



# AI Meets the Moment

How a pandemic has shaped AI adoption in state government and what it means for the future

CENTER FOR  
**DIGITAL**  
GOVERNMENT

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# Foreword

For three years, the Center for Digital Government (CDG) and NASCIO, with support from IBM, have queried state chief information officers (CIOs) and other high-level leaders about their perceptions, plans and progress around the adoption of artificial intelligence (AI). In 2019, adoption was nascent, but state leaders showed an eagerness to gain efficiencies and free their workforces for higher-value work. They were also cautious due to the lack of data maturity and privacy policies, as well as a dearth of employees with the necessary skills for AI adoption.

Then the COVID-19 pandemic hit. Out of necessity to meet huge surges in demand, state governments quickly rolled out chatbots and other digital assistants to handle constituent inquiries around unemployment assistance and other vital services. As predicted, agency leaders found the technology allowed them to better serve more residents with fewer resources and deploy limited staff to deal with more complex activities rather than answer routine questions.

Today, initial resistance to AI solutions in government agencies is waning as leaders and staff witness positive

outcomes from pilot projects and pandemic-related implementations. But they are working to wrap their arms around enterprise-wide strategies for greater adoption and continue to face challenges around skills gaps and legacy technologies. Data quality and governance, privacy and compliance are all concerns and there is a lack of clear policies as technology evolves.

Still, the momentum is strong, and optimism is high for widespread adoption. Nearly 60 percent of our survey respondents said they see transformation happening in one to three years — particularly in call centers, to enhance cybersecurity, and in areas like health and human services.

We encourage you to look at the strategies and tactics at the end of this report, which address some of the key challenges noted by our survey respondents.

Finally, on behalf of CDG, NASCIO and IBM, we want to sincerely thank our survey respondents and the CIOs who graciously gave their time to be interviewed for additional insights. We appreciate your willingness to share your thoughts and experiences to guide others on their journey toward digital transformation.



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# Introduction

**C**all it the Year of the Bot. This year's artificial intelligence (AI) survey from the National Association of State Chief Information Officers (NASCIO), IBM and the Center for Digital Government (CDG) reveals broad gains in AI adoption since our first report in 2019 — especially in chatbots and digital assistants — in combination with robotic process automation (RPA).

This year, we received responses from 48 agency leaders and CIOs from 34 states and conducted in-depth interviews with 10 state CIOs. Our survey and interviews show growing optimism on the potential of AI, driven in part by its role in addressing the COVID-19 pandemic. Technology leaders and their counterparts in agencies within the states are finding creative ways to apply solutions to difficult challenges.

Of course, AI is a sophisticated amalgamation of data, statistics, computer science and business process optimization — a synthetic attempt to emulate a fraction of human cognition. It can't replace our capacity for thought and action.

“Artificial intelligence is primarily artificial,” says John MacMillan, deputy secretary for information technology and chief information officer (CIO) in the Pennsylvania Office of Administration. “It takes people to configure and train those solutions — and where we have great use cases, we also have great support in the business area to make that happen.”

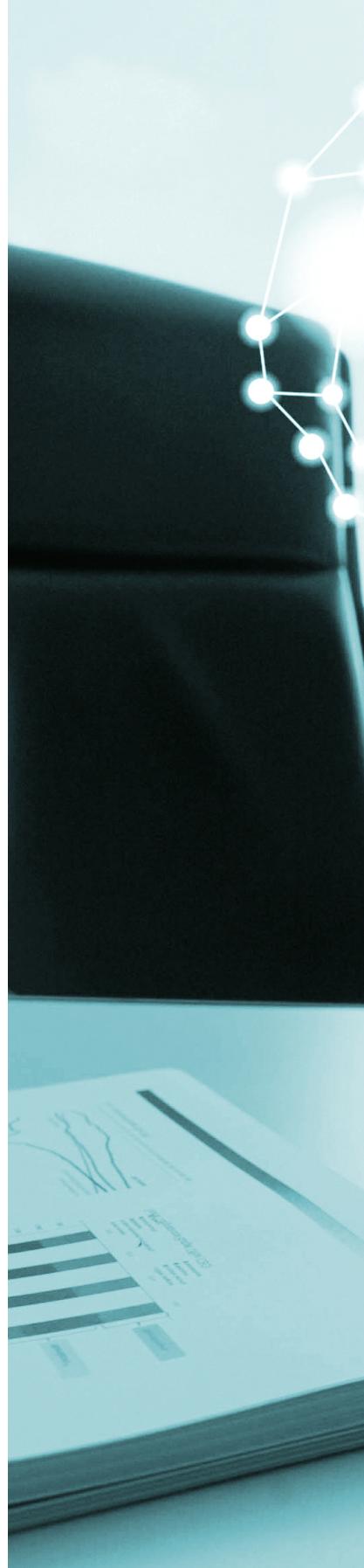
Moreover, mining the potential of AI requires an abundance of skill and dedication.

