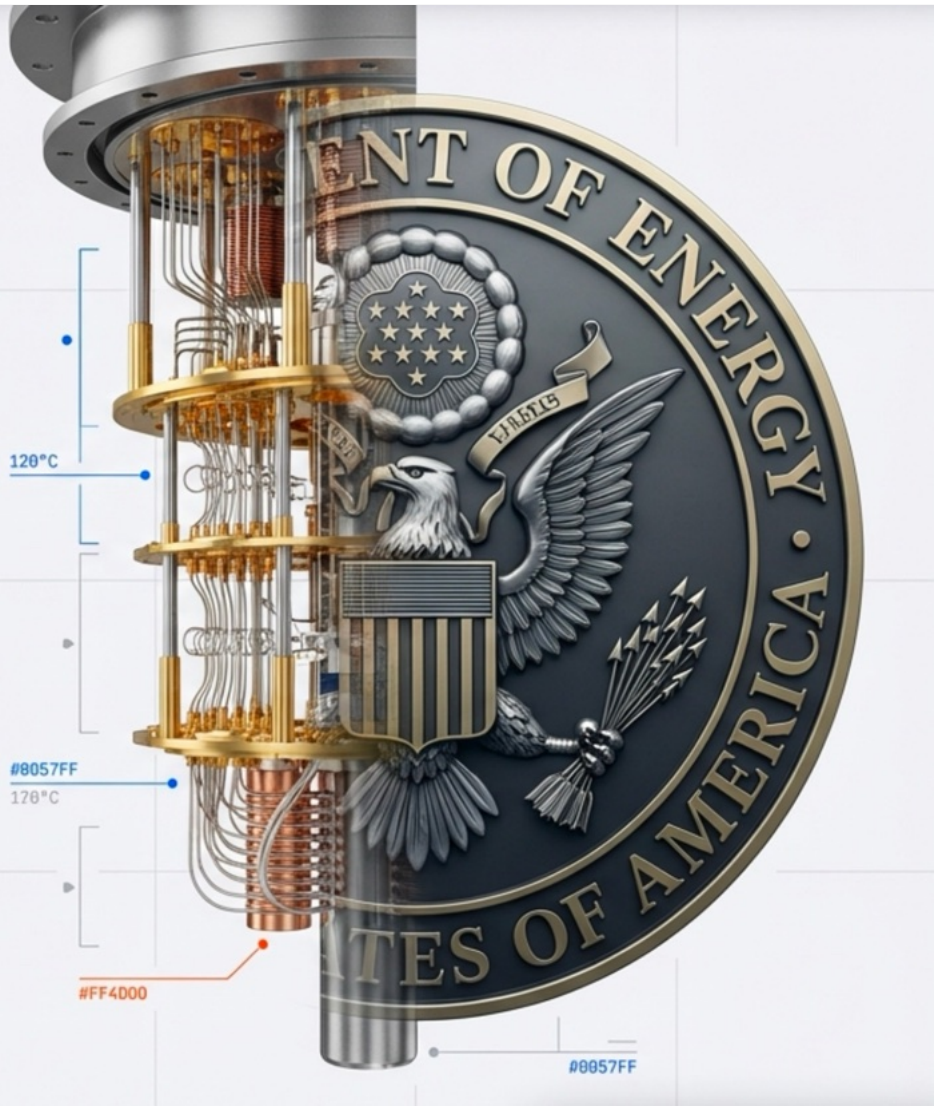
The Genesis Mission

A National Strategy to Accelerate Science Through Artificial Intelligence.



AUTHORITY: Executive Order | November 24, 2025
LEAD AGENCY: Department of Energy (DOE) + White House OSTP
LEADERSHIP: Dr. Darío Gil, Under Secretary for Science

Genesis Mission

National Initiative for Science, National Security, and Innovation

Mission Goal: Use artificial intelligence to dramatically accelerate American scientific discovery and **strengthen** U.S. economic and national security leadership.

WHAT IS HAPPENING RIGHT NOW

The Largest Marshaling of Federal Scientific Resources Since Apollo

> *"We are going to act with an urgency that will feel deeply uncomfortable... Let's act like our lives depend on our execution (because they do)."*
>
> — Darío Gil, Under Secretary for Science & Genesis Mission Director

