MeriTalk

From Pilots to Proficiency: Operationalizing Federal AI

Underwritten by

DELL Technologies

NVIDIA

Introduction

On March 1st, 2021, the National Security Commission on Artificial Intelligence (NSCAI) published a report recommending Federal leaders **double research and development spending for AI** each year, targeting $32 billion by fiscal year 2026.*

How can agencies use this momentum to **operationalize AI** – especially at the network's edge? What challenges do they face? Importantly, what are Federal AI leaders doing differently?

MeriTalk, in partnership with Dell Technologies and NVIDIA, surveyed **150 Federal IT decision makers** familiar with their agency's AI efforts to explore Federal AI readiness, use cases, and inhibitors to adoption at scale.

*https://www.nscai.gov/wp-content/uploads/2021/03/Full-Report-Digital-1.pdf

Executive Summary

Federal AI pilots are proliferating:

The majority of Federal IT decision makers say their agency has **more than 10** AI pilots

Current top focus areas are edge applications (**46%**), modeling/simulations (**45%**), and Robotic Process Automation (RPA) (**43%**)

But, agencies are struggling to operationalize AI efforts:

71% say their agency is struggling to take localized AI pilots or skunkworks programs and incorporate them into overall IT operations

Less than half have taken critical steps to establish a foundation for widespread AI integration, and **81%** say their agency needs help understanding what an AI-ready compute infrastructure looks like

IT leaders say AI at the network's edge is vital for progress:

85% say the government needs to do more to embrace AI technologies at the edge

Federal AI leaders are significantly more likely than their peers to say federated learning is one of their agency's top AI priorities (**90%** to **64%**)

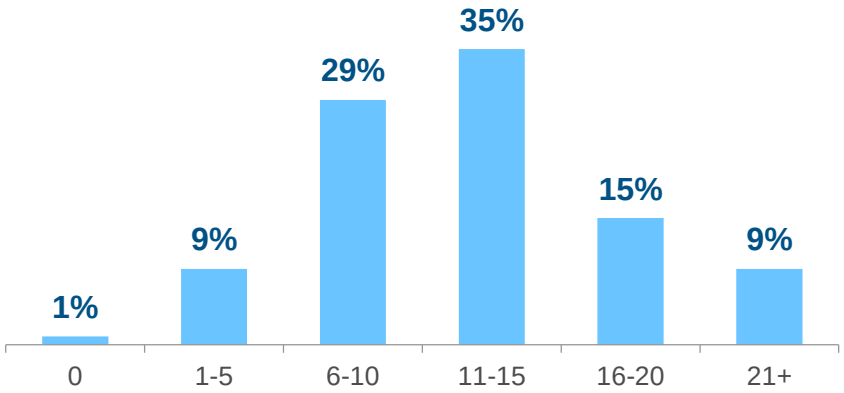
The AI Opportunity

see **operationalizing Federal AI**
as the cornerstone of a
digital-first government

Burgeoning Pilots

The majority of Federal IT decision makers say their agency has **more than 10** AI pilot programs

Approximately how many AI pilots is your agency currently implementing?*



*The remaining 2% selected ‘unsure’

Why Enterprise AI

How have initial AI applications impacted your organization?

> *We have various AI systems that **protect us from cybersecurity threats**"*

> *AI is leading a key role in establishing a **strong strategy execution roadmap**"*