“I think there’s still a misunderstanding or underappreciation for what it really takes to do this — the commitment to do this,” says Curtis Wood, secretary and CIO for the Massachusetts Executive Office of Technology Services and Security. “I think the reward is great; but you need to have the investment upfront, you need the right people at the table and you have to commit.”

Success with AI-enabled applications is melting resistance in state agencies nationwide. “It doesn’t seem like magic anymore. It just seems like a tool,” says Steve Nichols, chief technology officer (CTO) with the Georgia Technology Authority. “No one’s planning to turn any of these things off.”

State leaders may be navigating without a clear path to ROI on AI. “If something doesn’t pan out, you accept it,” says Nelson Moe, Virginia’s chief information officer. “But you must have the willingness and the ability to take a risk.”

This year’s report outlines the maturity level of AI in state governments, explores notable success stories and persistent challenges, and advises on building a strategic vision for moving ahead.





# Where We Are Now: State Government AI Adoption in 2021



**W**hat do state leaders want from AI? Nearly half of this year's survey respondents (46 percent) want to give their staffs more ability to do things they otherwise can't do. An additional 29 percent aim to optimize processes or functions, while 21 percent want to automate processes or functions typically done by staff.

The survey finds AI is driving significant results in areas such as improved service delivery and enhanced interactions with residents and constituents. However, despite improvements in decision-making and employee productivity, only 13 percent of respondents said AI generated cost savings. This underscores the challenges in establishing return on investment (ROI) in AI projects.

#### **A Pandemic Pushes States to Move on Automation**

The COVID-19 pandemic propelled the biggest gains in automation since our 2019 survey. Indeed, the pandemic accelerated the automation efforts of the 10 state-level leaders we interviewed this year.

“We've had to react to massive capacity increases and business process changes in some of our systems that serve large numbers of the public,” says Christopher Rein, CTO for the state of New Jersey.

Chatbots were among the primary technology responses to the pandemic. “I think everybody in some degree or fashion implemented chatbots during the pandemic as related to their respective departments of health and the unemployment situation across the country,” says James Weaver, secretary and state CIO with the North Carolina Department of Information Technology.

This year's survey found 60 percent of respondents using digital assistants, often in chatbots that deliver critical information to throngs of constituents. “We were just getting swamped by call center traffic during the pandemic,” says

This report comprises three categories of digital automation:

**Artificial intelligence (AI)**, whose algorithms analyze massive data sets to help people predict outcomes and improve decision-making. AI often is specific to domains such as cybersecurity, case management and IT troubleshooting.

**Machine learning (ML)**, which uses pattern-matching, real-time data updates and advanced statistical analysis to continually optimize the algorithm's behavior, potentially without human intervention. ML is a subset of AI.

**Robotic process automation (RPA)**, whose scripts and algorithms automate complex processes previously performed manually. Because RPA is rules-based and repetitive, it lacks the intelligence and learning functions of AI and ML.

Nichols in Georgia. Chatbots automatically answer callers' easy questions, freeing agents to devote more attention to more complex queries.

Chatbots worked so well in Georgia that agency leaders overcame their initial resistance to the technology.

“Everyone's comfortable that the technology works,” says Nichols. “One of our customers, Public Health, decided instead of having us host it in this more centralized fashion to go ahead and do their own chatbot to have a little more flexibility.”



**“We've had to react to massive capacity increases and business process changes in some of our systems that serve large numbers of the public.”**

*—Christopher Rein, Chief Technology Officer, State of New Jersey*

Adoption of RPA has surged since 2019, when interviews with state CIOs found that progress had barely moved beyond the discussion phase (see RPA sidebar on Page 17). “I think there’s a lot of opportunity,” says Fred Brittain, CIO for the state of Maine, which uses RPA for tasks like business-rule processing.

Pennsylvania concurs. For instance, the commonwealth deployed RPA to help deliver pandemic benefits via electronic fund transfers. “People used to do it. We trained a repetitive process to do that for us,” says John MacMillan, deputy secretary for information technology and CIO for the Pennsylvania Office of Administration. “We’re basically moving data from one application to another.”

Thus, most survey respondents were satisfied with AI and RPA performance during the pandemic. Nearly two-thirds (65%) said AI delivered the expected results and four percent said it exceeded expectations. Only 18 percent said it was either underperforming or significantly challenged.

