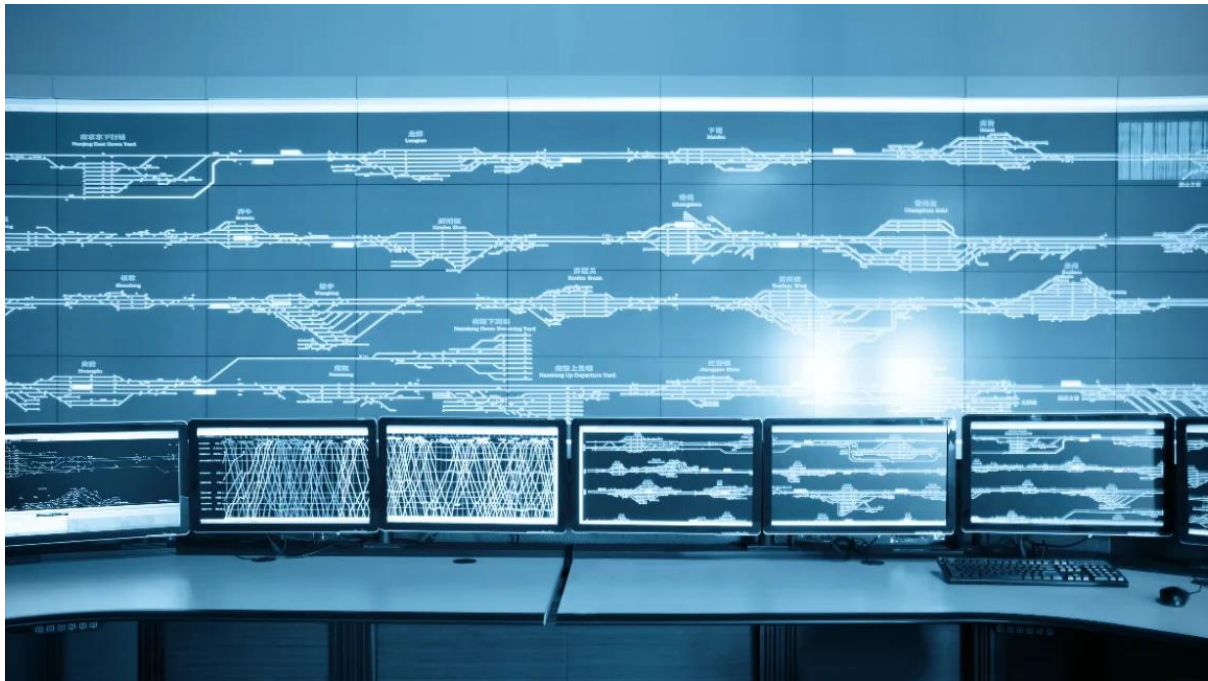# Achieving artificial intelligence results at scale: an action plan for government

Common AI platforms can help all federal agencies close the "aspiration-reality" gap

BY MEGHAN SULLIVAN AND ED VAN BUREN

What was your New Year's resolution? For most of us it was to exercise more or eat right. But, if you are like many in government, it may have been to take your initial artificial intelligence (AI) pilots and experiments up to full mission scale. Next-generation AI and machine learning (ML) capabilities are starting to deliver essential mission outcomes for government agencies ranging from defense to social security. In one survey of technology executives, 57% of public-sector respondents believe that AI is "very" or "critically" important to their organization's success today. Yet, just like a New Year's resolution on fitness requires disciplined pursuit, there is a gap between aspiration and reality in government AI. Only 28% of government executives surveyed have integrated AI into their IT environment. Closing the gap between aspiration and reality likely requires paying attention to how AI scales, not just pursuing interesting pilots.

While many government agencies have engaged with AI, the majority have launched one-off pilots limited to only one department or function. This small scale can lead to "pilot purgatory," in which AI solutions lack the architecture, infrastructure, or data disciplines to scale up to full mission needs. Only 33% of AI use cases across 142 federal agencies were fully deployed; the rest were either in the planning or piloting stage.

