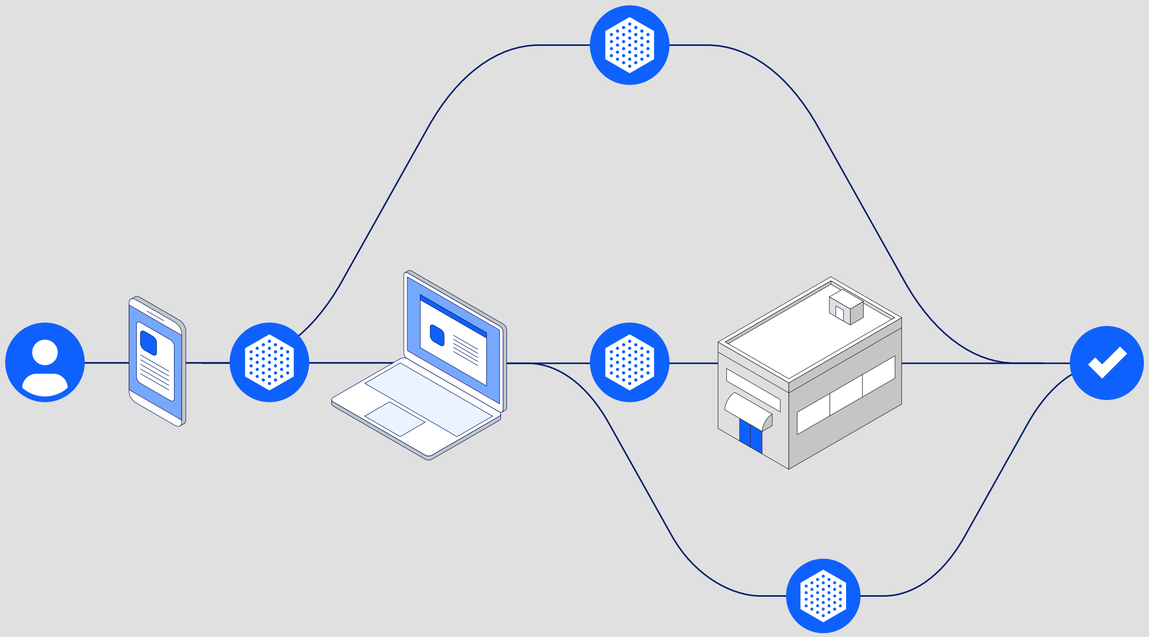
Put AI to work for citizen services in government

AI Academy



IBM

Contents

01 →
Citizen services in the time of AI

02 →
The key to building responsible AI

03 →
Moving from +AI to AI+

04 →
Combining traditional and generative AI

05 →
Putting generative AI to work in citizen services

06 →
Taking the next steps

07 →
Ready to begin?

01

Why responsible AI is essential to transforming citizen services

The desire to create a better online experience for citizens is one of the biggest drivers of digital transformation in government.

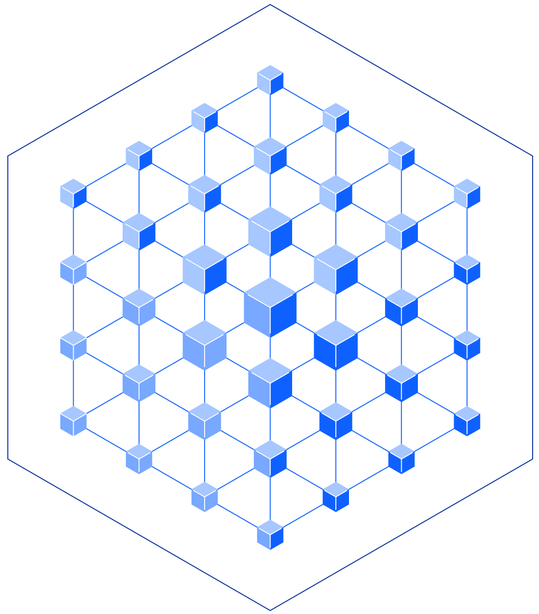
In this era of accelerated innovation, exceptional citizen and government employee experiences are critical.

With challenges ranging from increased demand for digital citizen services and a technology talent shortage, to ongoing cyberattacks and sustainability mandates, traditional and generative AI offer great promise to government agencies.

