Before the
Office of Science and Technology Policy
Washington, DC

In re	
Accelerating the American Scientific Enterprise	Docket No. OSTP-TECH-2025-0100

COMMENTS OF
COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION

The Computer & Communications Industry (CCIA)[1] submits the following comments in response to the Office of Science and Technology Policy's November 26, 2025 Request for Information.[2]

CCIA is an international, not-for-profit trade association representing a broad cross section of communications and technology firms. For more than fifty years, CCIA has promoted open markets, open systems, and open networks. CCIA members employ more than 1.6 million workers, invest more than $100 billion in research and development, and contribute trillions of dollars in productivity to the global economy. CCIA members are at the forefront of research and development in numerous fields including artificial intelligence and machine learning, semiconductor manufacturing, and many other areas of technology.

I. Summary

The scientific enterprise draws on a wide array of talents, techniques, and resources. But science is, at its core, founded on creating, replicating, and sharing data. To accelerate the American scientific enterprise, the Administration should pursue initiatives that will expand both access to existing data and the generation of new data to support research.

[1] A list of CCIA members is available online at https://www.ccianet.org/about/members.
[2] 90 Fed. Reg. 54412 (Nov. 26, 2025).

Core infrastructure is also crucial to scientific progress. This includes supporting infrastructure, such as access to electricity and communications connections, as well as computing infrastructure, such as data centers and other compute resources.

Finally, federally supported science must focus on early-stage and high-risk research. In particular, the federal grant portfolio has shifted towards funding projects that have already shown success, rather than early-stage basic research. To ensure American scientific success, shifting federal funding back to high-risk research is critical.

By aligning data strategy, infrastructure investment, and funding priorities, the U.S. can secure a robust, innovative, and globally competitive scientific ecosystem for the 21st century.

II. Creation and Access to Data

Science relies on accurate, replicable, and publicly available data. Without this, the scientific method fails. The Administration should set a national data strategy intended to expand the availability of data for scientific purposes.

While data is essential, so is focus on what areas are most in need of high-quality data. The first priority should be to work to identify those areas of research that currently lack needed datasets, as well as identifying what data might already exist in those areas but not currently be accessible. By identifying these priority areas, efforts to improve data access can be focused on areas most likely to produce beneficial results. Once those areas of data have been identified, support for projects that will generate the needed information is essential.

Beyond the generation of new data, expanding access to existing data may also be beneficial. Researchers cannot currently access wide swathes of existing data due to privacy concerns, default confidentiality, or other restrictions. In some cases, such as healthcare, exabytes of data are already being generated each year but remain inaccessible for most research

purposes. Healthcare data is among the most sensitive personal information and completely open access to it is both inappropriate and unnecessary. However, the Administration could work to provide secure and privacy-protective methods to access that data, such as strong anonymization, separation of the raw data from the privacy-protected data, and the use of best security practices in those systems.

Even data that lacks any privacy concerns may simply be kept confidential by default. This applies to both commercial and government datasets. While the Administration cannot and should not instruct commercial entities to open their datasets, it could encourage doing so by providing tools and resources for data sharing. More importantly, it can exemplify the benefits of data sharing by making datasets created by the government, or through government-funded research, more easily available to the scientific community.

The success of American science requires the Administration to expand access to existing data and help generate new data to support research. Taking these steps will set the trajectory of 21st century American science.

III. Infrastructural Needs

Alongside data and just as essential is access to the basic infrastructure which supports science. This can include everything from laboratory space and equipment to electricity to power research computing.

Most pressing at the current time is access to electrical infrastructure. High-performance computing of the type used in research is incredibly energy intensive. Continued federal investment in advanced energy technologies like small modular reactors and other forms of

nuclear energy,[3] funding for cost-effective renewable energy,[4] and permitting reform to enable faster construction of these resources will help to shore up the basic energy needs of science. These increases in electrical load don't have to come at the expense of the cost of residential electricity. In fact, load increases, including those related to data center construction and operation, do not seem to have significantly impacted overall electrical prices to date.[5]

Additionally, grid modernization, and the required capacity-building, is essential for supporting innovation. While some of these investments may increase costs in the short term, they represent essential infrastructure upgrades that can improve efficiency, resilience, and reliability. These changes can reduce outages and better integrate new energy resources, all of which help lower system costs and consumer prices over time.

Beyond electrical infrastructure, permitting reform can also help to enable better access to communications infrastructure for data transmission, a critical factor in AI research as well as other areas of communications technology. Permitting processes, while often aimed at meeting statutory obligations under legislation or at protecting important values such as community input, can also become hidebound and slow, delaying the creation of important infrastructure that will eventually be approved anyway. Streamlining permitting to ensure that obligations and interests are protected while also allowing construction to move forward more quickly will help to ensure that infrastructure needs can be met.