To achieve AI results at scale, development, deployment, and operations should be available at scale. That means having common infrastructure, architectures, data operations, and ML operations tools integrated across an organization. Common AI platforms can be key to providing those tools, thereby closing the aspiration-reality gap—and allowing government leaders to make those New Year's resolutions come true.

COMMON AI PLATFORMS TO THE RESCUE

Common AI platforms typically build on the accessibility of cloud to make the tools and infrastructure needed to develop and operate AI solutions widely available. These platforms can also include a variety of pre-built and auto-ML solutions along with repositories of models with training data to help accelerate development of AI solutions. If cloud strategy and AI planning are synchronized, cloud can help make the right capabilities available to the right teams at the right time. Common AI platforms combine the support of a top-down AI architecture strategy with a customized bottom-up solutions approach to ensure that AI solutions solve real problems—and do so in a manner that can be scaled to the need.

BRINGING THE AI ENVIRONMENT UNDER ONE UMBRELLA

The Department of Defense (DoD) is one organization looking to do just that with its Joint Common Foundation (JCF), a cloud-enabled AI development platform. The JCF brings disparate AI and ML environments, which hampered the department's ability to use and scale AI across the DoD, under a single platform. Once live, the platform will be the primary environment to develop and deploy AI in the DoD. It would promote centralized guidance of AI efforts, but unlike previous efforts that focused on JAIC-created pilots, the focus of the JCF is on making capabilities available to services to develop their own solutions. "When it's fully operational, the JCF will be a game-changer, says Major Gregory Stewart Jr., the JAIC's design branch chief, infrastructure. "Instead of expecting DoD components and our other partners to fund and create their own AI development environments, we will be able to provide highly secure virtual AI development environments to anyone authorized to use it."

ACTING AS AN AI FOUNDRY BY ACCELERATING THE DEVELOPMENT

Pre-built tools such as low- or no-code solutions, frameworks, data repositories, and repeatable patterns can cut development time for AI solutions. The platforms help to democratize AI and allow software developers, designers, data engineers, and data scientists to come together to quickly develop a solution and test their ideas. In this vein, the JCF is intended to break down barriers of developing AI solutions by providing ready-to-use tools that encourage experimentation.

AI platforms are not magic. To realize their full potential, government agencies will still need to do the basics of fostering a data-driven culture, breaking data silos and encouraging secure data sharing, finding the right AI talent, and managing model quality, auditability, and ethical use. To help, agencies should consider a few issues before deploying an AI platform:

- **Support open-source:** Support for open-source development can make it easier for leading companies and AI startups to pitch government on their AI capabilities and help government avoid vendor lock-in and exploit the large amount of innovation and venture funding in this space. But doing so generally requires a componentized platform designed from the start to adopt new services and add additional capabilities over time.
- **Develop trustworthy AI:** The more government AI scales into citizen services and core mission functions, the more important it is that AI is trustworthy and unbiased. Model assurance for high stakes decisions requires quality, ethics, and audit frameworks that enable agencies to mitigate risks associated with AI/ML and to continuously monitor and ensure the efficacy of their AI models and algorithms. Baking trustworthy AI principles and governance into common AI platforms can help ensure that AI systems adhere to security and ethical standards.
- **Integrate with IT environment:** Common AI platforms should be able to deliver solutions that fit into whatever IT environment government requires—working with current technology as well as leaving the door open for future capabilities. This requires a high-scale, security-first deployment and operations environment for deploying, monitoring, and securing AI solutions—on-premise or in any cloud/hybrid-cloud environment, in compliance with regulatory standards. Such interoperability in the platform can enable agencies to continue to use the same AI platform for various use cases in the years to come.

Facing down challenges from the COVID-19 pandemic and climate change to constrained budgets, government needs AI at scale now more than ever. A common AI platform can be a powerful tool spurring success with AI at scale and helping government make its AI resolutions a reality.