

New fusion office created in DOE restructuring

By Lindsay McKenzie

The Department of Energy announced in November a major reorganization that creates several offices and merges, moves, or renames others. Some offices at the agency appear to have been eliminated. It is unclear whether the actions will lead to staff reductions.

Dario Gil, undersecretary for science, will now manage the existing Office of Science plus four other offices, including the newly created Office of Fusion and Office of Artificial Intelligence and Quantum.

It is unclear whether the Office of Fusion will take over the entirety of the Fusion Energy Sciences division, which is currently housed in the Office of Science. The Fusion Industry Association welcomed the creation of a stand-alone Office of Fusion. “This shift has been a long-standing FIA priority, and we’re encouraged to see DOE take this step to streamline and elevate fusion programming,” the trade association said in a statement posted on social media.

The Office of Energy Efficiency and Renewable Energy is not listed on the latest DOE organizational chart, but reports suggest that EERE will form part of the new Office of Critical Minerals and Energy Innovation. The Office of Fossil Energy appears to have been transferred to the undersecretary of energy and renamed the Hydrocarbons and Geothermal Energy Office—a name that suggests that it will take on geothermal R&D programs previously managed by EERE.

The Office of Clean Energy Demonstrations is not listed on the new organizational chart. Energy Secretary Chris Wright signaled his desire to shutter the office earlier this year. The Advanced Research Projects Agency-Energy, which President Trump sought to eliminate in his first term, remains on the new chart.

Department of Defense narrows R&D priorities

By Lindsay McKenzie

The Department of Defense has pared its list of critical technology areas from 14 down to 6, reflecting a desire to more quickly deliver applied technologies in a smaller number of priority areas.

The six critical areas are as follows:

- Applied AI to embed AI into command-and-control systems and achieve “decision superiority.”
- Biomanufacturing to produce critical minerals at scale.
- Contested logistics technologies to ensure access to critical resources in difficult environments.
- Quantum and battlefield information dominance to modernize communication and sensing technologies and operate in contested electromagnetic environments.
- Scaled directed energy to counter emerging threats by using high-energy lasers and microwave technologies.
- Scaled hypersonics to deliver Mach 5+ hypersonic weapons at scale.

The new list ditches areas such as renewable energy generation and storage and microelectronics, which were priorities during the Biden administration. But it keeps the focus on other areas such as biotechnology, quantum science, and AI.

White House’s Genesis Mission aims to boost science with AI

By Lindsay McKenzie

President Trump issued an executive order in November that launches the Genesis Mission, a national effort led by the Department of Energy to advance scientific discovery using AI. A DOE press release says the mission aims to “double the productivity and impact of American science and engineering within a decade.” Undersecretary for Science Dario Gil,

who will serve as the project’s director, said in a letter that DOE’s national laboratories will aim to achieve those gains in “half that time.”

The mission will focus on three key challenges: securing US energy dominance, advancing discovery science, and ensuring national security. Energy Secretary Chris Wright said that the mission would call on the nation’s brightest minds and industries in a similar manner to the Manhattan Project and the Apollo program.

The centerpiece of the Genesis Mission, according to the executive order, will be “an integrated AI platform to harness Federal scientific datasets” that will be used to “train scientific foundation models and create AI agents to test new hypotheses, automate research workflows, and accelerate scientific breakthroughs.”

The AI platform, which will be known as the American Science and Security Platform, will use DOE’s supercomputers at national labs and other resources and will cover data across many scientific domains that have yet to be selected. The effort represents a significant expansion of plans to develop the “world-class scientific datasets” outlined in the AI action plan that was published by the Trump administration in July.

The executive order does not commit any funding to the project. It directs Michael Kratsios, director of the White House Office for Science and Technology Policy and assistant to the president for science and technology, to work with research agencies to incentivize private-sector participation. **PT**

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Corrections

December 2025, page 34 — An editing error mischaracterized Richard Garwin’s fusion experiment. It showed that thermal x rays generated by a fission explosion could be used to compress and heat deuterium and induce fusion reactions.

December 2025, page 54 — Figure 1 shows the seeds of a sandbox tree, not those of a hairyflower wild petunia. **PT**