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[3] Josh Blatt, *U.S. Should Begin Laying the Foundation for New and Advanced Nuclear Reactors, Says New Report*, National Academy of Sciences (Apr. 27, 2023), https://www.nationalacademies.org/news/u-s-should-begin-laying-the-foundation-for-new-and-advanced-nuclear-reactors-says-new-report.

[4] U.S. Energy Information Administration, *Annual Energy Outlook 2025* (Apr. 2025), Table 1, https://www.eia.gov/outlooks/aeo/ (showing renewable energy, including wind and photovoltaic solar, as having a lower levelized cost than even the cheapest fossil fuels).

[5] Ryan Wiser et al., *Factors influencing recent trends in retail electricity prices in the United States*, The Electricity Journal 38 (2025) 107516, https://www.sciencedirect.com/science/article/pii/S1040619025000612#bib40.

It is also important to ensure equal treatment of both on-premises and cloud-based research information technology. The Administration has sought to reduce facilities and administrative (F&A) costs in federal grants to ensure that taxpayer dollars flow directly to research. But some grant recipients interpret current F&A guidance to apply only to cloud-based infrastructure, and not on-premises hardware. This uneven treatment can incentivize researchers to purchase and maintain their own equipment over scalable cloud services that enable access to AI and other crucial capabilities. As OMB implements the Administration's Executive Order on Improving Oversight of Federal Grantmaking,[6] it should update the Uniform Guidance to clarify that hardware and cloud-based systems are treated equivalently for F&A purposes.

Finally, fully funding federal research resources such as the National Artificial Intelligence Research Resource (NAIRR) will help make sophisticated computing accessible not just to existing well-funded firms, but also to startups and academic researchers.

IV. Federal Support for Basic Research

Over time, the federal grant process has begun to select for research that already shows promise, rather than for early-stage and breakthrough research that explores new areas of science. The basic research that led to many modern advances was all funded by federal science grants. But more recently funding has shifted to applications, rather than the basic science that enabled them. Shifting back to funding basic research, allowing the private sector to apply it, would help to revitalize the American scientific enterprise.

The federal government has funded foundational, high-risk, early-stage research that later enabled transformative applications. However, the current system increasingly selects for research that has already demonstrated significant promise or near-term applicability, rather than actively supporting the exploratory, high-uncertainty basic research that forms the essential

[6] Executive Order 14332, 90 Fed. Reg. 38929 (Aug. 7, 2025).

bedrock for future breakthroughs. While reflecting a natural evolution towards immediate returns, this approach risks diminishing the very source of the profound innovations that have defined American scientific preeminence.

The historical record is unequivocal: many of the most impactful technologies that underpin our modern economy and quality of life emerged not from targeted applied development, but from federally funded basic research conducted in university laboratories and national research centers. The foundational science that led to the development of current GLP-1 drugs (rooted in research on peptide hormones and signaling pathways, significantly supported by the NIH), the Global Positioning System (which originated from fundamental physics and satellite navigation research funded by the Department of Defense), practical LED lighting (built on early discoveries in semiconductor physics funded by agencies like the Air Force and later NSF), and even the Internet (which began as ARPANET, a project driven by basic research in network theory and computer science supported by DARPA) are all powerful testaments to the long-term, high-impact value of investing in uncharted scientific frontiers.

These innovations were not the product of the federal government funding a specific end product; they arose from the freedom to pursue fundamental questions without immediate commercial constraints. Consequently, the observed shift towards greater emphasis on funding research that is already demonstrating tangible, near-term applicability, while often necessary for specific mission needs, represents a significant departure from the model that produced these landmark innovations.

The Administration should thus direct its agencies to rebalance the federal research grant portfolio, increasing its commitment to funding early-stage research that explores new areas of science, tests fundamental principles, and addresses questions without requiring a clear,

immediate application—supporting the discovery phase, rather than the application phase. This will ensure that a foundation that enables future applications exists.

This strategic realignment is paramount for sustaining the long-term health, competitiveness, and innovative vitality of the entire American scientific and technological ecosystem.

V. Conclusion

By enhancing the creation and accessibility of data, enabling development of the needed scientific infrastructure, and funding basic research, the Administration can ensure that American science continues to lead the world. CCIA appreciates the opportunity to provide input on this important topic and would be pleased to provide whatever additional input or explanation may be helpful as the Administration moves forward with supporting American science.

Respectfully submitted,

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