A recent study by Edelman found that only 42% of global citizens say they believe their governments can successfully deliver results.[1] Government agencies have a unique opportunity to change how they provide value to citizens today and tomorrow.

Generative AI is a class of AI algorithms that can produce various types of content, including text, imagery, audio and synthetic data. While a traditional AI machine learning (ML) model is typically trained to perform a single task using labeled data, a generative AI foundation model can be trained on large quantities of unlabeled data using self-supervision. More detailed models tailored to specific use cases or domains can be built on top of a foundation model, making it more scalable and cost-effective than starting from scratch.

By combining both traditional and generative AI, agencies can deliver on citizen service aspirations that may have seemed unthinkable before.



Generative AI

Responsible AI has the potential to help solve many citizen service and government employee challenges. Agencies can securely combine citizen data and generative AI to create personalized experiences at scale through chatbots and digital assistants. AI has also been successful in supporting contact centers to improve citizen response times and achieve faster resolutions overall, enabling government employees to focus on more complex, strategic work.

However, it’s essential that government agencies that are interested in transforming their citizen services with AI have a strategic vision in place. It’s important not only to determine how AI is being applied and scaled, but also ensure an agency's data foundation is solid and integrates with existing technology platforms.

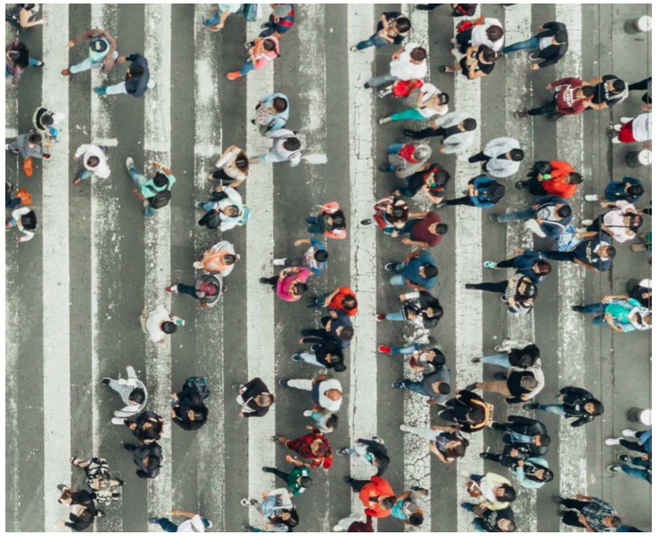
There’s no one-size-fits-all AI solution, so it’s imperative that agencies focus on how AI can be used to address their specific challenges. Government agencies considering how to develop and deploy AI applications should ask these 3 questions.

1. **How can AI help me advance the agency's mission?**
   The more customized your AI models are to your core governmental priorities, the more effectively you can serve your stakeholders and deliver value.
2. **How do I scale AI across the agency?**
   To successfully scale your AI efforts, you need to use all your organization’s quality data, wherever it resides, and tap into the innovation of the open-source community to use it effectively.
3. **How do we advance trustworthy AI?**
   AI must be explainable, fair, robust and transparent, and engender trust by prioritizing and safeguarding consumers’ privacy and data rights.

02

The key to building responsible AI

While you’re likely feeling pressure to accelerate the use of generative AI, you should take these key concerns about how AI is being used into account.



The IBM IBV found that surveyed executives have 3 top concerns about generative AI adoption.[2]

- 61% have concerns about data lineage or provenance.
- 57% have concerns about data security.
- 45% have concerns about data privacy.

For over a century, IBM has been at the forefront of introducing powerful technologies while prioritizing safety and security. Through our commitment to responsible AI, we're uniquely positioned to help government agencies adopt AI in ways that are responsible, trusted and a real benefit for citizens. Only by embedding ethical principles into AI applications and processes can we build responsible systems. Our Principles for Trust and Transparency are the guiding values that distinguish IBM's approach to AI ethics.

IBM’s guiding principles for AI ethics

The purpose of AI is to augment human intelligence

We believe that AI should make all of us better at our jobs, and that the benefits of the AI era should touch the many, not just the elite few.

Data and insights belong to their creator

IBM client data is their data, and their insights are their insights. We believe that government data policies should be fair and equitable, prioritizing openness.

Technology must be transparent and explainable

Government agencies must be clear about who trains their AI systems, what data is used and what goes into their algorithms’ recommendations.

