
Agencies of the Future:
How to Break Down Barriers to Growth
govloop

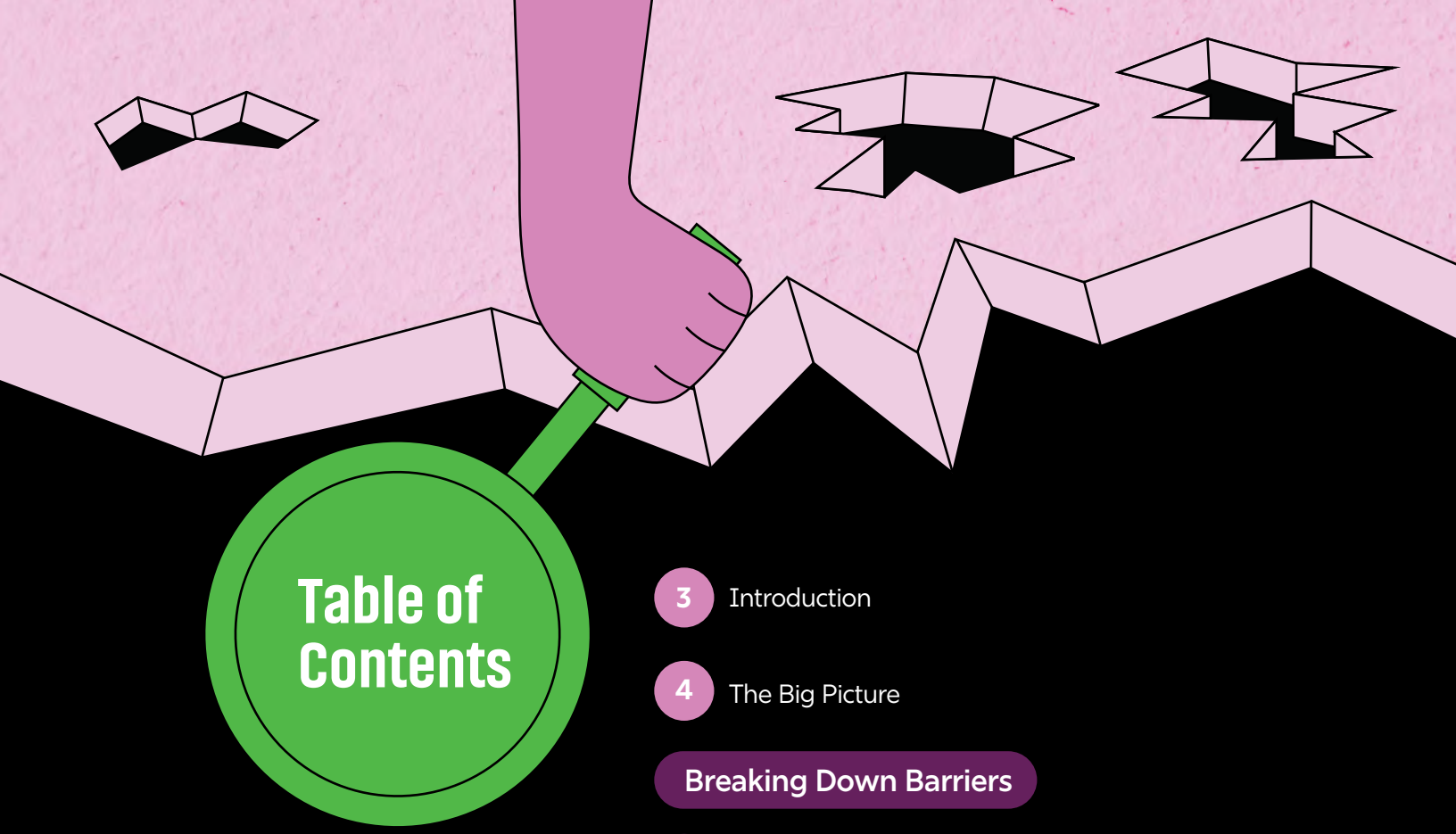
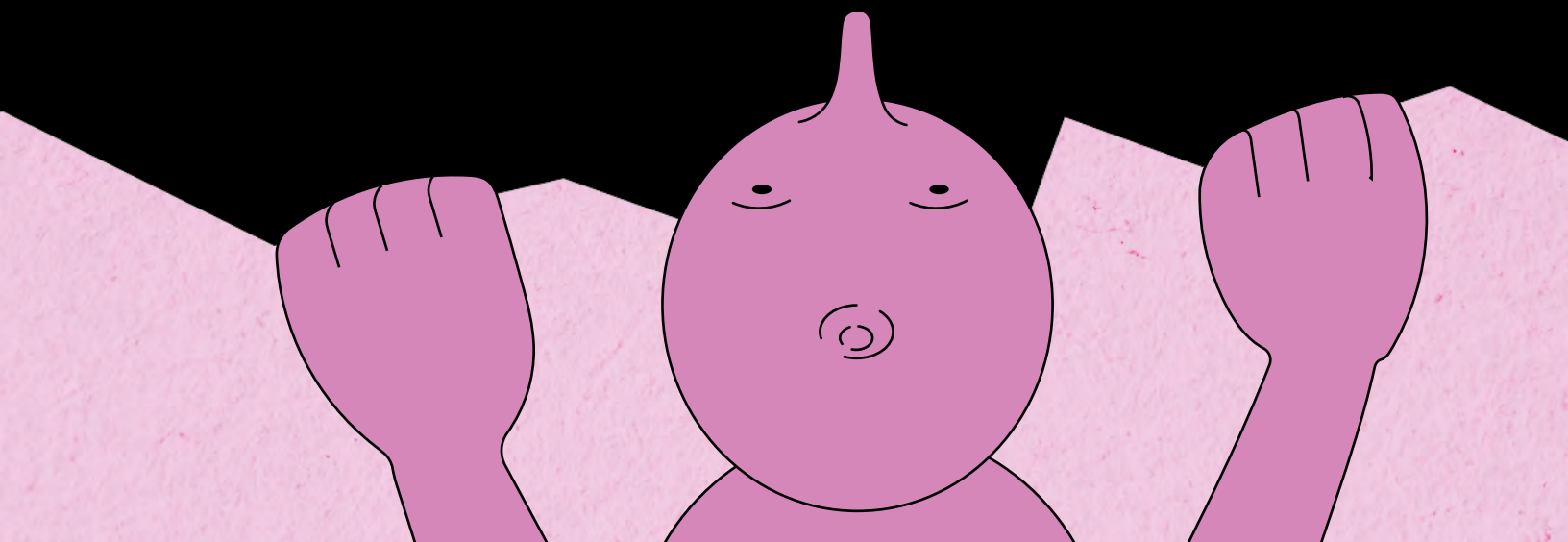


Table of Contents



Introduction

What does the agency of the future look like? After years of deploying new tactics and solutions, agencies have made impressive progress regarding workforce, IT, data and other challenges — but three to five years down the road, will those reforms have been enough? And today, are organizations realizing the full potential of what they have?

