

# Generative AI for the Public Sector: From Opportunities to Value

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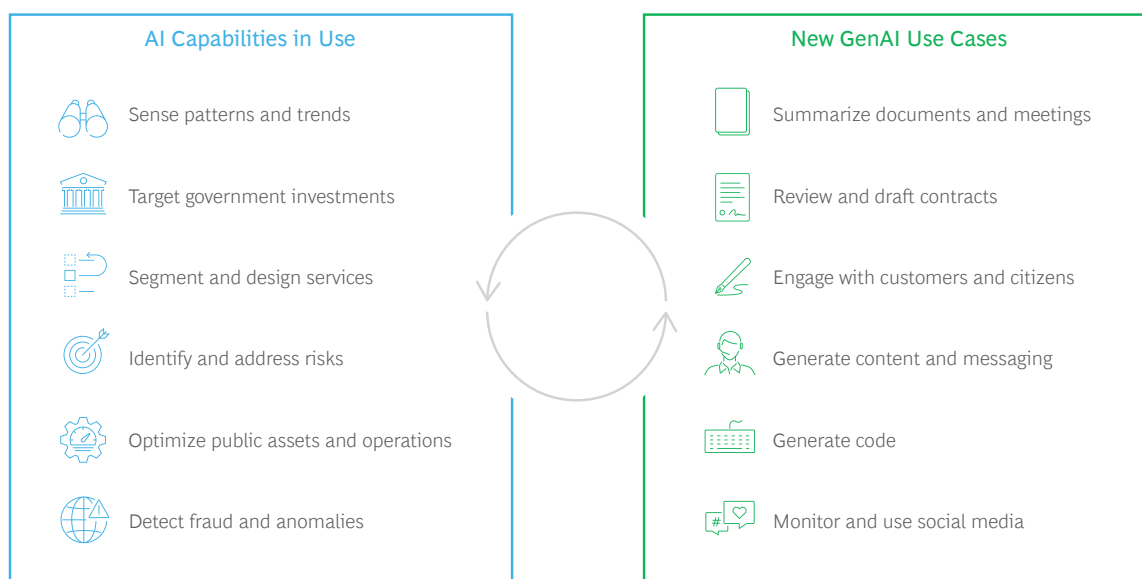
The new tools of **generative artificial intelligence (GenAI)** are fundamentally changing the nature of knowledge work, creating promising opportunities to significantly increase productivity and spur innovation across entire economies.

Public administration is one sector where GenAI could have the greatest potential. To reap the benefits of the technology, public sector leaders need to start by understanding how GenAI can create value for them. Then they should set priorities and mobilize to capture its transformative impact. Generative AI refers to a category of **artificial intelligence** capable of creating credible new content, including text, images, audio, code, data, and other media, based on foundational or generative models. The most powerful GenAI tools are trained on large language models (LLMs) that process a vast quantity of data to emulate the way people communicate. This capability makes GenAI a general-purpose disruptive technology. It expands the boundaries of what organizations can do in everyday operations, especially in the realm of knowledge work. ChatGPT, one of the first GenAI models for processing language, has more than 180 million users.

The market for generative AI products and services is growing exponentially. Since the consortium OpenAI first announced its language model GPT3 in 2020, GenAI has attracted more than \$20 billion in venture capital funding. A recent report by Bloomberg Intelligence predicts the market will grow by over 40% per year for the next ten years.

The use of GenAI offers significant potential productivity gains for the public sector. It can improve the quality and speed of government decision-making at scale and raise the efficiency and effectiveness of public policies, programs, and services. The new GenAI tools complement existing AI capabilities already used in the public sector. (See Exhibit 1.)

## Exhibit 1 - GenAI Expands and Complements Other AI Capabilities



Source: BCG analysis.

Currently, most governments are just beginning to experiment with the technology. The conditions are not yet in place to leverage GenAI at scale and unlock its potential. There are also a number of risks related to issues such as accuracy, security, privacy, bias, and intellectual property ownership that need to be managed before fully deploying the technology. This article is the first in a three-part BCG series exploring how governments can responsibly leverage GenAI to drive maximum public impact, how they can scale the technology, and how to assess and mitigate the risks.