Executive Order

Signed Nov 24, 2025
Presidential mandate

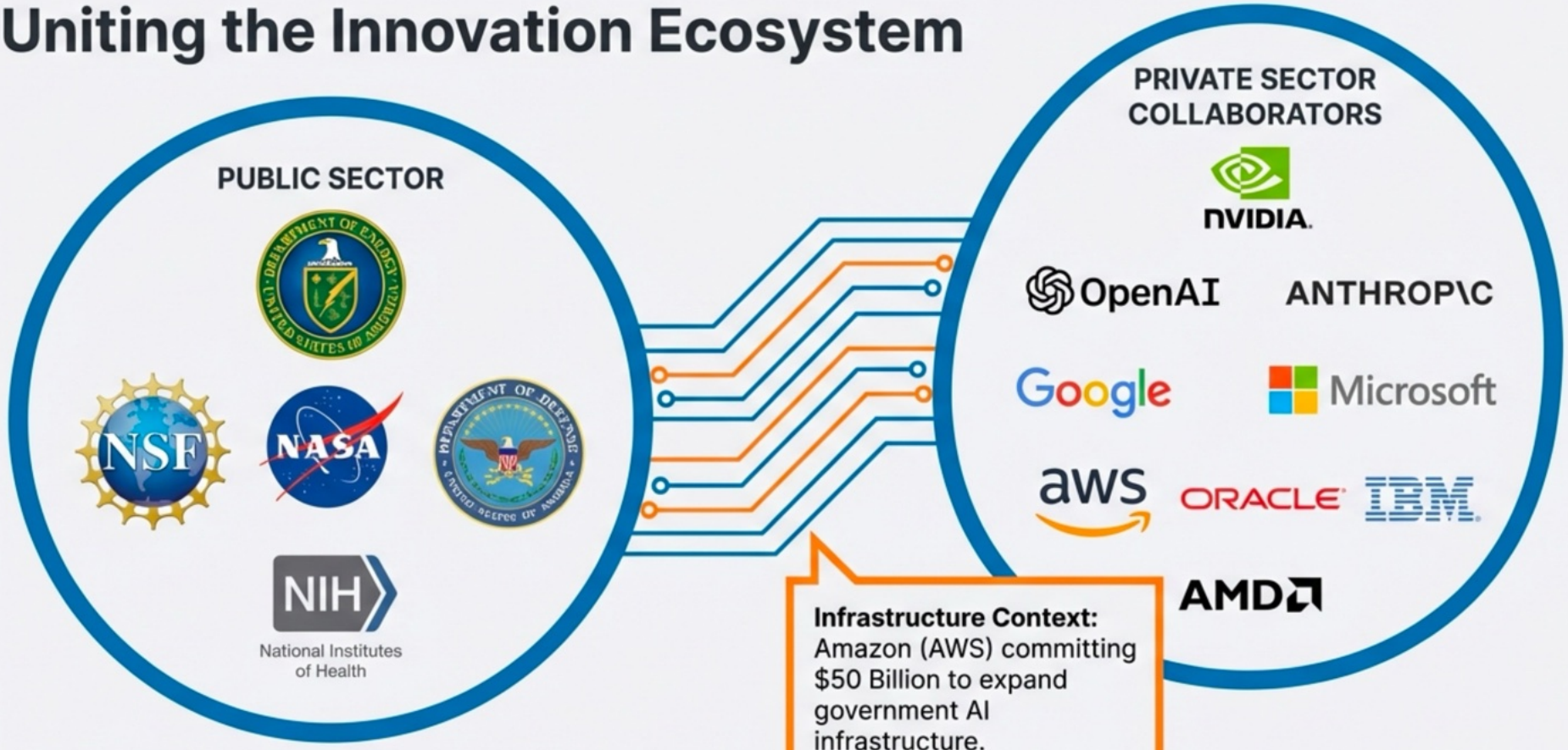
National Scale

17 National Labs + industry
+ academia unified

Urgency

Lighthouse challenges
being defined now

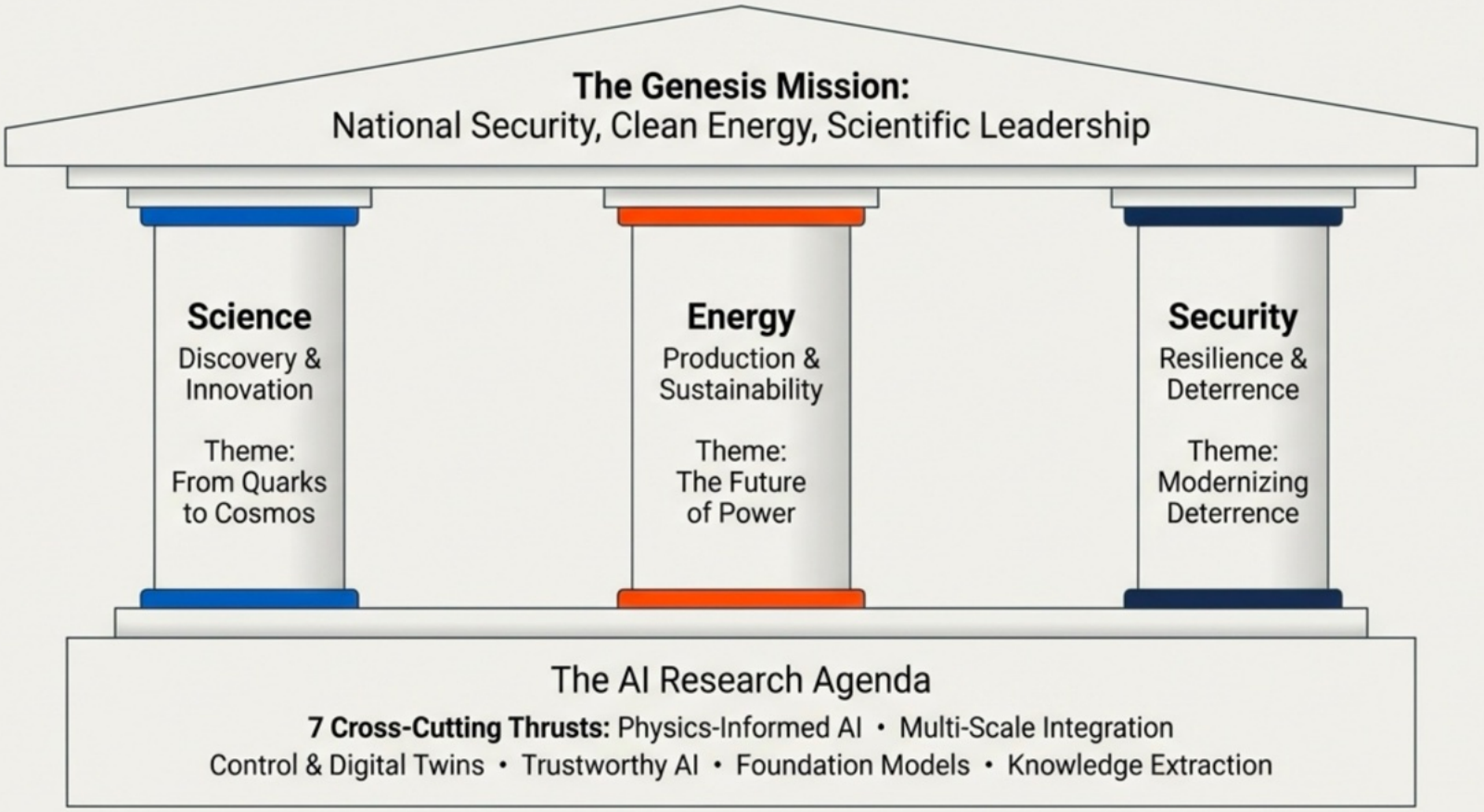
Uniting the Innovation Ecosystem



17 National Laboratories | 40,000 Scientists & Engineers

PROJECT: AMERICAN SCIENCE INITIATIVE | DOC. REV: 3.3 | DATE: OCT 26, 2023

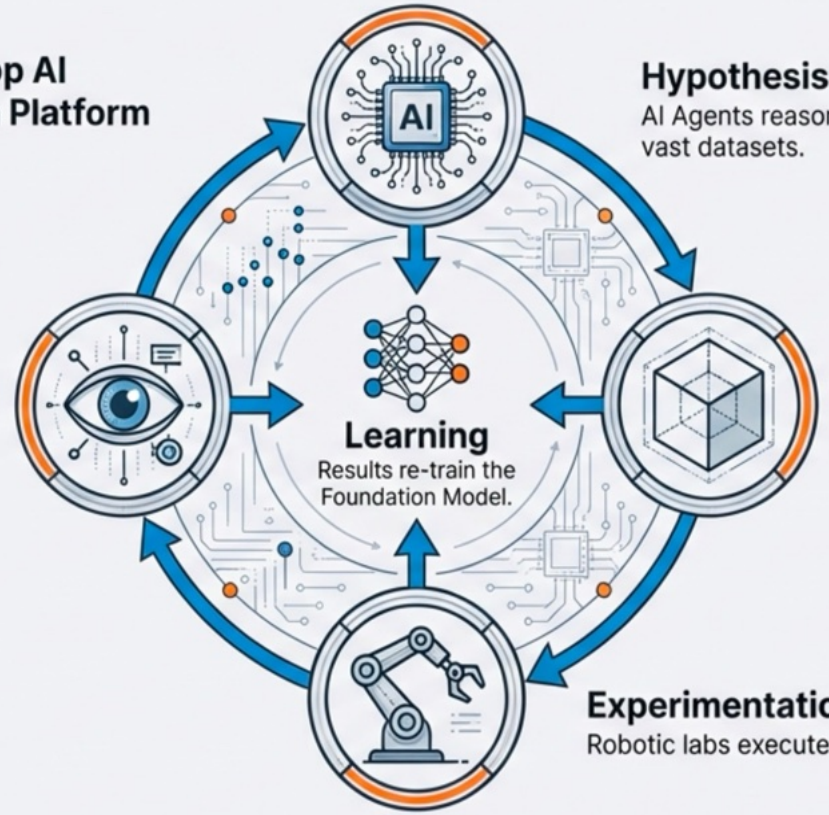
The Strategic Ecosystem Architecture



A Paradigm Shift: Closed-Loop Discovery

"It's AI for discovery, not automation." — Department of Energy

Closed-Loop AI Experimentation Platform



Hypothesis Generation
AI Agents reason across vast datasets.

Simulation
HPC models the experiment.

Experimentation
Robotic labs execute the test.

Observation
Real-world data capture.

Learning
Results re-train the Foundation Model.

> "An intelligent network capable of sensing, simulating, and understanding nature at every scale."

THE QUESTION GENESIS ASKS

If you had 200 dedicated people,
unlimited frontier AI and exascale computing,
and robotic experimentation at national scale —

What 10-year problem could you solve in 2?

This is the bar. Not a pilot. Not a study. A paradigm shift.

200+	10^{18}	T+	24/7
Dedicated researchers	FLOPs of compute	Tokens of scientific data	Robotic laboratories

The Strategic Imperative

Why DOE? Why Now?

The Opportunity

Current commercial AI excels at pattern matching and language. The new frontier is **Agentic and Physics-Informed AI**—systems capable of causal reasoning, respecting conservation laws, and navigating multi-scale dynamic systems.

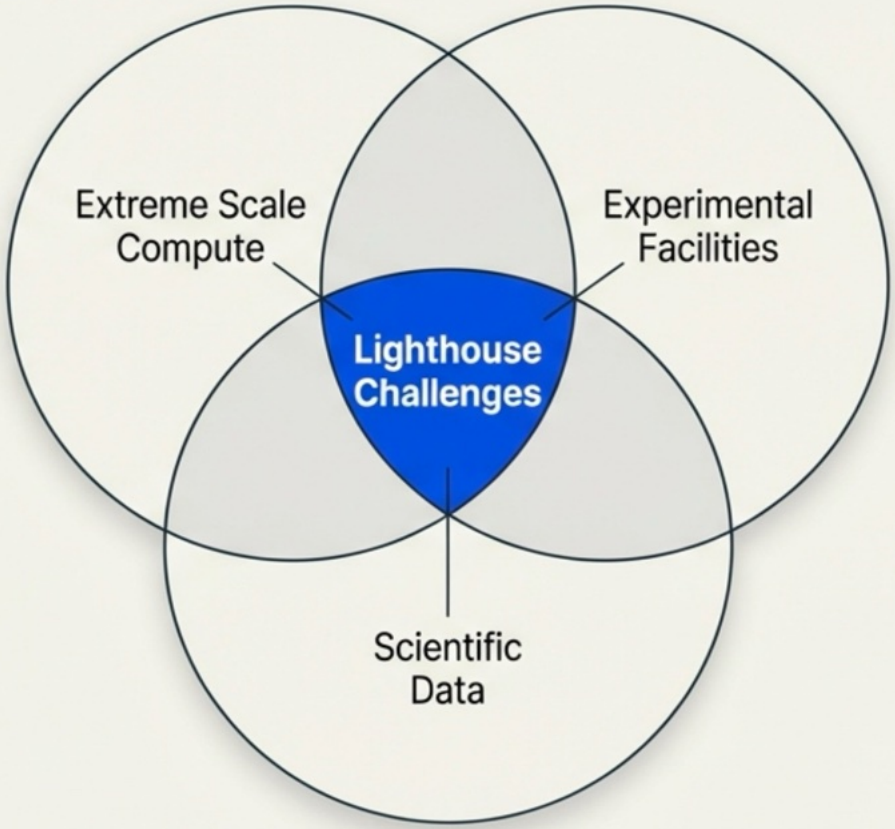
The Unique DOE Asset

We possess the unique convergence required for this leap:

- World-class User Facilities (Equinox, Synchrotrons)
- Massive Proprietary Datasets (80+ years of nuclear data)
- Deep Domain Expertise

The Mission

To guide innovation through the 'Valley of Death'—bridging the gap between scientific discovery and commercially viable deployment in manufacturing, energy, and defense.



The Engine: Why Commercial AI Isn't Enough

The Gap Between Generative AI and Scientific AI

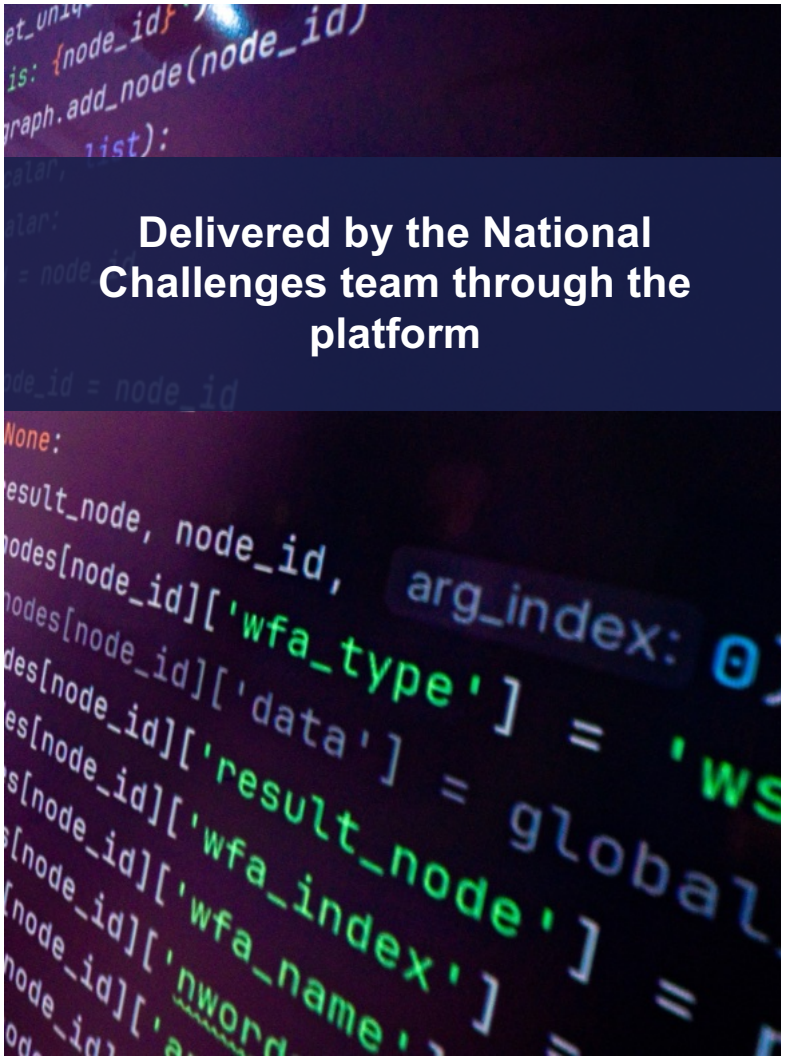
Commercial AI (Generative)	DOE Scientific AI
• Optimized for **Plausibility**	• Optimized for **Truth & Physical Consistency**
• Data-Rich (Internet Scale)	• Data-Sparse (High-Cost Experiments)
• Pattern Matching (Statistical)	• Causal Reasoning & Conservation Laws
• Black Box Operation	• Explainable & Auditable
• Hallucinations are Common	• Must Handle Rare/Extreme Events

The Goal: Machines capable of Scientific Reasoning, Multi-Scale Integration, and Trustworthy Operation in high-consequence environments.

Genesis Mission

The National Science and Technology Challenges

The **National Challenges** are high-impact technical problems aligned to urgent national priorities – where AI can dramatically accelerate progress. They demand AI model, data, computing, and automation capabilities unified in a single solution platform. Expert teams develop innovative solutions while results strengthen and extend the platform itself to tackle ever more ambitious challenges.



