MeriTalk®
Improving the Outcomes
of Government IT

PLURALSIGHT

Future-proofing Federal IT:

A blueprint for AI workforce readiness

July 2024

Introduction

According to the Government Accountability Office (GAO), Federal agencies have nearly 1,200 current and planned artificial intelligence (AI) use cases.[1] Success, however, hinges on workforce readiness.

How can Federal IT leaders build the teams they need with the talent they have today?

MeriTalk and Pluralsight surveyed 150 Federal IT decision-makers to understand what steps they are taking to assess their staff's AI preparedness and proficiency gaps, and how they can create effective workforce development strategies to empower employees on the journey ahead.

The following report explores:

· AI adoption and expected impacts across Federal agencies
· Key workforce readiness gaps
· Top steps to assess skills and improve preparedness
· Best practices for building AI capabilities across the workforce

[1]Nondefense agencies only; source: https://www.meritalk.com/articles/nasa-commerce-far-outpacing-agencies-in-ai-use-gao-finds/

Executive summary

Federal workforce skills gap hampers early AI adoption:

While **91%** of Federal IT leaders say their agency is currently utilizing or testing AI, **72%** say their workforce lacks the necessary skillsets to use it effectively

Almost half of agencies (45%) had an AI pilot or program fail in the past year because they didn't have the in-house expertise to support it

Agencies are missing key upskilling opportunities:

All Federal IT leaders say they will need to upskill or reskill at least a portion of their workforce to effectively utilize AI – noting their biggest weakness in AI fundamentals and ethics

Still, **less than half** (49%) have a formal strategy for upskilling and even fewer have brought in external AI experts **(30%)** or created a processes to share lessons learned beyond IT **(35%)**
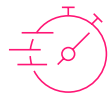
Two out of three (63%) say their agency is not moving fast enough

Going forward, IT leaders should prioritize inhouse education, knowledge sharing, and hands-on learning experiences:

90% would rather train their existing workforce than hire new staff for AI

88% say IT should work with other departments to help them understand the uses and limitation of AI

No. 1 obstacle holding workforces back from fully learning and adopting AI? Limited opportunities to apply knowledge

AI adoption and the workforce readiness gaps

While the vast majority of Federal IT leaders say their agency is utilizing or testing AI, **72%** say their workforce lacks the necessary skillsets to use it effectively. Almost half **(45%)** had an AI pilot or program fail in the past year because they didn't have the in-house expertise to support it
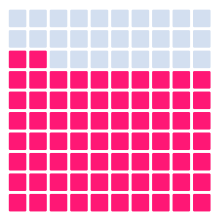
On average,

43% of Federal IT leaders
say their agency is utilizing AI; another

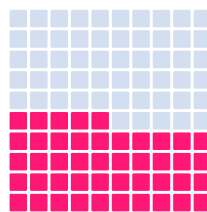# 48% are testing or
assessing the technology
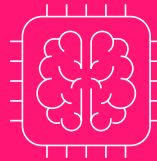
DoD agencies are further along than their civilian counterparts, with **59%** currently utilizing AI compared to **30%** of civilian agencies

While **53%** feel 'very confident' in their agency's current AI readiness,

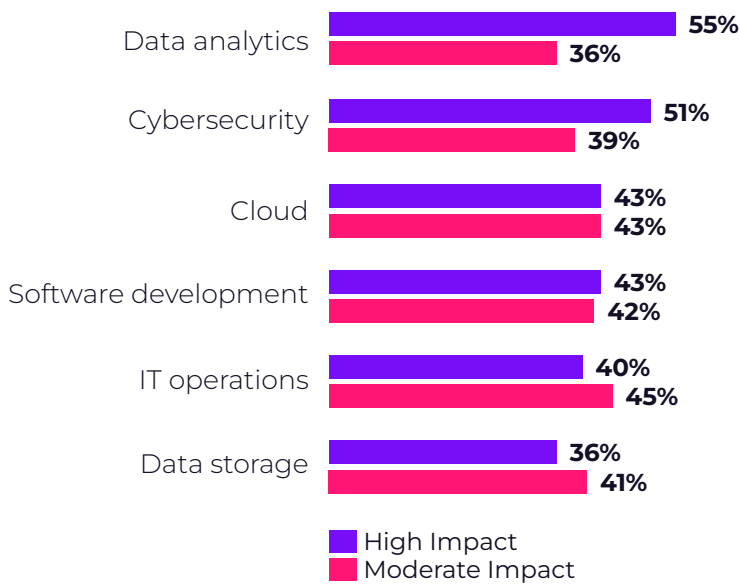**72%** say their workforce lacks the necessary skillsets to make effective use of AI technology