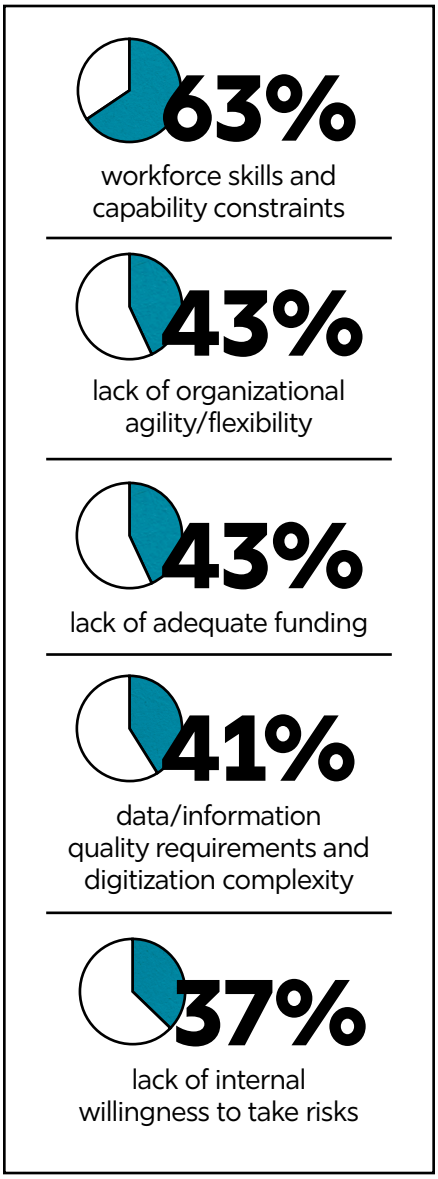
In this guide, we look at how agencies are breaking barriers to innovation and equipping and staffing for resilience and adaptability. Government officials share their thoughts on what agencies could and should do, and industry experts weigh in on the tools that can transform employee and customer experiences.

Of course, a guide about future technology must address artificial intelligence (AI), so we explore a federal vision for how government and the private sector will mitigate risks while maximizing AI opportunities. There is much to consider there.

Let's begin our agency-of-the-future conversation by looking at the big picture.

Digital Services: The Growing Edges

According to a National Association of State Chief Information Officers survey, the top five obstacles to expanding digital services include:

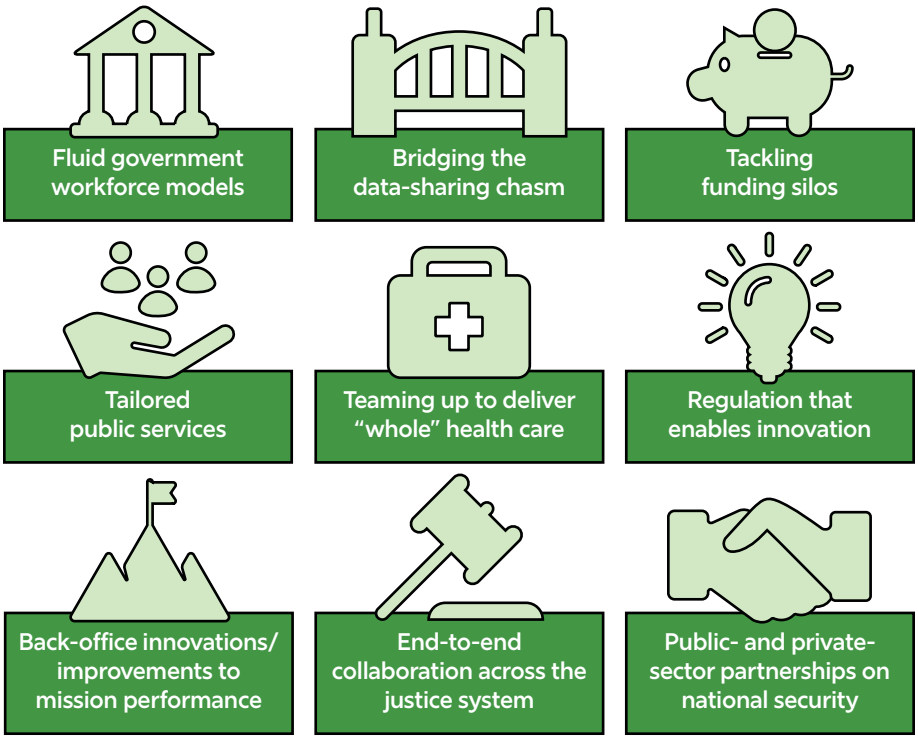


An Innovative Culture: The Long View

Four key pillars for cultivating an innovative government culture in the next 20 years:

1. **Leadership:** All federal government leaders would have high standards for effective leadership and would be skilled at engaging others, leading change, achieving results and becoming self-aware.
2. **Workforce:** The federal government would become a sought-after place of employment for potential candidates because of its cutting-edge approaches to solving problems and a range of available opportunities such as fellowships and "tour of duty" programs.
3. **Process:** Innovative processes would revolutionize the federal government's ability to quickly implement policy to serve the public more effectively.
4. **Partnerships:** As federal officials become bigger players in driving innovation within and across agencies, forming stronger partnerships with state, local, tribal and territorial governments will be the standard for sustaining lasting change.

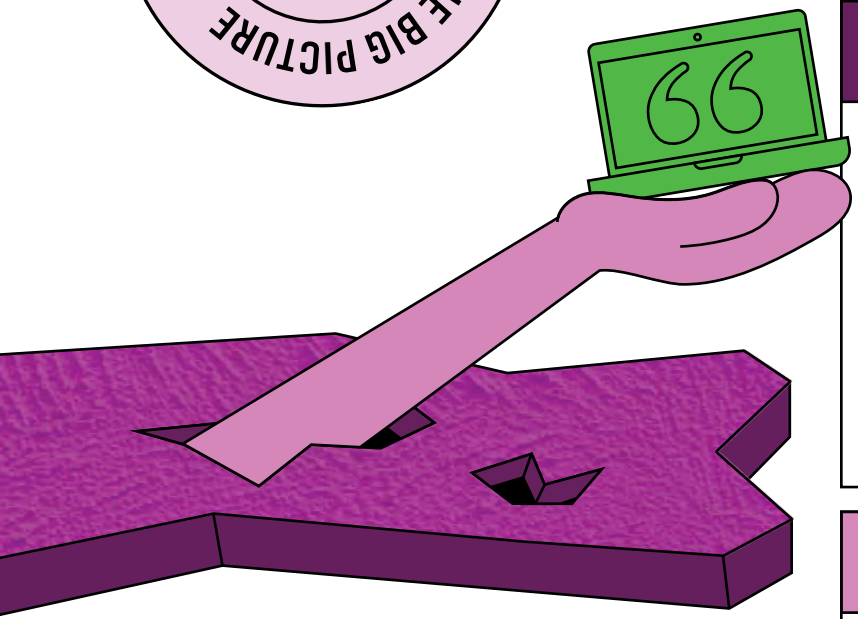
9 Trends Reshaping Government



Source: Deloitte

Agency of the Future: Quotable Quotes

Here are some insights from government leaders who spoke at GovLoop virtual and in-person events during 2023. **The agency of the future, they said, is...**