### A Continuum of AI Maturity

The 2021 survey revealed striking changes in state CIOs’ descriptions of their states’ AI adoption. In 2019, a scant one percent said AI was widely used across the state, a number that jumped to seven percent in 2021. Moreover, just 13 percent said AI was currently in use but not a core line of business in 2019. This year, responses to the same question leapfrogged to 60 percent.

Adoption is moving more slowly in advanced AI technologies like natural language processing and machine learning. State leaders’ ambitions in these areas have been generally modest, responding to specific needs like cybersecurity.

“Two weeks ago, North Carolina handled over 12 billion incidents in an automated fashion,” Weaver says. “That’s just the amount of bad cyber activity that’s going on. Can you imagine what the workforce would have looked like if we had to do that manually?”

States’ AI maturity runs the gamut from just getting started to developing frameworks for statewide adoption of advanced automation. Maine, for instance, stands at the starting gate, using AI mainly in chatbots to respond to the pandemic in areas like unemployment insurance. Brittain says that while AI adoption is “very low, Maine is eager to adopt solutions that will bring greater public benefit.”

Virginia is just getting started with AI, Moe says, but it has innovative ideas in the works. Over the next year, the

### What has been your experience with the AI tools put in place to address the pandemic?



commonwealth plans to roll out AI-as-a-service, creating a centralized platform for 65 state agencies. “The agencies who want to take part in this won’t have to develop their own AI — they can use ours,” Moe adds.

Utah has expansive ambitions for AI (see sidebar on Page 11). The state has implemented dozens of pilot projects in areas ranging from preventing cyber fraud to regulating cattle brands. Utah helped pioneer the concept of the AI Center of Excellence, which provides a framework for AI adoption statewide. “We’re using it for image recognition, for natural language processing, for machine learning — all different aspects of AI,” says David Fletcher, Utah’s chief technology officer.

Texas proves that states with large populations can have big aspirations for AI (see sidebar on Page 15). “We have some agencies with a high degree of sophistication that are leveraging vendor partners and integrators that are certainly extraordinarily innovative,” says John Hoffman, deputy state CIO and CTO with the Texas Department of Information Resources. “And on the other extreme, we have some that are less mature and are still in the foundation stage.”

Massachusetts is deep into a technology modernization project that includes embracing advanced automation. “We’re working aggressively on cybersecurity,” says Wood. AI will be central to the state’s new security operations center. “This is one of the toolsets we’ll be leveraging to strengthen our ability to monitor, alert, mitigate and share,” Wood says.



## Utah's Ambitious AI Vision

Utah is a leader among states taking beginning steps toward AI adoption.

"We're really looking at AI across the entirety of government," says David Fletcher, Utah's CTO. He's not exaggerating. The state uses technologies such as image recognition, natural language processing and machine learning.

AI also helps with vulnerability management, running machine learning in conjunction with log data to discover anomalous behavior on the state's networks. "That's five terabytes a day of data on all the digital transactions and traffic coming into the state," Fletcher says.

Forays into advanced learning automation also include:

- ✓ **Transportation.** AI initiatives include connected vehicles, vehicle-to-vehicle communications, autonomous vehicles and intelligent infrastructure to improve traffic flows. "We were the first state to connect all our traffic lights statewide," Fletcher says.
- ✓ **Agriculture.** Image recognition helps with cattle branding (see sidebar on Page 15).

In Utah, AI software uses natural language processing to decipher the meaning of calls from the public and translate them into data the governor's staff can analyze.

- ✓ **Environment.** Sensors across the state feed AI algorithms that analyze the state's air quality.

Michael Hussey, director of IT services for Utah and former CIO of the state, helped lead Utah's charge to AI. He describes how one AI project helps the governor's staff stay attuned to public opinion.

"If somebody calls in with a problem about something the state's doing, or legislation is going a particular way, or 'Hey, they're going to release wolves into this park,' all of a sudden the public is calling in," he says. AI software uses natural language processing to decipher the meaning of these calls and translate them into data the governor's staff can analyze.

"We take the phone call, and it gets automatically transcribed into text," he says. "And then we do sentiment analysis on that. So, if there's a bill or legislation

coming up, or the governor is considering making a move, he can dive into not just how does the population feel, but how does the population in one area feel? We break it down by geography."

In the height of the pandemic, Utah's anti-fraud efforts used AI to target suspicious applications for unemployment benefits. "As a matter of fact, that happened to me," Hussey recalls. "It was weird for me to get a call from my HR department saying, 'Hey, you're the head of this agency, are you really quitting? And are you really unemployed right now?' And so, imagine my surprise."

He was very much employed. But fraudsters had scooped enough data about him to try to steal unemployment benefits using his personal information. "I was kicked out because of some technology that we implemented to detect fraud at that level," he says. "Luckily, the state caught that."