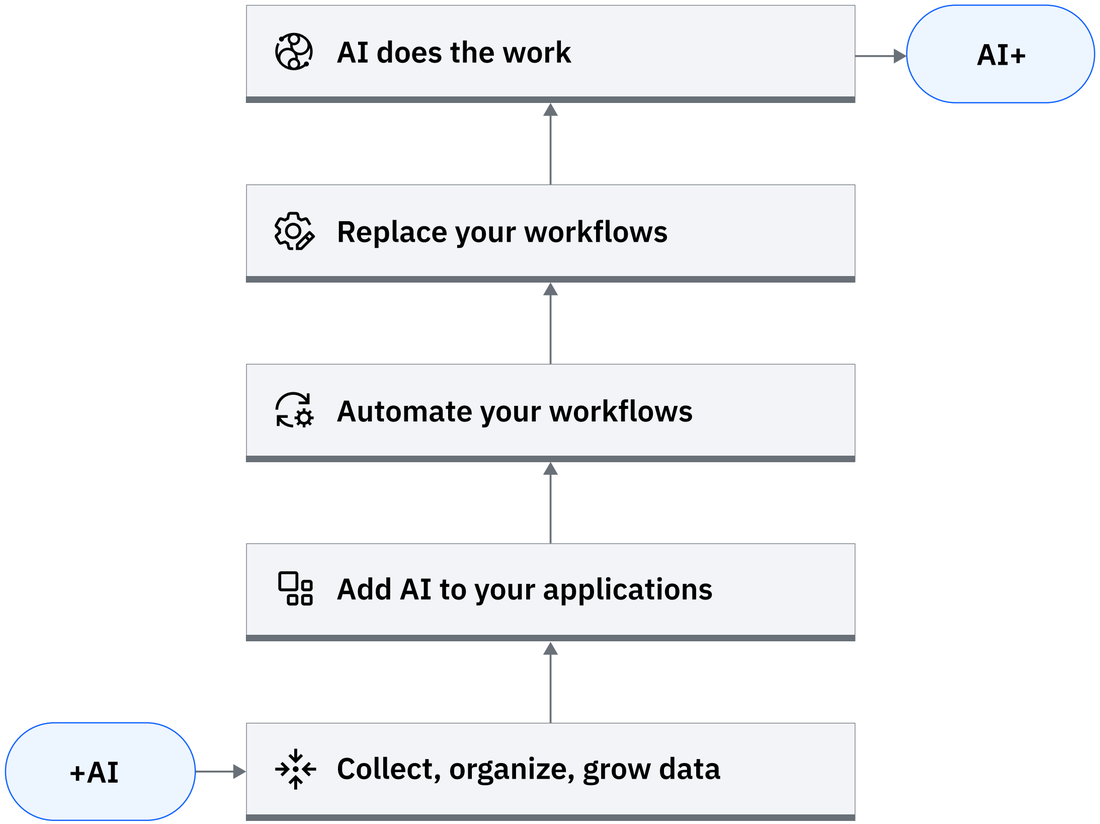
03

Moving from +AI to AI+

In the past, agencies have approached AI as an add-on, with the end goal being digital transformation and cloud modernization.

Now, AI is becoming the centerpiece of enterprise transformation.[3] But harnessing the potential of AI to fundamentally transform citizen services requires a mix of vision, technology, employee talent and skills, and change management. Agencies need to put AI to work at the strategic core of their enterprise—not just add it on to existing. It's time to move from applications +AI to AI+ applications.

The AI Ladder® in the modern day



04

Combining traditional and generative AI

Many agencies have been using AI in citizen-related services for years, so it's important to understand the distinction between traditional and generative AI so you have the right combination of both to fulfill your citizen services goals. In the case of chatbots, adding generative AI can transform a traditional AI-powered chatbot programmed with limited responses and leaning into a responsive virtual assistant that learns as it goes.

Traditional AI
- Analytics
- Machine Learning (ML)
- Deep Learning

Definition: Algorithms that can analyze content to make predictions and prescribe actions.

