



The President's Council on Science & Technology (PCAST)

Review of the Networking and Information Technology Research and Development (NITRD) Program

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PCAST Review of the NITRD Program



PCAST is tasked by statute and implementing Executive Order with:

- (1) Assessment of NITRD Program progress, need for revisions, balance among PCAs, contribution to U.S. leadership in NIT R&D
- (2) Evaluation of Program funding, management, coordination, implementation, activities, reporting every three years



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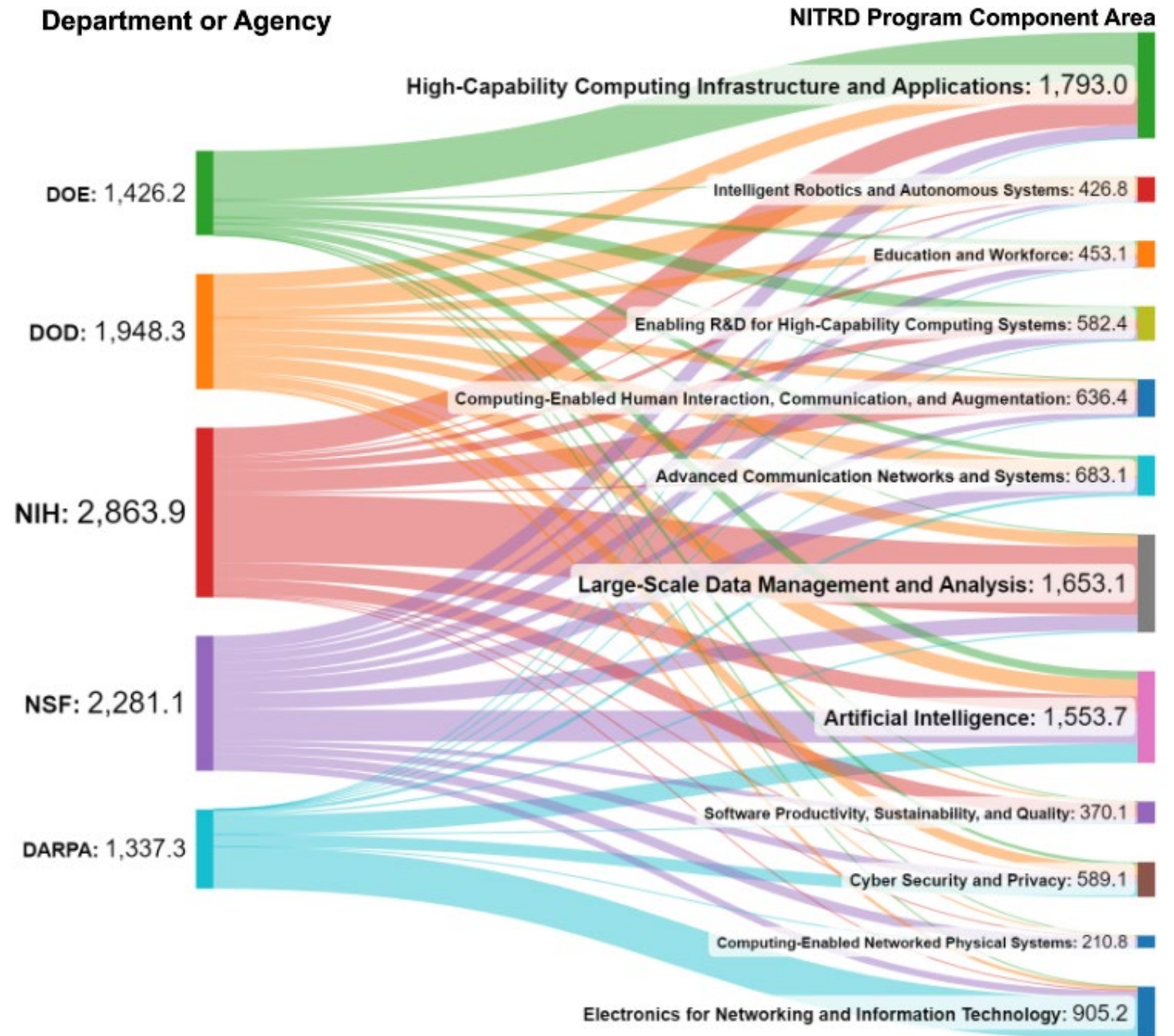
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NITRD Budget Flows

Five agencies representing the majority of budget attributed to NITRD “program component areas”



FY2024 NITRD Budget Request as reported in the NITRD NAIIO Supplement to the President's Budget. Differences in size of font reflect differences in size of budget.



