting

Generative AI can detect budget overruns, identify potential cost-saving measures, and forecast revenue shortfalls, thereby helping public administrators prioritise spending, optimise resource allocation and maintain transparent financial oversight.

## General governance and regulation

Generative AI can automatically compare proposed rules against existing legislation to spot potential conflicts or compliance gaps, as well as compiling relevant legal precedents to help agencies stay consistent with governance standards.

## Law and legislation

Generative AI can assist in drafting legal texts, analysing legislative proposals and identifying potential legal conflicts, thereby helping lawmakers craft policies.

## Inspection and control

Generative AI can identify anomalies, flag potential violations and optimise inspection schedules based on risk. By analysing historical and real-time data, it helps inspectors focus on high-risk cases, streamlining compliance checks and enhancing regulatory enforcement.

Five cross-cutting tasks have 70% of the economic potential

# Achieving scalability while balancing local needs

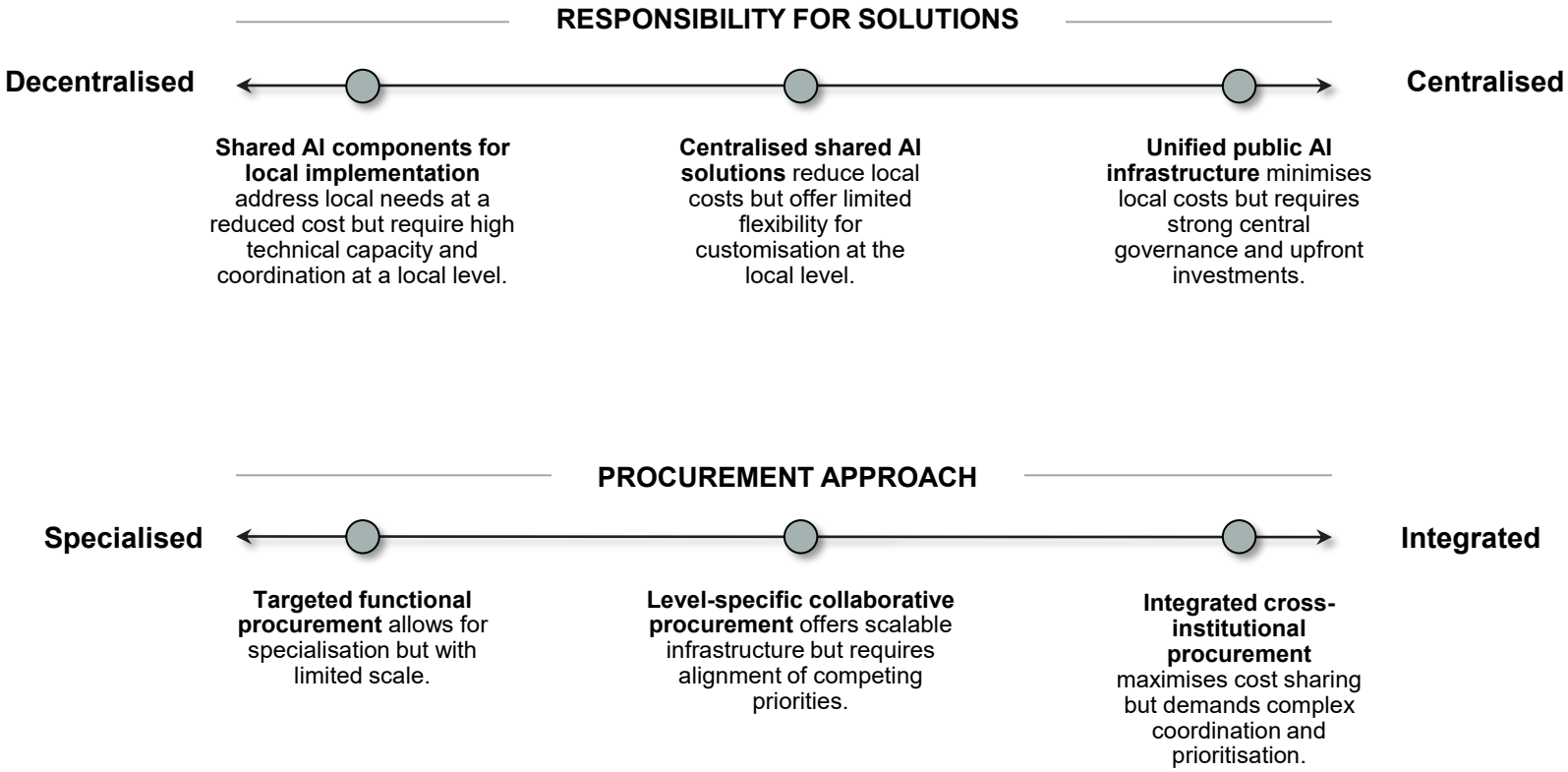
Approximately 70% of the potential lies in the top five key tasks shared across institutions. This calls for central anchoring. However, AI solutions must also address local needs to remain effective.

To maximise impact, public administration should prioritise scalable solutions that avoid duplication while ensuring the flexibility to meet local requirements.

The government should clearly define roles and responsibilities across levels of government to ensure alignment with users while also ensuring scalability.

**To address fragmented decision-making and reduce inefficiencies caused by siloed AI investments, strategic decisions should focus on cross-institutional AI procurement.**

**Strategic dimensions in public AI procurement**



PART I

# Think risk-conscious

- Low-risk and internally-oriented use cases can realise 20% of the total AI potential in public administration.

# Public institutions are risk-averse and face a complex regulatory landscape

Implementing AI in public institutions is complicated by the existence of overlapping regulations, such as GDPR, the AI Act, and the AI Code of Practice; this creates uncertainty. This overlap leads to ambiguity, for example when GDPR permits certain data use but the AI Act may classify the same case as high-risk.

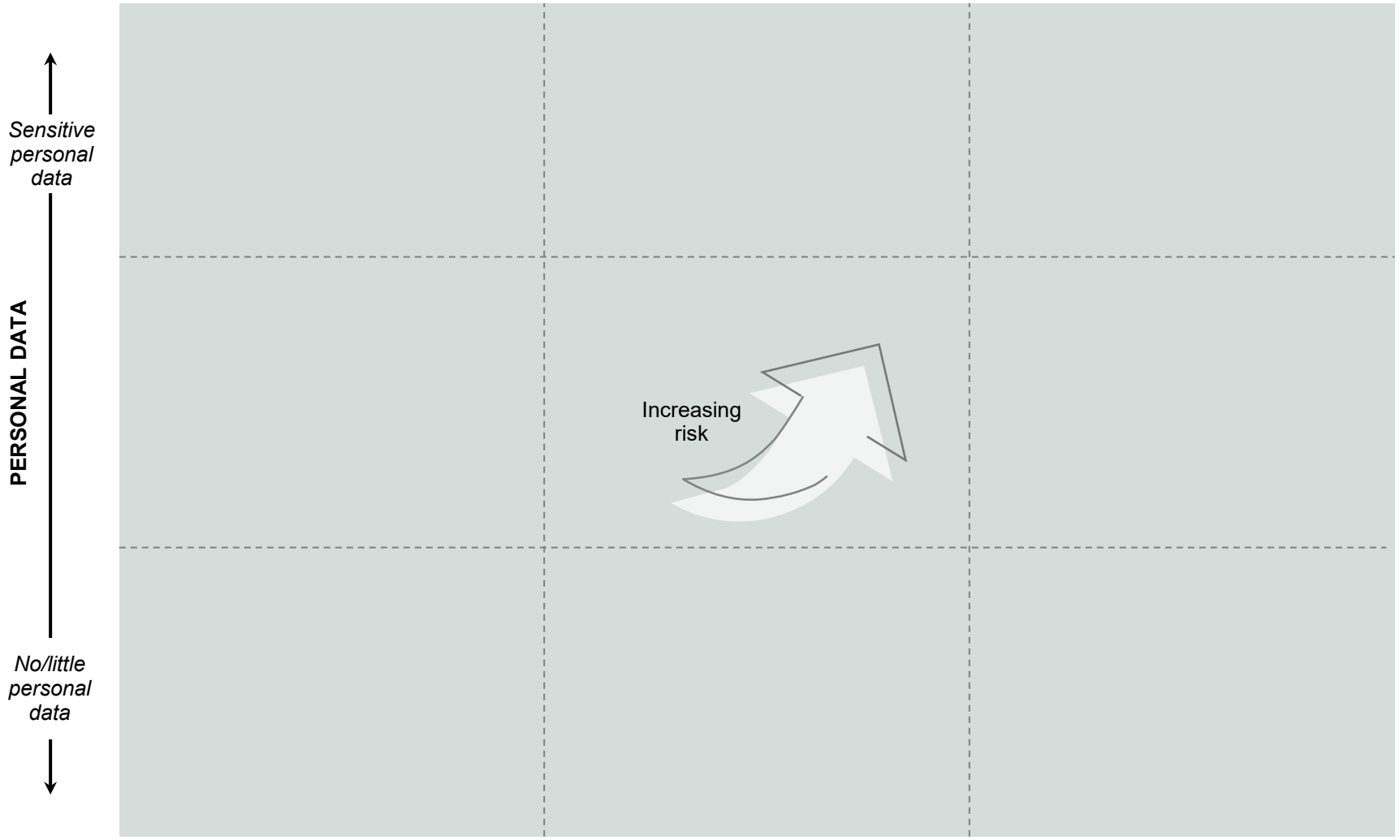
Leaders in public administration are aware of the risks. However, being overly risk-averse or failing to assess risks properly can lead to inaction.

A handful of low-risk applications of AI that do not use personal data and are internally-oriented exist. These are a good place to get started with the tangible adoption of generative AI applications prior to addressing those that both use personal data and are external-facing.

**51%**

of public administration **leaders** think that the legal requirements for using AI are a barrier to usage.

## The regulatory challenges can be understood in terms of two dimensions of risk




Source: Implement Economics based on GDPR EU.