Tasks:
- Predict customer churn
- Track Net Promoter Scores (NPS)
- Detect network anomalies
- Conversational AI for virtual agents and chatbots

Generative AI
- Foundation models
- Large language models (LLMs)

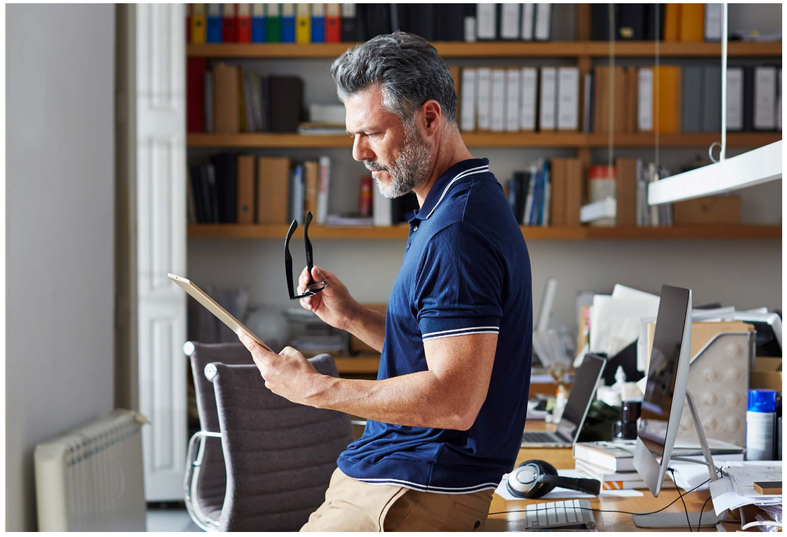
Definition: Algorithms that can generate net new content and better understand existing content.

Tasks:
- Call summaries and analysis
- Personalized product, service or plan recommendations
- New product, service or plan development
- Customized explanatory videos for invoices
- Network optimization

05

Putting generative AI to work in citizen services

While the potential applications of generative AI span the entire citizen service lifecycle, there are a few areas where the technology can be employed right now to enable government agencies to meet citizen services aspirations.



Generative AI can summarize a wide array of information to provide personalized responses to citizen questions, helping accelerate dialogue between citizens and their government. It can also understand correspondent query, gather relevant documentation and generate unique responses, taking citizen service to a whole new level, facilitating more personal interactions that leave people feeling more understood by their government.

Additionally, generative AI can help government agencies train public servants and support them as they interact with citizens in real time by providing contextualized guidance based on conversation history sentiment analysis from previous interactions and capturing transcripts for training and development.

Citizen self-service
At the core of self-service is the desire to give citizens the information and support they need quickly, enabling them to resolve common issues themselves so that human agents can focus on those issues that are more complex. And citizens expect to be able to engage on their preferred device and channel, whether it’s through a live chat, email or phone call on the agency's website, apps or social media accounts.

Citizen satisfaction depends on more than just delivering predetermined responses to common questions. Generative AI can take customer service to a whole new level, facilitating more personalized interactions. Virtual agents powered by generative AI for customer self-service can answer questions but do so in the context of that customer and their situation—taking into account implied nuances, such as the citizen's sentiment, support history and relationship with the agency.

Citizen self-service workflow

1

The citizen contacts customer service in their preferred language, using any application, device or channel.

2

The citizen explains their problem or request to the virtual agent using conversational language.

3

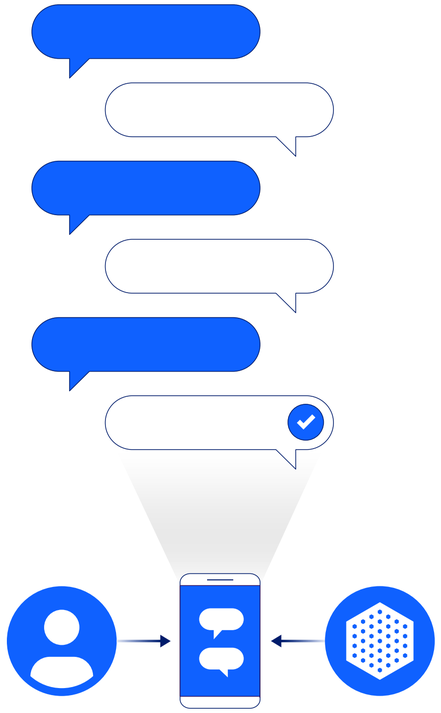
The virtual agent's generative AI draws on known citizen data, corporate documents and processes to determine the correct response.

4

The virtual agent provides fast, accurate answers or step-by-step instructions to resolve the citizen issue.