Finding 1

The NITRD program continues to be useful and cost-effective.



PCAST is impressed by the value that the NITRD program continues to provide.

The further findings are about how to improve NITRD.



Finding 2

The NCO's communication strategy, its products and their cadence, are not always well matched to the existing or potential customer base.



Recommendation 1

The NCO should undertake a structured review of its existing report products to improve the cadence and level of detail to better match the needs of current and prospective customers.



Finding 3

The NCO has over time become too narrow in its outreach.

Finding 4

The NITRD program and NITRD NCO are missing opportunities to:

- Provide meaningful benefit to a broader customer base of federal officials, including those in the budgeting process and those making informed technology acquisition decisions.
- Connect a broader set of stakeholders from academia and industry to NITRD R&D efforts
- Serve as a resource and institutional memory (including across agencies and across administrations) for a broader range of customers and programs than at present.



Recommendation 2

The NITRD NCO should construct and execute a multi-pronged plan aimed at expanding its customer base, by:



- Identifying current customers and surveying them as to how NITRD's convenings and written products can more effectively meet their needs.
- Reaching out to potential new customers and stakeholders, educating them about the NITRD Program, and exploring how NITRD products (existing or new) might help in their responsibilities.
- Identifying appropriate metrics of success, for example, requests for information/meetings, web hits, etc.



Recommendation 3

The NCO should develop a list of convenings of federal agency officials (councils, committees, etc.) in the areas of information and data science and technology, and should assess where NITRD might contribute present and future institutional memory and R&D perspective by being, even if silently, “in the room.” NITRD should reach out to those activities proposing mutually beneficial interactions.



Finding 5

The inherent inertia of the interagency process leads to PCAs that more resemble the state-of-the-art in information technology a decade ago than what would today best serve the purposes of the NITRD Program's authorizing legislation as forward-looking guidance.

Recommendation 4

The NITRD NCO should utilize its statutory authority to undertake a zero-base refresh of the PCAs. The new PCAs should be future-looking and aimed at encouraging research and development by agencies (both on and using) today's and tomorrow's most relevant technologies; and also aimed at making them more useful as budget-reporting categories for policymakers.



Finding 6

Budget reporting via the PCAs could be made more meaningful by additional binning into uses of different character.



Recommendation 5

Agencies' budget reporting against the PCAs should, for each PCA, give the breakdown of its dollar amount into four bins:

1. R&D on that PCA, i.e., advancement of that PCA as a subfield of information and data science and technology.
2. R&D using that PCA to advance the agency's mission.
3. Infrastructure investment, exclusive of operating expenses, that support that PCA.
4. Infrastructure operational expenses that support that PCA.



Finding 7

The NSTC NITRD IWGs are valuable. They would benefit from greater flexibility in their number, definitions, and lifetimes, more like the present FTACs and CoPs and less tied (even if only implicitly) to the PCAs. This would also free up the PCAs for redefinition towards more strategic and modern definitions.

Recommendation 6

The NITRD NCO and NSTC NITRD subcommittee should clearly separate the organization of its convening activities (IWGs, FTACs, and CoPs) from the definition of the PCAs. The number, definitions, and lifetimes of all the convenings should be flexible, variable, and customer-driven.



Finding 8

AI’s long-term societal significance may be comparable to the invention of the internet and larger than high-performance computing was initially—the original impetus for founding NITRD.



Finding 9

We believe an opportunity exists for NITRD to contribute to, and in some cases lead, activities being undertaken government-wide in response to the AI Executive Order.

Recommendation 7

NITRD activities should more specifically address the “special moment of AI.” NITRD NCO should reach out to, and increase its involvement with, and usefulness to, the many new federal activities in AI.





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