# Low-risk AI applications account for ~20% of the potential in public administration

The risk of key cross-cutting tasks is mapped across two dimensions:

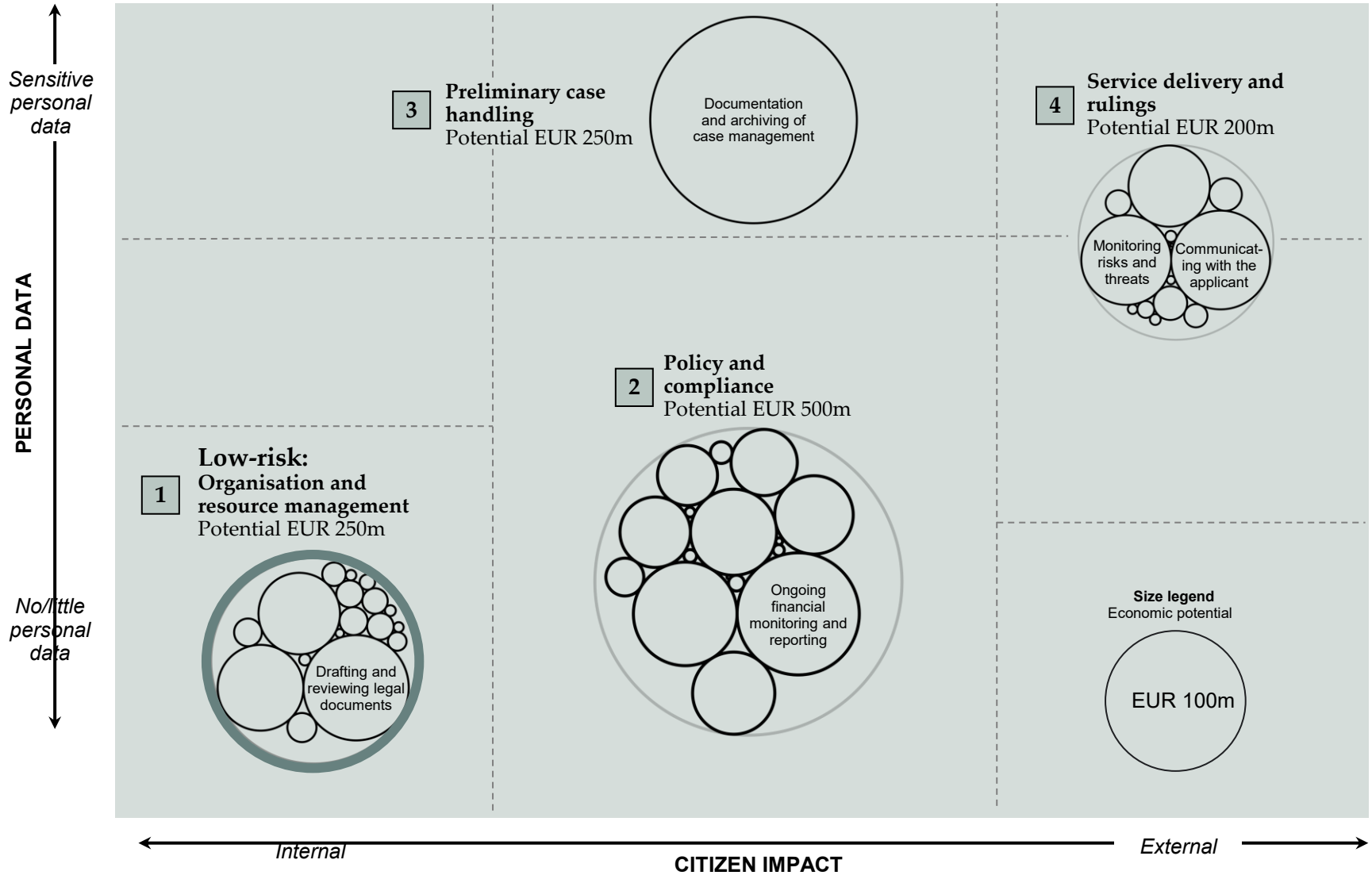
- The degree of citizen impact (internally- vs. externally-oriented AI applications)
- The sensitivity and use of personal data

This mapping produces four clusters of potential AI, which can be used as a roadmap for AI adoption in public administration:

1. **Organisation and resource management** applications, which are very low risk and should be addressed in the coming years.

   Our analysis shows that **EUR ~250 million**, equivalent to ~20% of the economic potential, lies in these low-risk, internal tasks.
2. **Policy and compliance** applications that use some personal data but are not completely externally-oriented
3. **Preliminary case handling,** which uses considerable amounts of sensitive data but is not directly citizen- and business-facing
4. **Service-delivery and rulings**, which are directly citizen- and business-facing and use considerable amounts of personal data

Based on detailed employment data from Portugal supplemented by more granular employment data from multiple European countries.




Note: The estimation of the potential of AI across key cross-cutting tasks is based on an augmentation of Briggs & Kodnani (2023) with Portuguese employment data and an expert-assessed, exhaustive framework of the task composition within public administration, which is mapped to the rich database of task descriptions within O*NET.
Source: Implement Economics based on ISCO level 1 employment data from Portugal as well as employment data on ISCO level 4 from Belgium, Netherlands, Poland, Norway, Finland and Denmark from Eurostat, O*NET and Briggs & Kodnani (2023).

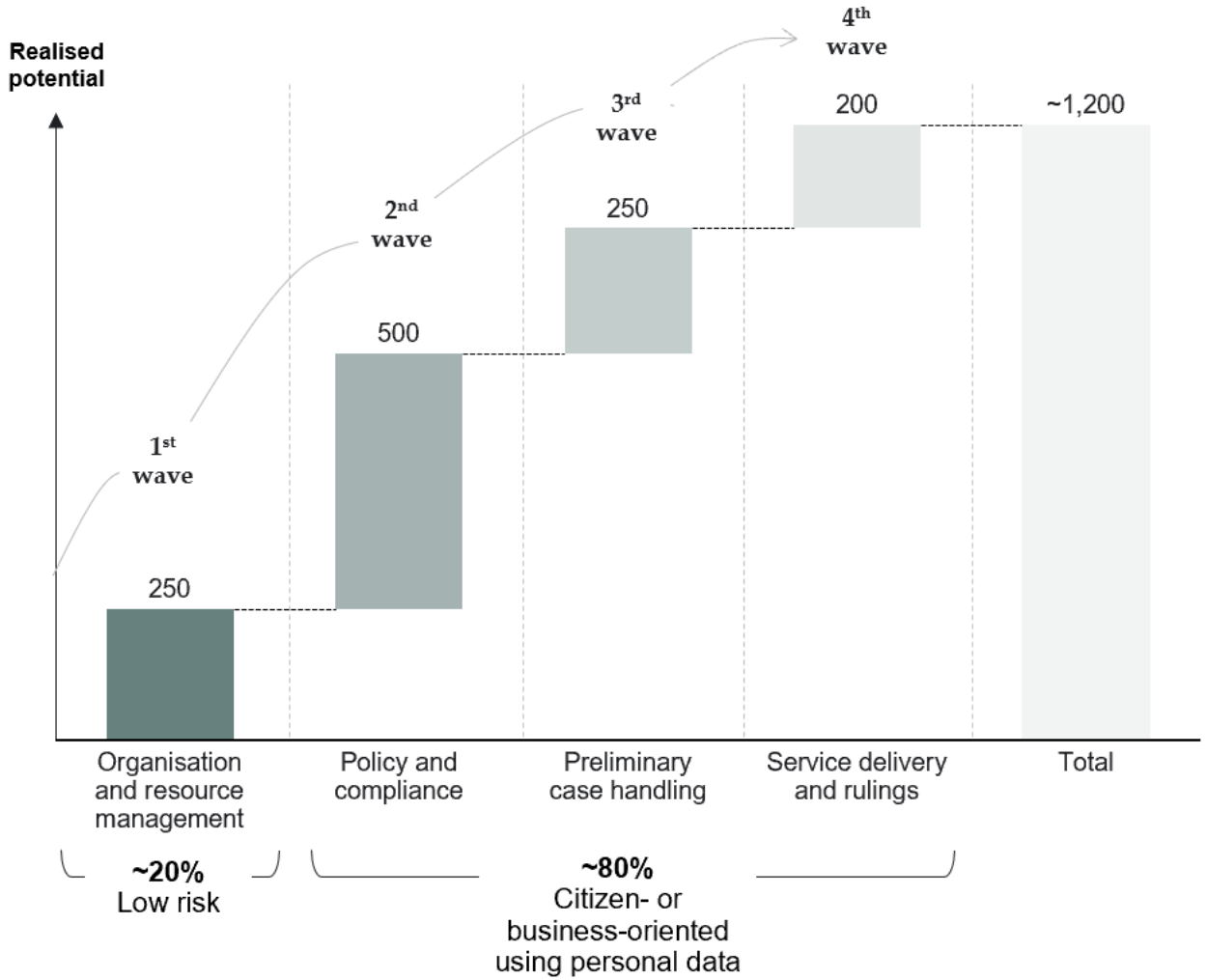
# Start with the low-risk applications and work up to tasks with high citizen impact

In a first wave, public administration could consider implementing low-risk, internal AI applications that do not involve sensitive data. These initiatives offer valuable learning experiences and develop the AI capabilities needed for more complex, external-facing solutions.

Simultaneously, the central government should ensure that critical enablers are in place to begin adoption of the 2nd and subsequent waves of advanced AI applications, which make up the remaining ~80% of the potential.

While the greatest immediate potential for AI in public administration lies within internal administrative processes, the broader application of AI in citizen- and business-facing services holds transformative potential for the public sector as a whole.

**Potential value creation from generative AI in public administration in Portugal**
EUR million with widespread adoption




Note: There is considerable uncertainty regarding the capability and adoption timeline of generative AI. The estimation of the potential of AI across key cross-cutting tasks is based on an augmentation of Briggs & Kodnani (2023) with granular Portuguese employment data and an expert-assessed, exhaustive framework of the task composition within public administration, which is mapped to the rich database of task descriptions within O*NET. Our estimate is the isolated potential of generative AI upon widespread adoption. The estimated boost from generative AI may not be fully additive to growth projections. Segments of risk-groups may not add up to the full potential due to rounding.
Source: Implement Economics based on ISCO level 1 employment data from Portugal as well as employment data on ISCO level 4 from Belgium, Netherlands, Poland, Norway, Finland and Denmark, O*NET and Briggs and Kodnani (2023).

PART I

# Think impact-oriented

Use cases directly or indirectly impacting citizens or businesses constitute ~80% of the AI potential in public administration

> AI applications in the public sector can save between 96.7 million and 1.2 billion work hours per year (...), [translating into] hundreds of millions of euros in annual savings.
>
> Gonçalo Saraiva Matias **– Minister in the Cabinet of the Prime Minister and of State Reform**

# Public support is key for successful AI implementation

AI is being used to improve government services in various ways, such as to make systems more secure and shorten review times.