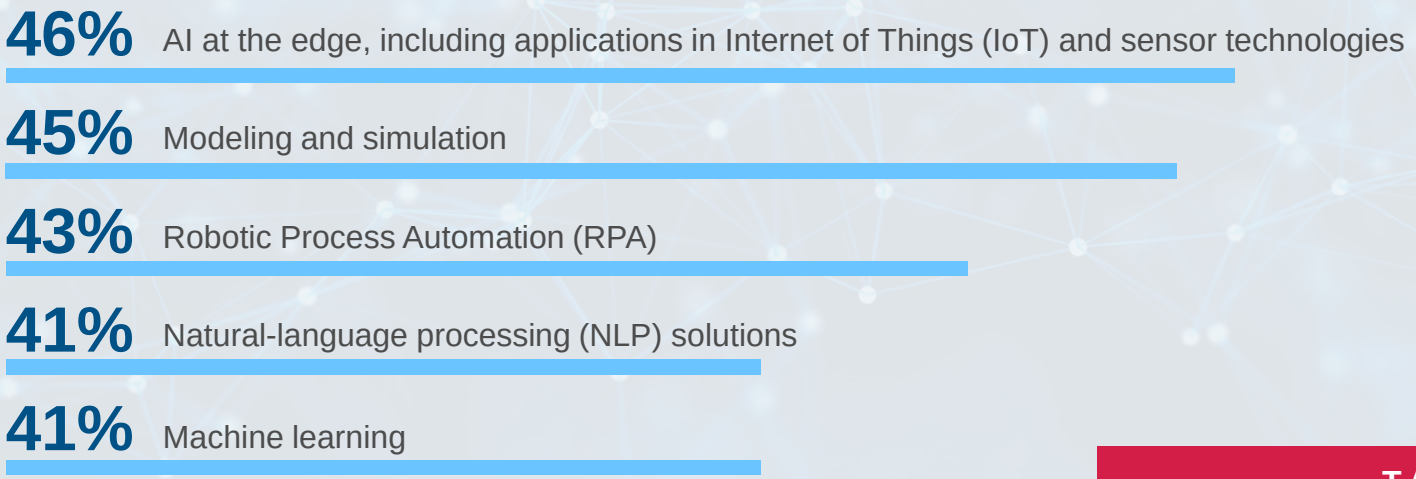
> *[We are] using AI to increase **efficiency and cost savings**"*

> *Our agency uses AI for **better accuracy** and **improved analytics**"*

TAKEAWAY:
Pilots are Paying Off

Current Focus Areas

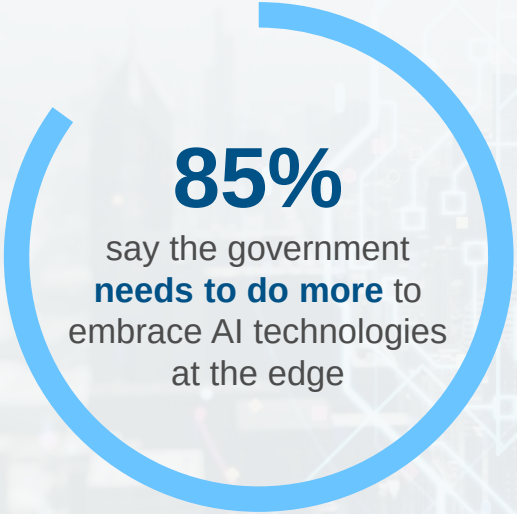
Which of the following AI capabilities, if any, is your organization currently adopting?*



*Those with at least one pilot asked to select all that apply

TAKEAWAY:
Edge Gaining Ground

Embracing the Edge



Most attractive edge applications?*

- AI model training (47%)
- Intelligent surveillance (45%)
- High-performance computing (HPC) (45%)
- Intelligent wearable technology (45%)
- Facial recognition (43%)
- Intelligent video analysis (41%)

*Respondents asked to select all that apply

Edge Challenges

Top challenges to deploying AI models at the edge?*

- #1 Data center level security concerns (**50%**)
- #2 Power consumption/availability (**43%**)
- #2 Systems management expertise (**43%**)
- #4 Limits on size and weight of computer nodes (**42%**)
- #4 Model retraining needs (**42%**)
- #6 Latency issues (**33%**)

