

Insights: Alert

Genesis Mission Artificial Intelligence Executive Order – President Trump Establishes National AI Platform and Objectives for Issues of National Significance

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On November 24, 2025, President Trump signed an [Executive Order](#) titled “Launching the Genesis Mission.” The Genesis Mission is a “dedicated, coordinated national effort to unleash a new age of AI accelerated innovation and discovery that can solve the most challenging problems of this century.” More specifically, the Genesis Mission is a federal initiative led by the Department of Energy (“DOE”) designed to leverage the nation's data sets, computing assets, and other AI-related resources to support the development of advanced AI capabilities, including training scientific foundation models and creating AI agents, for the federal government to utilize. The Genesis Mission is intended to address robotics, advanced manufacturing, biotechnology, critical materials, nuclear fission and fusion energy, quantum information science, semiconductors and microelectronics, and other issues of national importance that will be identified in an initial set of “science and technology challenges” within 60 days of the date of the Order. The Executive Order is the most recent in President Trump's extensive efforts to champion American AI dominance and builds on his “[America's AI Action Plan](#),” announced on July 23, 2025.

The Genesis Mission and the American Science and Security Platform

The Executive Order states that it establishes the Genesis Mission as, “a national effort to accelerate the application of AI for transformative scientific discovery focused on pressing national challenges.” The Secretary of Energy (“Secretary”) is described as “responsible for implementing the Mission within DOE [...] including [...] setting priorities and ensuring that all DOE resources used for elements of the Mission are integrated into a secure, unified platform.” Meanwhile, the Assistant to the President for Science and Technology (“APST”) is tasked with overall Mission leadership as well as coordinating across agencies through the National Science & Technology Council (“NSTC”). Relatedly, the Executive Order states that agencies will align “their AI-related programs, datasets, and research and development activities with the objectives of the Mission in their respective areas of expertise.”

In furtherance of the Genesis Mission, the Executive Order establishes the American Science and Security Platform (“Platform”) to serve as its infrastructure. The Executive Order states that the Platform is established with the purpose of providing:

- (i) high-performance computing resources, including DOE national laboratory supercomputers and secure cloud-based AI computing environments, capable of supporting large-scale model training, simulation, and inference;
- (ii) AI modeling and analysis frameworks, including AI agents to explore design spaces, evaluate experimental outcomes, and automate workflows;
- (iii) computational tools, including AI-enabled predictive models, simulation models, and design optimization tools;
- (iv) domain-specific foundation models across the range of scientific domains covered;
- (v) secure access to appropriate datasets, including proprietary, federally curated, and open scientific datasets, in addition to synthetic data generated through DOE computing resources, consistent with applicable law; applicable classification, privacy, and intellectual property protections; and Federal data-access and data-management standards; and
- (vi) experimental and production tools to enable autonomous and AI-augmented experimentation and manufacturing in high-impact domains.

The Executive Order further provides that the Secretary will take necessary steps to ensure that the Platform meets security requirements “consistent with its national security and competitiveness mission.”

Timelines

The Executive Order sets out a series of key timelines to guide implementation. For example, within 120 days of the date of the Order, the Secretary must “identify a set of initial data and model assets for use in the Mission, including digitization, standardization, metadata, and provenance tracking,” and must also “develop a plan, with appropriate risk-based cybersecurity measures, for incorporating datasets from federally funded research, other agencies, academic institutions, and approved private-sector partners, as appropriate.” Within 240 days of the date of the Executive Order, the Secretary is directed to “review capabilities across the DOE national laboratories and other participating Federal research facilities for robotic laboratories and production facilities with the ability to engage in AI-directed experimentation and manufacturing, including automated and AI-augmented workflows and the related technical and operational standards needed.” Within 270 days, and “consistent with applicable law and subject to available appropriations,” the Secretary is to “seek to demonstrate an initial operating capability of the Platform for at least one of the national science and technology challenges identified pursuant to section 4 [(Identification of National Science and Technology Challenges)] of this order.”

The Executive Order also establishes an ongoing reporting cadence. Within one year of the date of the Order, and on an annual basis thereafter, the Secretary must submit a report to the President outlining the status, capabilities, progress, and recommendations concerning the implementation of the Mission and Platform.

Looking Ahead

The Genesis Mission marks another major step in the federal government's approach to AI-enabled scientific research and reflects the Administration's continued emphasis on strengthening American leadership in this space. As DOE and other agencies begin implementing the timelines and responsibilities outlined in the Executive Order, additional details, guidance, and opportunities for engagement are expected to emerge.

Impacted entities should anticipate further clarity as the Administration identifies national science and technology challenges and begins building out the underlying infrastructure to implement the Order. We will continue to monitor these and other federal AI developments and provide updates as the government advances its initiatives.

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