45% had an AI pilot or program fail in the past year because they did not have the in-house expertise to support it
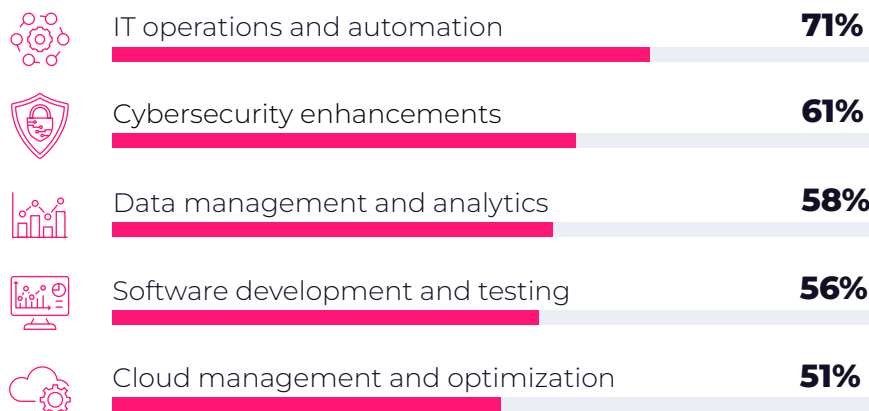
Bracing for impact

Federal IT leaders expect AI to have the biggest near-term impacts on their agency through data analytics and cybersecurity initiatives. Over the next two years, the top area they would like to see their agency start using AI is IT operations and automation.

Where will AI have the biggest impact on your agency over the next two years?

Category	High Impact	Moderate Impact
Data analytics	55%	36%
Cybersecurity	51%	39%
Cloud	43%	43%
Software development	43%	42%
IT operations	40%	45%
Data storage	36%	41%

■ High Impact
■ Moderate Impact

Where would you like to see your agency start to use AI in the next two years?

IT operations and automation	71%
Cybersecurity enhancements	61%
Data management and analytics	58%
Software development and testing	56%
Cloud management and optimization	51%

Drilling down into workforce needs
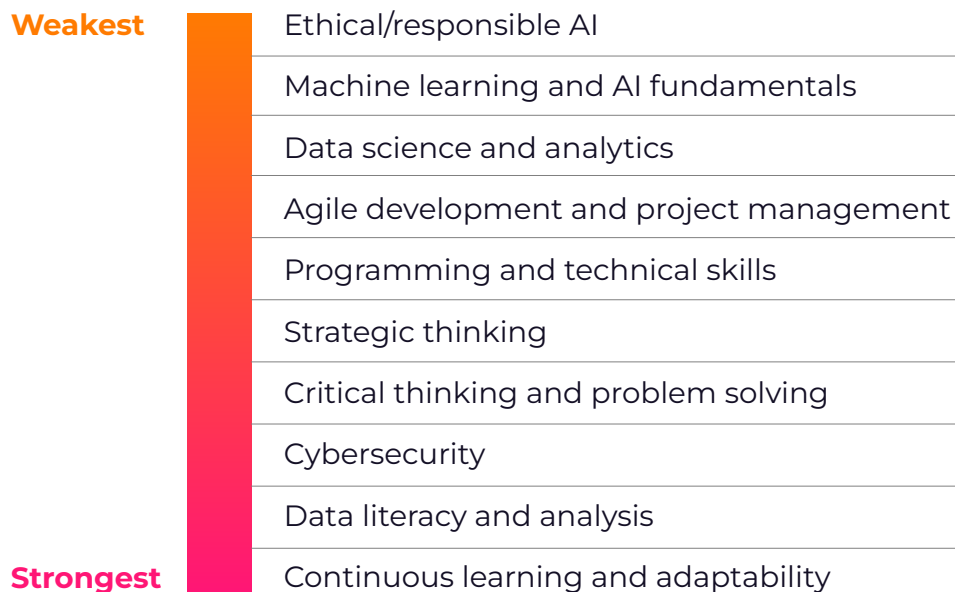
All Federal IT leaders say they will need to upskill or reskill at least a portion of their workforce to effectively utilize AI. With their biggest weaknesses in AI being ethics and fundamentals, two out of three say they are not moving fast enough to prepare.