# What's in the Way: Challenges to Increasing AI Adoption



**W**hat's obstructing the path to AI adoption? One stat from our survey illustrates the challenges states face. Just 21 percent of respondents said they are deploying computer-vision technologies like image recognition. That's a small proportion for a society where digital photography is ubiquitous, from smartphones to city streets to factory floors.

The prospect of using image recognition in areas like law enforcement has raised concerns on privacy and policy grounds. Moreover, many states lack the technical expertise to deploy sophisticated algorithms and broad data analysis projects.

Our survey explored four facets of the challenges state leaders face:

### Strategic Vision

Strategy and vision are critical to long-term AI adoption, survey respondents say. When asked what they need to support AI over the long haul, 75 percent said a clear framework for AI use and governance, and 48 percent favored a defined vision and strategy for AI.

Resistance to change can stall a state's strategic vision. Nichols of Georgia recalls that some agency leaders felt reluctant at first to embrace chatbots. Then the pandemic hit. "You're suddenly seeing like 10x or 100x call center traffic or people coming to your website and it seems like, 'What have we got to lose?' People aren't getting their questions answered through the current channels." That kind of direct public input can help frame IT leaders' strategic vision.

Perhaps the greatest challenge in formulating a strategic vision for AI is validating its effectiveness.

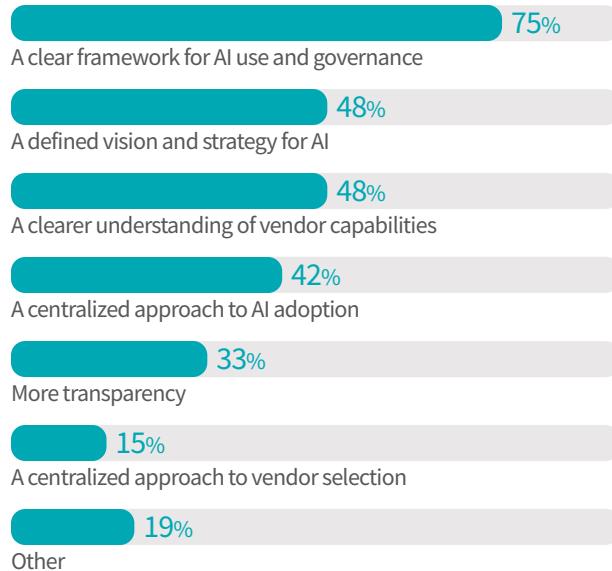
"The ROI is difficult," Hoffman says. "You're not essentially reducing your workforce, so this is not a cost-reduction effort. So, it's a capacity effort, right? How are you enabling a better capacity and a better customer experience?"

To address this, some states have established AI Centers of Excellence, as well as expanded their view of ROI.

### Skills Gaps

When asked about the required skillsets for getting the most value out of AI, 85 percent of respondents chose "understanding agency or department use cases and workflows." They placed lower emphasis on technical acumen such as machine learning and data science, data engineering and computing infrastructure.

## What is needed to support AI long term in your organization? (Select all that apply)



Meanwhile, 48 percent of respondents said they need a clearer understanding of vendor capabilities to support AI long term. This makes sense because states lean heavily on third parties to supply AI applications and support.

"There's really two groups of skills," MacMillan of Pennsylvania says. "One is the technology side of it: installing, configuring, patching and supporting software that makes the AI available to the business users. The second part is the application: Where does it fit?"

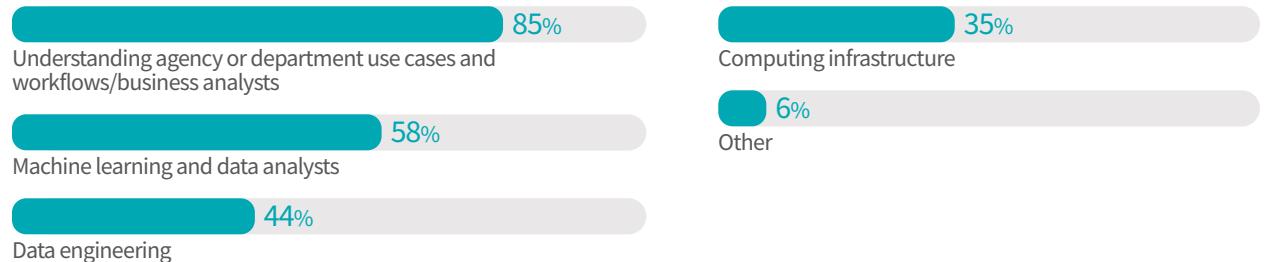
Selecting the right vendors to partner with is never easy. "There's always hesitation to have the vendor of the moment walk in and say, 'We're going to solve all your problems with this new thing you've never used,'" Brittain of Maine says.

