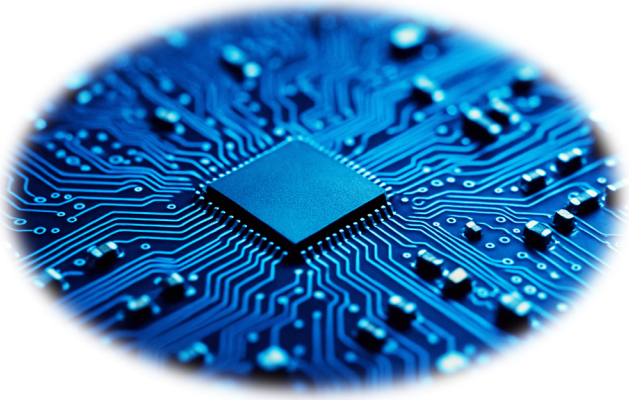
Protect the Nation's Research Enterprise

What's at Stake?

Proposed cuts to the Fiscal Year 2026 budget threaten U.S. computing and IT research, particularly at the **National Science Foundation (NSF)**, which funds 80% of fundamental computer science at US universities and faces a proposed **56% funding cut**. This would jeopardize the nation's technological leadership and innovation.

Key concerns:

- **Eroding U.S. Global Competitiveness:** China's R&D investment is growing twice as fast as the U.S. These cuts could cause the U.S. to fall behind in critical fields like AI, quantum computing, and robotics, leading to a loss of future economic benefits.
- **Disrupting the CS Talent Pipeline:** Federal funding supports the students and researchers who will become the future leaders and innovators in the tech industry. Cutting this funding would weaken the system that trains future tech talent, with consequences that could last for decades.
- **Undercutting Private-Sector Innovation:** Federal research funding has a significant return on investment, estimated at 150% to 300%. This small investment of approximately $10 billion annually supports a tech sector that contributes over $2 trillion to the U.S. GDP. Cutting this funding undermines the foundational research that drives private-sector growth and innovation.



What Can Be Done?

To combat the threats to U.S. computing and IT research, the following actions are necessary:

Increase Funding for Federal Research Agencies

- **Fund the NSF at the highest level possible**. Specifically, support the **Senate's proposed $9.0 billion** for the National Science Foundation in the Fiscal Year 2026 budget and reject the Administration's cuts.
- Extend this support to other key federal research agencies, including the **DOE's Office of Science, NIST, NASA, and the DOD Research accounts**, which also conduct vital research in these fields and face long-term budget concerns.

Protect the Research Enterprise from Harmful Actions

- **Prevent the elimination of scientific advisory committees.** These committees are crucial for providing expert guidance and linking federal agencies with the research community at a minimal cost to taxpayers.
- **Reject capping facilities and administration reimbursement rates.** These caps on indirect costs would effectively be a cut to legitimate research expenses, making federally supported research too costly for institutions to perform.
- **Avoid reducing or laying off the scientific workforce.** Cuts to the federal scientific workforce would undermine the entire research enterprise, risking U.S. global leadership in technology and hindering our ability to address national challenges.

1828 L Street, NW, Suite 800
Washington, DC 20036
P: 202 234 2111
F: 202 667 1066
www.cra.org
info@cra.org

March 3, 2025

The Honorable Mike Johnson
Speaker of the House
United States House of Representatives
Washington, DC 20515

The Honorable John Thune
Republican Leader
United States Senate
Washington, DC 20510

The Honorable Hakeem Jeffries
Democratic Leader
United States House of Representatives
Washington, DC 20515

The Honorable Charles Schumer
Democratic Leader
United States Senate
Washington, DC 20510

Dear Speaker Johnson, Leader Thune, Leader Schumer, and Leader Jeffries:

As six leading organizations representing more than 305,000 people in computing, information technology, and technical innovation across US industry, academia, and government, we urgently call on Congress to safeguard and advance the nation's research enterprise.