How We Got Here

From the 2024 AI Lighthouse Challenges to the 2026 Genesis NOFO

134

AI Lighthouse submissions

Late 2024 — DOE/SC, LEAP, NNSA, DOE-IN

›

33

Selected raw topics

13 SC + 11 LEAP + 9 NNSA after first review

›

26

Deduplicated to 26 areas

Biotech / CritMin / Materials / Microelec merged

›

21

Final NOFO Challenge Areas

17 science topics + 4 cross-cutting platforms

Source: Lighthouse-archive recovery (m3acbook → ~/code/lighthouse-archive/)

17 National Science & Technology Challenges

Topics 1–17 · Substantive science workstreams

1. **Advanced Manufacturing & Industrial Productivity** — BES
2. **Scaling the Biotechnology Revolution** — BER
3. **Critical Minerals Supply** — AMMTO
4. **Nuclear Energy — Faster, Safer, Cheaper** — NE
5. **Fusion Energy Delivery** — FES
6. **Nuclear Restoration & Revitalization** — EM
7. **Quantum Algorithms with AI** — ASCR
8. **Quantum Systems for Discovery** — BES
9. **Microelectronics — Recentering in America** — AMMTO
10. **U.S. Leadership in Data Centers** — ITO
11. **AI-Driven Autonomous Laboratories** — ASCR
12. **Materials with Predictable Functionality** — BES
13. **Particle Accelerators for Discovery** — HEP
14. **Quarks to the Cosmos — Unifying Physics** — HEP/NP
15. **U.S. Water for Energy** — BER
16. **Scaling the Grid** — OE
17. **Subsurface Strategic Energy Assets** — BES

Source: GM-NOFO-RFA-AREAS.xlsx (parsed: 17 science + 4 platform topics, 99 focus areas total)

4 Cross-Cutting Platform Topics

Where ASCR — and LCF — sit at the center of every science thread

18 **HPC Code Curation, Translation & Development**

Modernizing the DOE simulation-code base — translating legacy Fortran/C++ to portable, AI-augmented stacks. ASCR-led.

19 **AI for Scientific Reasoning**

Foundation models that reason about physics, chemistry, and biology — not just predict.

20 **Cybersecurity for AI-driven Science Workflows**

Securing model weights, data lineage, and autonomous-lab decision chains across the National Lab system.

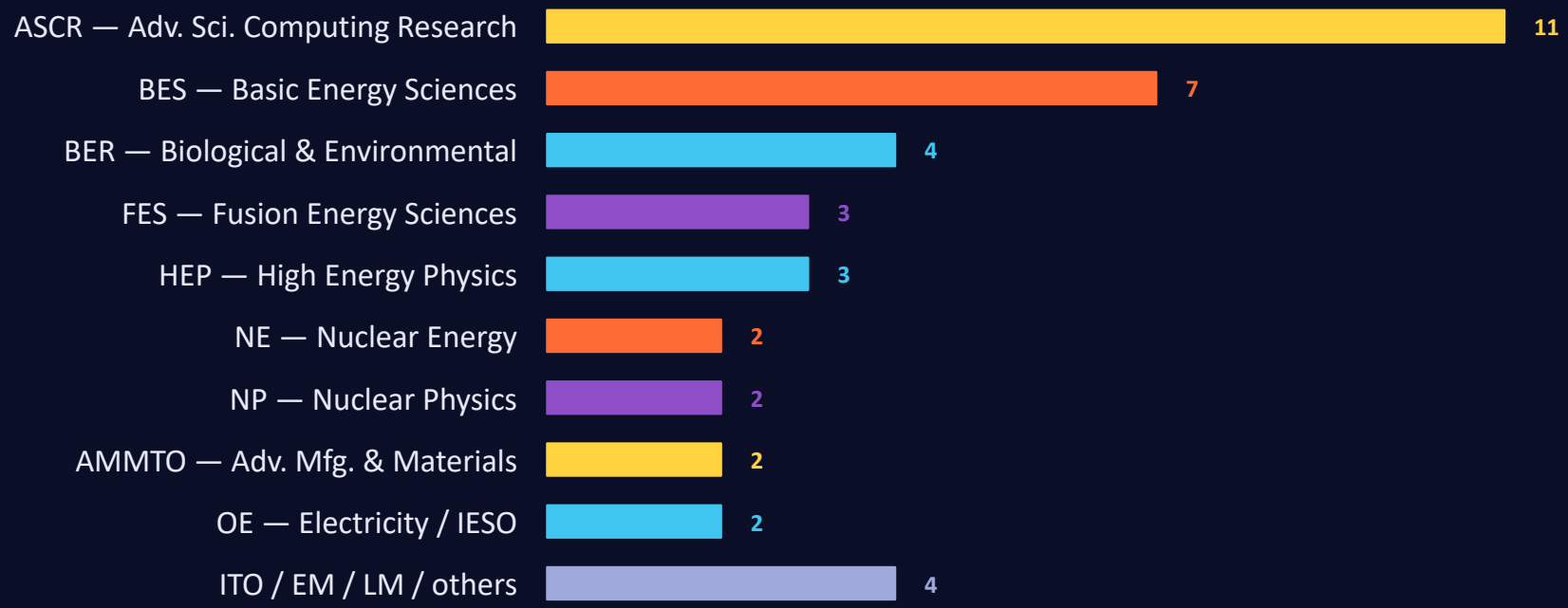
21 **AI in Fluid Flow for Energy Components**

Cross-cutting fluid-dynamics ML — touching fusion, nuclear, geothermal, grid cooling, and aerodynamic systems.

Topics 18–21 · Platform infrastructure powering every science topic above

Which DOE Offices Carry the Weight

Topic-count by sponsoring office (a topic can be co-sponsored)



ASCR is the only office in EVERY cross-cutting platform — making LCF a structural enabler, not an option.

Each focus area maps to one or more DOE program offices; ASCR appears in 11 of 21 topics

The Concept That Will Win or Lose Every Proposal

> ***"AI Advantage"***
>
> *Demonstrating a clear, tangible research workflow that incorporates AI with concrete evaluation of the potential for AI to deliver capabilities not achievable by traditional means.*

The bar: "If you had 200 dedicated people, unlimited frontier AI, exascale compute, and robotic experimentation at national scale — what 10-year problem could you solve in 2?"

What counts as AI Advantage

- Increased predictive power or scientific insight from a foundation model
- Autonomous experimental campaigns (e.g. self-driving labs)
- Order-of-magnitude speedup in discovery cycles
- Novel hypothesis generation traceable to AI reasoning
- AI-enabled control of experimental apparatus

What WON'T win

- "Apply ChatGPT to our data" — no novel modeling
- AI bolted onto a pre-existing science plan
- Generic benchmarks (95% accuracy) without scientific outcome metric
- Off-the-shelf tools with no innovation
- Grand promises without quantitative Phase I baselines

NOFO §IV.E.1 — "AI Advantage" is the #2 question under the #1 review criterion

Pillar I - Science: Unifying Physics & Discovery

From Human-Speed Hypothesis to AI-Speed Reasoning

Unifying Physics

Moving from pattern matching to physics reasoning.

AI that internalizes the Standard Model to integrate results from particle collisions, nuclear decays, and cosmological surveys.

Key Focus: **Foundation Model for the Cosmic Frontier (HEP) >**

Accelerators

Predicting chaotic beam dynamics where small perturbations cascade into major problems.

AI-driven digital twins enabling real-time optimization of the 6-dimensional state of particle beams.

Solution: **Real-time optimization & self-updating facilities. >**

Quantum Systems

Controlling the delicate nature of quantum systems (computing, sensing, communication).

Key Focus: **AI for Quantum Systems Design (BES)** **to uncover causal relationships. >**

Autonomous Labs

Shifting to self-driving laboratories by integrating robotics and edge AI.

Impact: **Automating hypothesis generation and experimentation. >**

Pillar I - Science: Designing Reality

Materials, Biology, and The Shift to Inverse Design

The Core Shift: Inverse Design

Instead of trial-and-error, we tell the AI the properties we want, and it identifies the material or molecule to build.

Materials Design

Developing physics-aware AI frameworks to bridge atomic scales to macroscopic properties.

- *Focus:* "AI-Driven Materials Processing (BES)"

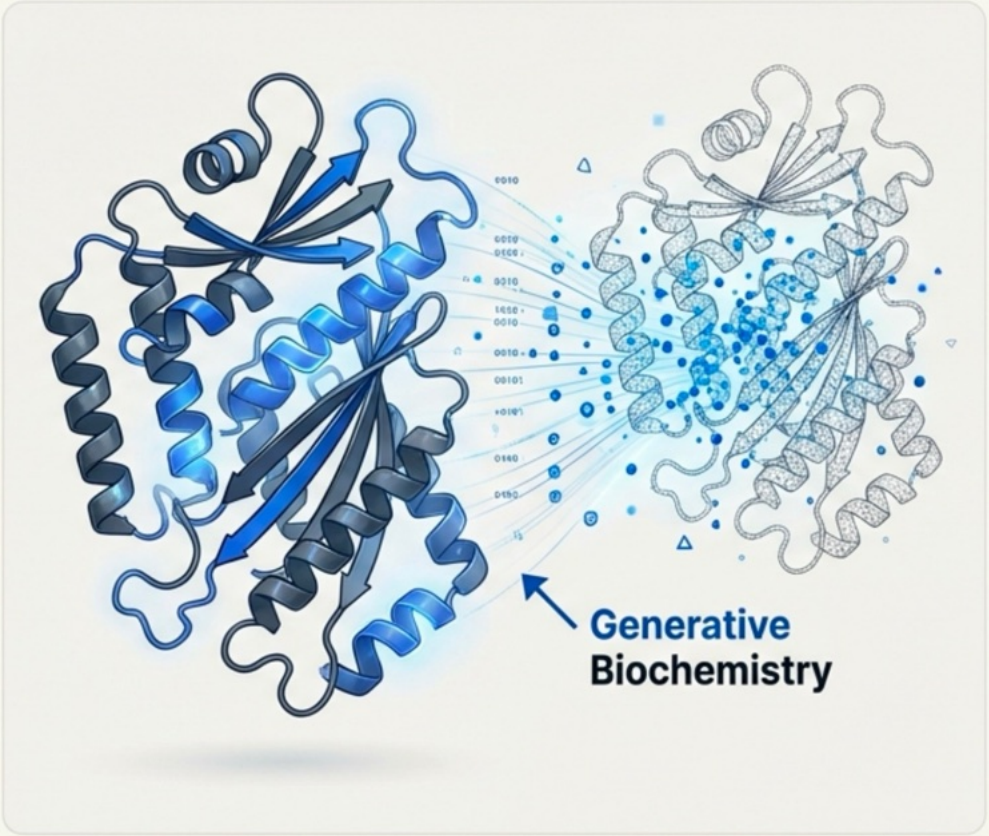
The Bio-Revolution

Establishing genotype-phenotype relationships to design biology on demand.

- *Spotlight:* "**Biochemistry in Five Dimensions** — Incorporating energy and time into protein folding models."
- *Spotlight:* "**Agentic AI-Driven Chemical Manufacturing**"

Water Security

Predicting water cycles by coupling fast (cloud) and slow (groundwater) processes using AI surrogates.