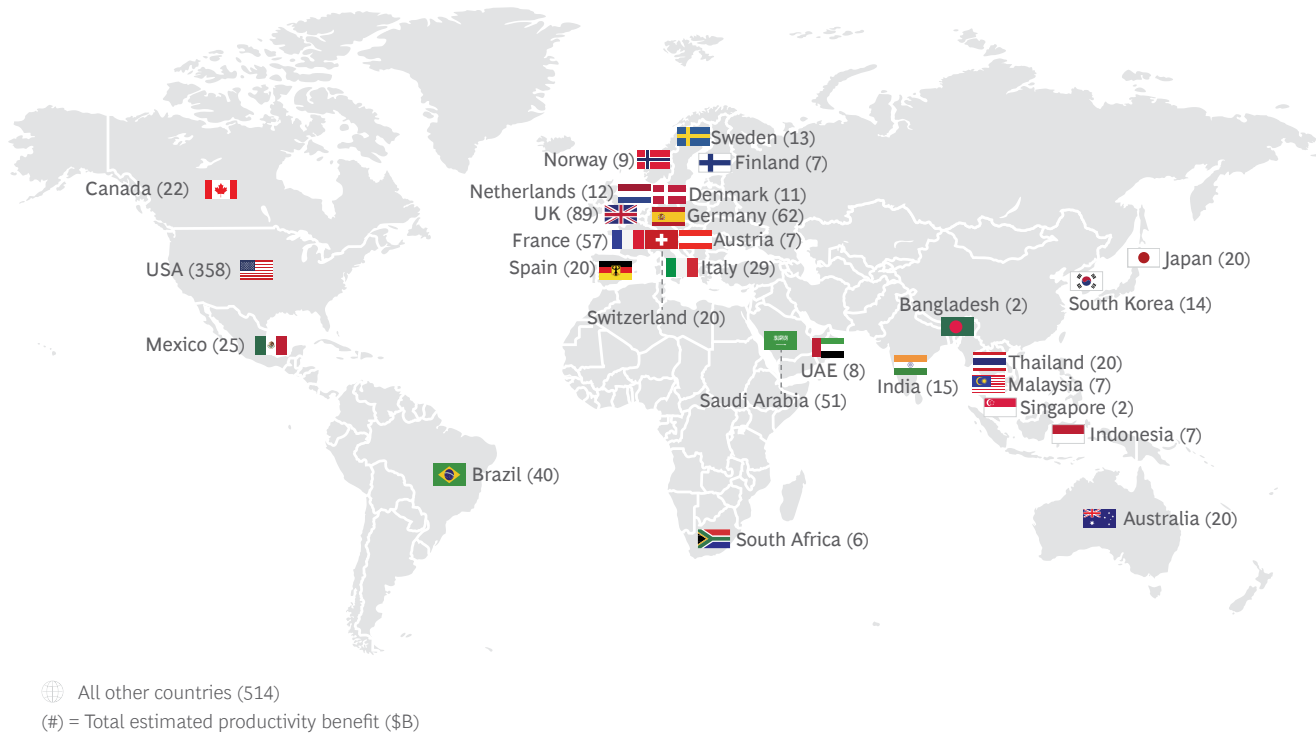
### Productivity Value of GenAI for Governments Estimated at \$1.75T

GenAI provides an unprecedented opportunity for governments around the world to deliver greater value and public impact for citizens, businesses, and government. At a minimum, these tools could free up many valuable hours of a public servant’s time on simple and repetitive cognitive tasks and enable that individual to focus on other, higher-value activities.

BCG estimates the productivity gains of GenAI for the public sector will be valued at \$1.75 trillion per year by 2033. (See Exhibit 2.) Our estimate on the impact of GenAI is based on using inputs from Pearson-Faethm modeling. It reflects productivity gains across all national, state or provincial, and local governments and across all domains such as legislative, administrative, courts, health care, education, transportation, and security.

The impact of GenAI on public sector jobs is more nuanced. While some efficiencies may lead to reduced need for labor, in most cases governments will seek to reinvest the productivity benefit to address unmet needs of citizens or in higher value-added activities that will generate better outcomes. Some employees will be readily able to adapt and incorporate higher-value work into their role; however, for many workers, reskilling and upskilling will be essential.

## Exhibit 2 - Estimated Annual Productivity Benefit from GenAI (\$USD Billions)



Sources: Faethm and Pearson; BCG analysis.

Note: Estimated productivity benefits represent the sum of benefits across national, state, and local governments, with GenAI implemented at scale. Productivity benefits are calculated for public sector professions using best-case-scenario benchmarks across similar professions.

## Five Opportunities for Government

Given that the nature of opportunities varies across government, we have found it helpful to consider the use cases for GenAI from the perspective of senior executives in five different types of government functions. The range of opportunities and the types of changes that may occur at each level are outlined below, followed by more detailed discussion and use case examples.