What percentage of your agency's workforce do you think will need to upskill or reskill to effectively utilize AI?

0%	8%	33%	49%	10%
0%	1-25%	26-50%	51-75%	76-100%
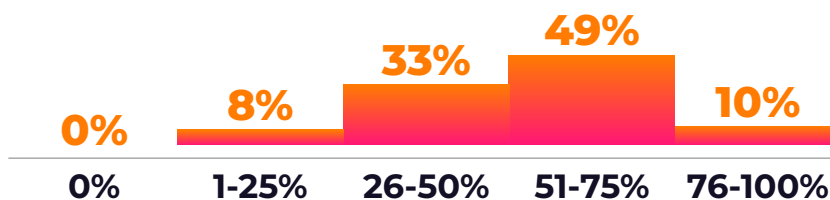
How would you rate your agency's existing workforce knowledge in each of the following areas?

Weakest

Ethical/responsible AI

Machine learning and AI fundamentals

Data science and analytics

Agile development and project management

Programming and technical skills

Strategic thinking

Critical thinking and problem solving

Cybersecurity

Data literacy and analysis

Strongest

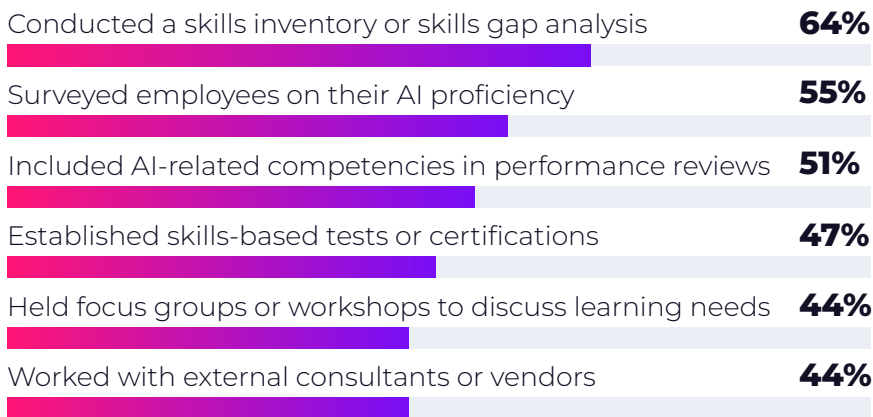Continuous learning and adaptability

Two out of three

63% say their agency is **not moving fast enough** to prepare their workforce for AI
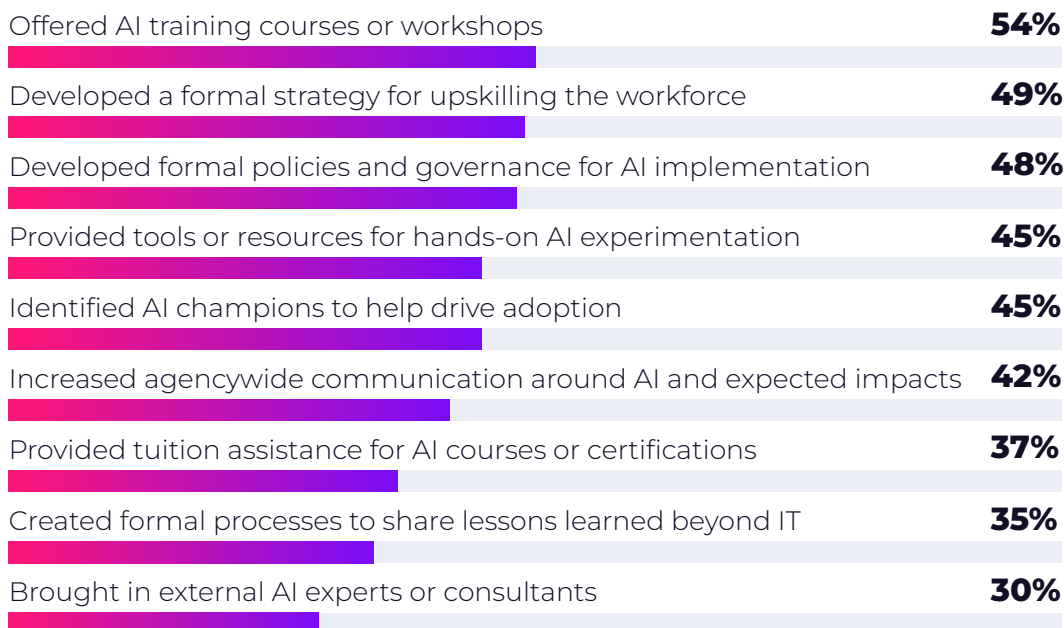
Steps in the right direction

While **64%** of Federal IT leaders say their agency has conducted a skills inventory to help assess its workforce's AI knowledge, less than half **(49%)** have a formal strategy for upskilling. Significantly fewer have created formal processes to share lessons learned beyond the IT department **(35%)** or brought in external AI experts or consultants to help with employee development **(30%)**.