Pillar II: Discovery Science

TECHNICAL BLUE

Understanding Nature from Quarks to Cosmos

MOLECULAR DYNAMICS

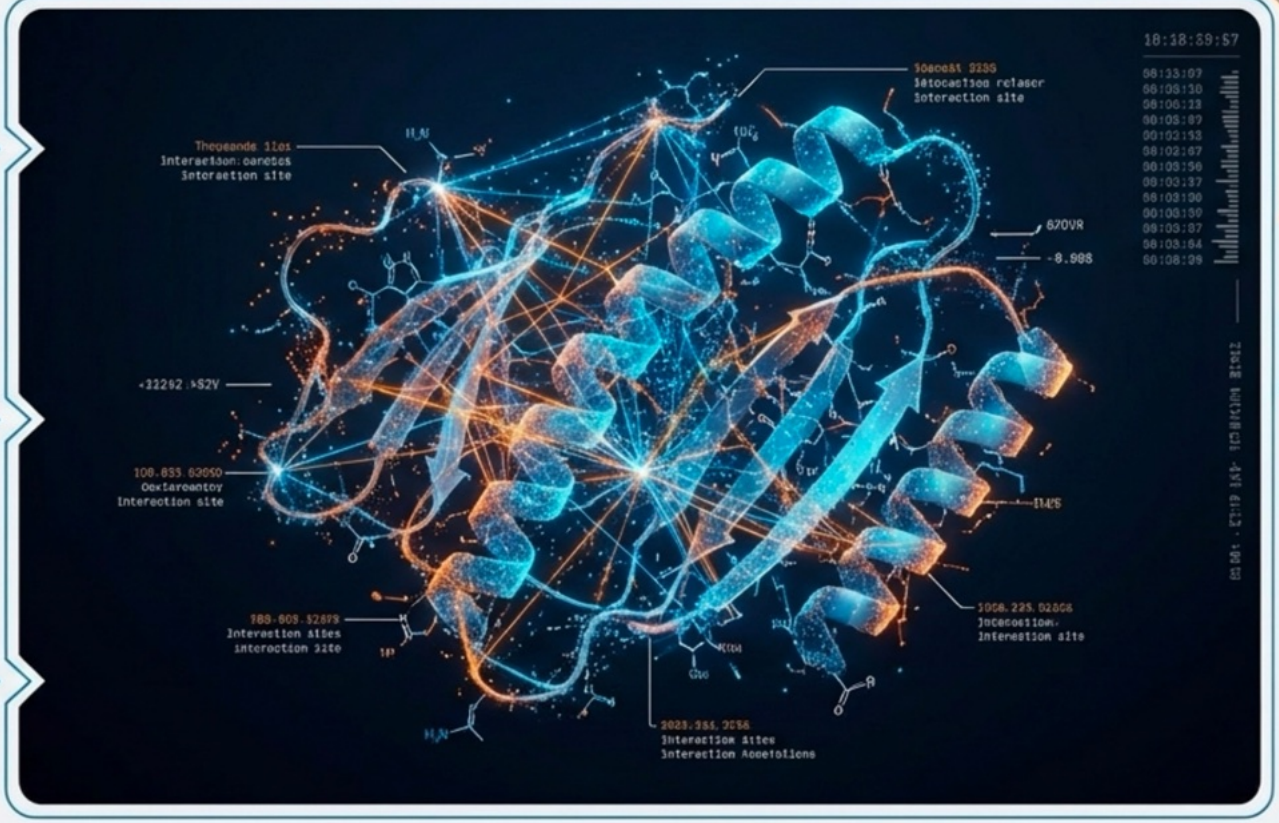
- Seeing chemical and biological processes in real-time. Accelerating breakthroughs in medicine and polymers.

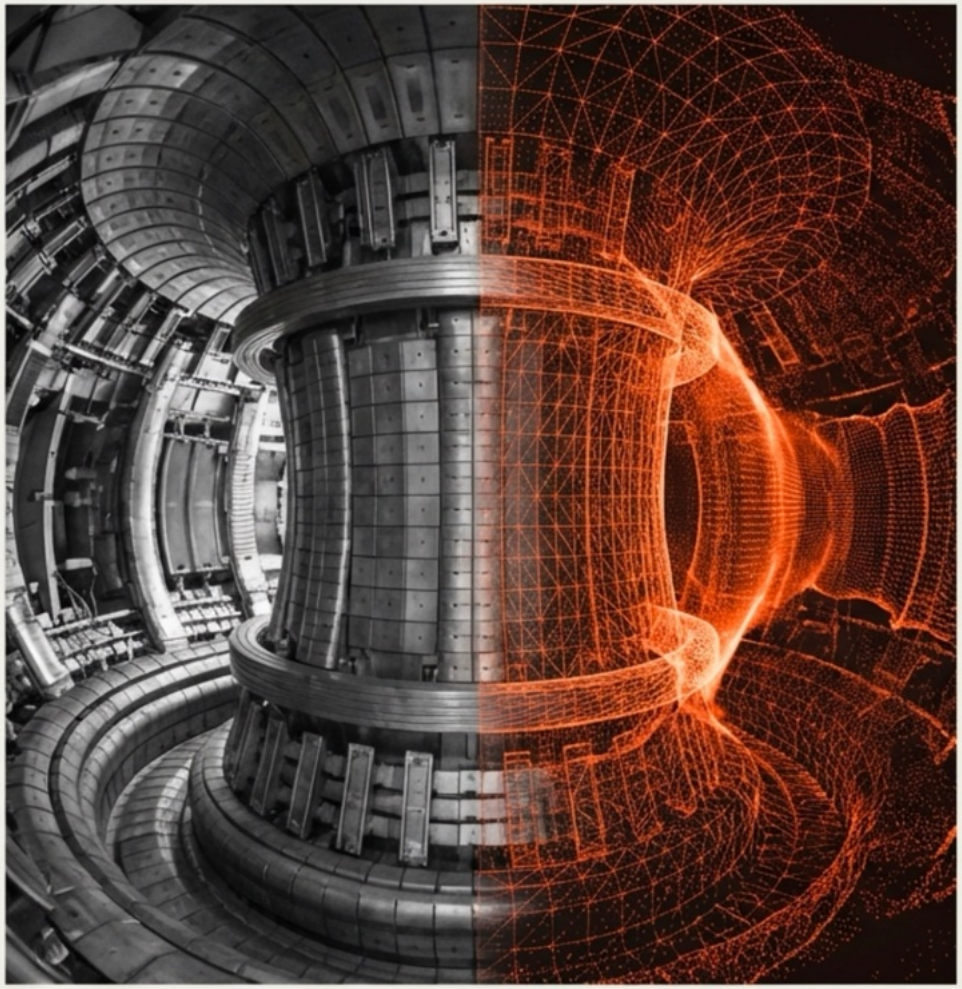
PARTICLE PHYSICS

- AI as a reasoning partner to probe dark matter, dark energy, and fundamental laws.

QUANTUM COMPUTING

- Using AI to generate and verify new classes of quantum algorithms.





Digital Twin Visualization: Tokamak Reactor Core.

Pillar II - Energy: The Future of Power Generation

Fusion Energy

Accelerating delivery via the **AI-Fusion Digital Convergence Platform (DCP)**. Integrating plasma, nuclear, and materials behavior into a unified predictive framework.

Nuclear Energy

Goal: **2x schedule acceleration** and **>50% cost reduction**.

Method: Autonomous design, licensing, and operation. Using AI digital twins to interpret complex operational data in real-time.

Focus: Autonomous Research and Development to condense 50 years of irradiation data.

Subsurface Assets

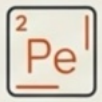
Unleashing geothermal and hydrocarbon value by reasoning under extreme uncertainty. Connecting molecular-scale mechanisms to field-scale resource availability.

Pillar II - Energy: Infrastructure & Manufacturing

Resilience, Competitiveness, and The Grid

The Grid: Scaling to handle the AI data center load. Enabling **20-100x faster decision-making** with >10% reliability improvement. *Focus:* **Grid Foundational Model**.

Manufacturing: Reimagining industrial productivity. Solving the 'Valley of Death' between discovery and deployment. *Tool:* ATHENA (AI-Toolkit for Holistic Economic Network Analysis).



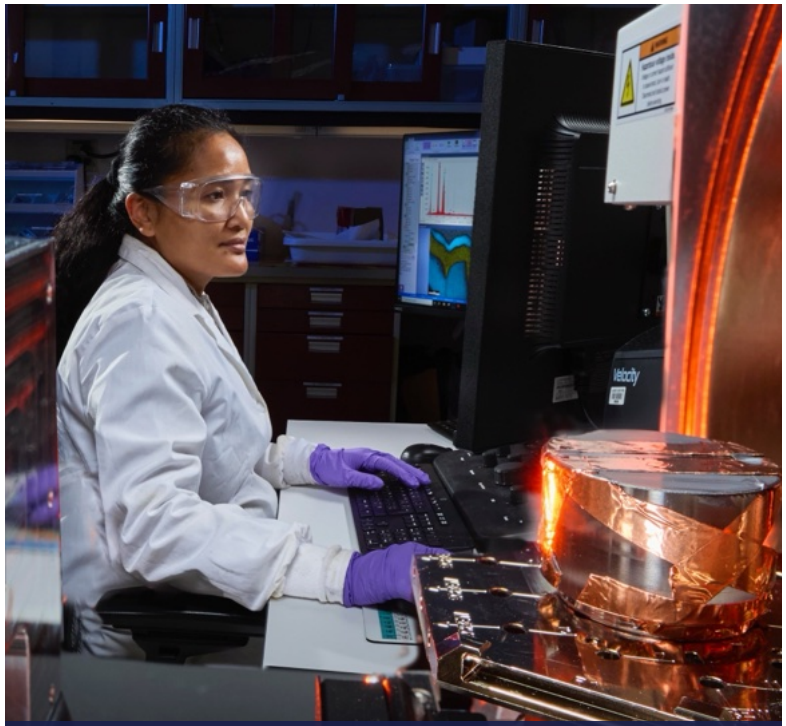
Critical Minerals: Securing the supply chain via AI-driven resource mapping.
Focus: **Nature's Path to Alternative Chemistries** — Designing industrial catalysts that eliminate the need for critical minerals entirely.

Buildings & Data Centers: Reimagining construction and operation.
De-risking advanced cooling and energy integration for extreme compute power.

Genesis Mission

The American Science and Security Platform

The **platform** supports AI-driven experimentation, analysis, discovery, design, and manufacturing. It unifies access to AI, computing resources, scientific data, and automated facilities, allowing application of unprecedented capabilities. It delivers scientific self-improving feedback that will accelerate R&D in the energy dominance, discovery science, and national security pillars.



Delivered by the infrastructure, data, and models teams

Genesis Mission

The mission technical efforts are organized into five teams

National Challenges

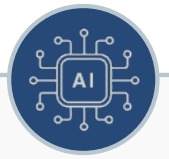
Engages with projects addressing high-impact national challenges—such as energy security and advanced materials—that are accelerated by the platform. Serves as a living portfolio that evolves as goals and technologies change.