Adaptable

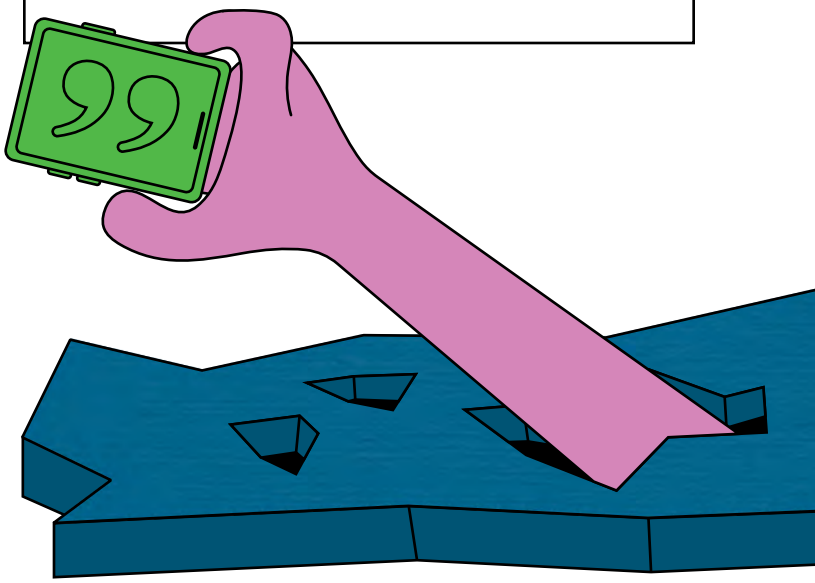
"If you had asked me, even five years ago, when our agency would be utilizing AI or SMS or even working from home, I would have said maybe in 20 years. But we're doing all of it, and it's way easier than you think."

Nichole Conway, Program Manager for the Missouri Department of Social Services, on government employees' surprising ability to embrace change

Constituent-Centric

"Anybody who works adjacent to a web property or digital service needs to walk through that digital service as though they were the customer. They need to do that so they understand what are those very obvious pain points, where are the places they should invest in first."

Camille Tucker, Acting Chief Customer Officer at the General Services Administration, on how to build more engaging constituent experiences



Security-Conscious

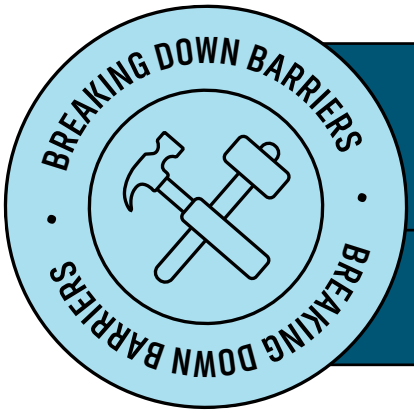
"What we need to do is deploy modern technologies that have security integrated into the design, so that we take the requirement for you to be an expert out of the equation."

James Wolff, Associate Administrator for Information Management and CIO, National Nuclear Security Administration, on the need to stop asking too much of employees

Trusting of Employees

"To enable other people to adapt to changes and transformation, a leader needs to enable trust, to accept people for who they are and give them a say."

Keson Khieu, Business Intelligence Chief in California's Department of Health Care Services, on the need for leaders to trust and inspire employees



The Future of Data-Based Decision-Making

Goal: Ensure that agencies are staying, if not current with technology, no more than one or two cycles behind.

People use assorted metaphors to describe modernization: a journey, construction project, ballgame, etc. But Heather T. Kowalski, Chief Information Officer for Interpol Washington, calls it something else: a lava flow. One improvement needs to solidify, she said, before others can follow, advancing a little further each time.

Some agencies have made more progress with that than others, and agencies with outdated systems are severely limited. For instance, "If you're on Windows XP and you're relying on faxes, those tools are so old that [new] analysis tools can't read [your data]," Kowalski said. "Not only are you not benefiting from what these tools can provide, ... you also can't contribute anything," she added.

The further behind your technology is, the more financially difficult modernization becomes because agencies must anticipate their budgets years in advance — often before the tools they need fully exist, Kowalski said.

And with an unthinkable amount of data in the world, errors are inevitable with outdated IT. Automation, however, limits the chances that a tired analyst will enter a name incorrectly and that mistakes will cascade into other agencies.

"The sheer quantity of data that's being produced ... has forced a way of collecting and storing and labeling and managing that data, which has then led to a drive to use the data, which has driven some new tools," she explained.

Be Clear and Realistic

It's easy to be enamored with the latest IT solutions, and non-technologists are particularly susceptible, Kowalski said. But to advance data technology effectively, someone must offer honest feedback about costs, contingencies and restraints — including whether existing infrastructure will support the IT innovation.

"If you haven't done the hard work up front — your technology, your data processing, your reporting technique — then all you did was pay for some bells and whistles that aren't really going to benefit you," she added.

Decision-makers need to remember that they work for the public and be good stewards of taxpayer money. "We need to be careful that we're not just deploying these solutions so that we can say, 'Oh, look what I did,'" Kowalski said. "Are we doing something simply to do it, or are we doing it because it really adds value to our mission?"

> *"Are we doing something simply to do it, or are we doing it because it really adds value to our mission?"*
>
> 
> **Heather T. Kowalski**, Interpol Washington

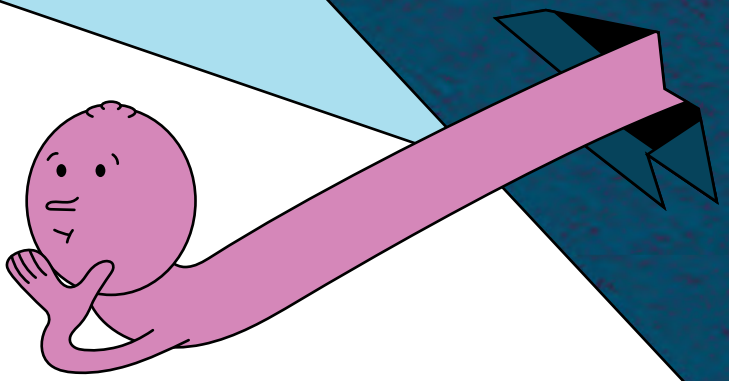
Think Spherically

It would be wonderful if government made decisions that everyone could understand, she mused. But that requires agencies to follow a logical progression of ideas based on what Kowalski calls spherical or 3D education. Instead of thinking just about the data itself, you need to understand what the data connects to.

"We need to understand that everything is related and that everybody needs to learn," she said, so that agency staff know what technology and other options to pursue.

From leaders to strategic technologists to new hires, organizations must train their staff to understand and question data and draw meaningful connections. And, when thinking about modernization one or two steps down the road, agencies need to consider how newer employees use and interpret technology, Kowalski said.

Young workers will replace retirees in significant numbers within 10 years, but young people haven't been trained to question data they find on the internet, and that threatens data integrity, she cautioned: "Your decisions, derived from data, are only as good as the data you have."