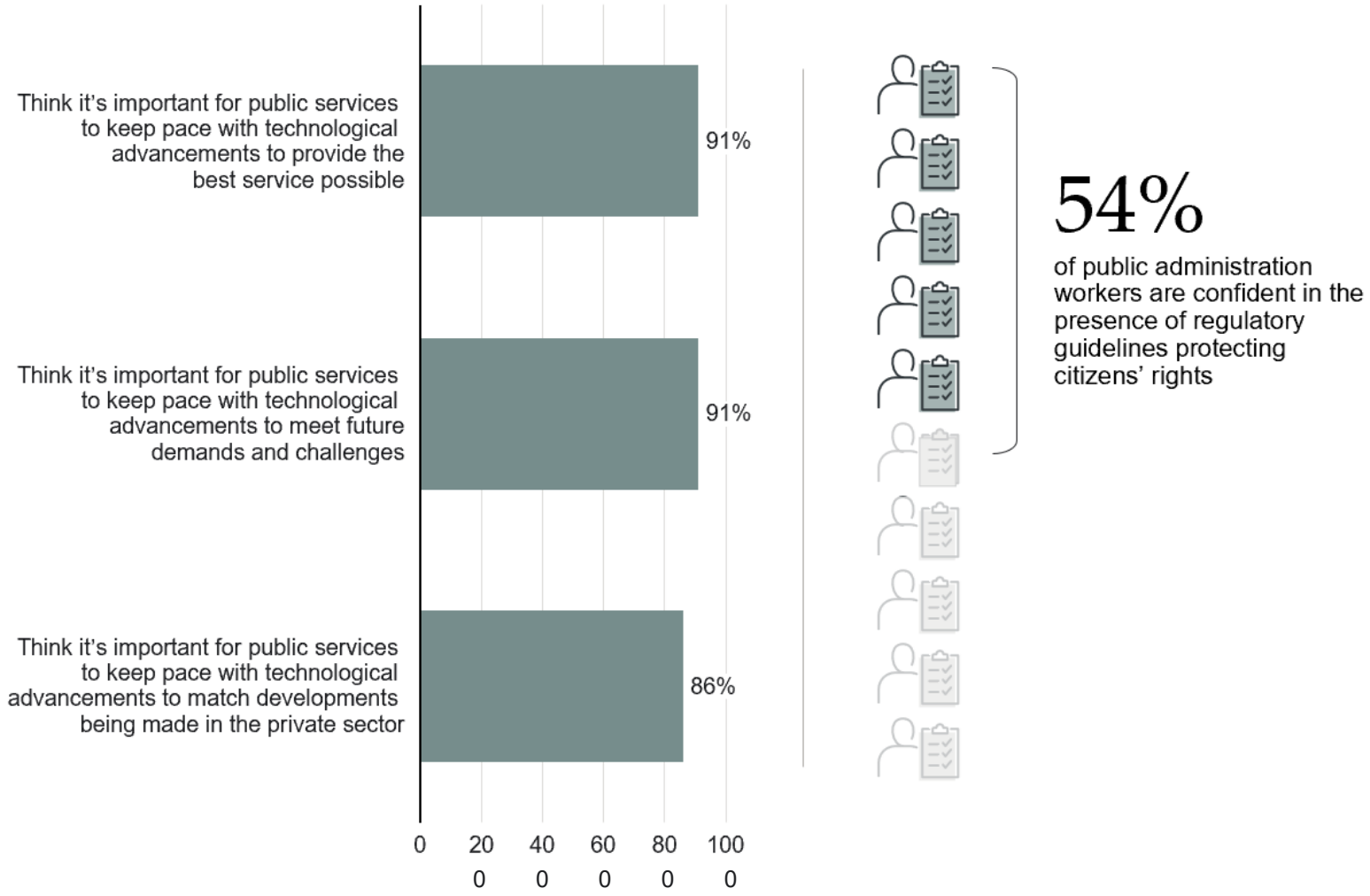
Recent survey data from Ipsos shows that most respondents find it important that public services keep pace with technological advancements to:

- Provide the best service possible
- Meet future demands and challenges
- Match developments being made in the private sector

However, only half of surveyed public administration employees are confident that current guidelines will protect citizen rights sufficiently.

To increase public support for AI in government, it is crucial to implement AI applications with clear benefits for citizens and businesses, in contrast to technical and narrow cost-cutting benefits.

**Employee support in further use of AI**
Percentage of surveyed public administration employees (%)



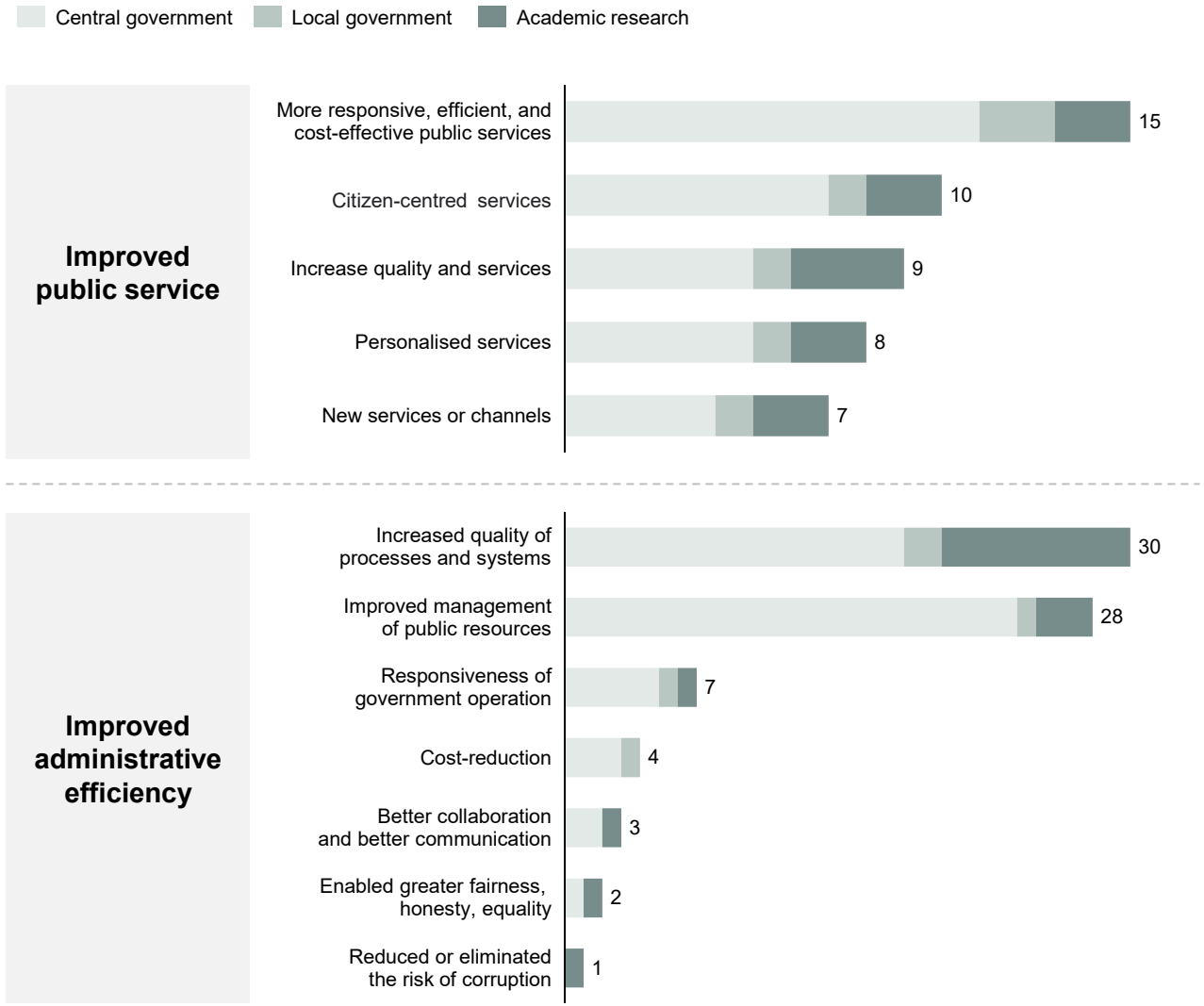

Note: Number of respondents are 304.
Source: Implement Economics based on survey data from Public First on behalf of Google.

# Quality and efficiency are the main drivers of AI adoption in the Portuguese public administration

In line with **impact-oriented priorities**, objectives broader than mere productivity improvement are guiding the implementation of AI in Portuguese public administration.

These include enhancing the quality of processes and services, improving the management of public resources, and increasing the efficiency and cost-effectiveness of public services – critical initiatives at this early stage of adoption.

**Cases concerning the use of AI within the Portuguese public sector**
Number of cases




Note: These are cases considered for the purpose of the Public Sector Tech Watch. Projects included in 'Improved Public Service' are not included in 'Improved Administrative Efficiency'. In each one of the sets of projects, each project usually has more than one objective. In the database a third objective, 'open government' is considered. There are 5 projects with this objective, but they are also included in the projects aiming at an 'Improved public Service'.
Source: Implement Economics based on European Commission, Joint Research Centre (JRC) (2023): PSTW: Public Sector Tech Watch latest dataset of selected cases. European Commission, Joint Research Centre (JRC)

# Generative AI can save time and hassle for citizens when interacting with public administration

**By integrating generative AI into public administration, services can be made faster, smarter and more accessible for citizens**

Citizens

| Examples of interaction | Examples of how generative AI can improve interaction |
|---|---|
| Applying for personal identification documents – e.g. passport, ID cards or driving licence. | Generative AI can guide citizens through the application process, providing personalised instructions and automatically pre-filling forms. |
| Registering life events – e.g. births, deaths, marriages or changes in civil status. | Generative AI can help streamline data entry by auto-updating civil registries across systems, thereby reducing delays for citizens. |
| Accessing social benefits – e.g. applying for unemployment benefits, pensions or housing assistance. | Generative AI can evaluate applications faster by analysing eligibility criteria, thus ensuring quicker benefit payouts. |
| Paying taxes – e.g. managing property and income tax payments or filing annual tax returns etc. | Generative AI can generate clear and tailored tax explanations as well as pre-filling tax forms based on historical data. |
| Enrolling in public education – registering children for daycare, schools or applying for student loans. | Generative AI can create tailored school recommendations, efficiently analyse applications and citizen needs, and optimise capacity. |
| Address changes or housing permits – e.g. notification of move or applying for building permits. | Generative AI can pre-fill forms and create suggestions for required documentation, thus reducing citizen effort. |
| Voting and civic participation – registering to vote, casting ballots or attending public hearings. | Generative AI can summarise election materials and help citizens register easily. |
| Resolving disputes or fines – e.g. appealing decisions, paying traffic fines or addressing legal issues. | Generative AI can process and draft legal documents, thereby reducing waiting times for citizens seeking resolution. |

# Generative AI can simplify interaction with public administration for businesses

**By providing assistance with documentation, reporting and application processes, generative AI can save time and money for businesses when interacting with public authorities**