### Legacy Technologies

Aging technologies often thwart the progress of AI adoption, which is hardly surprising given that many states have applications that are 20 to 30 years old. Sixty-five percent of respondents consider legacy modernization/technical infrastructure challenges as bottlenecks for AI adoption, while 35 percent cited lack of data or data quality issues.

However, when asked what they need most for wider AI adoption, only 44 percent pointed to core technology

## What skills are needed to get the most value out of AI? (Select all that apply)



issues like modernizing underlying data infrastructure. A clearer understanding of the AI enablers in infrastructure may be required to achieve wider adoption.

Michael Hussey, director of IT services for Utah and former CIO for the state, notes the familiar refrain among agencies: They're data rich and insight poor. "We have all this data. And yet we can't do anything with it because we don't have the resources to ingest it, digest it and make heads or tails of it."

**One-third of respondents said more transparency in areas like training, testing and development is needed to support AI over the long haul.**

### Policy Clarity

Most states are early in their journey to AI adoption, which helps explain why policy and governance issues are not considered the greatest challenges among those who replied to our survey.

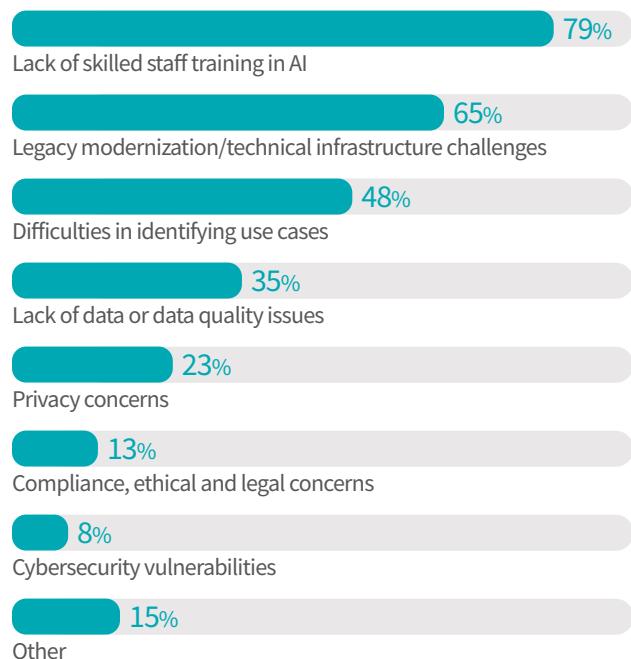
For instance, 33 percent of respondents said more transparency in areas like training, testing and development is needed to support AI over the long haul. When asked about the top bottlenecks to AI adoption, 23 percent cited privacy concerns, while only 13 percent named ethical and legal concerns.

Nevertheless, policy issues like privacy and governance weigh on the minds of the state CIOs we interviewed. "People don't want government in their back pocket, so I think we need to be very careful and very thoughtful how we think about that," Wood of Massachusetts says.

Weaver of North Carolina points to facial recognition, which has plenty of promise amid worries about privacy and bias. "I understand the biases that facial recognition can generate, but if I was a parent and my child was lost, I would want every technology available."

J.R. Sloan, Arizona's CIO, expects to adapt AI governance models from areas with proven results like cloud computing. "If it includes any cloud component, we're watching what data is involved. Where's it going? Where's it being stored? Do we have all the proper security controls?"

## What are the main bottlenecks to AI adoption? (Select all that apply)





# Greatest Hits: Three Notable AI Experiences from CIO Interviews

## UTAH

### Image Recognition for Cattle Branding

Cattle branding still matters in the 21<sup>st</sup> century. Ranchers use brands the way companies use logos — to distinguish their beef from everybody else's. Essentially, a cattle brand is a trademark that just happens to be on the hide of live Anguses and Herefords.

Ranching states like Utah maintain cattle-branding databases that require intricate written descriptions of each brand. If a steer wanders off its owner's property or rustlers steal a heifer, database queries of text-based brand descriptions can help resolve ensuing disputes.

It was tedious work before image-recognition technology came along. Utah has about 65,000 brands under the purview of the state's Department of Agriculture, says David Fletcher, CTO for the state. Now the state includes a picture of each brand. Any rancher who needs a new brand can see what's already in the database and make sure theirs is not already taken.

"And then it can go through a quick approval process via the agency," Fletcher says. "But also, if someone comes upon a stray animal, they can send a picture and quickly identify who it belongs to." (See sidebar on page 11 for more on Utah's AI-related initiatives.)

## ARIZONA

### Internal-Facing Chatbot

Most chatbots face outward, answering residents' easy questions while handing off the tough queries to humans. But in Arizona, a chatbot faces inward, helping call center employees find what they need faster, enabling them to help more people.

