

The logo consists of a stylized white circular emblem with three curved lines inside, resembling a power symbol or a signal icon.

Genesis Mission



U.S. DEPARTMENT *of* ENERGY

About the Genesis Mission

The **Genesis Mission** is a historic national effort to catalyze new industries, create high-skill jobs, and usher a new golden era of American discovery through artificial intelligence innovation.

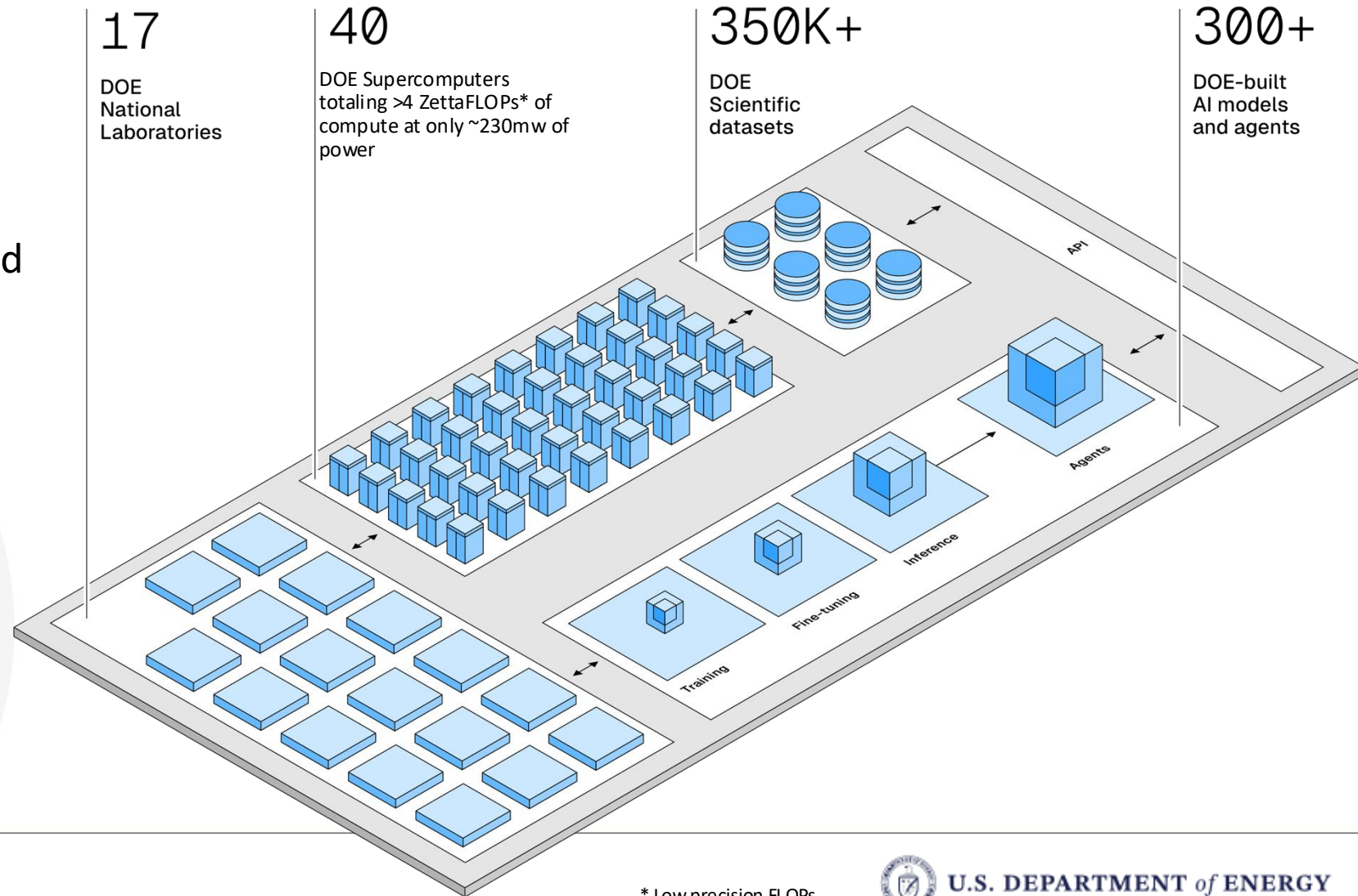
The Genesis Mission's **American Science and Security Platform** will connect the world's best supercomputers, AI systems, and next-generation quantum computers with the most exquisite scientific instruments in the nation, and its intelligence layer will be trained with the singular scientific datasets and expertise housed in the National Laboratories.