A Vision of Collaboration

Many rules that prevent interagency data sharing are perfectly valid. But Kowalski said that various events have taught this country about the importance of letting government agencies coordinate.

Right now, Interpol, which is a component of the Justice Department, gets information from its partners, but a significant amount of data remains untapped. "I want to be able to metaphorically knock on the door of, pick an entity, and say, 'Hey, we have these 27 questions. Do any of these trigger anything in your system?'" she explained.

And if the entity says yes, perhaps recognizing a bank account or a person, then "we can get together on a very specific focus... and compare notes," said Kowalski. "There should be a way to connect the pieces."

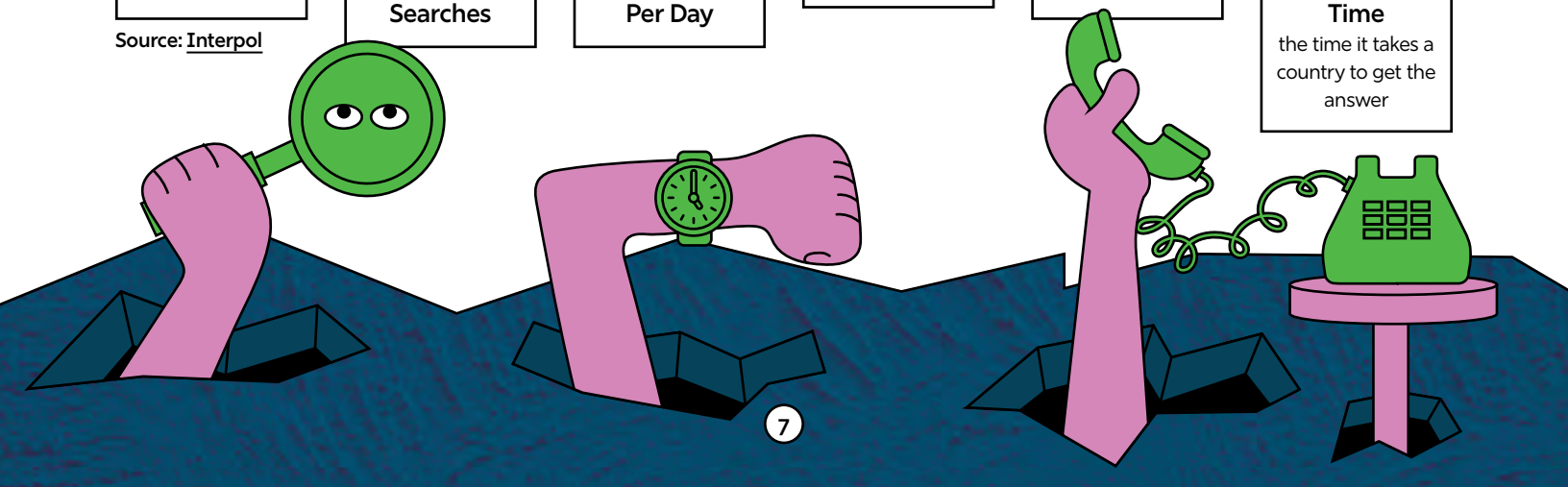
19 Databases

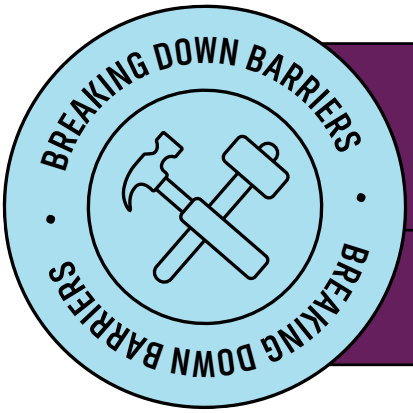
Every search of Interpol's 19 databases is a potential break in a case for police worldwide.

INTERPOL

125 Million	5.9 Billion	16 Million	187	1.4 Million	0.5 Seconds
Police Records	Database Searches	Searches Per Day	Searches Per Second	Hits	Response Time the time it takes a country to get the answer

Source: Interpol





The Government Workplace Makeover

Goal: Embrace a more flexible, agile and resilient workplace to accommodate workforce and mission needs.

Charles Hardy, Chief Architect of the General Services Administration's (GSA) Public Buildings Service, is a licensed architect, workplace strategist and certified construction manager. As the agency's lead executive in charge of workplace strategy, he oversees research and development of office innovations.

"The future of work isn't about creating a new type of office," Hardy said. "Rather, it's based on an understanding that the nature of work is going to continue to change."

Open a New Conversation

Since the pandemic, the conversation about workspaces has expanded to more participants — and more options. People have mastered the technology they need to work remotely, the technology itself has matured, and agencies have a much better feel for when an office presence is productive and when it isn't.

"That conversation now is about what you're trying to do, what you're looking to accomplish and how this can manifest in the workplace," Hardy said. "How can space, technology and HR policies enable mission?"

There is no one right answer, he warned, and no single solution will work indefinitely.

"You've got mission changes, you've got people coming and going, you've got leases expiring — all those things make it an ecosystem that's continually changing," Hardy said. "How do you create a solution that is efficient, effective, resilient, changeable and flexible?"

Offer a Curated Choice

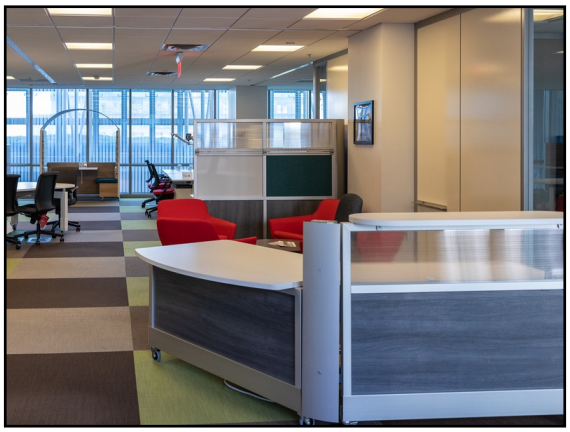
"The biggest question about the workplace at the moment is, 'How many people are going to come back to the office?'" Hardy said.

Offices are "not going away… [but] they need to have planned adaptability. The right mix of in-person and virtual work will vary significantly depending on the type of work that's being accomplished, the location, the technology, the organizational culture, and even information and physical security considerations," he said.

The key for employees is choice — but not infinite choices. "It's not 'whatever you want', but a curated choice aligned with mission: 'Here are two or three different things you can pick from. Which one fits your needs?'" Hardy said.

"Since [my team] started testing workplace strategies in 2005, the most significant workplace feature that attracts and retains talent has remained constant. It's offering that choice," he said.

> *"The future of work isn't about creating a new type of office. It's based on an understanding that the nature of work is going to continue to change."*
>
> 
> **Charles Hardy**, GSA Public Buildings Service



Make Office Spaces Flexible

It isn't just policies that need to be flexible. The physical space itself should offer options for different kinds of work.

"In our Workplace Innovation Lab, we've got a kind of a residential/commercial mashup," Hardy said. "We've got a couch and a table and things like that, where you can sit and have meetings. We also have standard workstations and other desks and phone booths for privacy."