The state's Department of Economic Security, which handles unemployment insurance claims, must follow a raft of rules and regulations to determine eligibility for benefits. Call center agents can't memorize everything, so they enter queries in an internal chatbot to speed things along.

"For them to be able to type questions into that chatbot and get referred to the appropriate sections and references was very helpful," says J.R. Sloan, CIO for the state. "And it continues to help them to more quickly service citizen requests and applications."

## TEXAS

### Center of Excellence for AI

Texas has an ambitious AI Center of Excellence that's running more than two dozen pilot projects to test the potential of AI and demonstrate its value.

John Hoffman, deputy state CIO and CTO with the Texas Department of Information Resources, says the Center of Excellence helps people throughout the state's workforce learn what they can accomplish with AI. It's modeled on a Cloud Center of Excellence that produced strong results.

"Since March of this year, we've had over 25 different proofs of concept, dozens of different training classes, events and more to bring forward that awareness," Hoffman says. In the coming months, the state aims to use the Center of Excellence to develop sandbox environments that provide hands-on experience with the power of AI. "Driving training is another big component of that," he adds.

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# Where We're Going: Charting the Future of AI in State Governments

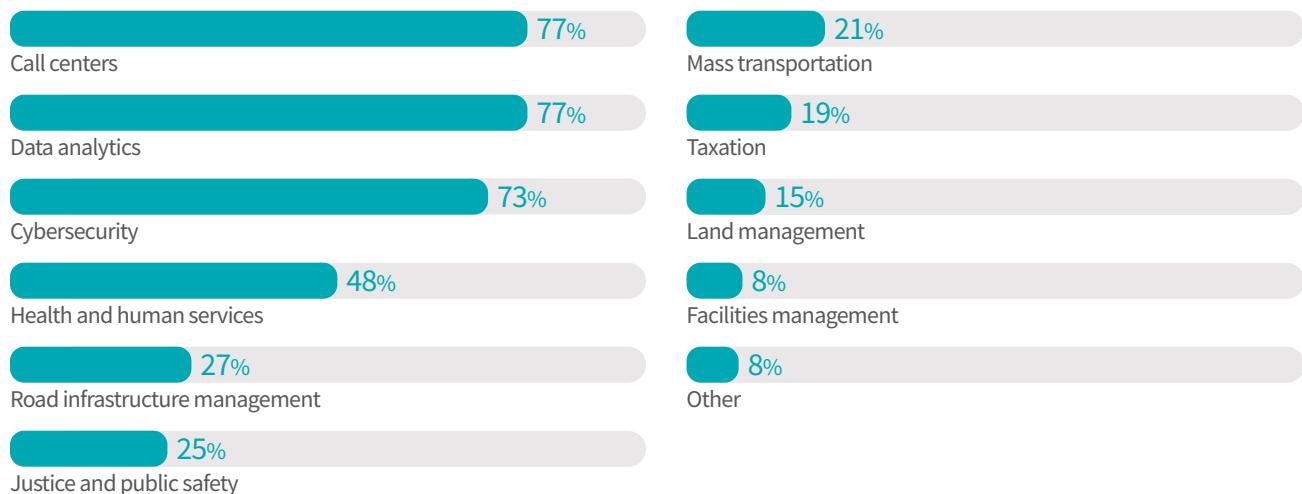
Optimism on AI's potential to transform organizations long term runs high among the state-level technology leaders we surveyed: 56 percent think transformation can happen in one to three years, while 23 percent believe it can happen right away. Another eight percent believe it can happen in less than a year.

Confidence is strong over the next 12 to 18 months, with 63 percent of survey respondents planning to use RPA and 60 percent planning to use machine learning. More

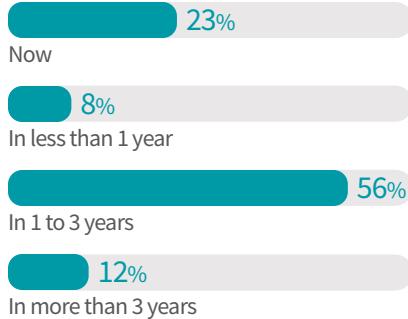
than half expect to deploy digital assistants and natural language processing.

Where will they apply these tools? Most of the surveyed CIOs expect to deploy AI in call centers and in data analytics, as well as in cybersecurity, while just under half are thinking about deploying AI in health and human services. There's less emphasis on road infrastructure management, justice/public safety and mass transportation.

## What business processes are you considering for the application of artificial intelligence? (Select all that apply)



## AI has the potential to transform my organization



Standbys such as taxation and land management are also lower AI priorities in the immediate future.