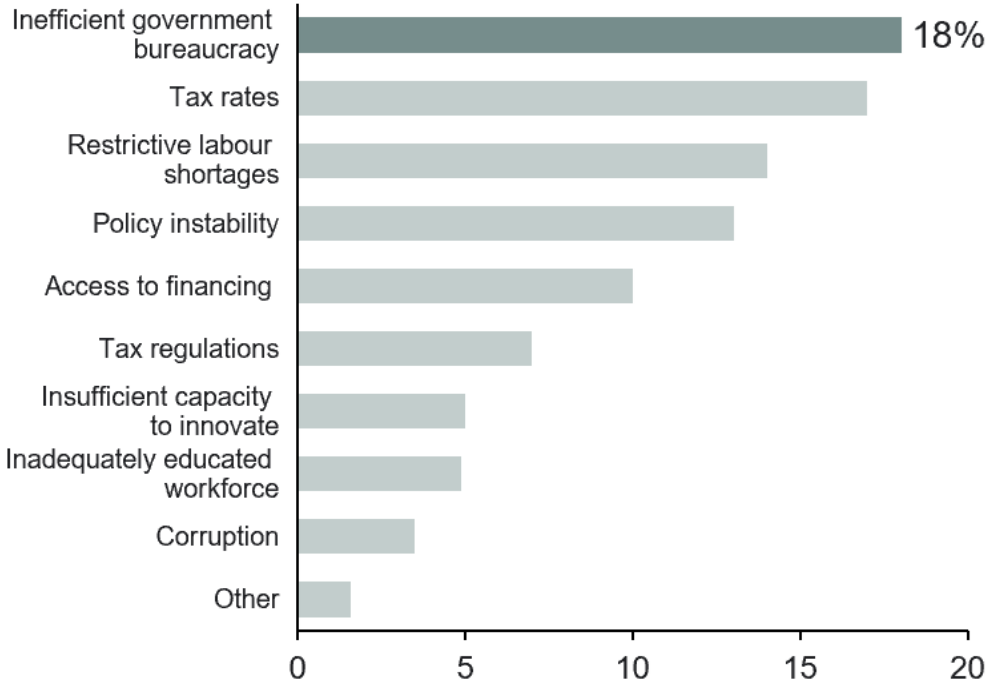
Businesses

| Examples of interaction | Examples of how generative AI can improve interaction |
|---|---|
| Applying for government contracts – e.g. submitting tenders or meeting compliance criteria. | Generative AI can provide tailored templates and compliance checklists to streamline bid preparation. |
| Obtaining or renewing permits – e.g. applying for operating licences, construction permits or health and safety certifications. | Generative AI can act as a virtual assistant, guiding users through form completion. |
| Applying for financial support – e.g. grants, subsidies, innovation funding, or support programmes. | Generative AI can streamline funding applications by suggesting tailored inputs and ensuring alignment with programme criteria. |
| Claiming financial rebates – e.g. claiming tax refunds or rebates. | Generative AI can analyse receipts and flag eligible expenses, thereby helping businesses maximise their rebate potential. |
| Filing regulatory compliance reports – e.g. submitting required reports for business operations or audits. | Generative AI can automate report creation, transforming raw data into polished submissions. |
| Collaboration with employment services – e.g. accessing pool of jobseekers and participating in subsidised upskilling programmes. | Generative AI can bridge the gap between businesses and jobseekers by matching skills to needs. |
| Navigating pre-qualification processes – e.g. completing steps to demonstrate eligibility for specific programmes or services. | Generative AI can simplify eligibility checks, thus offering step-by-step guidance and pre-screening data for quick approvals. |
| Submitting applications for certification – e.g. applying for professional, compliance or operational certifications. | Generative AI can help businesses assemble the perfect submission by identifying key documents and giving formatting tips. |

# Generative AI can reduce the significant regulatory costs that Portuguese companies face

Portuguese companies are facing a significant administrative burden, defined as the effort required to supply mandatory information under national and EU laws and regulations. Generative AI has the potential to significantly reduce this burden.

**Most problematic factors for doing businesses in Portugal**
Percentage of respondents (%)




Inefficient **government bureaucracy** is the most problematic factor for doing business in Portugal

## Perspective

In addition to administrative cost savings, generative AI in public administration is also expected to provide business impacts such as:

- Freeing up resources for other value creating tasks.
- More efficient allocation of resources.
- Increased speed and flexibility in company processes.

Note: From a list of 16 factors, respondents were asked to select the five most problematic for doing business in their country and rank them from 1 (most problematic) to 5. The results were then tabulated and weighted according to the ranking assigned by respondents. Results stem from a survey conducted in 2017. Number of respondents: 220.
Source: Implement Economics based on World Economic Forum and Amador et al. (2019).

# **Case:** Portugal has introduced a multilingual AI assistant on Gov.pt that answers questions about more than 2,300 public services – Europe's earliest nationwide generative-AI gateways for citizens

## The ambition

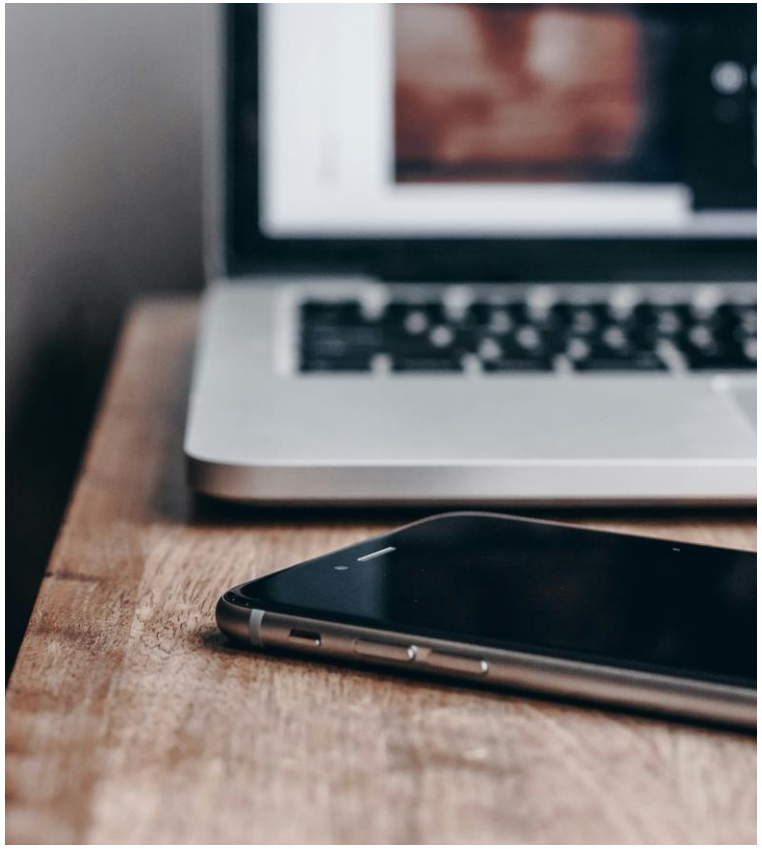
- Offer citizens and residents – including over 700,000 foreigners – 24/7, plain-language access to all central-government services.
- Reduce call-centre load and improve user experience by automating first-line support.

## The solution

- An AI-powered virtual assistant embedded on every gov.pt page, available in 12 languages. Utilises generative AI to understand user queries, provide step-by-step guidance, and link directly to relevant e-forms or information pages.
- Trained on over 35,000 FAQs and knowledge articles covering more than 2,300 services.

## The impact

- Handled 17,044 user conversations in its first full month (January 2025) and resolved 62% of sessions without transferring to a human agent, saving an estimated 1,000 agent-hours in the first month.
- Received a 'useful/very useful' rating from 83% of surveyed users.
- Approximately 20% of interactions were in non-Portuguese languages, enhancing inclusivity.



Note: Most use cases that are implemented are supported by other initiatives, which is an important consideration when evaluating their overall impact.
Source: Implement Economics based on SAPO

# **Case:** The Swedish Tax Agency has reduced the waiting time for business registration by 3.5 days, and an AI-powered chatbot is handling about 50% of its conversations outside opening hours

## The challenge

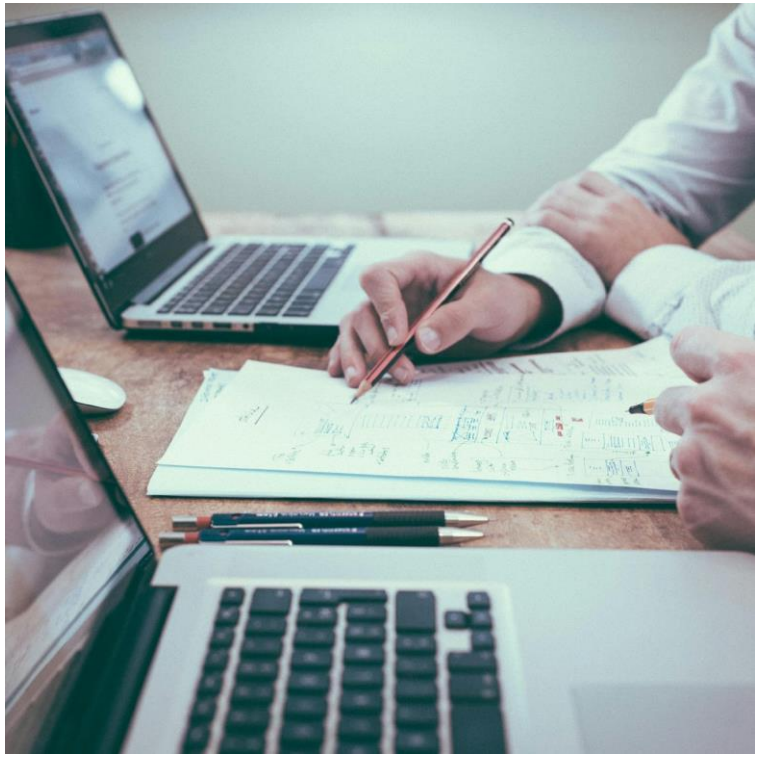
- Long waiting times on phone and email.
- Citizens and businesses could only call during the opening hours 9 am – 3 pm.
- Bottlenecks around tax return and payment deadlines.

## The solution

- Almost 30 AI services deployed.
- AI chatbot answering tax and personal record questions.
- 24/7 service to assist citizens and businesses at any time.

## The impact

- Chatbot handling ~500,000 conversations annually.
- ~50% of chatbot conversations answered outside opening hours.
- Waiting time for business registration reduced by ~3.5 days.



Note: Most use cases that are implemented are supported by other initiatives, which is an important consideration when evaluating their overall impact.
Source: Implement Economics based on Swedish AI Commission (2024) and Skatteverket Annual Report 2022 (2023).

# **Case:** In Belgium, 92% of users are satisfied with the service provided by an AI-powered recruitment solution that improves job matching and saves time for citizens

## The challenge

- Skills gap between workforce and employer needs.
- Traditional recruitment process is time-consuming and resource-intensive.
- Lack of personalisation and customisation regarding job suggestions.

## The solution

- AI generated suggestions for upskilling and training.
- Map out where there is the highest probability of finding work.
- Extensive personalisation and pre-filling of questionnaires.

## The impact

- 92% of citizens are satisfied with their contact with the job centre (VDAB).
- 80% reduction in time spent on job match questionnaires.