"But we've also had groups of 70 people picking up the sofa,... pushing chairs together and creating a forum where 70 people can meet in that same place, and then put it back in place, and everybody goes off on their own to individual [workstations]," he explained.

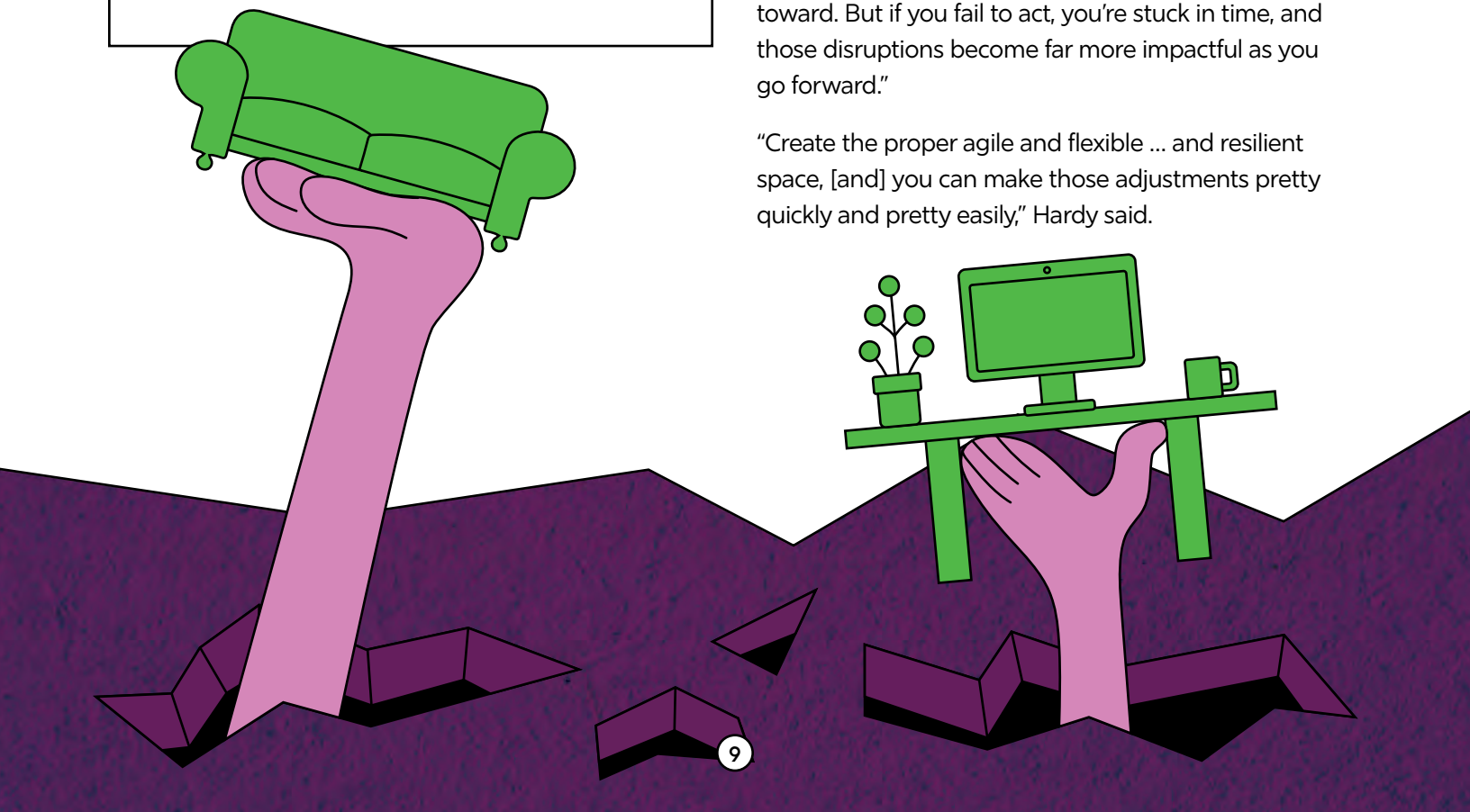
"That flexibility in the space to change to the need of the day and the mission will be super useful as we go forward," Hardy said.

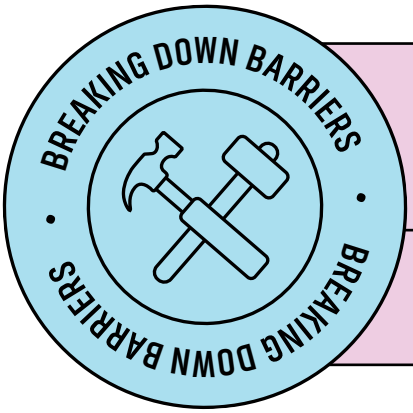
Act Now

Hardy's advice to agencies seeking to become more flexible is simple: Act.

"Do something, and don't wait for things to settle down," he said. "If the winds change, we can address that then and move toward wherever we need to move toward. But if you fail to act, you're stuck in time, and those disruptions become far more impactful as you go forward."

"Create the proper agile and flexible ... and resilient space, [and] you can make those adjustments pretty quickly and pretty easily," Hardy said.





Open the Doors to the People You Need

Goal: Adopt skill-based hiring and develop training programs to build the staff you need.

Jon Rogers is Director of Strategic Workforce Planning at the Indiana Office of Technology (IOT), which oversees IT for the state's executive branch agencies. Partnering with the Indiana Department of Workforce Development (DWD), IOT has adapted an existing trade apprenticeship program to train people interested in a career change to IT and recruit them into roles in state government.

> *"We strongly need agility in the workforce. We need individuals ... who can be very flexible and are intellectually curious about technology."*
>
> 
> **Jon Rogers**, Indiana Office of Technology