States are not going it alone on AI. Almost all the technology leaders we surveyed anticipate that AI vendors will supply implementation support. Nearly two-thirds expect vendors to use AI-enabled applications and to consult on project selection. Just over half expect help with technology awareness and AI support products.

Moe of Virginia likens progress in AI to those popular robotic vacuum cleaners: "They're getting smarter and smarter. Pretty soon, they may sense the need to proactively clean the floor based on predictive analytics and interactive algorithms." But they're not that smart yet. The same is true of AI in state agencies. In the future, AI may teach itself to improve. "Until then, we have to understand that the agency business processes and data structure have to mature. My strategy is to provide an enterprise framework and 'AI store front' so agencies large and small can take advantage of AI and the service can mature with time.

# Understanding the Surge in Robotic Process Automation

In just two years, RPA jumped from drawing boards to live production in state governments across the United States. Just under half of the state technology executives surveyed in 2021 listed RPA among their top automation applications.

What's propelling the RPA push? It's not AI-related hype. RPA does not use advanced AI-related technologies like natural language processing, machine learning or image recognition. RPA executes a series of repetitive commands in a specific order.

And it delivers measurable results. John Hoffman, deputy state CIO and CTO with the Texas Department of Information Resources, shares a revealing anecdote.

"We have seen a process which normally took almost 20 hours to go through and do reconciliation between different billing systems and vendor invoices," he recalls. "And we turned that into like three minutes."

That's the crux of RPA: Identifying manual processes where people do the same tasks repeatedly — and finding a way to automate everything. RPA has been around for decades in productivity suites.

Now it's happening at the enterprise level, squeezing out inefficiencies and removing human error from everyday business processes. Picture a clerical staffer sitting at an office desk, reading data from a laptop and entering it by hand in a mainframe terminal.

"Everyone has some kind of a swivel-chair use case where a worker is logging into two or three different systems and then somehow combining that information," says Steve Nichols, CTO with the Georgia Technology Authority. "That's where we find things that could easily be automated if there's time and inclination."

More RPA examples from state technology leaders interviewed for this year's AI survey:

- ✓ **Arizona:** Matching invoice data in the Department of Administration; creating security scorecards for state agencies; automating various financial and accounting tasks
- ✓ **Massachusetts:** Replacing handwritten forms in child services applications
- ✓ **North Carolina:** Inputting medical data; transferring intercompany data; speeding up citizen interactions
- ✓ **Pennsylvania:** Entering data; issuing pandemic-related funds
- ✓ **Utah:** Processing large volumes of data in financial and insurance-related areas

While the comfort level with RPA is rising, "robotic" terminology still unnerves people. "We are building out a set of internal capabilities to support repetitive process automation," says John MacMillan, deputy secretary for information technology and CIO for the Pennsylvania Office of Administration. "We don't use the other R word as an internal service provider."

Nichols notes that robotic processes do not appear to be taking people's jobs. "This is all augmentation," he says. For instance, RPA enables government call center staff to tackle human problems that automation could never handle. "Those jobs are still happening," Nichols says. "They're just powered by RPA now so people can get through more transactions in a day."



# Looking Ahead: AI Strategy and Tactics

**W**ith most states' AI efforts in the earliest stages, technology leaders have an opportunity to lay a firm foundation grounded in sound strategy and savvy tactics. Our interviews with state leaders revealed four core elements of an effective AI strategy: articulating a vision, preparing data, designing a framework and communicating business value.

**Vision:** When formulating a strategic vision, CIOs must examine the full breadth of AI possibilities and limitations. "You need a deep understanding of the value, costs and success points," Moe of Virginia says. Leaders will need key performance indicators that align the state's goals with AI's ability to drive business outcomes.

CIOs must bring in experts in law, accounting, cybersecurity and other core disciplines. "The adage that it takes a village certainly rings true," Hoffman of Texas says.

MacMillan of Pennsylvania agrees: "You have to look at the full cycle: not just the technology, but how the technology enables the business." Some states, like Utah, are appointing chief innovation officers to help with spearheading AI strategy.

Wood of Massachusetts poses a few questions to help clarify an AI strategy: "How can we better prioritize our spending? How do we support our businesses and meet our agency-specific applications? How can we do a better job of understanding people's needs and pain points?"

**Data:** AI leverages massive data sets to deliver accurate predictions. Thus, states must organize, standardize and format their data to make it readily digestible by AI algorithms.

"AI requires a high degree of data maturity and data structure," Moe says. "We have to find the data sets," he adds. "Then the agencies have to get help in clearing out or cleaning up their data sets."