Note: Most use cases that are implemented are supported by other initiatives, which is an important consideration when evaluating their overall impact.
Source: Implement Economics based on VDAB annual report (2023) and Superlinear and VDAB reinvent orientation test with Artificial Intelligence.

# **Case:** Digital case handling has reduced waiting time for building permits for companies and citizens by more than 40% in Denmark's Municipality of Copenhagen

## The challenge

- Long waiting times for building permits.
- Complex legislation.
- Rising backlog of unhandled cases.

## The solution

- An AI assistant is used to navigate complex legislation.
- Documents are drafted for case handlers using generative AI.
- Robots automatically execute parts of the case handling.

## The impact

- Waiting time reduced by 4.5 months (more than 40%).
- Backlog of unprocessed cases reduced by more than 70%.
- The time that is saved can be spent on guiding applicants through the most complex cases.

Note: Most use cases that are implemented are supported by other initiatives, which is an important consideration when evaluating their overall impact.
Source: Implement Economics based on Københavns Kommune (2023).

# **Case:** Barcelona is piloting social care robots to help older adults live safely at home

## The ambition

- Strengthen in-home support for seniors who live alone, reducing isolation while preserving independence.
- Redirect routine check-ins and reminders from staff to assistive robotics so professionals can focus on complex needs.

## The solution

- A mobile, social robot tailored to each person: proactive medication and appointment prompts, simple conversation, and video calls with carers.
- On-device intelligence and sensors for fall/incident alerts, safe navigation, and basic face/voice recognition, with a caregiver dashboard for follow-up.

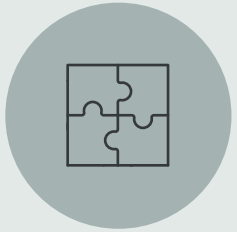
## The impact

- Expanded from 10 homes in the pilot to 100 homes, with a 2025 rollout of 600 robots funded by EUR 3.8m.
- Municipal teams handle routine follow-ups more efficiently, freeing time for priority cases.

Note: Most use cases that are implemented are supported by other initiatives, which is an important consideration when evaluating their overall impact.
Source: Implement Economics based on Info Barcelona

# Summary of part I

In designing a new national AI strategy, the Portuguese government should think ...



**Task-based**

Prioritise cross-cutting tasks to achieve economies of scale while addressing local needs. Implement a cross-institutional AI procurement strategy with clear roles and responsibilities across government levels to ensure user alignment and scalability.

**Risk-conscious**

Begin with low-risk, internally-facing AI solutions and gradually move on to more user-sensitive, externally-facing AI applications that can realise the bulk of the potential.

**Impact-oriented**

Concentrate on AI applications with real user impacts, i.e. solutions that reduce the time and hassle involved in citizens and businesses interacting with public administration.

Create cloud clarity

Make smart procurement choices

# PART II

Getting the critical enablers in place

# Public administration needs to address critical barriers to utilise the opportunity provided by generative AI

**To benefit from state-of-the-art AI solutions, public administration relies on…**

## Smart regulations

- **Simpler, lighter, faster.** Simplified rules and legal certainty are key enablers of AI adoption, as highlighted by the Competitiveness Compass.
- **Ethical guidelines.** AI systems must adhere to the principles of transparency, fairness and accountability to maintain public trust.
- **Interoperability standards.** Harmonised rules across jurisdictions ensure that AI solutions can be implemented seamlessly at scale.
- **Focus on outputs.** Regulation should target AI outputs, ensuring quality while preventing harm.

## Data

- **High-quality data is essential** for developing and running high-performing AI models.
- **Workflow data must be accessible** to support employees in their daily operations.
- **Data-sharing frameworks.** Mechanisms should facilitate safe and efficient data exchange across government entities and private partners.

## Infrastructure and tools

- **Computing resources.** Cloud services providing computing power and storage capacity to develop and run AI models.
- **Advanced AI models.** Large language models that are released at regular intervals, for example Gemini from Google or Open AI's GPTs.
- **AI platforms and tools.** These are often developed from the large language models. These enable public administration to integrate AI into processes and services.
- **AI applications.** Ready-to-use cloud solutions delivered via platforms.

## Skills

- **Broad AI competencies** are essential to enable civil servants to understand when and how to use AI. From a management perspective, effective change management is crucial for successful adoption.
- **Specialised expertise and cross-disciplinary teamwork.** Building capacity for AI roles such as data scientists and ML engineers while fostering collaboration between IT, legal and policy to ensure effective AI integration.
- **IT procurement competence.** Strong capacity of procurement professionals to navigate the complexities of AI and multi-cloud technologies.

**…yet two key barriers must be overcome to enable effective generative AI adoption in public administration:**

Regulations create uncertainties around data usage and cloud computing

Software licensing practices lead to a risk of vendor lock-in

**These two barriers are addressed on the next pages.**

Source: Implement Economics based on the European AI Commission (2024) and Draghi (2024).

PART II

# Create cloud clarity

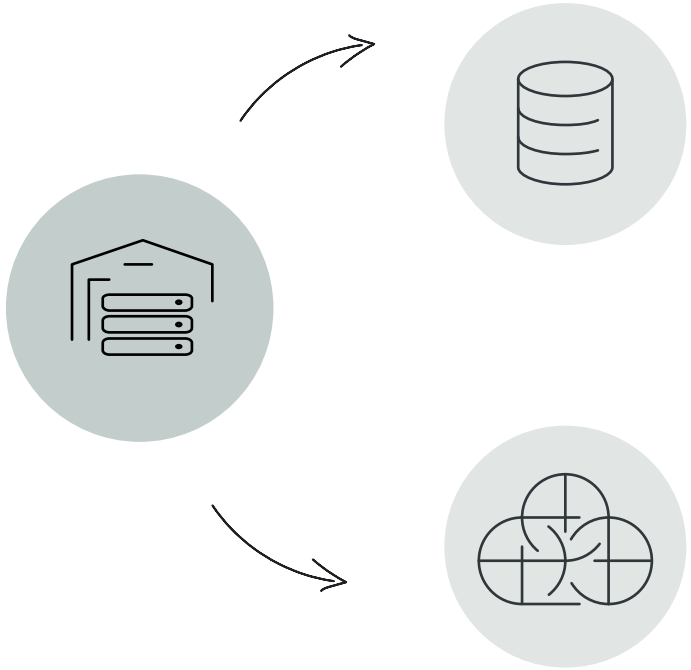
- Privacy and security concerns can lead to a misconceived preference for on-premises solutions.

> *We need a modern, secure and resilient digital infrastructure… we will carry out a study to implement a sovereign cloud so we can accelerate that goal.*
>
> **Margarida Balseiro Lopes – Minister of Youth & Modernisation**

# Public administration faces uncertainty in AI adoption due to conflicting EU data and cloud regulations

The EU enforces strict regulations to safeguard privacy and protect individual rights in AI and data usage…

EU regulations, such as GDPR and the AI Act, are designed to safeguard citizens' rights by enforcing strict compliance with personal data protection and ethical AI use, to ensure transparency, accountability, and fairness in digital systems.



…however, the complexity of these rules creates uncertainty, hindering public administration from adopting AI solutions

**Lack of clarity regarding data usage.** The lack of clear guidelines on data use and inter-agency sharing creates hesitation, which delays innovation and contributes to a fragmented AI landscape.

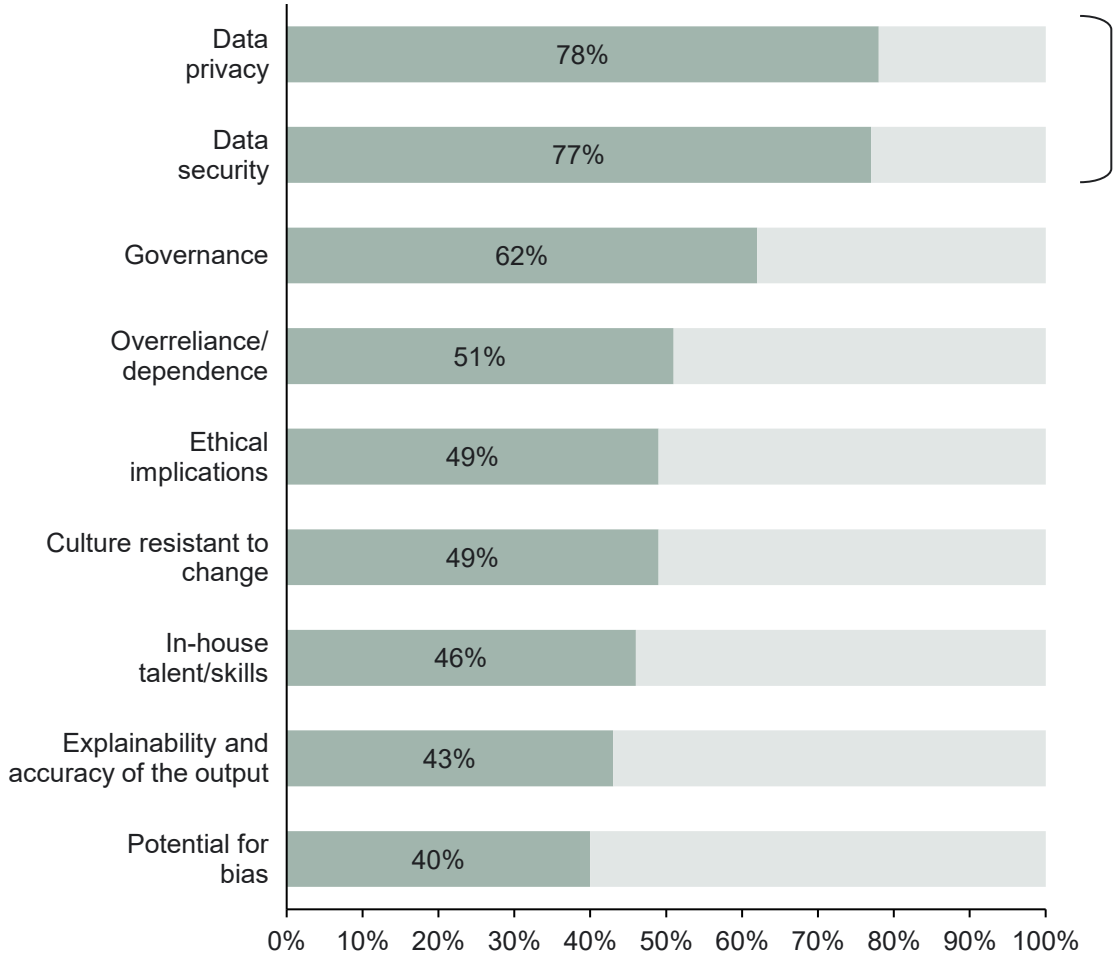
**Uncertainty regarding cloud-based solutions.** Fragmented rules with unclear interpretations make it difficult for authorities to know whether widely used public cloud infrastructure meets legal obligations. This lack of clarity often results in hesitation, costly delays, and the adoption of suboptimal solutions.