Once complete, it will be the world's most complex and powerful scientific instrument ever built.



Leading With the Power of DOE

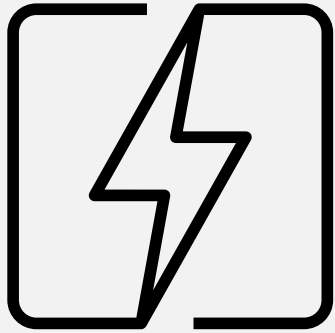
DOE is uniquely positioned to integrate AI, supercomputing, and experimental facilities into a secure, AI-ready architecture.



* Low precision FLOPs



Genesis Mission Pillars



Energy Dominance

AI will be used to accelerate sustainable fusion power, optimize advanced nuclear reactor design and operation, and enable a more intelligent and resilient electrical grid.



Discovery Science

AI will be used to illuminate molecular dynamics, unify data to understand the universe from quarks to cosmos, and generate new quantum algorithms.



National Security

AI will be used to secure critical materials, accelerate advanced manufacturing, and discover mission-ready materials for defense and industry.

Addressing National Science and Technology Challenges

The National Science and Technology Challenges span DOE's energy dominance, discovery science, and national security missions.

Each was selected for its potential to deliver measurable benefits for the American people and to accelerate advancements through the Genesis Mission's AI platforms, world-class facilities, and public-private partnerships.

These challenges will leverage Genesis Mission advances in:

