National AI Research Resource Task Force
Final Report

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WHITE HOUSE OFFICE OF SCIENCE AND TECHNOLOGY POLICY
NAIRR Task Force Objectives

- Investigate the feasibility and advisability of establishing and sustaining a NAIRR

- Propose a roadmap and implementation plan detailing how the resource should be established and sustained
i. Goals for the NAIRR
ii. Ownership and administration plan, including responsible agency or organization
iii. Governance and oversight model
iv. Capabilities required
v. Assessment of and solutions to barriers to use of high-quality government data sets
vi. Security requirements and access control framework
vii. Privacy and civil rights and civil liberties requirements
viii. Sustainment plan, including Federal funding and partnerships
ix. Agency roles and responsibilities, implementation milestones, and other key parameters
Vision for the NAIRR

A widely-accessible, national cyberinfrastructure that will advance the U.S. AI R&D environment, discovery, and innovation by empowering a diverse set of users through access to:

- Secure, high-performance, privacy-preserving computing
- High-quality datasets
- Catalogs of testbeds and educational materials
- Training tools and user support mechanisms
NAIRR Objective and Goals

**Objective:** To strengthen and democratize the U.S. AI Innovation ecosystem in a way that protects privacy, civil rights, and civil liberties

**Goals:**
- Spur innovation
- Increase the diversity of talent in AI
- Improve U.S. capacity for AI R&D
- Advance trustworthy AI
NAIRR Users

Researchers, educators, and students at U.S.-based:

- Academic institutions
- Non-profit organizations
- Federal agencies or federally-funded research and development centers (FFRDCs)
- State, local, or tribal agencies
- Startups or small businesses with SBIR, STTR, or similar Federal grants
Federal Administration of NAIRR

**Administrative home agency:**
- Mission-aligned with NAIRR
- Existing relationship with AI R&D community
- Experience supporting AI R&D
- Focused on equity and diversity
- Capable of support democratized access
- Funds Operating Entity

**Other agencies:**
- Serve on Steering Committee
- Fund NAIRR resource providers
- Help staff Program Management Office

By majority opinion, the Task Force recommends that the National Science Foundation serve as the NAIRR’s administrative home.
NAIRR Governance

**User Committee**
- Researcher representatives
- Community representatives
- Representatives from other large-scale infrastructures
- Private sector representatives

**NAIRR Operating Entity**
- Manage resource procurement and operations
- Manage resource allocations to the user community
- Support users and facilitate innovative AI

**Administrative Home**
Dedicated NAIRR Program Management Office

**Steering Committee**
Composed of principals from participating agencies

**Science Advisory Board**
Technology Advisory Board
Ethics Advisory Board

**Federal Engagement**

oversight relationship
NAIRR Composition

- Federation of new and existing resources
- Primarily owned by third-party providers
- Integrated user support and trainings
- Catalogs of data sets, testbeds, and educational resources
- Transparent specifications, policies, and practices
- Secure, robust, accessible, and sustainable
- Integrated access portal
Resource Allocation

NAIRR resources allocated to users via three tracks:

1. **Agency-driven** – each agency awards a share of credits
2. **Peer review** – *Operating Entity*-managed merit review
   - Project startup (OE staff)
   - Larger-scale (OE-coordinated panel)
3. **Operating Entity discretionary** – executive leadership share of credits
Security and Access Controls

**System Design**
- Five-safes framework
- Authentication required for all but nominal resources
- Tiered model
  - **NAIRR-Open**: Open science zone
  - **NAIRR-Secure**: Secure enclave(s)
  - Other tiers as necessary

**Management**
- Expert technical security staff
- Routine monitoring and updates

**Governance**
- Advisory boards
- User agreements
- Required security and ethics trainings
Privacy, Civil Rights, and Civil Liberties

NAIRR should be an exemplar for transparent, ethical, and responsible AI R&D

• Transparency and oversight across all aspects
• Guidance from Ethics Advisory Board and User Committee
• Diversity and expertise among decision-makers and staff
Privacy, Civil Rights, and Civil Liberties

The NAIRR Operating Entity should:

• Develop and Publish:
  – Resource acceptance criteria and controls
  – Ethics review criteria and mechanisms

• Draw from:
  – *Blueprint for an AI Bill of Rights*
  – *AI Risk Management Framework*

• Provide data to facilitate R&D on implications of bias

• Ensure annual user and staff training on practices and responsibilities
Phased NAIRR Buildout

Phase 1
- Appropriations
- Establish Program Management Office
- Select Operating Entity

Phase 2
- Fund Operating Entity
- Develop resource provider solicitations
- Establish boards and committees

Phase 3
- Allocate resources
- Provide user support
- Collect metrics for evaluation

Phase 4
- Solicit new resource providers
- Support emerging areas of interest
- Participate in evaluation
Optional Pilot

- The Program Management Office could expand access to existing cyberinfrastructure for AI researchers.
- This would require:
  - Supplemental funds to existing resource providers beginning in Year 0
  - Interim management and governance mechanisms
- Pilot would operate until the NAIRR is fully operational in Year 2
## Preliminary NAIRR Budget

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6-year total: $2.25B + $370M + $30M = ~ $2.6B
Final Report Roll Out Plans

MANISH PARASHAR, OFFICE DIRECTOR, OFFICE OF ADVANCED CYBERINFRASTRUCTURE, NATIONAL SCIENCE FOUNDATION
Task Force Timeline and Work Plan

- **Phase**
  - Assessment Phase
  - Interim Report Development
  - Final Report Development

- **Task Force Launched**
  - July 2021

- **Task Force Meetings**
  - August 2021
  - October 2021
  - December 2021
  - February 2022

- **Working Group Activities**
  - 2021
  - 2022

- **Interim Report Submitted**
  - May 2022

- **Submit Final Report**
  - January 2023
1. Report Posted to AI.gov

2. Blog Post

3. Public Event

Socialization of Findings & Recommendations

• Briefings to Congress
• Engagement with stakeholders
• Media call

• Social media
• Task Force member networks
• Interagency briefings