**Framework:** State technology leaders emphasized the value of centralized guidance and standardized processes in an AI strategy. Pennsylvania, for instance, uses a maturity-model

approach, while Utah, Texas and other states rely on AI Centers of Excellence. "We're identifying ways to enable test environments and sandbox environments to really get hands-on experience," Hoffman says.

Nichols of Georgia cautions experimenters to target areas where there's a strong connection between AI capabilities and real-world needs. "Try as we might to have little groups of innovators guess how AI might be used, if they aren't out there in the trenches doing the business processes and understanding the customers, we've batted almost zero on being able to predict what's going to be useful."

**"We want to see success stories we could point out with our agencies, so they're not feeling like we're pushing something that's not quite ready for prime time."**

*— Fred Brittain, CIO, State of Maine*





**“Deploying AI requires policies for governance, processes and groups that help IT leaders balance agencies’ demands with IT departments’ supply of people.”**

*—John MacMillan, Deputy Secretary for Information Technology and CIO, Commonwealth of Pennsylvania*

**Business value:** An AI strategy needs a narrative of impact. “We want to see success stories we could point out with our agencies, so they’re not feeling like we’re pushing something that’s not quite ready for prime time,” Brittain of Maine says.

Rein of New Jersey concurs: “Successes, even small ones, and then the visibility of those successes counts for a lot,” he says. “States very frequently say, ‘Hey, what’s Utah doing? Hey, what’s Pennsylvania doing? What’s New York City doing?’”

Sloan of Arizona says communication is central to AI strategy: “I want to be a megaphone for who’s being successful with AI.” Success stories must answer specific questions, he says: “Can we build the case around the ROI? Do we have models we can apply to business processes that will tell us what to expect?”

### Tactics

The state leaders we interviewed are developing AI tactics that focus on deploying tools, automating business processes and working with vendors.

**Deployment:** Early successes in AI are showing agencies the potential of tools like natural language processing, machine learning and sentiment analysis. “Agencies are thinking of how they might apply those kinds of technologies,” says Hussey of Utah.

Deploying AI requires policies that help IT leaders balance agencies’ demands with IT departments’ supply of people, MacMillan of Pennsylvania says. The result: “When the application of the technology needs prioritization, we’re ready to flex and meet that demand,” he says.

AI must match users’ expectations, which gets easier as comfort with chatbots and other emerging tools grows. Sloan of Arizona says delivering AI-enabled services on

familiar, accepted tools “is going to be part and parcel of how we continue to meet our citizens where they’re at.”

**Automation:** State leaders need to make sure advanced automation furthers the state’s interests. “We want to be able to deploy these technology sets to solve problems where we’re making a difference for the business,” Weaver of North Carolina says.

Many state agencies realized during the pandemic that chatbots allowed quantum leaps in basic automation that answered questions on topics like unemployment and vaccinations. Hiring people to do all that is out of the question. The goal now is to improve technology and automation on the back end to give people better service on the front end.

While RPA is one back-end venue for making that happen, applying machine intelligence in automation is a more futuristic prospect. “We’re starting to discern between the repeatable stuff and the higher-order, decision-making types of tasks, where the AI is just still very, very, very early on in the learning curve,” Rein of New Jersey says.

**Vendor collaboration:** Companies that specialize in learning automation, SaaS platforms and managed services are the primary paths to AI systems for states. “We heavily lean on system integrators to run the systems for us,” says Nichols of Georgia.

That’s unlikely to change anytime soon. “We’re going to be better served working with partners who are going to have access to those skillsets,” says Sloan of Arizona. “They’re going to be fresh. They’ll have more scalability than I can have.”

“At the end of the day, it’s really about balance,” Wood of Massachusetts says. “It’s about making sure your business leaders and your citizens are part of the process and the delivery.”

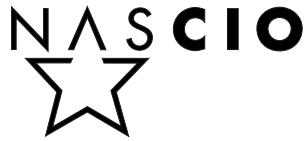
# Conclusion

The pandemic taught CIOs across the U.S. that artificial intelligence was within reach of public agency leaders. It also taught them they do not need to have an overall strategy in place to start leveraging — and getting value from — AI. To get started, agencies must look at high-volume processes to see where there may be an opportunity for improvement, and then take a tactical approach to redefine the business process. Yes, there is much more to be learned as pilot projects evolve into mainstream services. Leaders must operate with agility and recognize there will be failures — but also lessons learned. Despite the difficult challenges that lie ahead, the 2021 AI survey paints a picture of hope among states embracing intelligent automation.

Michael Hussey sees a bright future for AI. While speaking in the context of the progress in Utah, a leader in AI adoption, he may well be describing the AI landscape nationwide in the 2020s:

“I think we’re at the point of inflection here on some exciting things,” he says. “I think you’re going to see an explosion in the not-too-distant future.”

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