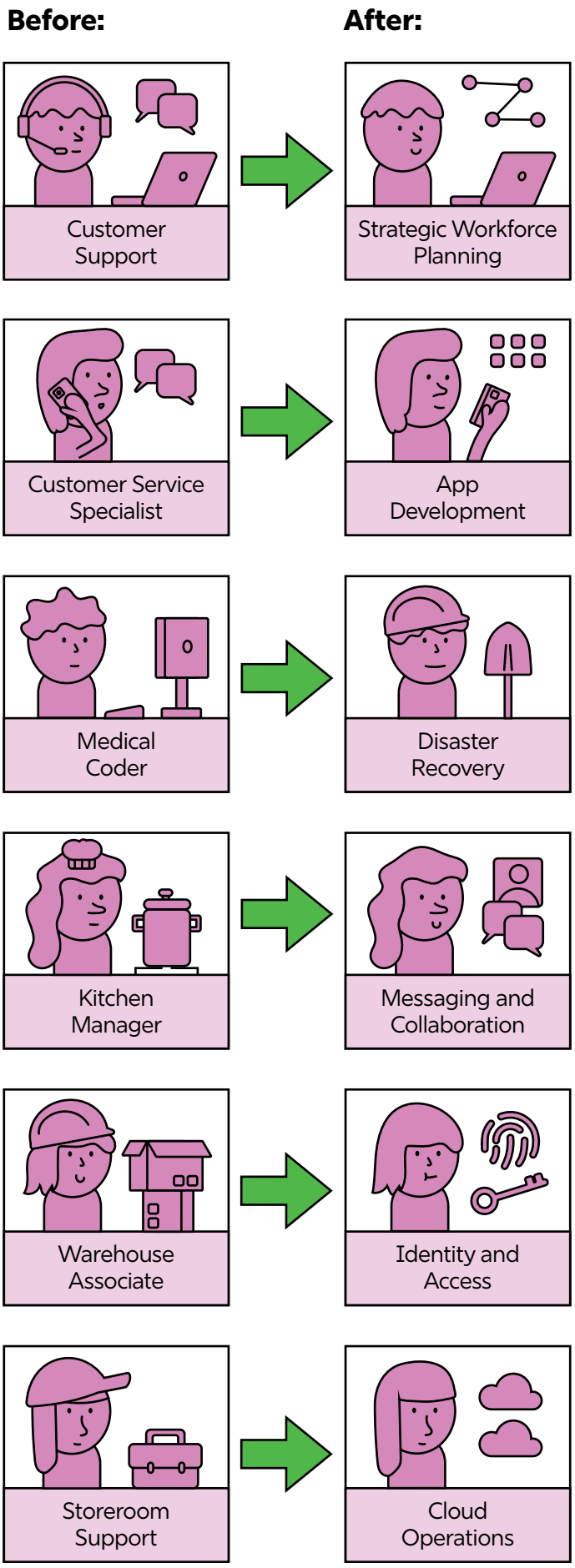
Hire for Skills, not Credentials

Governments at all levels struggle to recruit workers, especially for IT jobs. But IOT is finding ways to expand the pool of eligible applicants. That makes it easier to make good hires.

Working with the Indiana State Personnel Department in 2019, IOT began removing degree requirements from most job requisitions. "We've discovered that through skills-based hiring, we're getting a broader and more diverse candidate pool," Rogers said. "It makes it easier for us to find people who can be good communicators and also have the tech practitioner abilities."

"When you post a job and only have 10 candidates, you have to hope someone in those 10 will have that combination of skills," he added. "When you're getting 100 candidates per requisition, your odds obviously increase." IOT is now exceeding the state average for responses per job posting.

When comparing candidates with varying combinations of education, experience and industry certifications, "it's on us, the employers, to know not what sort of credentials we want to see, but what skills we want to have on that job," Rogers said. "When the person enters on Day One, what do they need to know, and what can I train them to do on Day Two? If I can't articulate the skills that I want out of each of those people, it's on me."



Train to Build the Workforce and Improve Lives

IOT isn't just welcoming more diverse candidates. It's also established a program that trains people who are interested in working in IT — and the public sector.

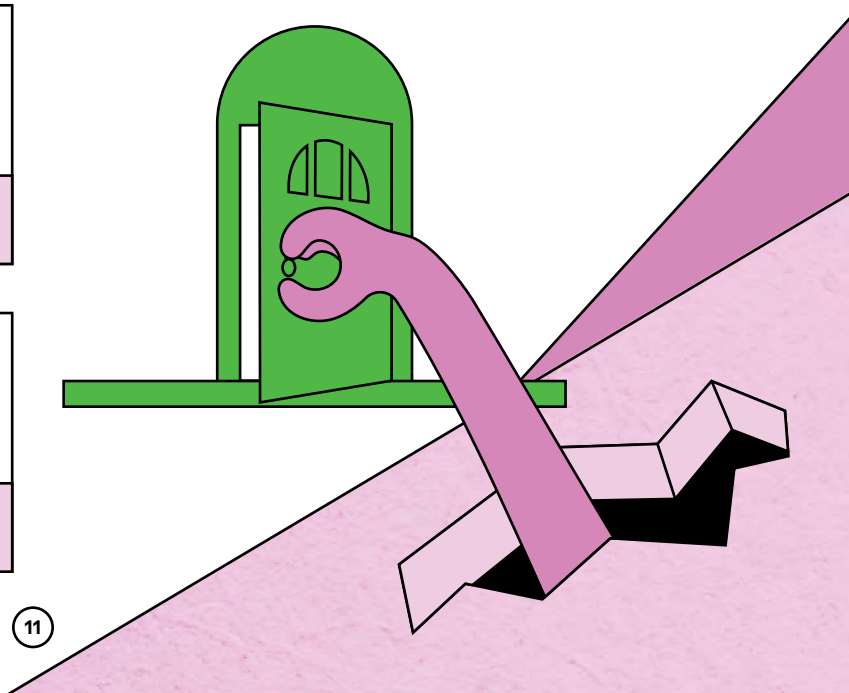
Borrowing the structure from DWD's State Earn and Learn program, State Earn and Learn IT offers paid training alongside IOT teams and opportunities to earn industry IT and cybersecurity certifications. The program takes 12 to 14 months to complete.

"We were the first state agency to use that approach to, quite literally, reskill adults from any other occupation into information technology and security," he explained. "I have someone who was a long-haul trucker who's now doing penetration testing. I have a mechanic who was just promoted to be a Linux administrator."

IOT evaluates candidates on their potential and commitment. "We want to find folks who have the right sort of transferrable skills into this career — the drive for public service, the dedication, the critical thinking, the communication," Rogers said.

The program started with two trainees in 2020 and has graduated 42 so far. Of the graduates, 39 hold state staff positions and one is a contractor. "Our retention rate is 95%," Rogers noted.

Looking forward, "my hope would be that other agencies adopt our model ..., and that we can just find more and more of these wonderful folks who want to work [in government]," he said.



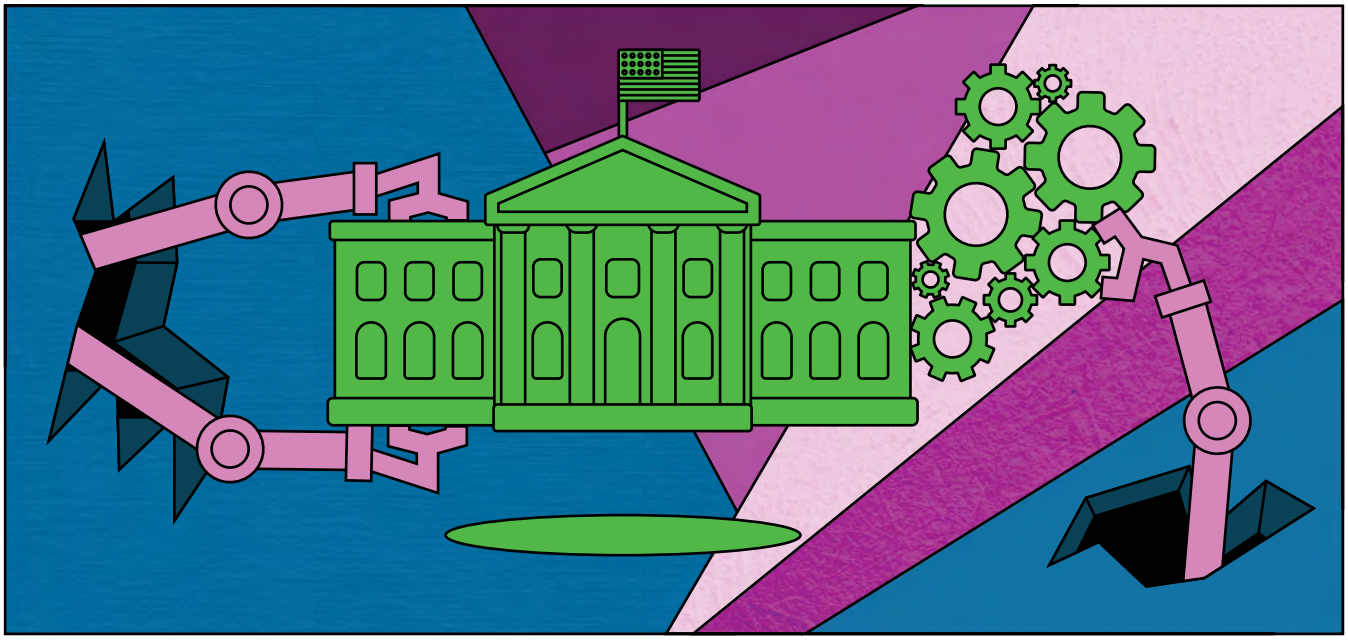
A Vision for AI in Government: The AI-Savvy Agency