Infrastructure

Provides hardware & software foundations to support large-scale AI training and inference, data management, & scalable agentic workflows. Ensures security of models, data, & systems and interoperability across DOE facilities & production agencies.

Data

Organizes, curates, and prepares scientific and engineering data from experiments, simulations, and observations for AI use. Ensures high-quality, reliable data to accelerate discovery and problem-solving.



Models

Develops an AI ecosystem of agents and models that combines frontier industry capability with DOE-specific expertise to discover and implement novel solutions to the nation's open science and technology challenges.

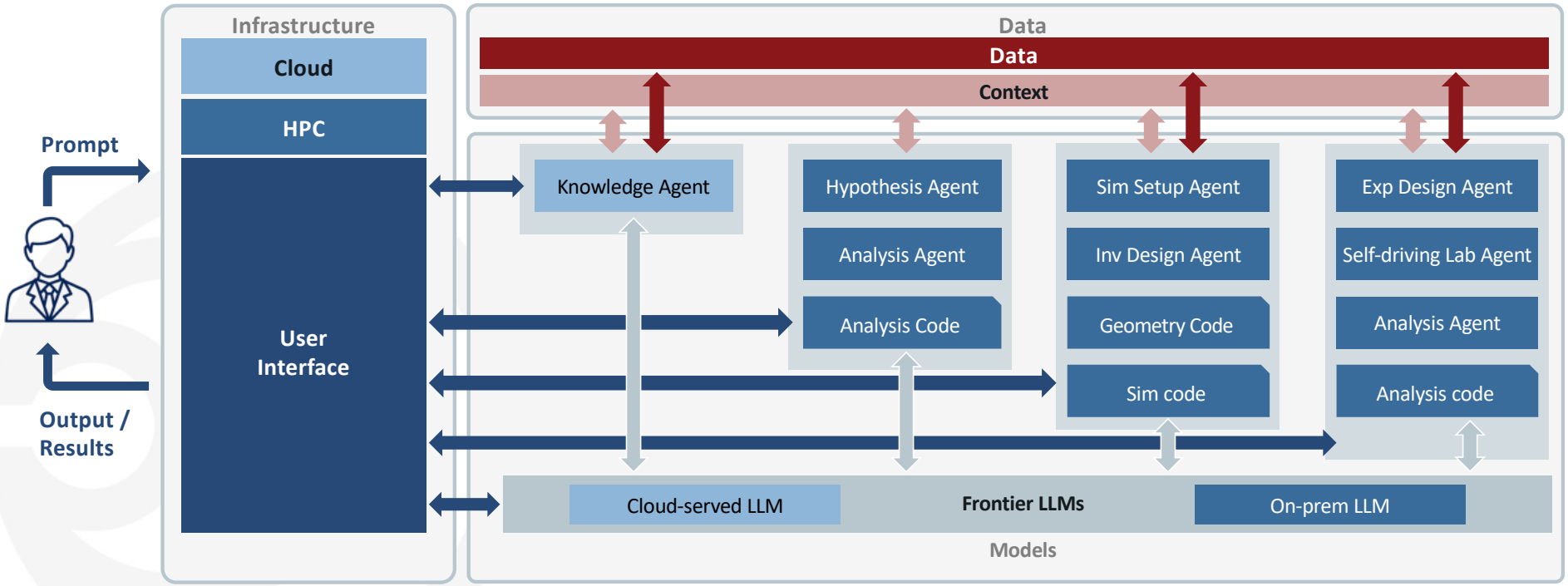
Partnerships

Builds collaborations across government, industry, and academia to advance AI innovation. Leverages shared expertise and resources to deliver real-world impact at national scale.

LLNL-PRES-2016998

Genesis Mission

Each team provides a collection of subcomponents that interoperate to enable new workflows



U.S. DEPARTMENT of ENERGY

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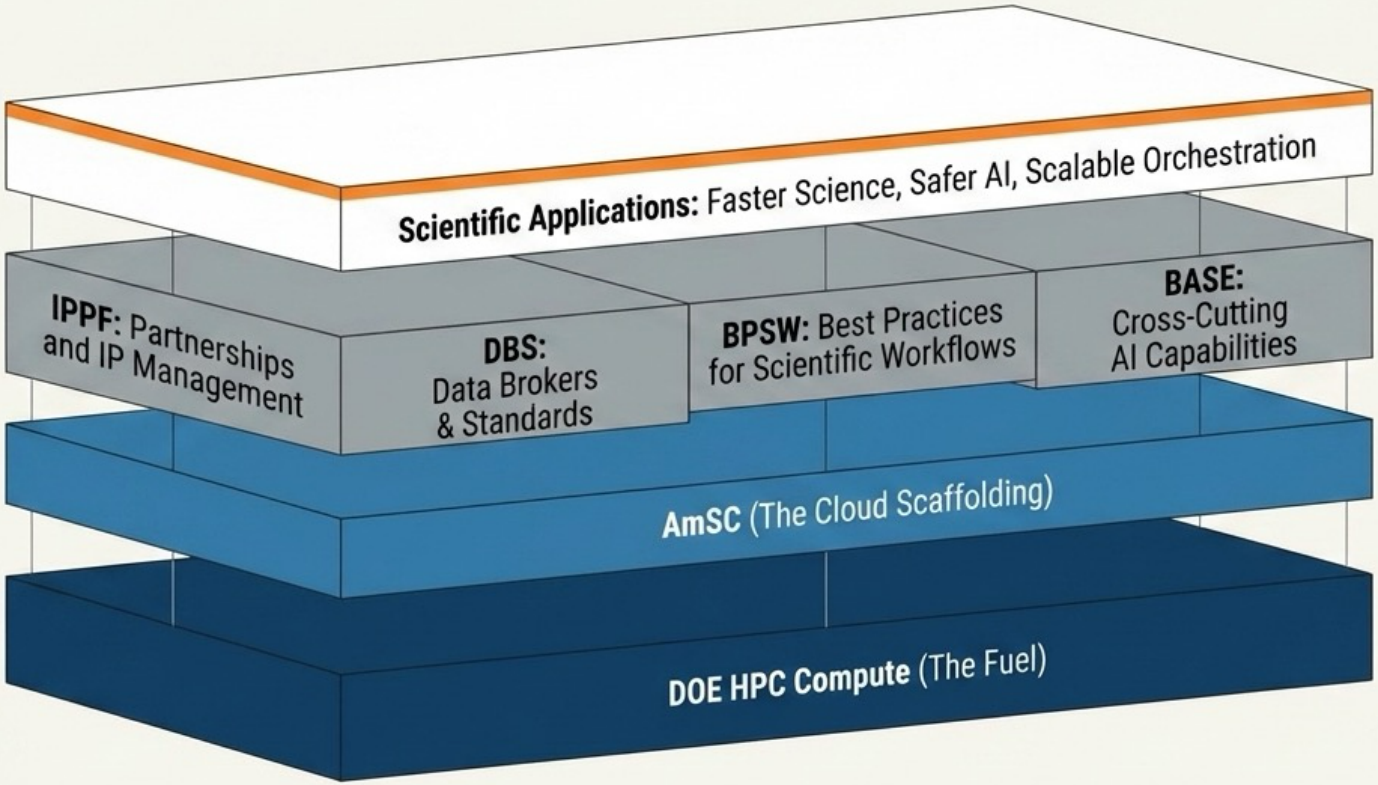
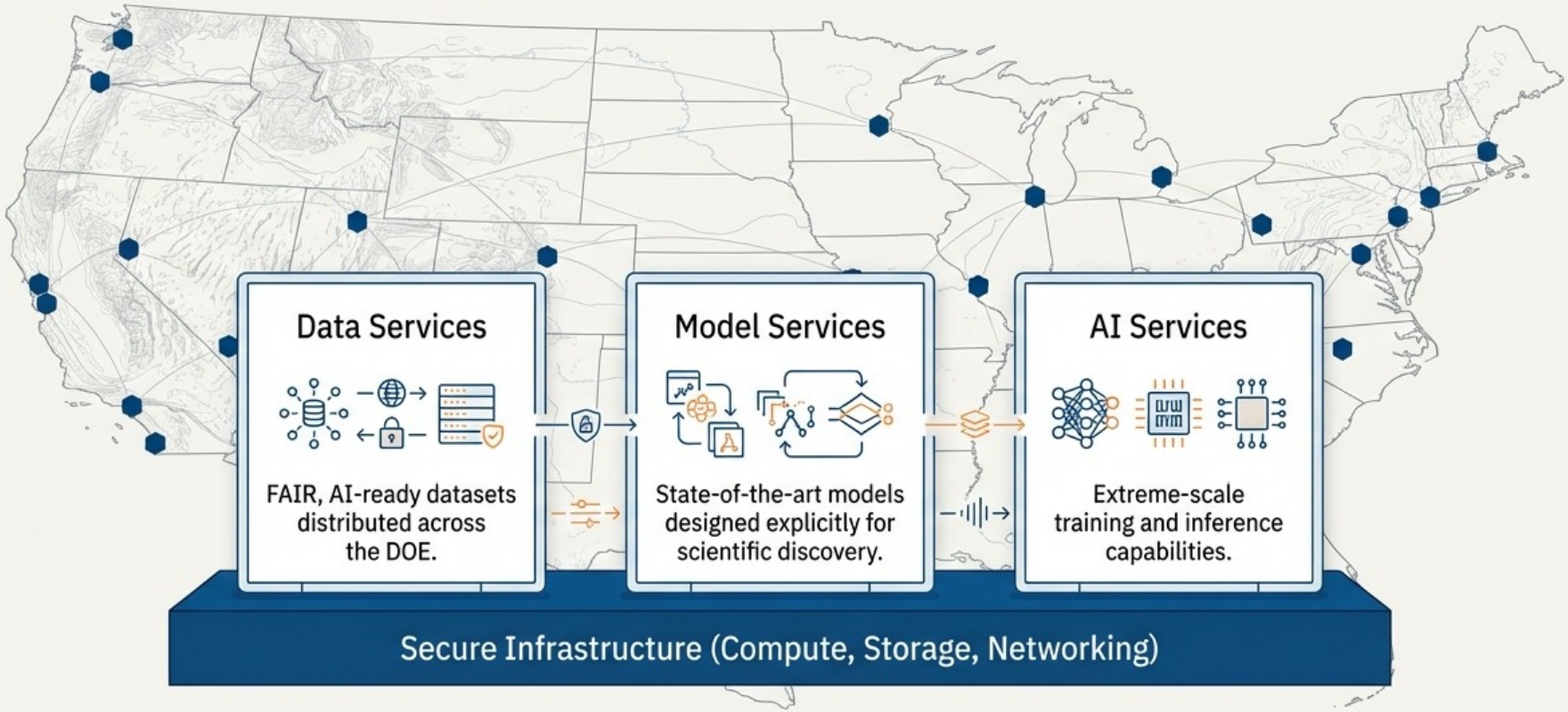
The Architecture of AI-Driven Discovery



The American Science Cloud (AmSC) Scaffolds the Genesis Mission

AmSC is a secure, federated, and science-optimized environment integrating DOE's world-leading computing, experimental facilities, and HPC networks.