Source: Implement Economics based on the European Commission (2024).

# Authorities hesitate to adopt AI tools due to concerns over data privacy and security

European organisations are concerned about leveraging cloud-based AI tools and sharing data across multiple stakeholders due to stringent data privacy and security regulations.

**What are your concerns regarding the usage of generative AI in your organisation?**
% of respondents among government leaders globally




This highlights the critical role of AI infrastructure and tools in scaling generative AI solutions, and emphasises the need for proactive strategies to ensure responsible use.

Note: The survey was conducted by Coleman Parkes from February to April 2024, targeting 1,600 decision-makers in generative AI strategy or data analytics across government organisations and other key sectors globally. The results shown specifically reflect responses from government organisation respondents.
Source: Implement Economics based on SAS Institute (2024).

# A secure and competitive cloud infrastructure is crucial for AI use at scale

## AI infrastructure in the public sector must be:

- **Efficiently scalable** to accommodate new solutions and fluctuations in demand.
- **Adaptable** to integrate emerging leading technologies, and capable of operating on a multi-cloud level.
- **Secure** to ensure data privacy and leverage best-in-class cybersecurity capabilities to protect against the evolving threat landscape.
- **Interoperable** to enable seamless collaboration and data exchange between authorities.

Given the high computational and specialised hardware requirements for state-of-the-art AI, adapting on-premises supercomputers is both prohibitively expensive and inefficient.

Widespread AI adoption in public administration depends on a secure, robust cloud infrastructure that meets these unique demands. Therefore, the most cost-efficient and scalable solutions are best sourced from specialised suppliers.

**To achieve scalability, adaptability, security and interoperability, the AI infrastructure must provide:**

Compute capacity

Leading AI models


Data storage and pipelines

Network and connectivity

AI tools and applications

Security measures and monitoring

Portugal's public cloud strategy of 2022 sets out guiding principles but leaves implementation to individual entities, resulting in fragmented adoption and duplicated efforts. The upcoming sovereign cloud initiative by IP Telecom and the new Digital Strategy 2030 reflect growing recognition of the need for sovereign, scalable infrastructure. As demand for AI-ready capacity increases, there is an emerging need to coordinate procurement, compliance, and migration efforts. A more unified approach could support efficient scaling and strengthen alignment with data sovereignty objectives.

Source: Implement Economics based on Portugal Digital (2022), SAPO (2025), Digital.Gov (2025), Portugal Digital Strategy 2030

# Cloud provides a cost-effective AI infrastructure adaptable to technological advancements

To effectively use generative AI in public administration, substantial computing resources are needed.

On-premises infrastructure demands significant upfront investment and risks becoming outdated before costs are recovered, locking institutions into current technology levels.

In contrast, cloud infrastructure offers flexibility, lower initial costs and scalable usage, thus allowing continuous adoption of new technologies.

These developments reflect the price of modern, high-end computing power and the increasing computing needs of LLMs – prior to these developments, the long-term viability of on-premises computing may have exceeded those of cloud.

160%

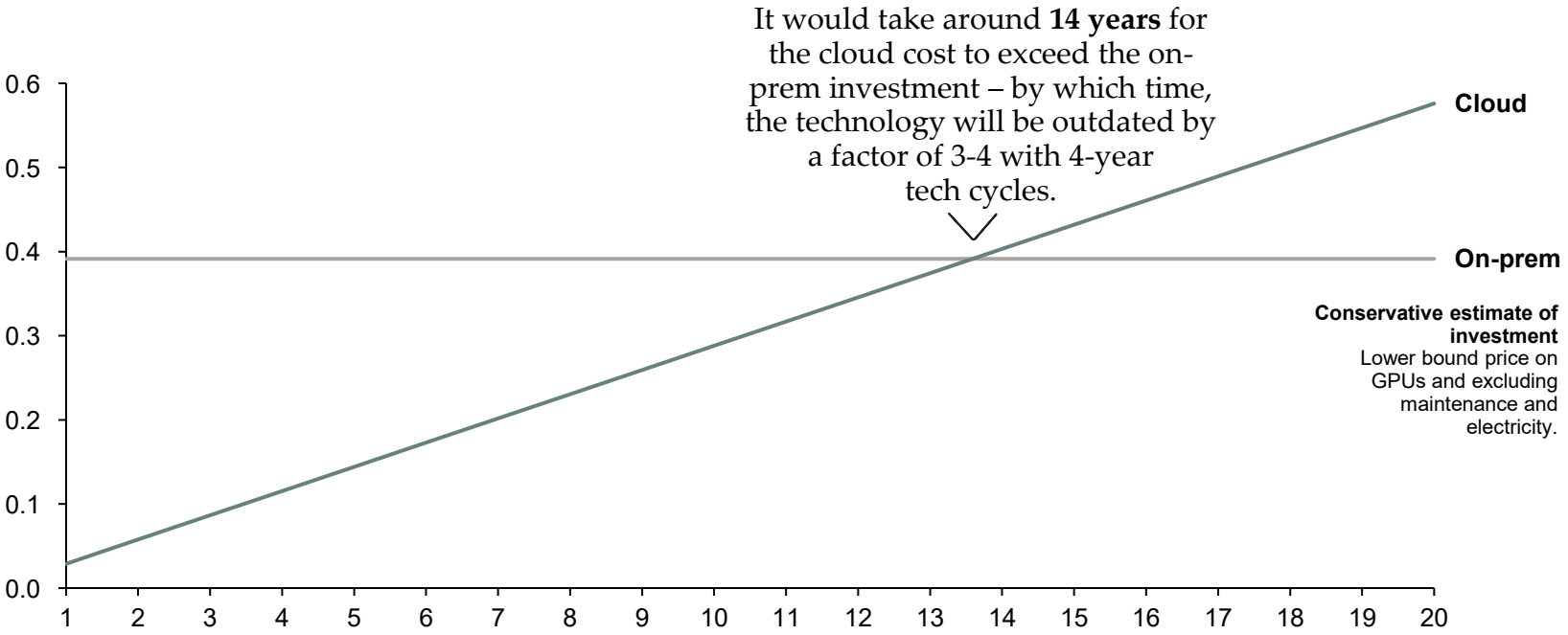
Computer performance has improved by 160% in around two years, and AI is a fast-evolving technology that will require constant updates to compute capacity.

**Illustrative example** Portuguese Tax Chatbot

**3.4 million citizen enquiries** assumed to be handled by the Portuguese Tax Authority annually. These could be automated by an AI-based chatbot, either in the cloud or on-premises.

**~40 GPUs** are needed to handle the average flow of requests, costing around of EUR 390,000 for on-premises investment, compared to an average annual cost of around EUR 30,000 for a cloud service.

**Accumulated costs for chatbot implementation (illustrative)**
EUR million




Note: Enquiries are assumed to be evenly distributed across 16 hours a day and every day of the year, resulting in a constant load throughout the year. Each enquiry is estimated to average 750 words, with approximately two tokens per word, leading to a total of approximately 5 billion tokens per year based on an annual volume of 3.4 million enquiries. For cloud-based deployment, the cost is estimated at EUR 30,000 per year, derived from token processing and computational resource usage. For an on-premises setup, it is assumed that 3.4 million enquiries per year translate to an average of 10 active conversations per minute, assuming an even distribution 16 hours a day every week. Each active conversation requires four GPUs, and the estimated cost per high-end GPU, including VRAM and hardware, is EUR 10,000. This brings the total on-premises cost to approximately EUR 390,000. Achieving adequate performance for Portuguese-language processing would require a large language model, such as Llama70B, which demands 123 GB of VRAM per GPU for effective operation.
Source: Implement Economics based on OpenAI and Llama.

# Cloud provides the essential flexibility to scale with fluctuating demands

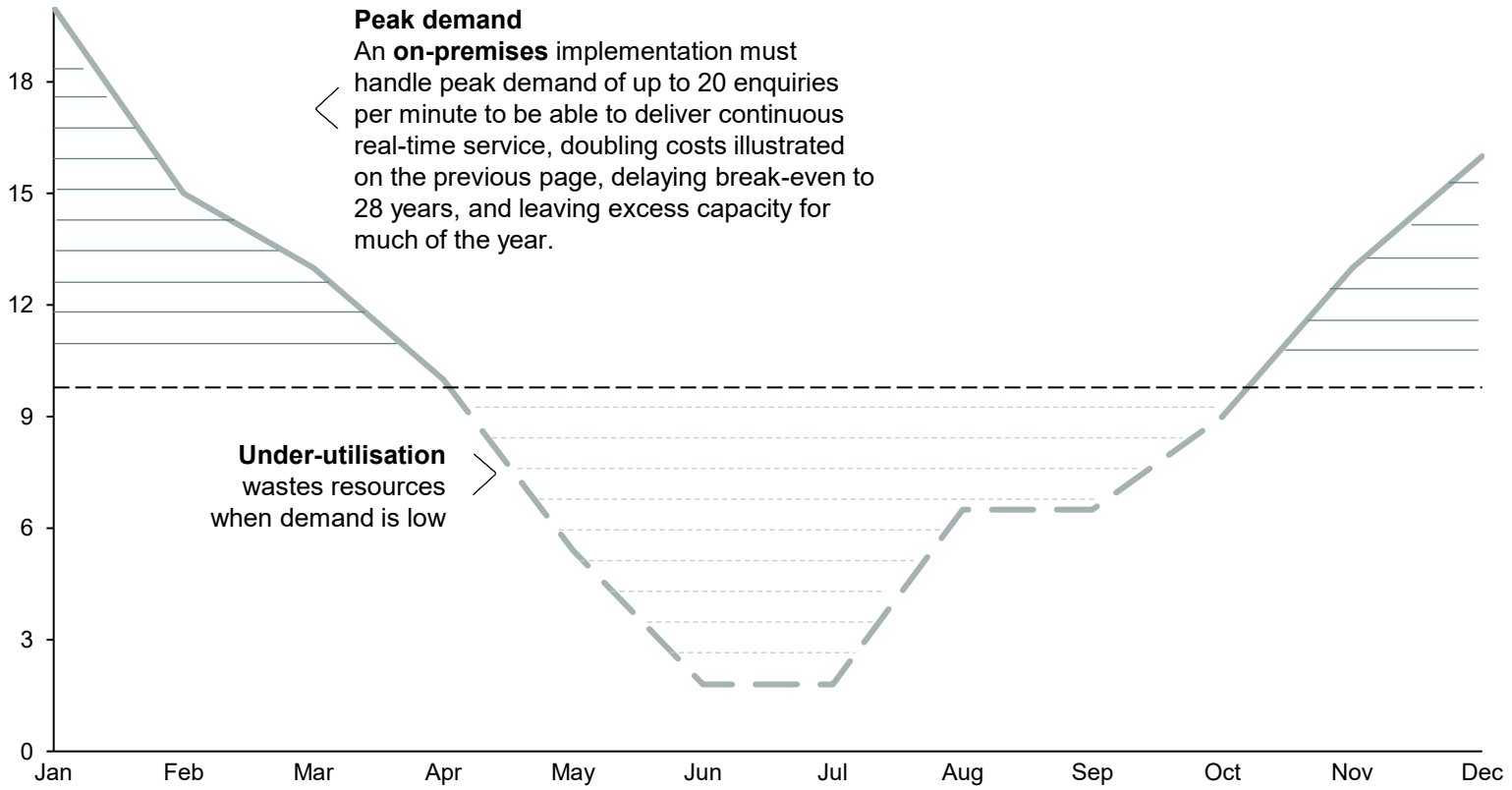
The demand for public AI applications varies significantly throughout the day and year. During peak periods, a high volume of tasks must be handled simultaneously, placing substantial pressure on AI infrastructure.