AI could be one of the most significant areas of growth and development in government, as well as in places where the private sector and government meet. It is already transforming data collection, analysis and access, cybersecurity, and workforce management.

The White House's Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence (EO) lays out a strategy focused on monitoring, regulating and staffing the development of AI-based innovations. The order calls for guidelines in specific areas of government concern, including national security, intelligence, defense, justice and law enforcement, energy, health care, and transportation.

AI could improve government operations and services, but it also poses risks. How can agencies prepare to deal with them while making the most of what AI might offer?

Following is what the EO envisions.



Some Agency Uses of AI

- The Environmental Protection Agency uses AI tools that estimate chemical exposure and the probability that a chemical might reach the general population.
- DOE uses AI to leverage a broad, multimodal data stream to predict and understand natural disaster scenarios.
- The Department of Agriculture employs AI to create hydrologic models of spring-summer river flow volumes across the western United States and Alaska.

Personnel Power

There is a clear strategy for surging AI talent in government.

For instance, the EO states that within 45 days of its Oct. 30, 2023, issuance, the White House will convene an AI and Technology Talent Task Force to identify best practices for recruiting and retaining AI staff, and within 180 days of the issuance, the task force will issue a report on government's AI hiring progress.

In addition, the Office of Personnel Management will offer guidance on how agencies can use incentive and flexible pay programs to attract AI experts and will head an interagency working group to develop best practices for hiring AI talent across federal agencies.

Under the order, each agency must appoint a Chief AI Officer to coordinate work on AI and mitigate risks. Working with a governance board, the officer will develop processes for AI testing, including the use of red teams, or internal "hackers," who work to expose system flaws. Generative AI is of particular concern.

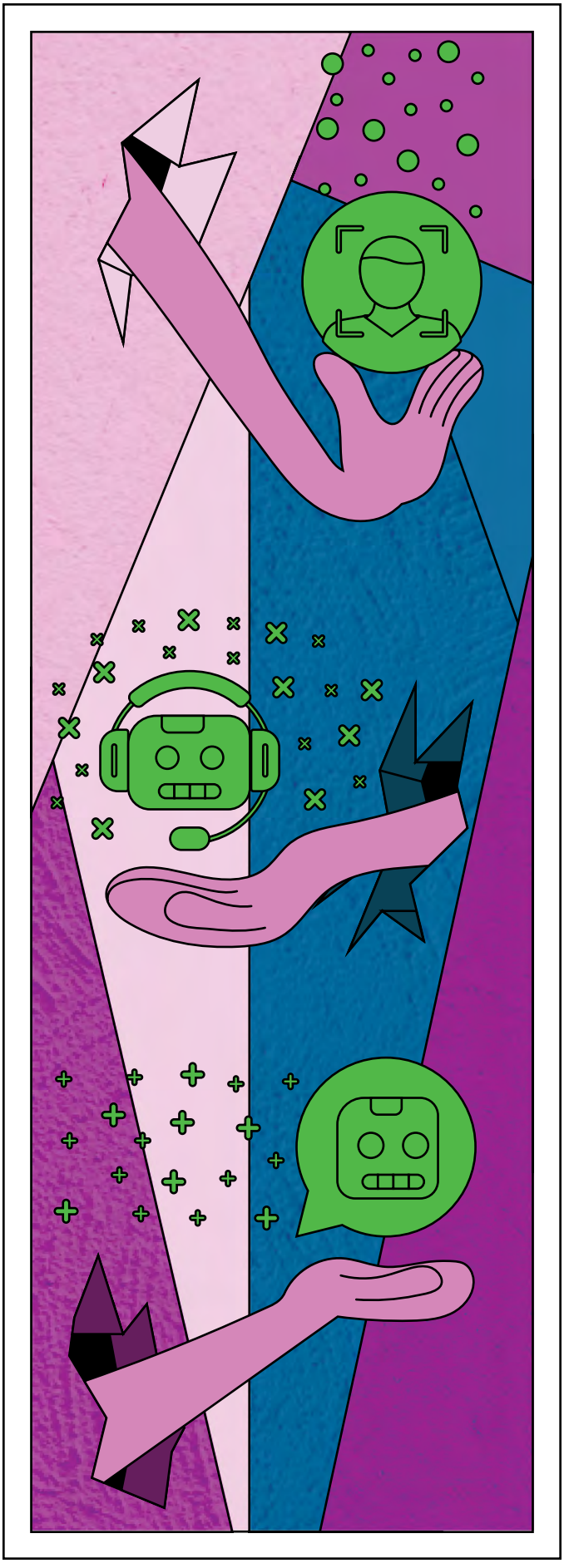
All this ties in with AI.gov, which offers a portal to apply for federal job and fellowship opportunities and to find classes for building AI skills.

Safety First

One of the biggest challenges is ensuring that AI technology is safe for use in and outside government.

That's why the EO requires the National Institute of Standards and Technology to set rigorous standards for red team testing of AI safety before systems are released to the public. Protecting critical infrastructure is a priority concern. In addition, the Department of Homeland Security will establish an AI Safety and Security Board and will work with DOE to assess chemical, biological and nuclear risks.

The EO calls for an advanced cybersecurity program to develop AI tools to locate and repair vulnerabilities — building on an ongoing AI Cyber Challenge, a two-year competition to create new, AI-based security tools. And the order emphasizes strengthened development of and research into new privacy-preserving techniques, including cutting-edge AI systems.



Steps Toward Equity

The Blueprint for an AI Bill of Rights acknowledges that irresponsible AI use can create discrimination and bias, and the EO on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government directs agencies to work against algorithmic discrimination.

The new EO goes further, outlining additional actions to lessen discrimination, such as implementing algorithmic training and coordinating with the Justice Department's federal civil rights offices to develop best practices for dealing with AI-related civil rights violations.