The Cross-Cutting Services Scaffolding

Data Brokers & Standards (DBS)

Managing the Genesis Central Catalog. Ensuring petabytes of data are FAIR and AI-ready using standardized data cards and automated curation tools.

Best Practices for Scientific Workflows (BPSW)

Providing a catalog of AI integration patterns (e.g., RAG, surrogate optimization) and maintaining a Genesis AI Resource Hub of 330+ curated model and agent cards.

IP & Partnership Formation (IPPF)

Streamlining collaboration. Offering pre-approved agreement templates (SOWs, NDAs) and a Virtual Lab Teaming Framework to rapidly integrate industry and academic partners.

Baseline AI R&D Capabilities (BASE)

Diagnostic Dashboard for Model Teams

Core Agentic Framework (CAF)

Scalable orchestration supporting 1000s of concurrent agents and tool calls.

AI-Ready Data (DATA)

Autonomous pipelines transforming raw scientific data into training-ready form.

Model Evaluation (EVAL)

Comprehensive suites assessing robustness, generalizability, and scientific validity.

Multimodal Reasoning (MM)

PRISM architecture for cross-modal reasoning (text, images, graphs, geometry).

Self-Improving Models (SIM)

APEIRON framework for continuous learning as new experimental data emerges.

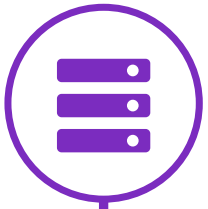
Safety & Security (SAFE)

Rigorous frameworks for red/blue teaming, uncertainty quantification, and CI pipeline safeguarding.

COMMON AGENTIC FRAMEWORK (CAF)

Infrastructure for Scientific AI at Scale

https://agents4science.org
https://academy-agents.org



SCALE AI MODELS

ExaServe

Extreme-scale inference on HPC

From laptop to thousands of GPUs

CAF

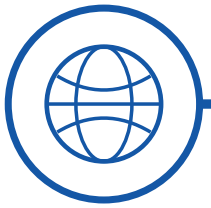
Connect
Orchestrate
Scale

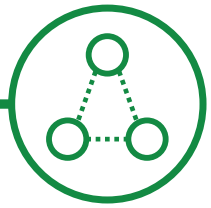
SCALE RESOURCES

Globus & AmSC

Data, compute, and workflows across institutions

Laptop to DOE facilities & beyond





SCALE AGENTS

Academy

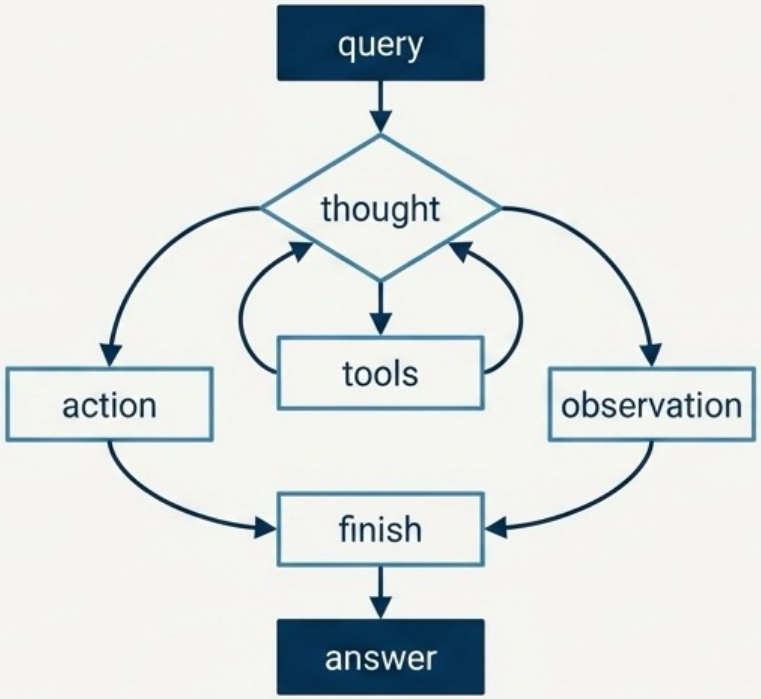
Stateful actors and agents across distributed resources

One agent to millions

SCALE YOUR AGENTS. SCALE YOUR SCIENCE

Scaling Closed-Loop Scientific Workflows

Agent Logic Enforces Autonomous Execution

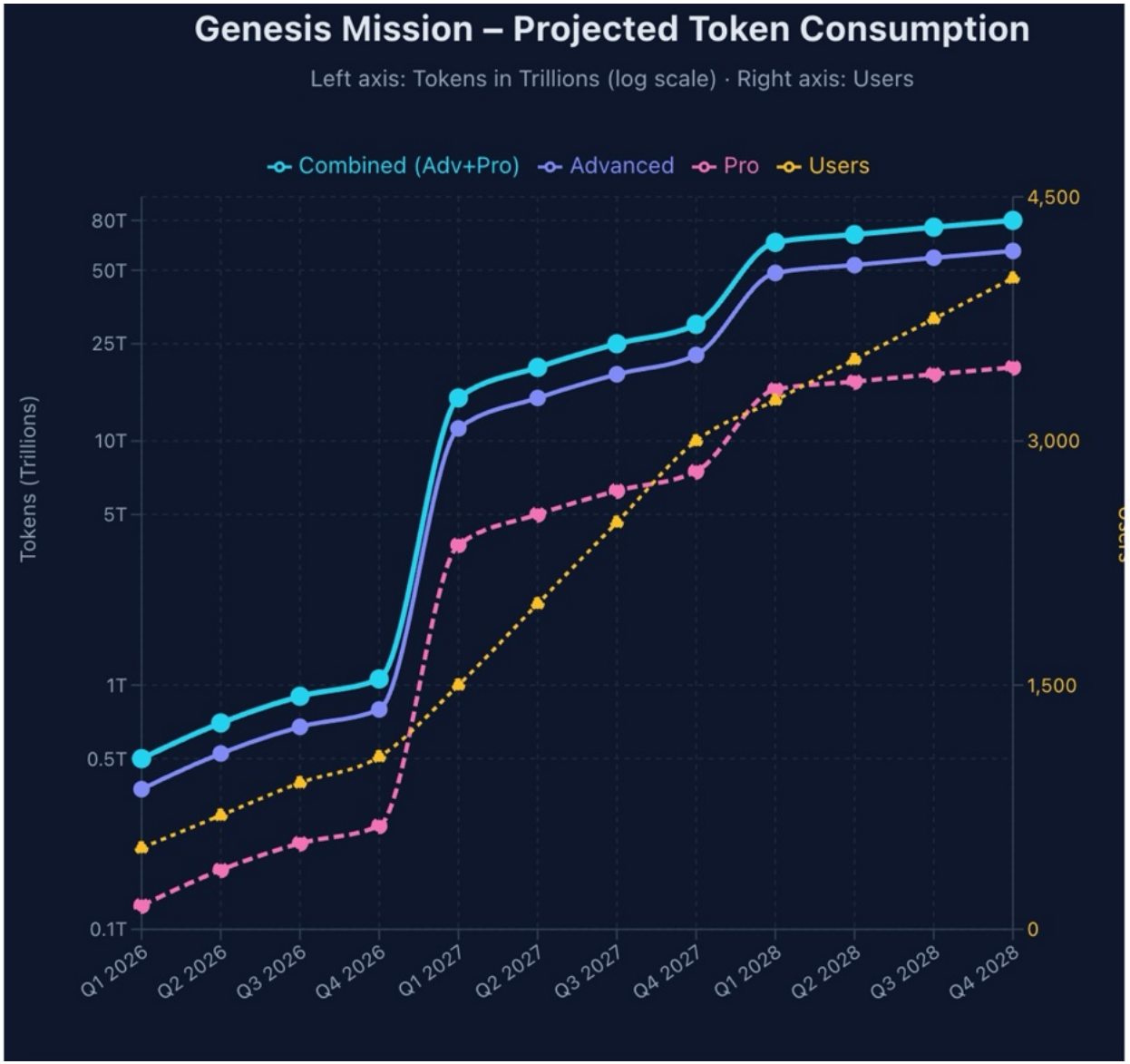


CAF Deployment Scale

1. Local Execution:
Persistent agents on a workstation.

2. Federated Execution:
Cross-institutional execution under shared governance.

3. HPC Parallel Inference: Fanning out thousands of LLM requests simultaneously. (e.g., 1.4B tokens processed in 35 minutes on 2048 Aurora nodes).


Genesis Mission – Projected Token Consumption
Left axis: Tokens in Trillions (log scale) · Right axis: Users
Combined (Adv+Pro)
Advanced
Pro
Users
Tokens (Trillions)
80T
50T
25T
10T
5T
1T
0.5T
0.1T
4,500
3,000
1,500
0
Q1 2026
Q2 2026
Q3 2026
Q4 2026
Q1 2027
Q2 2027
Q3 2027
Q4 2027
Q1 2028
Q2 2028
Q3 2028
Q4 2028

Genesis Mission

The Strategic Landscape

Kukla · m1-mac-mini · Hermes Agent

Compiled from DOE NOFO + Lighthouse-archive lineage

AT A GLANCE

Six recommendations for Genesis agent builders

1

Earn autonomy

Start with bounded workflows; raise autonomy only as evidence and evaluation support it.

2

Common interfaces

Support many frameworks above one shared platform surface — no single-framework mandate.

3

The path is evidence

Capture every serious run as an Agent Run Record: plan, tools, data, decisions, outcomes.

4

Memory as a primitive

Treat memory as policy-bound, provenance-rich, scoped state — the most urgent platform need.

5

Evaluate process & result

Judge tool use, recovery, cost, and compliance — not just the final answer.

6

Scale support

Tiered help and cost awareness, so adoption grows without locking the ecosystem.

RECOMMENDATION 1 · EARN AUTONOMY

Match autonomy to task risk — and to evidence of reliability

Use the smallest autonomy level that delivers the needed scientific value. Raise it only when traces, evaluation, and operational experience support it.

LEVEL 1 **Exploratory analysis**	Literature search, data exploration, coding help, hypothesis generation	**Minimum controls** Trace logging · cost cap · tool allowlist · optional human review
LEVEL 2 **Supervised workflow**	Multi-step analysis or simulation campaign with known tools, uncertain path	**Minimum controls** Plan review · checkpoints · state persistence · approval for costly steps
LEVEL 3 **Validated repeatable workflow**	Evaluation runs, curation pipelines, repeated analysis, benchmark workflows	**Minimum controls** Graph workflow · fixed versions · regression tests · signed artifacts
LEVEL 4 **Facility / safety-relevant**	Instrument-facing, scarce-resource, regulated, high-cost, physical systems	**Minimum controls** Deterministic protocol · least privilege · independent telemetry · kill switch

RECOMMENDATION 2 · COMMON INTERFACES

Support many frameworks through one common platform surface

Many valid runtimes

No single-framework mandate. Teams build locally with whatever fits the task.