5

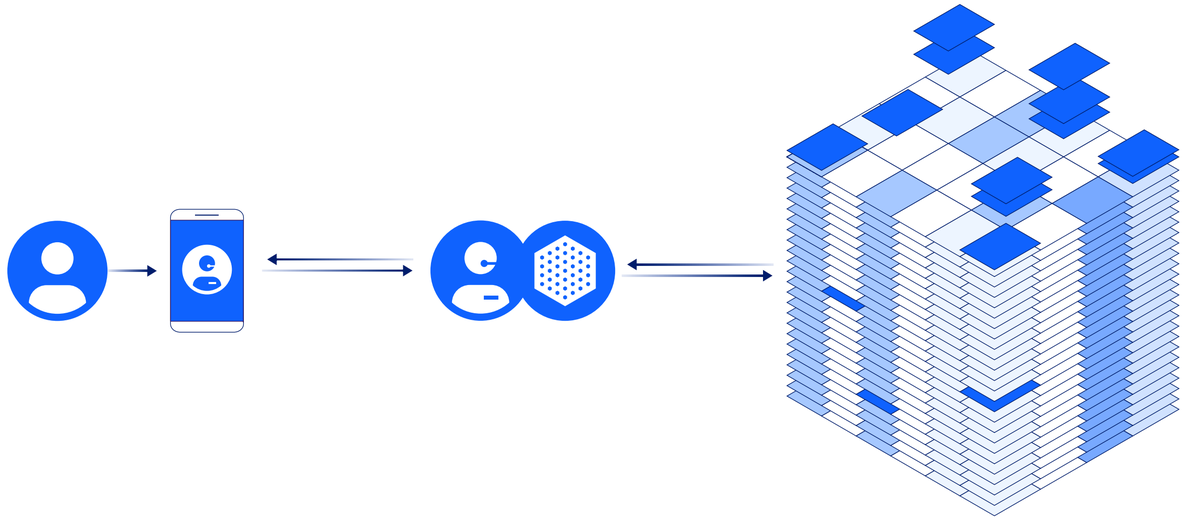
If the virtual agent is unable to solve the problem, it hands off the citizen to a human agent and provides a summary of the interaction.



AI for self-service

Self-service virtual agents function as a single router to bring relevant resources together, from technology to data to personnel. Along with answering questions, AI can also enable virtual assistants to provide customers with interactive support for multistep or complex tasks. For example, a generative AI-powered virtual assistant might generate an entire conversation to guide the user through disputing a decision regarding a benefit.

Even when topics come up that the virtual agent can't solve on its own, such as complex problems or sensitive topics, generative AI allows it to easily identify these queries and connect them with a human agent who can help. If escalated to a human agent, a summary of the conversation history can be provided so that they can seamlessly pick up where the virtual agent left off. With IBM® watsonx Assistant™, a market-leading conversational AI solution, agencies can automate citizen service with up to 95% accuracy[4] helping to improve productivity and issue resolution rates.



AI for the human agent

The agent experience
To build and maintain positive citizen experiences and relationships, you rely on your agents' performance, productivity and knowledge. But do your agents have access to the most recent interactions with the citizen? Do they have the ability to see a full view into the citizen's situation and history with your agency? Do they have an easy way to see that level of detail and take advantage of automated summaries so they can deliver seamless service and support? Can they automatically generate email responses and recommend tone variations? Generative AI can and that's why it's a game changer.

Recent research by the National Bureau of Economic Research (NBER) shows that when studied customer support agents were given access to a generative-AI-based conversational assistant, their productivity increased an average of 14%. Productivity was measured by issues resolved per hour. And the greatest impact was on novice and low-skilled workers.[5] This finding suggests that generative AI could help agencies train new agents quickly and bring new hires up to speed with their more experienced colleagues. The study also found that agent assistance from generative AI improved customer sentiment, reduced requests for managerial intervention and improved employee retention.

Agent experience workflow

1

The human agent receives a summary of the citizen's interaction with the virtual agent, along with their history with the agency and their perceived sentiment.

2

The agent reviews the summary to seamlessly pick up the citizen interaction.