*Respondents asked to select all that apply

TAKEAWAY:
Need Security, Availability, & Expertise

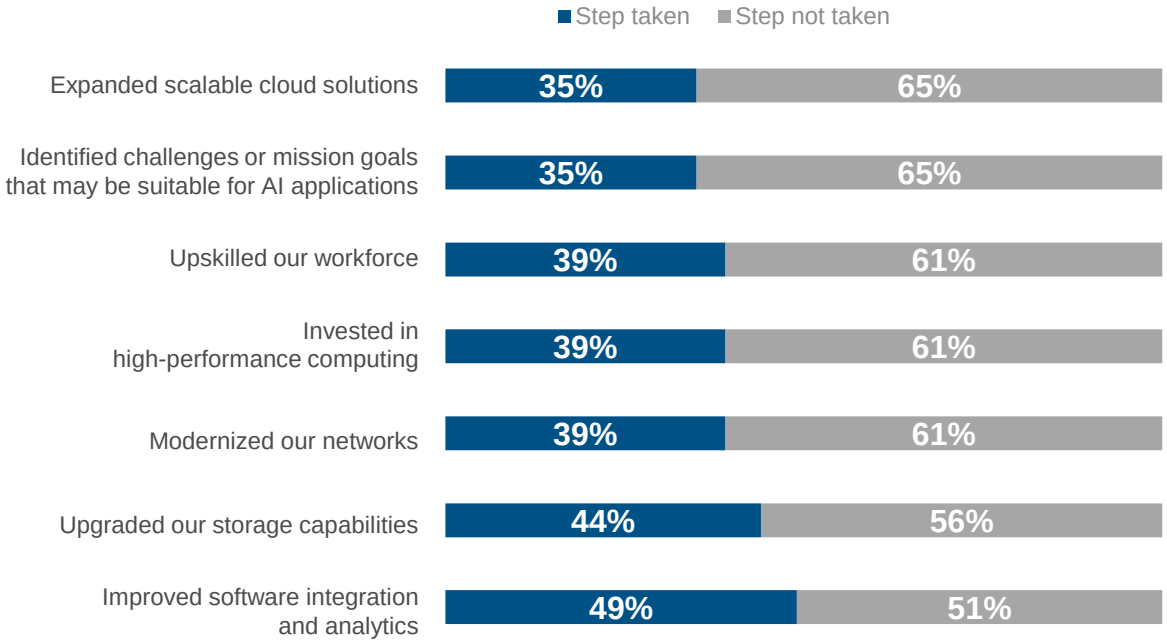
AI's Big Hurdle

say their agency is **struggling to take localized AI pilots** or skunkworks programs and **incorporate them** into overall IT operations