- CAF
- Academy
- URSA
- MADA
- BANYAN
- LangGraph
- OpenAI Agents SDK
- MS Agent Framework
- Custom runtimes

The durable platform surface

Sits above individual runtimes and below scientific applications — the interface every agent exposes.

- Agent / model / data cards
- Skill packages
- Tool & MCP descriptions
- A2A discovery metadata
- Policy & risk-tier declarations
- Evaluation status
- Logging & telemetry
- Run-record output

A successful agent becomes a platform capability **only when it is registered, evaluated, callable, governed, observable, and reusable** by another team — without private handholding.

RECOMMENDATIONS 3 & 4 · STATE AS EVIDENCE

Make every serious run auditable — and memory a platform primitive

The Agent Run Record 3

Capture the result and the path. Every serious workflow becomes shared evidence for debugging, reproducibility, and learning.

- **Identity —** run ID, project, user, environment
- **Inputs & constraints —** task, data refs, budgets, gates
- **Configuration —** model, runtime, prompts, skill versions
- **Plans & decisions —** revisions, rationale, reviewer feedback
- **Tool & workflow events —** calls, args, errors, retries, job state
- **Human interventions —** approvals, corrections, vetoes
- **Artifacts —** code, data, checkpoints, figures, reports
- **Evaluation & disposition —** metrics, accept/reject, skill candidate

Memory as a platform primitive 4

The most urgent platform need. Policy-bound, provenance-rich, scoped persistence that recalls context, decisions, evidence, and lessons.

- **Active context —** model / immediate prompt
- **Workflow state —** run state, branches, restart points
- **Episodic memory —** what happened, when, with what outcome
- **Semantic memory —** generalized claims and lessons
- **Procedural memory —** repeated how-to → candidate skill
- **Group memory —** scoped project / facility knowledge

RECOMMENDATION 5 · EVALUATION

Evaluate the process, not just the result

Static final-answer scoring is not enough. Tool choice, data authorization, recovery behavior, cost discipline, and review uptake all affect scientific credibility.

Scientific correctness

Does it satisfy domain review, baselines, physical constraints, and benchmarks?

Reproducibility

Can a reviewer replay the run from recorded versions, inputs, and checkpoints?

Constraint compliance

Did it respect policy, data sensitivity, budget, and tool permissions?

Tool-call quality

Right tool, valid arguments, correct interpretation, no unsafe substitutions?

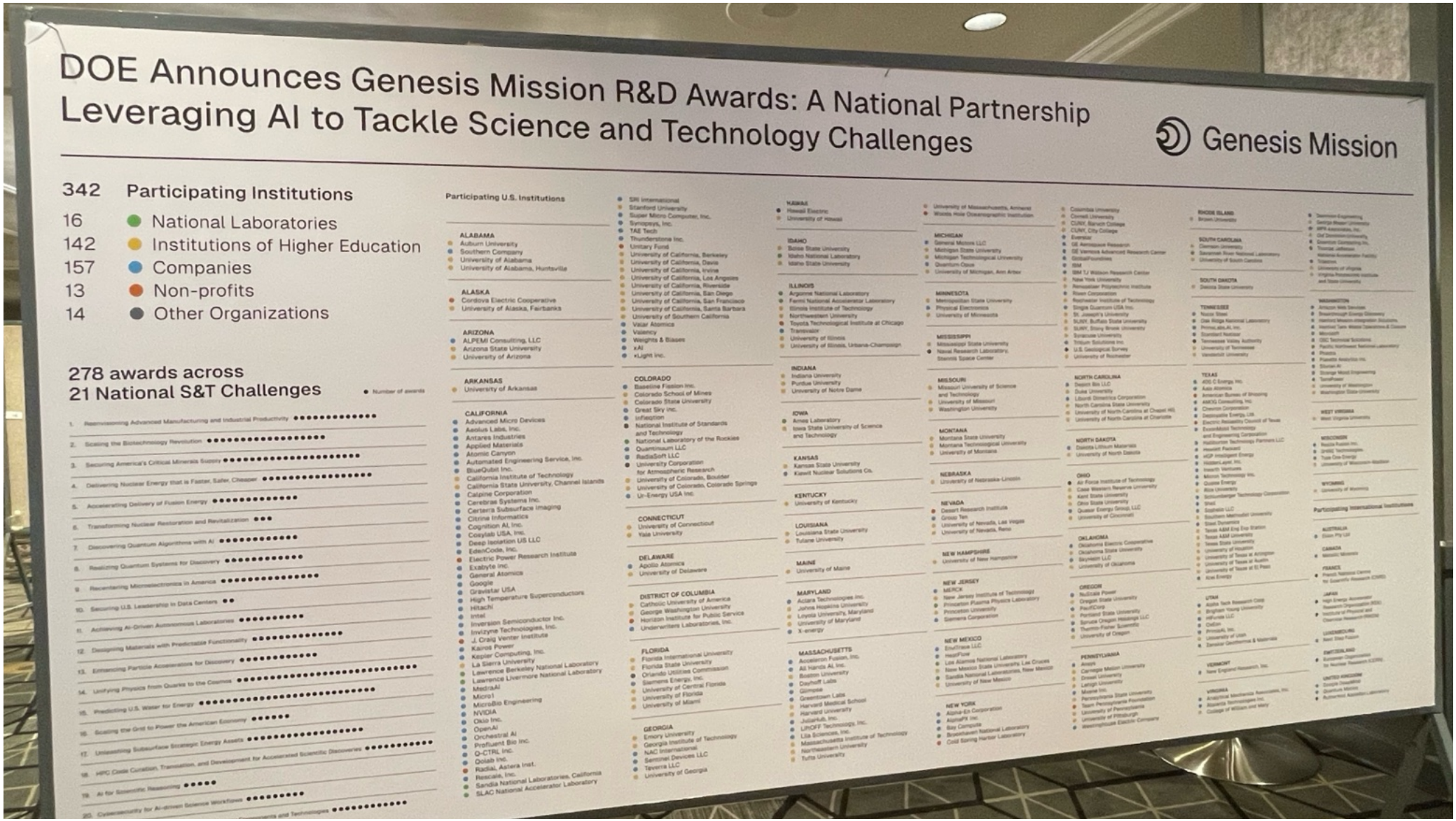
Recovery

Can it resume after failure without hiding changed assumptions or corrupting state?

Cost–performance

Did model choice, tokens, compute, and human review match the task's value?

Evaluation stack: automated tests · scientific validators · LLM / agent judges · SME review · red-teaming · cost telemetry · sampled audit