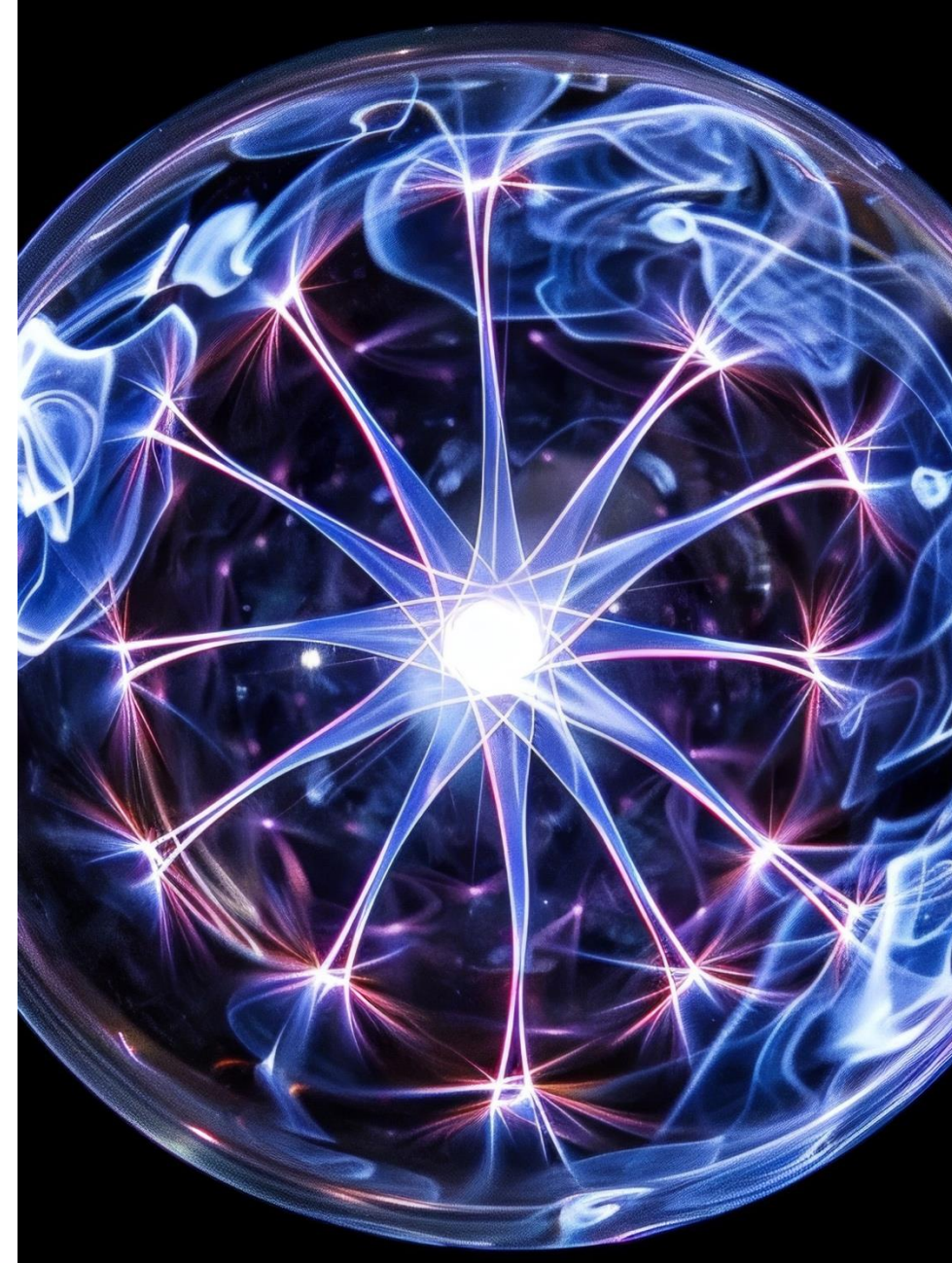
- AI-driven code development that accelerates scientific discovery
- AI-driven co-design for microelectronics
- AI for efficient quantum algorithms
- AI for planning and operation of the U.S. power grid
- AI for transforming combustion science and technology for energy applications
- AI for nuclear security and non-proliferation

The American Science and Security Platform

The core technology engine of the Genesis Mission

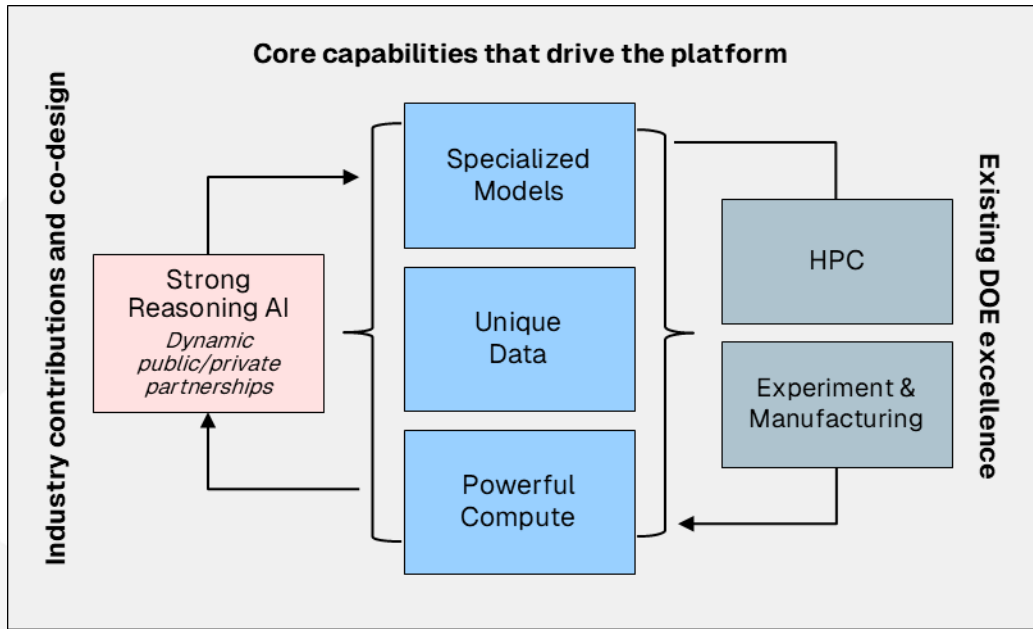
The platform integrates America's most advanced high-performance computing systems, scientific experimental facilities, data resources, and production capabilities into a single, coordinated AI-driven discovery system.