- **Policy and Programs.** To better understand current public policy issues and challenges, as well as the current state and root causes, and to design more effective policy options, interventions, and programs; optimize policy settings; and strengthen deliberative processes.
- **Service Delivery and Operations.** To improve the quality and accessibility of public services to citizens and businesses, improve efficiency of operations, reduce risks, and continuously optimize allocation of resources to meet policy goals and objectives.
- **Support Functions.** To improve the efficiency of support functions, shared services, and corporate services; reduce overheads; and improve staff experience.
- **Regulators.** To improve integrity and compliance with regulations, reduce the cost of monitoring and oversight, reduce risks, streamline administration, and make it easier for citizens, businesses, and other stakeholders to comply and meet their obligations.
- **Central Agencies.** To develop, implement, and optimize whole-of-government strategies, priorities, policies, and standards, and to optimize funding and resource allocation to achieve government objectives.

## Policy and Programs

### EXPANDED CAPABILITIES FOR POLICY DEVELOPMENT

Stewardship of how a country serves its citizens requires great skill and involves the continuous optimization of policy and programs. GenAI provides new tools for improving the capabilities needed in policy functions, including problem identification and analysis, policy research and synthesis, policy and program design, consultation and stakeholder engagement, and implementation and evaluation.

- **Enhanced policy and program design.** GenAI tools make it possible for policy analysts to rapidly synthesize and analyze immense volumes of structured and unstructured data from diverse sources and formats and across jurisdictions. These may include past policy documents, speeches, reports and reviews, white papers, academic studies, journals, articles, budget papers, databases and datasets, and other research inputs. GenAI tools can help to summarize issues, identify options, present pros and cons, distill and categorize key points, and draft policy briefs and summaries. This allows policy professionals to provide more timely and responsive advice, cover more ground in their research, strengthen the breadth and depth of evidence that underpins policy advice, and devote more time to critical thinking about more complex policy challenges—adapting and tailoring to the local context, communication, and messaging, implementation considerations, and more intensive stakeholder management.
- **Richer public consultation and participatory governance.** GenAI can ingest hundreds or even thousands of submissions received as part of public consultation processes, summarize and categorize recommendations and suggestions, create heatmaps to identify areas of alignment and divergence, identify consensus views and unique perspectives, and co-pilot the drafting of summaries and recommendations. This enables governments to gather and process a broader range of inputs, to capture a more extensive and comprehensive range of views from citizens and stakeholders, and to increase transparency and engagement in policy formulation and co-creation. It makes it possible for a wider range of people to engage in and provide perspectives beyond the traditional lobby groups and associations with resources and funding to do so. It enables constituent and stakeholder engagement to occur more frequently, iteratively, and interactively, supporting richer and more substantive conversations to occur.

# Highlighting the insights from public consultation

BCG developed a [simulation](#) called publicconsultation.ai which uses ChatGPT to analyze and synthesize responses from written submissions to a public consultation process.

The tool was able to ingest the content of the submissions and generate a bullet-point summary of recommendations, along with a matrix showing which stakeholders supported which ideas. It also generated a list of “outlier” suggestions not reflected in the summary. The entire process took only hours versus what would have taken days or weeks, even for a more complex issue involving hundreds of submissions.

GenAI can enable ordinary citizens who are not typically engaged in these consultative processes to contribute more easily by directly involving them in simulated and natural conversations that draw out their perspectives. These tools also enable policymakers to synthesize the views of a much larger and more diverse group of people than they otherwise could. This promotes greater inclusiveness and transparency and improves the quality and richness of participation in policymaking processes.



- **More responsive implementation.** Policy professionals can use GenAI tools to more rapidly translate new and updated policy into operational changes. For example, when a policy is updated, GenAI tools could be used to generate and update conforming policy and program guidelines; generate computer code and implement the necessary changes in IT systems; rework operational manuals, procedures, and protocols for customer service; and revise government websites—all at once.

## Service Delivery and Operations

### ENHANCED SERVICE DELIVERY OUTCOMES

Many service delivery agencies have long used innovative technologies, such as virtual assistants and robotic process automation, to provide public services in the most efficient and effective way to meet the needs of citizens and businesses. GenAI now offers agencies the chance to go further by implementing new tools for optimizing operations and for designing digital services with more accessible interfaces, cross-agency interoperability, and personalized features.