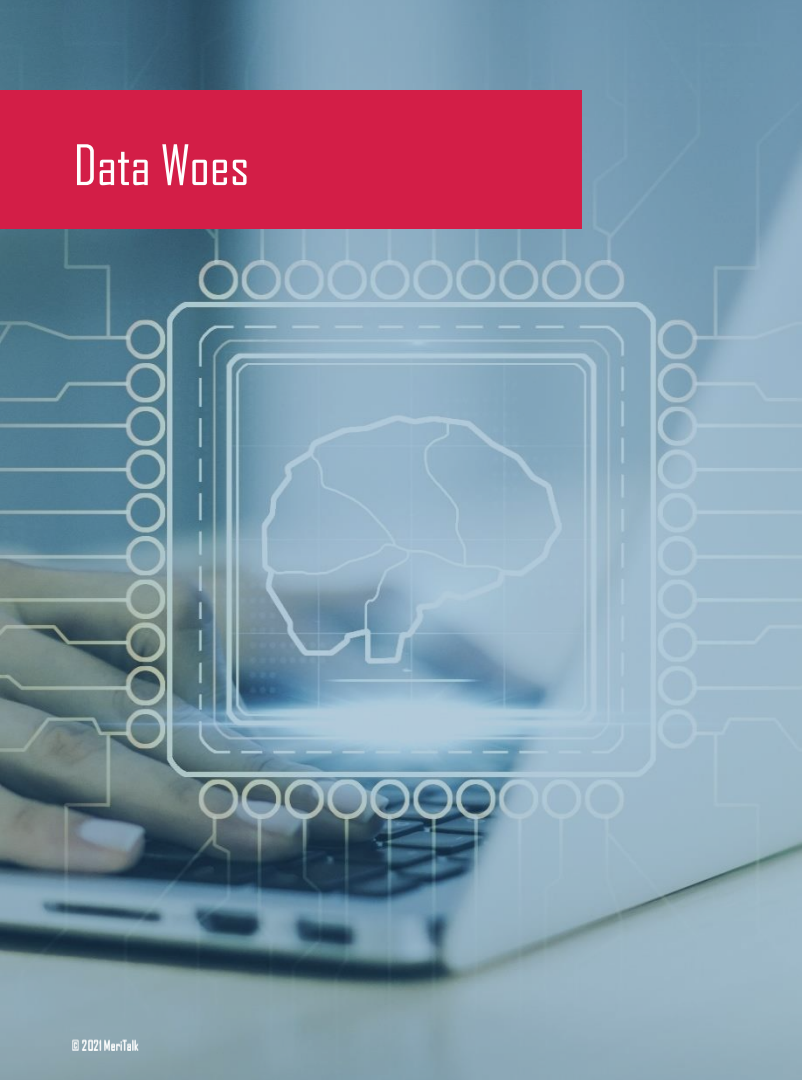
81% say their agency **needs help** understanding what an AI-ready compute infrastructure looks like

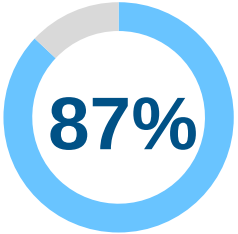
Readiness Gaps

Less than half have taken critical steps to establish a foundation for widespread AI integration:

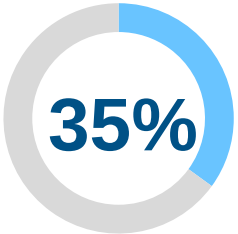


Data Woes

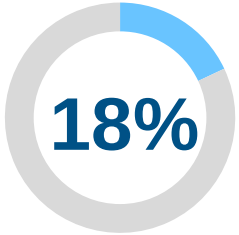




While **87%** say their agency has a **comprehensive data strategy**



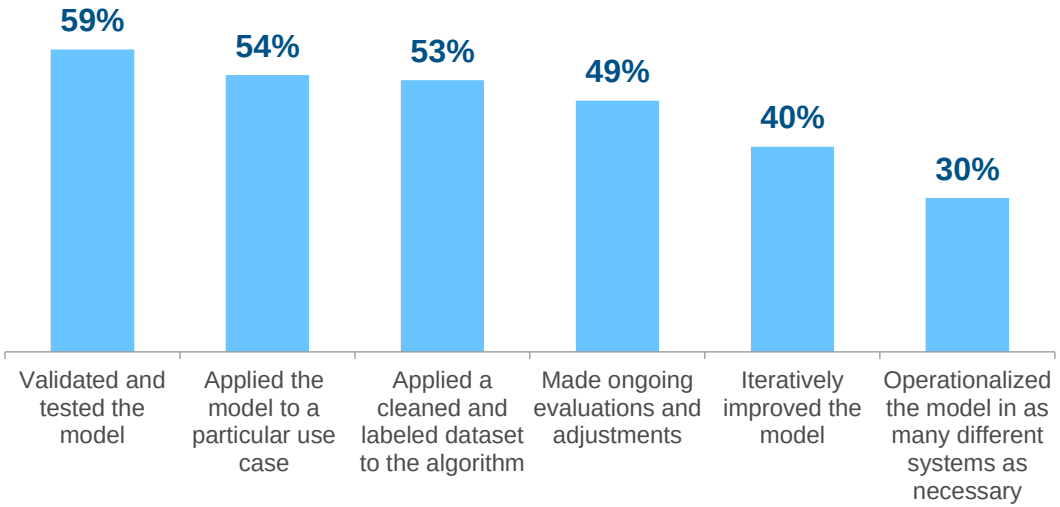
Just **35%** are implementing agency-wide **data management and governance**