DOE Announces Genesis Mission R&D Awards: A National Partnership Leveraging AI to Tackle Science and Technology Challenges
Genesis Mission
342 Participating Institutions
16 National Laboratories
142 Institutions of Higher Education
157 Companies
13 Non-profits
14 Other Organizations
278 awards across 21 National S&T Challenges
Number of awards
1. Reenvisioning Advanced Manufacturing and Industrial Productivity
2. Scaling the Biotechnology Revolution
3. Securing America's Critical Minerals Supply
4. Delivering Nuclear Energy that is Faster, Safer, Cheaper
5. Accelerating Delivery of Fusion Energy
6. Transforming Nuclear Restoration and Revitalization
7. Discovering Quantum Algorithms with AI
8. Realizing Quantum Systems for Discovery
9. Recentering Microelectronics in America
10. Securing U.S. Leadership in Data Centers
11. Achieving AI-Driven Autonomous Laboratories
12. Designing Materials with Predictable Functionality
13. Enhancing Particle Accelerators for Discovery
14. Unifying Physics from Quarks to the Cosmos
15. Predicting U.S. Water for Energy
16. Scaling the Grid to Power the American Economy
17. Unleashing Subsurface Strategic Energy Assets
18. HPC Code Curation, Translation, and Development for Accelerated Scientific Discoveries
19. AI for Scientific Reasoning
20. Cybersecurity for AI-driven Science Workflows
Participating U.S. Institutions
ALABAMA
Auburn University
Southern Company
University of Alabama
University of Alabama, Huntsville
ALASKA
Cordova Electric Cooperative
University of Alaska, Fairbanks
ARIZONA
ALPEMI Consulting, LLC
Arizona State University
University of Arizona
ARKANSAS
University of Arkansas
CALIFORNIA
Advanced Micro Devices
Aeolus Labs, Inc.
Antares Industries
Applied Materials
Atomic Canyon
Automated Engineering Service, Inc.
BlueQubit Inc.
California Institute of Technology
California State University, Channel Islands
Calpine Corporation
Cerebras Systems Inc.
Certerra Subsurface Imaging
Citrine Informatics
Cognition AI, Inc.
Cosylab USA, Inc.
Deep Isolation US LLC
EdenCode, Inc.
Electric Power Research Institute
Exabyte Inc.
General Atomics
Google
Gravistar USA
High Temperature Superconductors
Hitachi
Intel
Inversion Semiconductor Inc.
Invizyne Technologies, Inc.
J. Craig Venter Institute
Kairos Power
Kepler Computing, Inc.
La Sierra University
Lawrence Berkeley National Laboratory
Lawrence Livermore National Laboratory
MedraAI
Micro1
MicroBio Engineering
NVIDIA
Okio Inc.
OpenAI
Orchestral AI
Profluent Bio Inc.
Q-CTRL Inc.
Qolab Inc.
Radial, Astera Inst.
Rescale, Inc.
Sandia National Laboratories, California
SLAC National Accelerator Laboratory
SRI International
Stanford University
Super Micro Computer, Inc.
Synapsys, Inc.
TAE Tech
Thunderstone Inc.
Unitary Fund
University of California, Berkeley
University of California, Davis
University of California, Irvine
University of California, Los Angeles
University of California, Riverside
University of California, San Diego
University of California, San Francisco
University of California, Santa Barbara
University of Southern California
Vaiar Atomics
Valency
Weights & Biases
xAI
xLight Inc.
COLORADO
Baseline Fission Inc.
Colorado School of Mines
Colorado State University
Great Sky inc.
Infleqtion
National Institute of Standards and Technology
National Laboratory of the Rockies
Quantinuum LLC
RadiaSoft LLC
University Corporation for Atmospheric Research
University of Colorado, Boulder
University of Colorado, Colorado Springs
Ur-Energy USA Inc.
CONNECTICUT
University of Connecticut
Yale University
DELAWARE
Apollo Atomics
University of Delaware
DISTRICT OF COLUMBIA
Catholic University of America
George Washington University
Horizon Institute for Public Service
Underwriters Laboratories, Inc.
FLORIDA
Florida International University
Florida State University
Orlando Utilities Commission
Siemens Energy, Inc.
University of Central Florida
University of Florida
University of Miami
GEORGIA
Emory University
Georgia Institute of Technology
NAC International
Semmiel Devices LLC
Teverra LLC
University of Georgia
HAWAII
Hawaii Electric
University of Hawaii
IDAHO
Boise State University
Idaho National Laboratory
Idaho State University
ILLINOIS
Argonne National Laboratory
Fermi National Accelerator Laboratory
Illinois Institute of Technology
Northwestern University
Toyota Technological Institute at Chicago
Transonic
University of Illinois
University of Illinois, Urbana-Champaign
INDIANA
Indiana University
Purdue University
University of Notre Dame
IOWA
Ames Laboratory
Iowa State University of Science and Technology
KANSAS
Kansas State University
Kiewit Nuclear Solutions Co.
KENTUCKY
University of Kentucky
LOUISIANA
Louisiana State University
Tulane University
MAINE
University of Maine
MARYLAND
Aclara Technologies Inc.
Johns Hopkins University
Loyola University, Maryland
University of Maryland
X-energy
MASSACHUSETTS
Accelleron Fusion, Inc.
Ali Hands AI, Inc.
Boston University
Dayhoff Labs
Gimpse
Greentown Labs
Harvard Medical School
Harvard University
JuliaHub, Inc.
LIFOFF Technology, Inc.
Lila Sciences, Inc.
Massachusetts Institute of Technology
Northeastern University
Tufts University
University of Massachusetts, Amherst
Woods Hole Oceanographic Institution
MICHIGAN
General Motors LLC
Michigan State University
Michigan Technological University
Quantum-Opus
University of Michigan, Ann Arbor
MINNESOTA
Metropolitan State University
Physical Electronics
University of Minnesota
MISSISSIPPI
Mississippi State University
Naval Research Laboratory, Stennis Space Center
MISSOURI
Missouri University of Science and Technology
University of Missouri
Washington University
MONTANA
Montana State University
Montana Technological University
University of Montana
NEBRASKA
University of Nebraska-Lincoln
NEVADA
Desert Research Institute
Groop Ten
University of Nevada, Las Vegas
University of Nevada, Reno
NEW HAMPSHIRE
University of New Hampshire
NEW JERSEY
MERCK
New Jersey Institute of Technology
Princeton Plasma Physics Laboratory
Princeton University
Siemens Corporation
NEW MEXICO
EnuTrace LLC
HeatFlow
Los Alamos National Laboratory
New Mexico State University, Las Cruces
Sandia National Laboratories, New Mexico
University of New Mexico
NEW YORK
Alpha-En Corporation
AlphaFS Inc.
Bay Compute
Brookhaven National Laboratory
Cold Spring Harbor Laboratory
Columbia University
Cornell University
CUNY, Baruch College
CUNY, City College
Eversor
GE Aerospace Research
GE Vernova Advanced Research Center
GlobalFoundries
IBM
IBM TJ Watson Research Center
New York University
Rensselaer Polytechnic Institute
Risen Corporation
Rochester Institute of Technology
Singla Quantum USA Inc.
St. Joseph's University
SUNY, Buffalo State University
SUNY, Stony Brook University
Syracuse University
Tritium Solutions Inc.
U.S. Geological Survey
University of Rochester
NORTH CAROLINA
Depict Bio LLC
Duke University
Liberdi Dimetrics Corporation
North Carolina State University
University of North Carolina at Chapel Hill
University of North Carolina at Charlotte
NORTH DAKOTA
Dakota Lithium Materials
University of North Dakota
OHIO
Air Force Institute of Technology
Case Western Reserve University
Kent State University
Ohio State University
Quasar Energy Group, LLC
University of Cincinnati
OKLAHOMA
Oklahoma Electric Cooperative
Oklahoma State University
Skymesh LLC
University of Oklahoma
OREGON
NuScale Power
Oregon State University
PacifiCorp
Portland State University
Spruce Oregon Holdings LLC
Thermo-Fisher Scientific
University of Oregon
PENNSYLVANIA
Ansys
Carnegie Mellon University
Drexel University
Lehigh University
Mavrik Inc.
Pennsylvania State University
Team Pennsylvania Foundation
University of Pennsylvania
University of Pittsburgh
Westinghouse Electric Company
RHODE ISLAND
Brown University
SOUTH CAROLINA
Clemson University
Savannah River National Laboratory
University of South Carolina
SOUTH DAKOTA
Dakota State University
TENNESSEE
Nucor Steel
Oak Ridge National Laboratory
Primus Labs AI, Inc.
Standard Nuclear
Tennessee Valley Authority
University of Tennessee
Vanderbilt University
TEXAS
ADS C Energy, Inc.
Axio Atomics
American Bureau of Shipping
AMOG Consulting, Inc
Chevron Corporation
Deepsouthe Energy, Ltd.
Electric Reliability Council of Texas
Exxonmobil Technology and Engineering Corporation
Halliburton Technology Partners LLC
Hewlett Packard
HOP Intelligent Energy
Hubbert Layer, Inc.
Intech Ventures
Micron Technology Inc.
Quaise Energy
Rice University
Schlumberger Technology Corporation
Shell
Sophelio LLC
Southern Methodist University
Steel Dynamics
Texas A&M Eng Exp Station
Texas A&M University
Texas State University
University of Houston
University of Texas at Arlington
University of Texas at Austin
University of Texas at El Paso
Xcel Energy
UTAH
Alpha Tech Research Corp
Brigham Young University
HiFunda LLC
Oxitin
Primus1, Inc.
University of Utah
Zanskar Geothermal & Materials
VERMONT
New England Research, Inc.
VIRGINIA
Analytical Mechanics Associates, Inc.
Assentia Technologies Inc.
College of William and Mary
Dominion Engineering
Georgia Mason University
HPM Associates, Inc.
Old Dominion University
Orientish Computing Inc.
Thomas Jefferson National Accelerator Facility
Tribotron
University of Virginia
Virginia Piedmonte Institute and State University
WASHINGTON
Amazon Web Services
Breakthrough Energy Gateway
Hamilton Mason Integration Solutions
Hamilton Sans Mason Datastores & Closure
Microsoft
OSC Technical Solutions
Pacific Northwest National Laboratory
Phoenix
Planetiq Analytics Inc.
Stardan AI
Storage Wood Engineering
TerraPower
University of Washington
Washington State University
WEST VIRGINIA
West Virginia University
WISCONSIN
Nestle Fusion Inc.
SHINE Technologies
Type One Energy
University of Wisconsin-Madison
WYOMING
University of Wyoming
Participating International Institutions
AUSTRALIA
Eliom Pty Ltd
CANADA
Metallic Minerals
FRANCE
French National Centre for Scientific Research (CNRS)
JAPAN
High Energy Accelerator Research Organization (KEK)
Institute of Physical and Chemical Research (RIKEN)
LUXEMBOURG
Next Step Fusion
SWITZERLAND
European Organization for Nuclear Research (CERN)
UNITED KINGDOM
Dongle Dataflow
Quantum Motion
Rutherford Appleton Laboratory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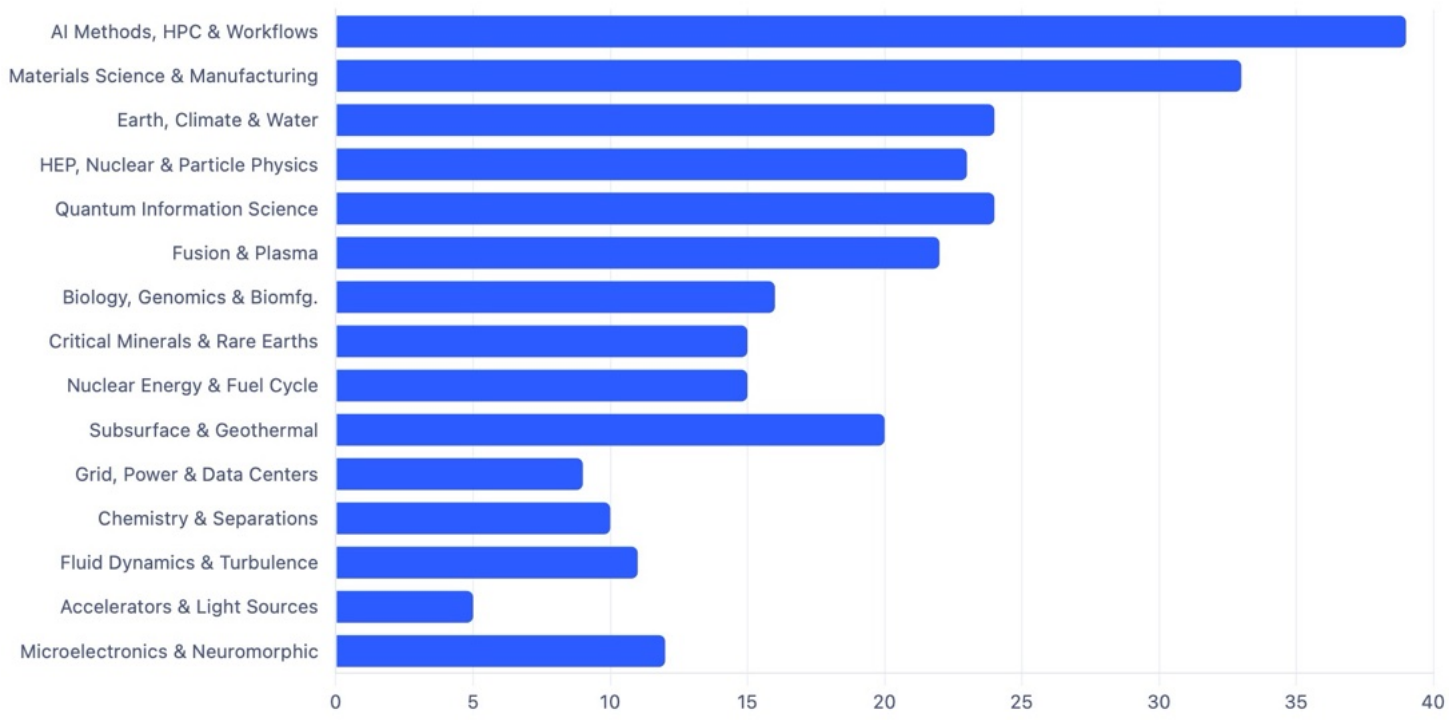
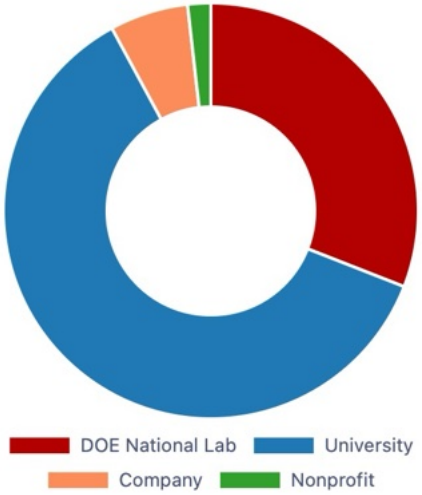
Genesis Mission
Institution Type
National Laboratories
Institutions of Higher Education
Companies
Non-profits
Other Organizations
Alaska
Hawaii
Australia
Japan
France, Luxembourg, Switzerland, United Kingdom
50 awards
25 awards
1 award

AWARDS BY SCIENCE FIELD



BY PERFORMER TYPE



Every award is an AI/ML project. The dimension that matters is **which science domain** the AI is applied to.


Genesis Mission
U.S. DEPARTMENT
of ENERGY