Targeted concerns include housing, policing and criminal justice, labor and workplace, and agency support regarding the AI entrepreneurial ecosystem. That relates to facilitating technical assistance for small developers and "AI breakthroughs" for small businesses.

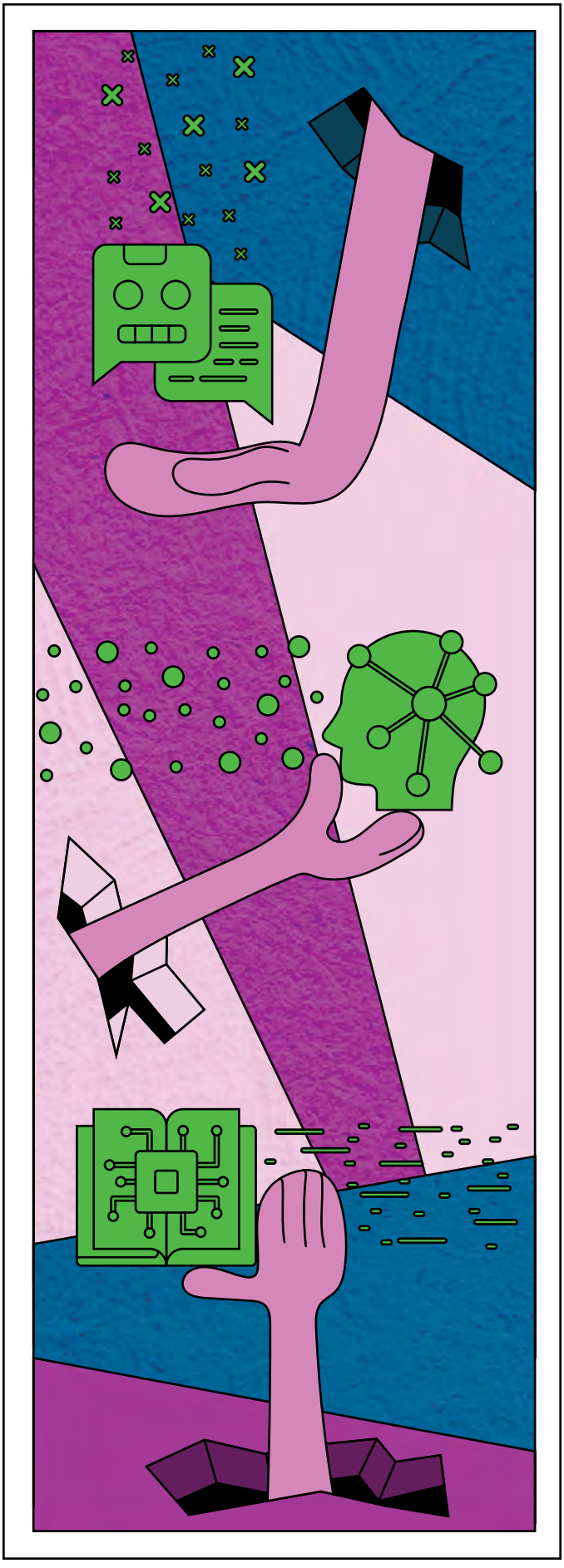
Making Friends With Machines

While there is still room to improve AI staffing and safety, there also is enormous potential in AI. Recognizing that, the EO lays out plans "to help agencies acquire AI products faster, more cheaply, and more efficiently."

The order foresees AI-based advances in education and research and creates a National AI Research Resource — a "shared research infrastructure that would provide AI researchers and students with significantly expanded access to computational resources, high-quality data, educational tools, and user support." The EO also calls for expanded grants for AI research related to health care and climate change. In turn, all those endeavors will inform government work.

"Harnessing AI for good and realizing its myriad benefits requires mitigating its substantial risks," the EO states. "This endeavor demands a society-wide effort that includes government, the private sector, academia, and civil society."

"In the end," the order continues, "AI reflects the principles of the people who build it, the people who use it, and the data upon which it is built."



Respond to New Software Needs — Securely

An interview with John Allison,
Director, Public Sector, Checkmarx

Checkmarx

TD SYNNEX Public Sector | DLT

Federal agencies need to make new software available quickly in order to meet emerging mission needs and rising constituent expectations. At the same time, they must protect their systems and processes.

It's an inherently difficult situation. If the code behind a new application has flaws, adding code for cyber defense on top of it "is not necessarily bringing you more security," said John Allison with Checkmarx. "With the money you spent to buy a firewall, would that … have been better invested in application security, [in] the original application you're trying to secure?"

Agencies are under pressure to get this right. The National Cybersecurity Strategy calls for "secure development practices" related to software, while documents such as the Secure Software Development Framework from the National Institute of Standards and Technology likewise call for robust security throughout the application-development process.

AppSec Testing During Development

So how can agencies release new applications without creating new vulnerabilities? They can embrace a cloud-native platform for application security testing during the development phase.

Testing the security of applications during their development "benefits not only the federal agencies, but the end users as well," Allison said. Constituents can interact with government safely, knowing their personal data is secure, "and agencies are not waiting for delivery to find out that there are critical flaws, and then having to address those after an application has already been delivered."

Seeing Your Application Security Mistakes

The comprehensive Checkmarx One cloud-native application security platform offers agencies the testing they need throughout the software development life cycle. With a holistic set of scanning engines and analytics to help developers discover and remediate vulnerabilities in their preferred workflow, "it offers near real-time response: 'Here are the mistakes you made, here's what you may have overlooked,'" Allison said.

And with the ability to support teams in multiple programming languages, the AppSec platform "integrates seamlessly in [agencies'] build process, so as to not disrupt their workflow," he said. "And it gives leadership a single dashboard to see where everything's going."

The platform includes a risk prioritization indicator — so developers can focus their efforts on an application's most critical vulnerabilities first — and a policy management tool that helps agencies comply with relevant requirements.

Considering Contractor Security

In addition to securing their in-house efforts, organizations can leverage Checkmarx One to ensure that applications built by outside contractors are secure.

"Agencies can mandate application security requirements as part of the processes that their contractors need to meet when developing software," Allison said. And they can go even further, building fee structures that incentivize contractors to reduce the number of security issues in their applications, before they deliver to the government.

"Fixing software after it's delivered is always more complicated and expensive. Let's raise that bar before delivery," he said. For agencies moving in this direction, "Checkmarx is great for helping contractors meet those contractual obligations."

About GovLoop

GovLoop's mission is to inspire public-sector professionals by serving as the knowledge network for government. GovLoop connects more than 300,000 members, fostering cross-government collaboration, solving common problems and advancing government careers. GovLoop is headquartered in Washington, D.C., with a team of dedicated professionals who share a commitment to the public sector.

For more information about this report, please reach out to info@govloop.com.

Thank You

Thank you to Checkmarx/TD Synnex for their support of this valuable resource for public-sector professionals.

Authors

Candace Thorson, Managing Editor
Lauren Walker, Senior Staff Writer
Susan Kirby-Smith, Senior Staff Writer
John Monroe, Director of Content

Designer

Marc Tom, Junior Graphic Designer