Cloud solutions offer flexible scalability, with costs tied to actual usage.

In contrast, an on-premises setup requires investment not only for average demand, but also for peak capacity to avoid bottlenecks.

**Illustrative example** Portuguese Tax Chatbot

**Enquiries per month (illustrative)**
Average enquiries per minute



# Establish clear regulatory guidance and procurement practices for data sharing and using cloud-based tools to unlock the AI potential

Portugal's national cloud strategy sets clear principles but leaves procurement and compliance to individual entities, leading to fragmented implementation, highlighting the need for more consistent execution, especially at regional and local levels. The sovereign cloud initiative with IP Telecom reflects growing momentum for shared infrastructure and stronger coordination. Aligning procurement and risk standards will be key to ensuring secure, scalable cloud capacity for AI adoption across the public sector. With ARTE, the new agency for the technological reform of the state, there is now a concrete opportunity to define a unified architecture and governance model for public IT systems, establish clear rules for data policy and procurement of digital services, and promote the transversal adoption of emerging technologies such as AI.

**Ensure all levels of government have access to cloud solutions and clear guidance on how to procure or adopt them.** Establish common baseline standards for security and compliance and provide workload-specific criteria to help agencies choose the right cloud setup based on sensitivity, criticality, capability needs and cost.


**Increase clarity around cross-border data flows.** Establish robust frameworks that enable secure and interoperable data exchange across borders, both within and outside of EU, ensuring public administration can share and access standardised, high-quality data while respecting privacy and sovereignty concerns.

**Safeguard digital sovereignty, interoperability, and resilience.** The current Government Cloud Service Policies should enforce robust standards for data exchange and interoperability, ensuring that critical public services remain continuously available. By clarifying data localisation requirements while encouraging open competition of all providers, including non-European ones, Portugal can safeguard customers' choice, control and security.

**Conduct and update risk assessments.** Mitigate risks through government-wide risk assessments that identify and address continuity, data protection and cost factors. Regularly update these frameworks to adapt to evolving services, ensuring that all 'material' cloud solutions undergo thorough, up-to-date reviews.

Source: Implement Economics based on INCoDe.2030 and SAPO Tek

PART II

# Make smart procurement choices

To adopt AI at scale, the Portuguese government must ensure flexibility and interoperability in procurement to mitigate the risk of overreliance on a single provider and promote innovation and competition

# Vendor lock-in prevents Portuguese public administration from rolling out AI tools

Vendor lock-in is holding back public institutions across the EU, creating hidden costs, delaying new AI projects and making it hard to switch suppliers as needs change.

In Portugal, just 17% of surveyed public administration workers think their workplace has access to best-in-class tech services.

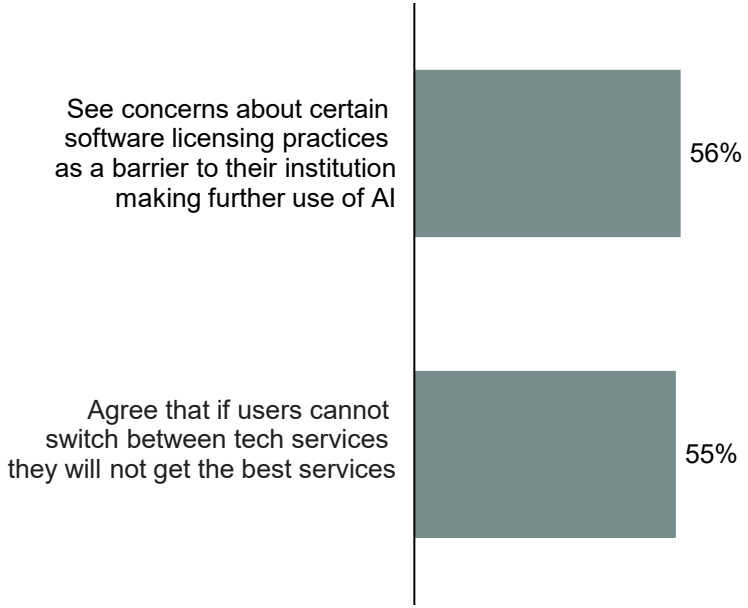
Further, half of surveyed public administration employees say that restrictive software licensing terms block their ability to roll out AI tools.

These constraints translate into budget overruns, stalled digital initiatives and reduced interoperability with emerging platforms.

**51%**

of public administration **leaders** think that the legal requirements for using AI are a barrier to usage.

**The presence of vendor lock-in in Portuguese public administration**
Percentage of surveyed public administration employees (%)




While only…

**17%**

feel that their workplace already has the best tech services it could have.

> […] technological or vendor lock-in can be a particular risk in ICT procurement. Public organisations find themselves unintentionally 'locked' into particular ICT solutions due to failures to make tender documentation sufficiently flexible and to allow for future vendor turnover.
>
> **The OECD** in *Managing risks in the public procurement of goods, services and infrastructure*

Note: Survey includes 304 Portuguese public administration employees.
Source: Implement Economics based on survey data from Public First on behalf of Google, and the European Commission

# Restrictive licensing terms hold back vendor switching

Public institutions frequently use specialised IT systems designed for specific needs, which limit their flexibility and make adopting new technologies such as generative AI difficult. Vendor lock-in occurs when institutions rely on a few suppliers, restricting adaptability and causing high costs due to technology dependence.

**Restrictive contractual terms make cloud switching and multi-cloud adoption more costly or even unviable. Several studies have examined this:**

In a recent survey of 1,200+ IT decision-makers across five European countries, Savanta, a data intelligence company, found evidence of restrictive licensing and other activities that inhibit market competition.

> *Licensing issues in the public sector are also rife, with 6 in 10 organisations that have considered switching saying that a key reason why they didn't change IaaS providers was due to existing licensing terms.*

The Competition & Markets Authority in the UK provisionally found that restrictive licensing **harms competition** in cloud services. In the EU, the Commission is currently considering investigating restrictive software licensing.

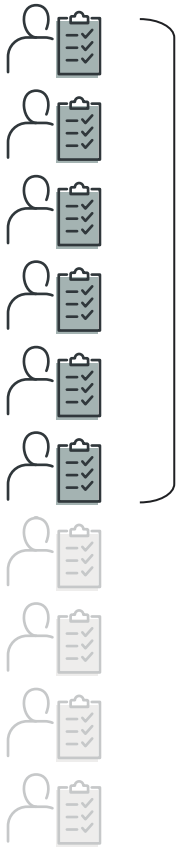
> *We have also provisionally found that there are technical and commercial barriers to switching and multi-cloud – in the form of egress fees – that harm competition in cloud services in the UK by locking customers into their initial choice of provider which may not reflect their evolving needs.*

The Spanish competition authority CNMC has launched a market study on cloud services to examine how restrictive licensing and other portability barriers may limit competition.

> *The CNMC has preliminarily identified several competition concerns, including the market's concentration in a few providers and the difficulty of switching between them.*

In a recent study, the German think tank ZnT found that restrictive licensing imposes a significant financial burden, with transferring existing software licenses to third-party cloud services potentially costing up to 25% of annual expenditure.

> *… restrictive licensing practices by dominant software and cloud providers are creating a financial burden, limiting choice and hindering innovation.*



60%

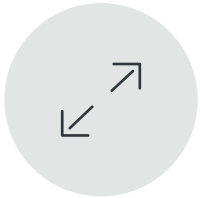
of surveyed IT decision-makers in the public sector across five European countries cited licensing restrictions as a key barrier to switching.

Note: Survey results for Social Market Foundation, Savanta Survey (respondents comprise N=1,241 IT decision-makers across UK, France, Germany, Netherlands and Spain – here summarised as representative for the EU27). The reports mentioned here further provide insightful estimates on the financial burden caused by vendor lock-in. However, these calculations rely on a number of assumptions, making them unfit for direct conclusions.
Source: Implement Economics based on Jenny, F. (2023), CMA (2025), SMF (2024), ZNT (2025), esmartcity (2025), and Savanta (2024),

# Ensure flexibility and hybrid capabilities to meet evolving needs in public procurement

Governments must prioritise flexible procurement strategies to mitigate the risk of overreliance on a single provider, emphasising open data standards and interoperability to ensure long-term competition and adaptability. An AI procurement strategy should ensure that vendors meet key criteria, including:

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



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

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

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

**Ensure interoperability with existing systems,** enabling seamless integration with current government IT infrastructure to reduce disruption and implementation costs.

**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.

# Summary of part II

To address critical enablers, the Portuguese government should…

**Create cloud clarity**

Harmonise department policies and mitigate risks through government-wide risk assessments.

Consider factors such as sovereignty, service continuity, data protection, cost, innovation and required skills.

**Make smart procurement choices**

Optimise AI and cloud procurement by ensuring flexibility, scalability, and alignment with open standards, following a vendor agnostic approach to avoid vendor lock-in.

Strengthen the government's position by monitoring subscription costs, purchasing only necessary functionalities, and enforcing ethical, secure and sustainable practices in contracts with vendors.

# PART III

A bold vision for the Portuguese government

# Ambitious goals for AI in the public sector in Portugal

Portugal's latest digital strategies, AI Portugal 2030 and Portugal Digital Strategy: Portugal's Digital Transformation: the Key to Simplification outline general policy initiatives. The latter emphasises AI's potential role in agriculture, education, and healthcare, and sets targets for AI development among small and medium-sized enterprises, which are the backbone of the economy. The Government Programme follows a similar approach, adding specific policy objectives for AI within the public sector.

Portugal's AI strategy is coordinated through INCoDe.2030, together with agencies such as ARTE, FCT, and ANI. This structure supports experimentation and research funding, but scaling AI in the public sector remains difficult due to fragmented governance and evolving regulation.

