



# **Securing the R&D Edge: AI as Strategic Infrastructure for Government Science and Oversight**

# Executive Summary

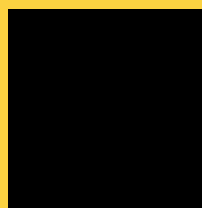
Artificial intelligence is no longer a research enhancement—it is national infrastructure.

With the July 2025 release of [America's AI Action Plan](#) and three related Executive Orders, the U.S. government has made its position clear: AI must be developed and deployed responsibly, transparently, and with national security in mind. But while adversaries weaponize open science for strategic advantage, many U.S. agencies still rely on outdated tools and manual oversight that were never built for the AI age.

## **Digital Science is changing that.**

We embed explainable, auditable AI into every layer of our platforms—empowering government agencies to detect risk, enforce research integrity, and align scientific investments with national priorities.

This paper explores how our AI capabilities support the Administration's AI mandates, OSTP's guidance on responsible research, and agency-level missions to safeguard innovation.



## The Strategic Threat: Research is the New Attack Surface

Foreign influence operations don't always involve hacking. Increasingly, our adversaries are weaponizing research through:

- Undisclosed affiliations in research partnerships
- Talent programs that bypass export controls
- Biased or falsified studies published under the banner of trusted science

New federal mandates require that agencies assess and manage these risks through improved transparency, secure infrastructure, and tools that can scale oversight.

Using artificial intelligence, Digital Science provides the research intelligence backbone that meets this moment.

## AI as a Force Multiplier for Oversight and Intelligence

Across our platforms—Dimensions, Symplectic, Altmetric, and Figshare—AI is not a bolt-on. It's a core capability used by public sector clients to:

- Map global researcher networks and flag suspicious affiliations
- Track AI research trends with dual-use potential or foreign influence risks
- Monitor funding and publication outcomes for compliance and impact
- Automate audits and reduce manual workload for research integrity teams

In short: AI that helps governments lead in R&D, not just react.



# The Digital Science AI Stack – Built for Federal Environments

We've engineered an AI stack specifically for the complexity, sensitivity, and compliance requirements of government research and development. Every layer—from natural language processing to secure deployment—supports federal mandates like [Executive Order 14303](#), enabling explainable, auditable, and secure research intelligence at scale.

Below is a breakdown of the core capabilities that power our solutions across agency environments.

Capability	Solution
NLP & ML	✓ Entity recognition, COI flagging, institutional disambiguation
LLMs (Custom)	✓ Semantic search, reviewer discovery, predictive impact modeling
LLMs (Custom)	✓ Interconnected data across people, institutions, funders, and research
APIs / Secure Integration	✓ Pending 2026 certification, FedRAMP-aligned delivery into agency workflows and platforms

## Looking Forward: GenAI with Guardrails

We're advancing human-in-the-loop, explainable GenAI applications that support:

- Secure literature review and synthesis
- Conversational research dashboards
- AI-assisted proposal and reviewer evaluation

Always governed by ethical constraints and institutional controls to protect mission integrity.

## Government-Driven Use Cases



### Research Security & Integrity

Detect dual affiliations, foreign funding, and ghost affiliations using machine learning trained on over **160M publications, 7M grants, and 1.5M researchers**.



### Funding Strategy & Portfolio Optimization

AI-supported tools benchmark research outcomes, flag overlap or underperformance, and help prioritize grants aligned with national objectives.



### Horizon Scanning for AI & Emerging Tech

AI identifies weak signals and research momentum—helping policy leaders stay ahead of adversarial developments and dual-use technologies.

# Conclusion: AI is Now a Matter of Policy— and Power

Research is no longer neutral terrain. It's a strategic asset, and a potential vector for risk.

Digital Science delivers AI you can trust—designed for government oversight, national research integrity, and compliance.

If your agency funds, evaluates, or secures research, it's time to move from fragmented tools to strategic intelligence.

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## Let's Talk

[Read about our AI commitments](#)

[Learn more about how we can help your agency](#)

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