And, only **18%** say their agency's data management is completely **prepared to operationalize AI**

Steps That Move AI Forward

Think of the AI pilot program that is furthest along:
What steps has your agency taken to **operationalize** that program?*



*Those with at least one pilot asked to select all that apply

Learning From the Leaders

Those **ahead of the AI curve*** are significantly more likely than their peers to:

Report **advanced data maturity** – implementing agency-wide data management and governance, and using data as a high-value asset (43% to 28%)

Have **modernized their networks** (49% to 31%) and invested in **high-performance computing** (49% to 30%)

Focus current AI efforts on **low hanging fruit** like virtual customer assistance or chatbot applications (44% to 29%) and natural-language processing (NLP) solutions (51% to 32%)

Say **federated learning**, a machine learning approach that computes at the device itself using local data, is one of their agency's top AI priorities (90% to 64%)

TAKEAWAY:
Foundational Investments & a Focus on Federated Learning Set Leaders Apart

*Those who described their agency's AI proficiency as "ahead of the curve" compared to their Federal peers

From Pilots to Proficiency

90% say the Federal government must quickly and responsibly **adopt AI** to protect the United States' technological advantage

Federal IT leaders want to see their agency achieve enterprise-wide AI proficiency in the next **3-4 years**

What does your agency most need to continue moving AI forward?*

53%	Improved data governance
51%	Advancements in software/analytics
49%	Increased AI talent/AI-related skillsets
43%	Support from executive leadership
43%	Increased AI availability at the edge

*Respondents asked to select all that apply

Recommendations

Take a Holistic Approach

While Federal agencies are actively investing in AI pilot programs, the vast majority of IT leaders say their agency is struggling to incorporate AI into overall IT operations.

To move enterprise AI forward, agencies must take a holistic view of AI-ready compute infrastructure. This incudes modernizing their networks, upgrading storage capabilities, investing in high-performance computing, and expanding scalable cloud solutions.

Prioritize Data Management

In addition to compute infrastructures, agencies must also address data challenges – including data complexities and silos, and a lack of clean, usable data. Fewer than one in five say their agency's data management is completely prepared to operationalize AI.

Agencies must learn from Federal AI leaders with mature data strategies, integrating agency-wide data management and governance, and using data as a high-value asset.

Embrace the Edge

The majority of Federal IT decision makers say the government needs to do more to embrace AI technologies at the edge. They report interest in AI model training, intelligent surveillance, and high performance compute – with AI leaders especially focused on federated learning.

To scale AI applications at the edge, agencies must address data center security concerns, power consumption/availability, and systems management expertise.

Methodology

Respondent job titles

C-suite (CIO, CTO, CISO, or other executive-level IT decision-maker)	14%
IT Director Supervisor	24%
IT Systems Engineer/Administrator	33%
Data Center Manager/Administrator	13%
IT Program/Functional Lead or Manager	6%
AI/HPC Manager or Engineer	4%
Other IT Manager or decision-maker	6%

Employer

Federal Government: Civilian agency	44%
Federal Government: DoD or Intel agency	41%
Federal Systems Integrator	15%

Expertise

100% of qualifying respondents are familiar with their agency's use of or plans for artificial intelligence

MeriTalk, in partnership with Dell Technologies and NVIDIA, conducted an online survey of 150 Federal IT decision makers familiar with their agency's use of or plans for artificial intelligence in April 2021. The report has a margin of error of ±7.97% at a 95% confidence level.

Thank You

Underwritten by

DELL Technologies

NVIDIA

www.meritalk.com

report@meritalk.com