What steps has your agency taken to assess its workforce in terms of AI?

Conducted a skills inventory or skills gap analysis **64%**

Surveyed employees on their AI proficiency **55%**

Included AI-related competencies in performance reviews **51%**

Established skills-based tests or certifications **47%**

Held focus groups or workshops to discuss learning needs **44%**

Worked with external consultants or vendors **44%**

DoD organizations are significantly more likely than their civilian counterparts to have conducted a skills inventory, **74%** to **56%**

What steps has your agency taken to help prepare its workforce for AI?

Offered AI training courses or workshops **54%**

Developed a formal strategy for upskilling the workforce **49%**

Developed formal policies and governance for AI implementation **48%**

Provided tools or resources for hands-on AI experimentation **45%**

Identified AI champions to help drive adoption **45%**

Increased agencywide communication around AI and expected impacts **42%**

Provided tuition assistance for AI courses or certifications **37%**

Created formal processes to share lessons learned beyond IT **35%**

Brought in external AI experts or consultants **30%**

Overcoming obstacles

Despite some progress, Federal IT decision-makers say "developing workforce skillsets" is the No. 1 area their agency needs help integrating AI over the next two years – beating out other key needs in data management, legacy integration, and impact measurement. Top roadblocks to success center around culture including limited opportunities to apply knowledge, lack of leadership support, and resistance to change.

In which areas do you feel your agency needs the most help integrating AI into your existing IT systems over the next two years?

#1 Developing workforce skillsets

#2 Improving data management and structure

#3 Integrating AI with legacy technology

#4 Measuring the impact of AI implementations

#5 Prioritizing AI projects

#6 Ensuring ethical, non-biased usage

Civilian agencies are significantly more likely than their DoD counterparts to say they need help improving data management, 54% to 31%

What obstacles continue to hold you back?

#1 Limited opportunities to apply knowledge **42%**

#2 Lack of support from leadership **33%**

#3 Cultural resistance to change **31%**

**#4** Security concerns **30%**

Civilian agencies are significantly more likely than their DoD counterparts to flag their lack of resources for training and a major obstacle, 37% to 21%

Looking inward

While significant work remains, Federal IT leaders recognize the value of upskilling their existing workforce – **nine in ten** would prefer to build AI proficiency inhouse than hire externally. When it comes to recommended strategies, IT decision-makers say internal training programs and online courses are likely to be most effective. Experiential techniques like mentorship programs, cross-training opportunities, and developmental conferences also garner support.
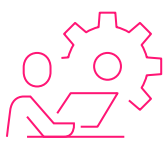
Going forward,

90% would rather train their existing workforce rather than hire new staff for AI

What strategies do you feel would be most effective to help your agency develop AI technology knowledge within the existing workforce?

#1 Internally provided training program **(62%)**

#1 Online courses or certifications **(62%)**

#3 Mentorship/coaching program **(56%)**

#4 Cross-training within teams **(43%)**

#5 Opportunities to attend development conferences **(39%)**

Civilian agencies are significantly more likely than their DoD counterparts to see value in mentorship programs, 70% to 40%

Bridging departmental silos

In addition to building skills within their own department, Federal IT leaders recognize the importance of democratizing AI knowledge across the agency. Breaking down silos and opening new lines of communication and education around AI will be key to driving agencywide efficiencies, enhancing decision-making, and expanding mission capabilities.

While **88%** say it is necessary for their agency's IT department to work with other departments to help them learn and understand the uses and limitation of AI,

73% feel cultural silos make it difficult to share AI knowledge with non-IT departments

Does your agency currently offer AI-related continuing education for your non-IT workforce?