- **Improved customer experience.** GenAI can be used to analyze voice recordings or speech-to-text transcripts from contact centers to better understand the call demand, and then make strategic interventions such as improved communication and information to reduce demand. One example is to identify the most frequently asked questions, typical issues, or complaints based on all the calls and inquiries received, and then determine how services can be better designed to avoid this service failure demand. For example, the Taiwanese government has explored options to better understand citizen pain points and prioritize improvements which will have the greatest impact on customer satisfaction.
- **24/7 accessible services.** GenAI-enabled assistants can communicate by voice or text across multiple languages and can be used to provide 24/7 support to citizens from anywhere, including regional and remote communities. The Indian government, for example, is exploring options to leverage a GenAI-enabled assistant to help citizens access policy information. The solution will support voice memo input and allow citizens to access services in multiple languages from anywhere at any time.
- **More personalized services.** The capability for GenAI to pull together data from multiple sources can help government agencies understand the unique context of a person, their family, and their “story” across multiple contexts. The enhanced understanding of a customer’s context can be used to generate personalized communications, such as follow-up emails, without any human interaction or drafting required. As the technology matures, governments could leverage GenAI assistants to provide tailored advice in a multitude of contexts, including answering questions on existing complex policies such as tax, pensions, benefits, visas, and immigration.

## Support Functions

### IMPROVED INTERNAL WORKINGS OF GOVERNMENT

GenAI presents a significant opportunity to enhance the internal administration of public sector organizations. For Chief Finance Officers, Chief Information Officers, Chief Legal and Risk Advisors, Chief HR Officers, and heads of other corporate and support functions, these tools can automate and augment many existing tasks and activities. Generative AI can streamline procurement, enhance employee engagement, facilitate better learning and development outcomes, and optimize budgeting and forecasting.

- **Enhanced learning and development.** GenAI can create customized curricula in line with long-term departmental goals and the personal learning objectives of public servants quickly and at scale. It can help identify thematic and cross-cutting development needs for the workforce based on performance reviews, provide personalized learning recommendations, tutor people based on their individual learning styles, and serve as a thought partner to break down complex problems. L&D functions can also provide staff with access to training and tools translated into multiple languages.
- **Rapid code development.** In the IT function, GenAI-enabled co-pilot coding tools can write software code in multiple programming languages. Several published findings from controlled experiments already show significant increases in code quality and productivity of more than 30%, along with other benefits such as employee satisfaction and retention. For governments, GenAI could be a breakthrough in tackling the mounting level of technical debt and legacy system replacements needed. It may also be able to assist with the modernization and migration of many undocumented and out-of-date IT systems—and help bridge the talent gap for high-demand technologist skillsets by improving the productivity of existing staff and serving as a learning accelerator for new staff, especially in older, niche, and legacy programming languages.
- **Improved recruitment processes.** With appropriate safeguards in place, public sector agencies could use GenAI capabilities to adopt more proactive talent acquisition strategies; match potential candidates to the most relevant openings; conduct and summarize interviews with potential candidates through interactive conversation and testing; and streamline recruitment documentation and preparation of employment agreements and contracts.

# Cutting months off the wait time for services

Many governments have backlogs of individuals seeking disability services. In some countries, citizens expect to wait more than a year to access disability support services—creating high levels of stress for participants and caregivers and negatively impacting participants' long-term functional outcomes.

According to one estimate, GenAI could reduce application processing times by up to 90% and free-up staff capacity to engage with residents. GenAI applications in this case could include ingesting and processing candidate qualification criteria; referring customers to other relevant government services; providing assistance to walk-through an application process and pre-fill applications; facilitating approval and analysis; and generating customized service plans for case managers to coordinate with applicants.

GenAI could be used to streamline similar government application processes, such as licenses and permits, building applications, environmental permits, passports and visas, grant and rebate applications, and many more.



## Regulators

### STREAMLINED REGULATION DEVELOPMENT, COMPLIANCE, AND REPORTING

GenAI presents an exciting opportunity for heads of regulatory bodies to streamline regulations and compliance monitoring processes. Regulators can use the tools to analyze a broad range of data to identify trends, patterns, and anomalies that might be difficult to identify otherwise, and use the analysis to target compliance and enforcement activities where the greatest risk exposures are.

- **Compliance monitoring and detection.** Using rules-based logic and GenAI's capability to assess large amounts of data, governments can expand and optimize their oversight and monitoring of compliance. For example, an environmental conservation agency might utilize GenAI to monitor industrial emissions data in real time and juxtapose it with air quality regulations. The platform could autonomously identify offenders and initiate enforcement measures, contributing to the preservation of clean air standards and safeguarding public health. Financial regulators can use similar approaches to analyze transaction, market, trade, and other data and identify potential instances of insider trading.
- **Streamlining regulations.** One use case could be to create simulations of how draft regulations might affect different constituents and industries. Another opportunity would be to identify unknown inconsistencies, contradictions, gaps or duplication in existing laws and legislation, or proposed new legislation.