**A key challenge is to develop a method to consistently translate general policy objectives into detailed projects, avoiding fragmented decision-making**

## Detailed objective in the government programme

**Goals**

The Government Programme outlines objectives for promoting AI in the economy, including creating agendas for AI in education, tourism, innovation, entrepreneurship, and the public sector. While some goals are broad, such as adopting modern AI tools, others are specific to public administration. These include:

- Using AI to combat tax evasion and fraud
- Providing bilingual legal and administrative information to businesses
- Creating a Code of Conduct for AI in Justice
- Publishing case law and dispute resolution cases using AI
- Developing risk maps for policing
- Adjusting intellectual property laws for AI
- Enhancing administrative procedures in the Porta 65 Jovem housing programme
- Improving coordination between back-office and front-office in public administration
- Promoting interoperability in AI use between the Tax Authority and Social Security

**Identified risks**

Many objectives seem disconnected, with some being very broad. A notable omission in the Government strategies is the lack of detailed evaluation of regulatory risks, and plans to comply with Article 57 of the AI Act. This article requires a regulatory sandbox to be established nationally by 2 August 2026 to mitigate regulatory risk.

Source: Implement Economics based on INCoDe.2030 and Compete 2030

# Set an actionable strategy with clear milestones and impact evaluations

Establishing a dedicated public-sector AI taskforce, building on INCoDe.2030, can provide the necessary structure to align AI use cases across various authorities. This taskforce should focus on:

- Developing common frameworks for procurement, regulation, and competence development.
- Facilitating learning from experience to continuously improve policy design.
- Ensuring a consistent approach from policy formulation to implementation.

These efforts will support the effective operationalisation of the strategy's ambitions and accelerate the responsible uptake of AI across public administration

The taskforce should apply a practical approach to evaluate the impact of AI adoption.

## High-level roadmap for capturing the AI opportunity within public administration

### 1 — Establish a public-focused AI taskforce and address the five key barriers

1-2 years

- Implement a task-based framework for, and approach to, the implementation strategy.
- Establish clear key performance indicators including metrics for quality, management and cost-effectiveness.
- Establish clear regulatory guidance and procurement practices for cloud-based tools
- Prioritise flexible procurement strategies to avoid overreliance on a single provider, focusing on open data standards and interoperability to ensure long-term competition and adaptability.

### 2 — Use risk and impact measures to prioritise

3-5 years

- Allocate funds to executable and scalable applications.
- Implement scalable solutions and anchor them with cross-cutting tasks.
- Set targets for services with high citizen and business impact.
- Ensure critical enablers are in place.

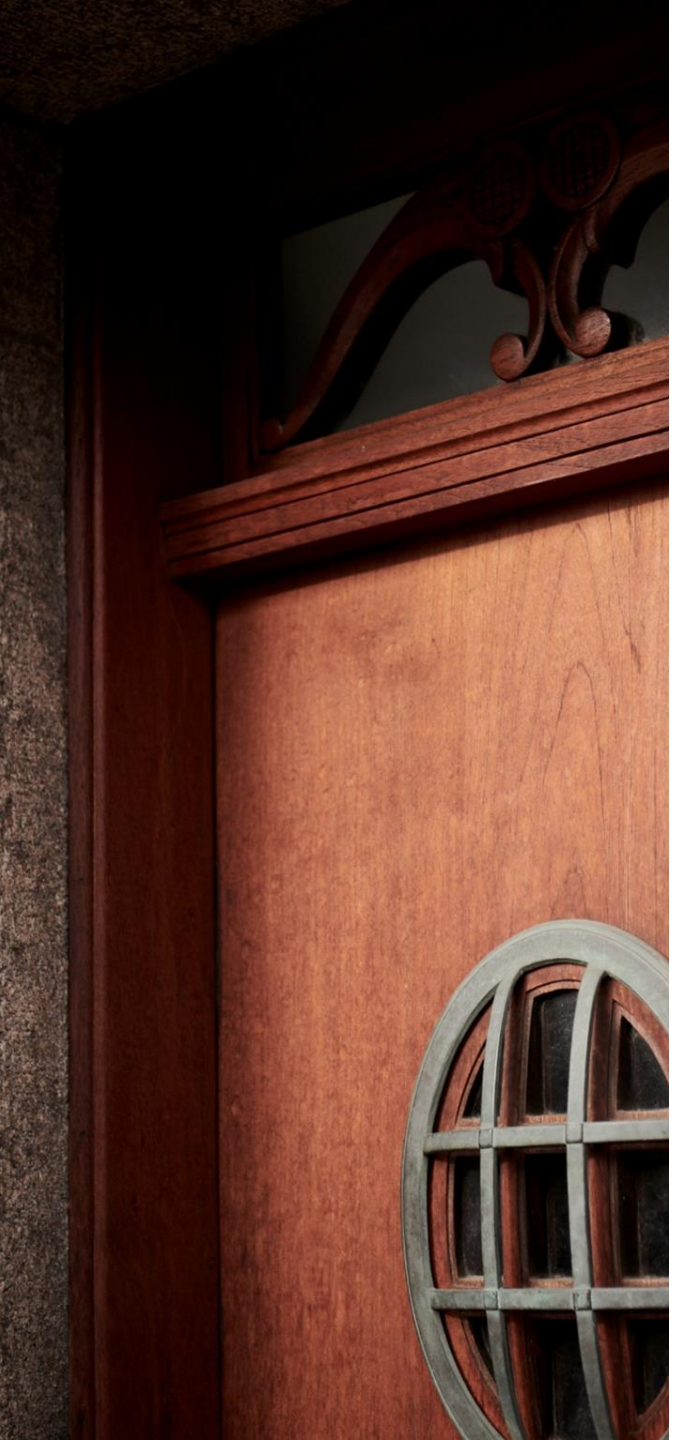
### 3 — Scale successful applications

7-10 years

- Scale successful applications across tasks, making sure knowledge and experience are shared between institutions.
- Ensure public administration employees retain key skills, to fully utilise the augmenting effects of AI.

A practical ex post evaluation of individual projects should be conducted at the end of phases 1 and 2, focusing on quality of service improvements, effects on total factor productivity, net social gains via cost-benefit analysis, and employment impacts in the public sector.

Source: Implement Economics based on INCoDe.2030 and Compete 2030



# Appendix

# AI is a key driver for competitiveness of the D9+ region and a simplified, aligned and pro-innovation regulation is needed

The European Commission aims to close the innovation gap with the Competitiveness Compass. The AI Continent Action Plan includes initiatives to enhance computing infrastructure, improve data access, stimulate AI development, strengthen talent, and foster a supportive regulatory environment. Harnessing Europe's strengths is vital to realising the AI opportunities.

Open competition among all providers, including non-European ones, enhances innovation and meets customer needs. As the Commission notes in its International Digital Strategy, *"no country or region can tackle the digital and AI revolution alone"*, making collaboration with partners and tech allies crucial for European competitiveness and economic security.

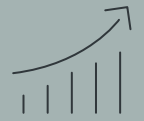
Regulatory simplification should be one of the priorities going forward. According to the Draghi report, EU regulation in the digital domain has become overly complex and burdensome, especially for young and innovative firms. The IMF estimates that the AI Act, data privacy laws and occupation regulation alone could reduce the productivity gains of AI adoption by over 30%.

Enable **innovation and invest** in AI research and development

**Developing a pro-innovation regulation and support the role of a single digital regulator**
The D9+ group could support a pro-innovation regulation that is simpler, more effective, and coherent. With the rapid expansion of frameworks such as the DSA, DMA, Data Act, and AI Act, there is a growing need for rules that enable AI innovation in Europe. In parallel, the group should promote investment in innovative digital businesses by mobilising European savings and strengthening venture capital, ensuring regulation goes hand in hand with financing.

**Simplify** and align European AI regulation

**Eliminating bureaucracy and aligning rules to create a stronger single market**
The D9+ group could drive joint work to simplify regulatory frame-works and reduce administrative burdens for European businesses. This includes an examination of the 28th Regime and accelerating an impactful digital Omnibus with the goal of creating a more efficient, transparent, and business-friendly regulatory environment. Preserve the EU's copyright system while avoiding new obligations or caveats that could hinder AI development.



**Promote widespread adoption** and universal accessibility

**Making AI a key driver for European competitiveness**
The D9+ group could emphasise the importance of integrating sectoral AI applications in key European industries to increase productivity and reinforce the importance of public sector adoption of AI solutions. Leverage the public sector's 20-25% share of the AI adoption potential to help create a substantial market for startups and innovative businesses to tap into. Finally, SMEs could need an "AI jumpstart" through technical assistance, training and guidance.

Build **human capital** and an AI-empowered workforce

**Ensuring skill development for an AI-powered workforce**
The D9+ could lead the way in re-focusing their training and upskilling programmes to ensure that the workforce is fit for the AI future and able to capture the benefits from AI to enhance and augment human capabilities. Ensure that new programs are in place to reskill workers in jobs with high AI displacement risk. Leverage public-private partnerships to develop AI skills and meet real-world scientific needs

Invest in **AI infrastructure** and compute power

**Strengthening the global leadership of European digital industries**
The D9+ group could push for the right incentives and regulations for private and public investments in compute capacity, such as high-performance computing (HPC) and promote cross-border AI infrastructure and subsea cables while advancing decarbonisation strategies for data centre electricity emissions. Modernise electricity grids to ensure a reliable and clean energy supply to expand the data centre infrastructure.

Note: For more details on policies, see Draghi report, OECD AI principles, OECD AI Observatory, EU's ethical guidelines for trustworthy AI, EU's AI innovation package, Google's AI principles and paper on "An Opportunity Agenda for AI". For more details on carbon-free energy and digital decarbonisation, see the European perspective and global perspective.

# Modelling the potential impact of AI on public administration

**Overview of the methodological approach to calculating the exposure to and productivity impact from generative AI**

1. **Automation potential of work activities:** The exposure to generative AI is calculated by breaking down the automation potential of unique task descriptions and their associated general work activity in the occupational task database O*NET. In line with Briggs and Kodnani (2023), the methodology assumes that 13 of 41 overall work activities (e.g. getting information, performing administrative activities etc.) can potentially be automated by generative AI, and in the base scenario we assume that tasks with a difficulty up to level 4 on the O*NET-defined scale can be automated.

2. **Mapping the automation potential of work activities to occupations:** First, the 41 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 activities each occupation is expected to be seen: No automation, AI complement and Likely replacement. For public administration, we map ISCO employment data in NACE sector O in Portugal to the above-mentioned taxonomy.

3. **Quantifying productivity gains in public administration:** 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 in public administration in Portugal and scaled by the sector's value added to determine the full productivity potential/generation of new jobs from generative AI. Only part of the total long-term 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.

4. **Mapping the potential to cross-cutting tasks:** The aforementioned calculated potential is distributed across cross-cutting tasks within public administration by mapping detailed work activities to a framework that encompasses the work carried out within this sector.

- The method 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'.
- The estimation of the potential of AI across key cross-cutting tasks (step 4) is based on an augmentation of Briggs & Kodnani (2023) with Portuguese employment data and a framework of the task composition within public administration, which is mapped to the rich database of task descriptions within O*NET.

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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