The result is one of the most exquisite scientific instruments humans have ever built—an instrument that rapidly turns ideas into trustworthy scientific output, strengthening U.S. competitiveness and amplifying national security.

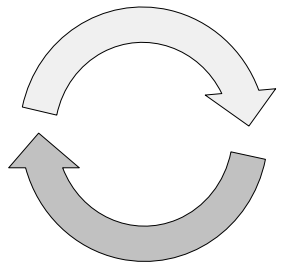
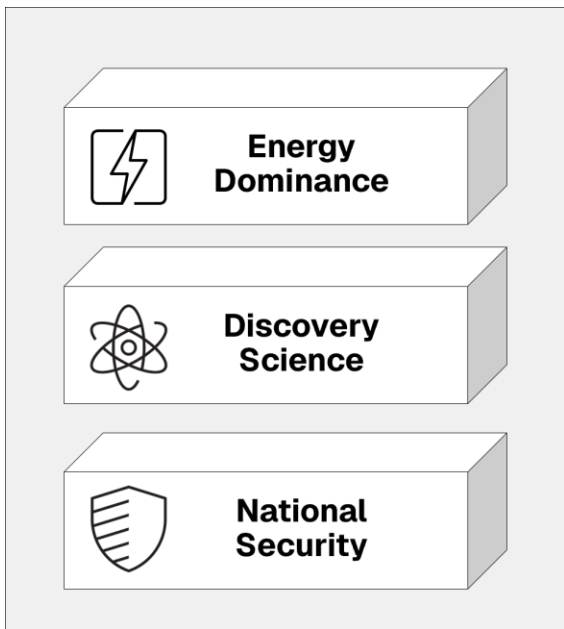


Accelerating Discovery to Deliver National-scale Scientific Impact

The American Science and Security Platform



National Science and Technology Challenges



Bringing Together World-Class Innovators Across Sectors

Under the leadership of DOE and the White House Office of Science and Technology Policy, the Genesis Mission brings together DOE's National Laboratories with America's leading universities and industry, including pioneers in artificial intelligence, computing, materials, and energy.



The National Laboratories

The Labs provide leadership across five teams, as well as leadership for the American Science and Security Platform – the mechanism at the heart of the Genesis Mission.

Data

Building a continuously evolving data ecosystem that curates, connects, and prepares DOE and NNSA data.

Infrastructure

Delivering the software and hardware infrastructure for the American Science and Security Platform.

Models

Delivering a comprehensive portfolio of AI models, agents, and tools.

National Science and Technology Challenges

Focusing on how AI, high performance computing, and data are being applied to address the U.S. government's cross-cutting priorities.

Public-Private Partnerships

Supporting connections and activity between DOE, NNSA, and external organizations, other government agencies, and international allies.

Genesis Mission Consortium

The Genesis Mission Consortium unites emerging and leading-edge organizations from the private sector and academic institutions with the mission teams at the DOE and the 17 National Laboratories to accelerate discovery and maintain America's scientific and technological leadership.

Consortium members intend to contribute computing power, AI tokens, technical expertise, or in-kind support, to advance the Genesis Mission goals and build the community.





energy.gov/genesis-mission





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