## Central Agencies

### ACCELERATING WHOLE-OF-GOVERNMENT PRIORITIES

For the heads of central agencies, such as finance departments, treasury departments, and cabinet or executive offices, GenAI offers a unique opportunity to accelerate the delivery of whole-of-government strategic priorities. Outcomes could include:

- **Whole-of-government strategies and policies.** Central agencies could use GenAI to assist in the aggregation and synthesis of diverse policies and strategies across government and ensure there is a consistent narrative and strong alignment with overall government objectives and priorities. Officials might also be able to use GenAI to draft, review, and summarize complex topics for government consideration and synthesize commentary and input from across government agencies.
- **Improved communication.** Using GenAI, governments will be able to communicate policies and budgets more effectively to citizens. With GenAI, the process could become much easier. The tools can synthesize information from a variety of sources and develop draft descriptions and summaries. For example, they can use GenAI to prepare simpler and more accessible communications in text, audio, video, infographics, and interactive media formats. They can support richer, two-way communications with citizens to answer questions and queries; tailor information for specific stakeholder groups, such as industries, regional areas, and families; and instantly translate material into multiple languages. People can access information in the language and format of their choice.



# Streamlining procurement at the Department of Defense

The US Department of Defense is prototyping and testing a GenAI-powered contract-writing tool called Acqbot. The tool is designed to assist procurement officers with writing contracts and the end-to-end lifecycle management of contracts.

The tool helps them define problem statements, draft requirements, and prepare end-to-end solicitation documents. It supports them in building statements of work and acts as co-pilot to draft and iterate contract agreements. Finally, it supports quality control, such as by checking for inclusion of regulation citations.

Procurement officers provide input and remain in the loop at every step. Future developments still under consideration may include additional functionality to support evaluation of responses from suppliers.



## Getting Started with GenAI in the Public Sector

As this article highlights, the rapid advances of GenAI technology present exciting opportunities for the public sector. We have identified five key success factors that will enable government leaders to move beyond the initial small experiments, identify where to begin their GenAI journey, and build their capability to unlock the opportunities of GenAI at scale.

### **Prioritize the high-value use cases.**

Explore the landscape of opportunities, but quickly focus on a few “golden” use cases—the opportunities with the greatest potential value or benefits for citizens and government. Develop pilot projects for these use cases, monitoring the outcomes carefully. We call this phase “experiment and learn.” It enables governments to build-up valuable first-hand experience and skills.

### **Capture and propagate early learning.**

Governments are still early in experimenting with GenAI and learning how it can improve public services. One of the most effective things senior leaders can do is establish mechanisms that encourage the cross-pollination of ideas and learning. To do this, leaders should establish a central team whose responsibility is to track and share success stories and synthesize common lessons and hurdles that government agencies encounter. As GenAI maturity increases, this role will shift towards removing the hurdles and delivering central enablers.

### **Invest in enablers.**

At some point, every government will roll out these technologies more broadly: refining them, scaling them, and optimizing beyond use cases and pilots. Begin preparing for this at the start. Invest in workforce skills, design governance mechanisms, and put in place key processes and technology choices. Build the technology and data capabilities required to enable more sophisticated GenAI use cases.

### **Establish guardrails.**

Deployed responsibly, GenAI has the potential to deliver significant value, but it also comes with significant risk. This being said, the biggest risk may be if governments fail to adopt GenAI quickly enough or at all. To balance risks and opportunities, government leaders should be seeking to establish [Responsible AI](#) frameworks which build the necessary guardrails and create the confidence needed to drive innovation. [Recent BCG research](#) shows that when leaders are actively engaged in Responsible AI, companies achieve 58% more business benefits, are 17% more prepared for investing in Responsible AI, and are 22% more prepared for emerging AI regulations.

### **Encourage innovation.**

The benefits of GenAI will emerge as knowledge workers explore the technology first-hand. Leadership encouragement will make a difference. Government leaders must create a permission space for public sector employees to experiment within reasonable boundaries. One way to do this is to demonstrate their own hands-on engagement, working closely with one or two pilots themselves.

Public sector adoption of GenAI is still in the early stages, but it needs to accelerate. The efficiency and citizen benefits of an AI-powered government are no longer hypothetical. Private sector implementations of GenAI-augmented products and services, AI bots and assistants, and even company-specific proprietary trained models show that the value is real and achievable. Some public sector leaders around the world are starting to experiment with use cases, but there is a disproportionate focus on the downside risks. More senior leadership focus and investment are needed to scale this and maximize the upside potential. The time to act and capture the immense government and citizen benefits of this revolutionary technology is now.

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