3

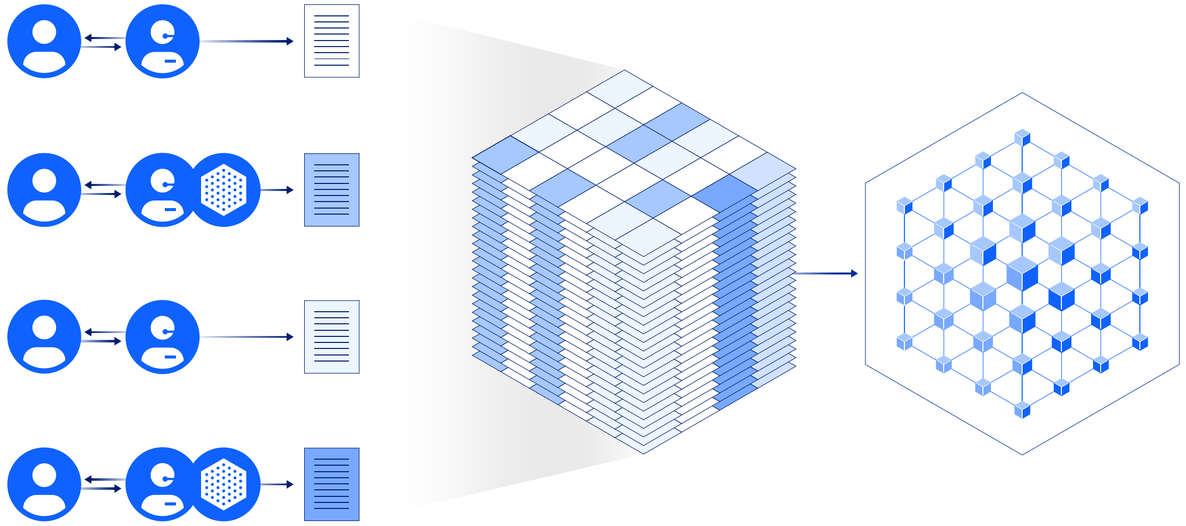
The agent uses their own expertise to address the issue, and may draw on generative AI to supplement their knowledge.

4

The agent resolves the citizen's issue and receives and automated summary of the interaction for documentation and to further train the system.

5

The agent receives suggested follow-up messages and personalized recommendations generated for that particular person.



Generative AI for customer service

Contact center operations
Generative AI can perform the repetitive tasks necessary to gather the data needed to optimize your contact center to give your agents more time to focus on complex problems. From those data sets, generative AI can identify patterns and insights—and learn from the information it gathers.

With access to the appropriate government databases, generative AI can help government agencies better understand the citizens engaging with the agency and tailor recommendations based on their behavior and history. This personalization makes citizens feel valued.

Contact center operations workflow

1

Citizens come to the contact center to have issues with the agency or its offerings resolved.

2

Virtual agents provide fast, accurate responses to citizen inquiries to speed time to resolution and increase citizen satisfaction.

3

Generative AI provides case summaries to human agents so they can deliver seamless service, increase productivity and boost job satisfaction.

4

Information gained from citizen interactions with both virtual and human agents is used to continue training the generative AI models, which optimizes how the contact center operates.

5

Citizen profiles are built based on this information to create personalized experiences to engage with citizens and affirm their right to interact with their government.

Taking the next steps

So, what's next when it comes to meeting your citizen services aspirations with generative AI capabilities? We suggest using these steps as a compass as you embark on—or continue—transforming citizen service with AI.

01

Define your goals and priority use cases
Let your agency's mission guide the AI strategy. Build a citizen experience strategy and define the end goal of your service transformation and why you're trying to achieve it. Who is your target audience, what's the complexity of their problems and how do you resolve them? What do you hope to achieve by improving citizen self-service? What key performance indicators (KPIs) are you going to use to track performance? Having a strategy that incorporates all these elements—and more—is critical to understanding existing regulation, budgetary allocation and the future investment needed to drive fruitful citizen services transformation.

Once this strategy is outlined, you can identify the best use cases to concentrate on for AI implementation and optimization. And remember that AI should be integrated into existing workflows and systems to automate and augment key processes—this element is what moving from +AI to AI+ is all about.

For help with defining your agency's strategy and priority use cases, request an AI strategy briefing from IBM Consulting®. In addition to our customer service transformation experience, IBM Consulting has over 20,000 experts in AI and a dedicated Generative AI Center of Excellence made up of more than 1,000 professionals.

02

Identify the right data sets and model
AI is only as trusted and accurate as the data that fuels it. Enterprise-ready data architectures are indispensable for enabling broad AI use across your agency. It's also essential that along with quality data, models receive the right training regularly to ensure models give citizens accurate, unbiased responses in your agency's voice.