5%
No, with no plans to start

33%
No, but we are planning to start soon

62%
Yes
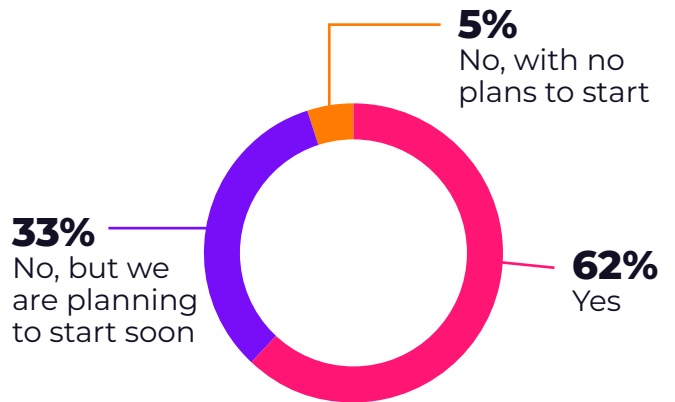
What's working?

"
We held a cross-department workshop where the IT team showed non-IT employees how to use AI tools to improve work efficiency"

"Our IT department developed a user-friendly dashboard that visually presents data insights derived from the AI algorithms and then shares them with various departments, enabling them to make data-driven decisions without requiring technical expertise"

"IT hosts quarterly AI showcase events where they demonstrate real world AI projects implemented within the agency. Non-IT employees are invited to see first hand how AI technologies are improving processes, enhancing decision-making, and driving efficiency"

Accelerating knowledge share

What specific recommendations would you give other agencies for improving the way they share AI learnings and encourage their application across departments?

" Create user-friendly documentation ... that explains AI concepts and tools in non-technical language"

" Include AI training in your continuous professional development and onboarding processes"

" Open up feedback channels so that employees in different departments can give timely feedback and get solutions when they encounter problems"

" Encourage employees from different departments to collaborate on [AI] projects"

" Plan workshops or seminars with an AI theme to present case studies and successful implementations"

" Develop an AI mentorship program that pairs IT specialists with non-IT personnel to facilitate knowledge transfer and skill development"

" Establish an internal communication platform ... to facilitate information sharing and discussion between different departments"

Recommendations for a modern AI workforce

Start with a comprehensive workforce skills audit

Building a future-proof AI workforce starts with an understanding of your current capabilities. Conduct a comprehensive skills assessment to identify your team's strengths and weaknesses. This can involve a combination of self-assessments and manager feedback to gauge staff proficiency in areas like AI/ML fundamentals, ethical considerations, data analytics, and agile project management.

Prioritize development in high-impact areas

With AI expected to have the highest near-term impacts in data analytics and cybersecurity, agencies should prioritize skills vital to success in these domains. Establish role-specific skills pathways for data analysts, cybersecurity analysts, cloud engineers, and other roles primed for AI impact. Additionally, individual agencies should identify areas unique to their mission that would benefit most from AI implementation and determine what specific skills they need to excel.

Champion learning by doing

To maximize growth opportunities, couple traditional training methods like online courses with hands-on experiences via secure test environments and realistic mock projects. This approach allows employees to immediately apply new knowledge in simulated settings, fostering rapid skills development and boosting confidence. Regularly track progress through assessments or project milestones, and proactively solicit feedback to refine your training program and measure success over time.

Improve knowledge sharing across the agency

To bridge the knowledge gap between IT and non-IT teams, agencies should emphasize a culture of continuous, collaborative learning. Establish knowledge-sharing channels like internal workshops or online forums where IT leaders can present AI concepts in a clear, accessible manner for non-technical audiences. Communicate current AI efforts and benefits throughout the agency and encourage cross-team collaboration to maximize the overall impact of your AI strategy.

Methodology and demographics

MeriTalk, in collaboration with Pluralsight, surveyed 150 Federal IT decision-makers in March and April 2024. The quantitative research has a margin of error of **±6.93%** at a **95%** confidence level.

Organization type:

55% Federal government – Civilian agency

45% Federal government – DoD or Intelligence agency

Job title:

15% Executive-level IT decision-maker (CIO, CTO, CISO, etc.)

11% Deputy executive-level IT decision-maker (Deputy CIO, CTO, CISO, etc.)

38% IT Director/Supervisor

14% IT Program Manager or Specialist

9% Artificial Intelligence/Machine Learning Program Manager or Specialist

5% Cybersecurity Manager or Administrator

5% Cloud, Data Center, or Network Manager or Administrator

3% Software/Applications Manager or Administrator

100%
of respondents are familiar with their agency's use of AI and other emerging technologies