IBM Consulting data and AI experts can work with you to train, validate, tune and deploy AI models—both traditional and generative—powered by foundation models with the IBM watsonx.ai™ studio.

Use IBM watsonx.data™ data store to scale AI workloads for all your data, anywhere. This fit-for-purpose data store is built on an open lakehouse architecture, supported by querying, governance and open data formats to access and share data across your agency.

03

Ensure you have the right skills and stakeholders
To have a successful citizen services transformation through AI, leaders across the agency need to be involved and invested in the project. Collaborate across your business, operations and technical teams to ensure that priority AI use cases balance ROI, risk and precision. And importantly, investing in change management and skill development as digital transformation is as much about the people and process as it is about the technology.

IBM Consulting specializes in end-to-end service transformation, spanning AI strategy, design, implementation and ongoing management of citizen and field service operations.

04

Find the right partner
Few agencies have access to the responsible AI skills and service transformation knowledge required to be successful in-house, so it's key to partner with external experts to round out your team's expertise. Assess which AI-enabled technologies and implementation partners are required to meet your customer service mission. Find out if it's possible to build off your existing platform investments, or if a new approach is needed. There's no one-size-fits-all approach.

IBM Consulting works with an open ecosystem of technology partners to ensure that we can find the right fit for your agency. Our agile and expertise-centered approach to solution design, coupled with our portfolio of AI-enabled workflow accelerators, can help you scale AI quickly. We have more than 1,250 active AI clients worldwide and over 40,000 AI and analytics engagements under our belt.

05

Start small, test and scale
Make sure the way you're operationalizing AI in your organization has you on track to achieve business value quickly and responsibly. Apply generative AI to a specific task or workflow in a low-risk environment. Working iteratively, identify your minimum viable product (MVP), pilot it and then refine it based on measurable KPIs. If successful, scale it across your business and move forward on MVPs for other priority use cases. Pilot, prove success, scale, repeat.

Using our IBM Garage™ methodology, IBM Consulting works with you to identify the practices, technologies and expertise your agency needs to chart your customer service transformation journey from ideation to build to scale. Working iteratively, we use enterprise design thinking to co-create an MVP with you, measure its results and then work to scale it across your enterprise.

07

Ready to begin?

IBM has both the technology and the expertise to help you on your AI for citizen services transformation journey.

Request an AI strategy briefing

AI assistant
IBM watsonx Assistant is a market-leading conversational AI platform designed to help overcome the friction of traditional support and deliver exceptional experiences to all agency stakeholders, citizens and employees. Powered by generative AI and an intuitive user interface, IBM watsonx Assistant empowers teams to build voice agents and chatbots that deliver automated self-service support across all channels and touch points.

AI expertise
IBM Consulting specializes in end-to-end customer service transformation, spanning AI strategy, design, implementation and ongoing management of customer and field service operations. We work with an open ecosystem of technology partners and have more than 1,250 active AI clients worldwide and over 40,000 AI and analytics engagements under our belt.

1. Edelman Trust Barometer 2022, Edelman, 25 January 2022.

2. The CEO's guide to generative AI: Platforms, data and governance, IBM Institute for Business Value, 1 August 2023.

3. CEO decision-making in the age of AI, IBM Institute for Business Value, 27 June 2023.

4. Customer response in seconds, not minutes, IBM case study on Bradesco, May 2020.

5. Generative AI at Work, National Bureau of Economic Research, April 2023.

IBM Corporation
New Orchard Road
Armonk, NY 10504

Produced in the United States of America
April 2024

This document is current as of the initial date of publication and may be changed by IBM at any time. Not all offerings are available in every country in which IBM operates.

All client examples cited or described are presented as illustrations of the manner in which some clients have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics will vary depending on individual client configurations and conditions. Generally expected results cannot be provided as each client's results will depend entirely on the client's systems and services ordered. THE INFORMATION IN THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY OR CONDITION OF NON-INFRINGEMENT. IBM products are warranted according to the terms and conditions of the agreements under which they are provided.

Statement of Good Security Practices: No IT system or product should be considered completely secure, and no single product, service or security measure can be completely effective in preventing improper use or access. IBM does not warrant that any systems, products or services are immune from, or will make your enterprise immune from, the malicious or illegal conduct of any party.