Recent executive actions that include funding freezes; proposed cuts to critical facilities and administrative costs; and unprecedented layoffs at the National Science Foundation (NSF), the Department of Energy, the National Institute of Standards & Technology (NIST), the National Aeronautics and Space Administration (NASA), the National Institutes of Health (NIH), and other critical technology and innovation-driven agencies, have caused disruption and uncertainty across the research enterprise. We are deeply concerned that these actions and potential reductions in our nation's investments in science and technology research will severely harm America's research productivity, with long-lasting negative consequences for our competitiveness, national security, and economic prosperity.

The United States currently leads the world in critical and emerging technologies such as artificial intelligence and quantum computing. This leadership is built upon a robust research ecosystem – what the National Academies described as "an extraordinarily productive interplay of U.S. universities doing federally funded research, industry and federal labs, and the flow of people and ideas between them." History has repeatedly

shown that breakthroughs supported by federal research agencies yield substantial returns for our nation, fueling new economic sectors. A study by the Dallas Federal Reserve estimates the return on investment of non-defense government R&D to be between 150 and 300 percent. In computing alone, a federal investment in research of just over $10 billion annually across 24 agencies and offices underpins a technology sector that contributes more than $2 trillion to the US GDP each year.

However, this American scientific and technological leadership is now at risk. Deep cuts to the nation's research programs, science agency personnel, and research institutions risk crippling our world-leading research enterprise. These actions will have far-reaching consequences: damaging our ability to sustain our technical workforce, reducing opportunities for future innovations, undermining our economic competitiveness, and leaving us vulnerable to technological surprises that threaten our national security. The nation's investment in science and technology – in cutting-edge research, researchers and support staff, the students and postdocs who will lead our future research, and the facilities and infrastructure that enable discovery – is a cornerstone of our current global standing and quality of life. Cutting this investment would be a costly mistake, far outweighing any short-term savings.

The U.S. research enterprise, that vital collaboration between academia, industry, and government labs, enabled by the federal research investment, has been the engine of innovation and prosperity in our nation for over 70 years and a model for the world. We urge Congress to protect our nation's science and technology research enterprise and reject major cuts to science and research funding.

Academic Data Science Alliance (ADSA)
academicdatascience.org

Association for Computing Machinery (ACM)
acm.org

Coalition for Academic Scientific Computation (CASC)
casc.org

Computing Research Association (CRA)
cra.org

Society for Industrial and Applied Mathematics (SIAM)
siam.org

USENIX – The Advanced Computing Systems Association
usenix.org

CRA
Computing Research Association

The Computing Research Association (CRA) counts among its members more than 250 North American organizations active in computing research: academic departments of computer science and computer engineering; laboratories and centers in industry, government, and academia; and affiliated professional societies (AAAI, ACM, CACS/AIC, IEEE Computer Society, SIAM, and USENIX). CRA works with these organizations to represent the computing research community and to effect change that benefits both computing research and society at large.

CRA ensures that computing research has a vibrant future by investing in our community. With the help of industrial, academic and government leaders, we unite the computing community to advance future directions of the field. We enhance public and policymaker understanding of the importance of computing to make the case for federal investment in research. We have programs that mentor and cultivate individuals in each stage of the pipeline, so that more computing researchers can reach their full potential. All of our programs are evaluated regularly in order to ensure their efficacy. Most initiatives at CRA are led and supported by our passionate volunteers, talented computing researchers who dedicate their valuable time to bring our programs to life. CRA is an invaluable resource to the computing community.

The CRA Board of Directors and its Executive Officers are a distinguished group of leaders in computing research from academia and industry. The board is elected by CRA's member organizations. Representatives from each of our affiliated professional societies are also appointed to serve on the board.

CRA was formed in 1972 as the Computer Science Board (CSB), which provided a forum for the chairs of Ph.D. granting computer science departments to discuss issues and share information. In 1986 CSB, in recognition of its increasing concern for R&D in the computing fields, including computer engineering and computational science, incorporated as the Computing Research Board (CRB). In 1990, CRB was given its present name, the Computing Research Association, and a permanently staffed office was opened in Washington, DC.

1828 L Street, NW, Suite 800
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F: 202 667 1066
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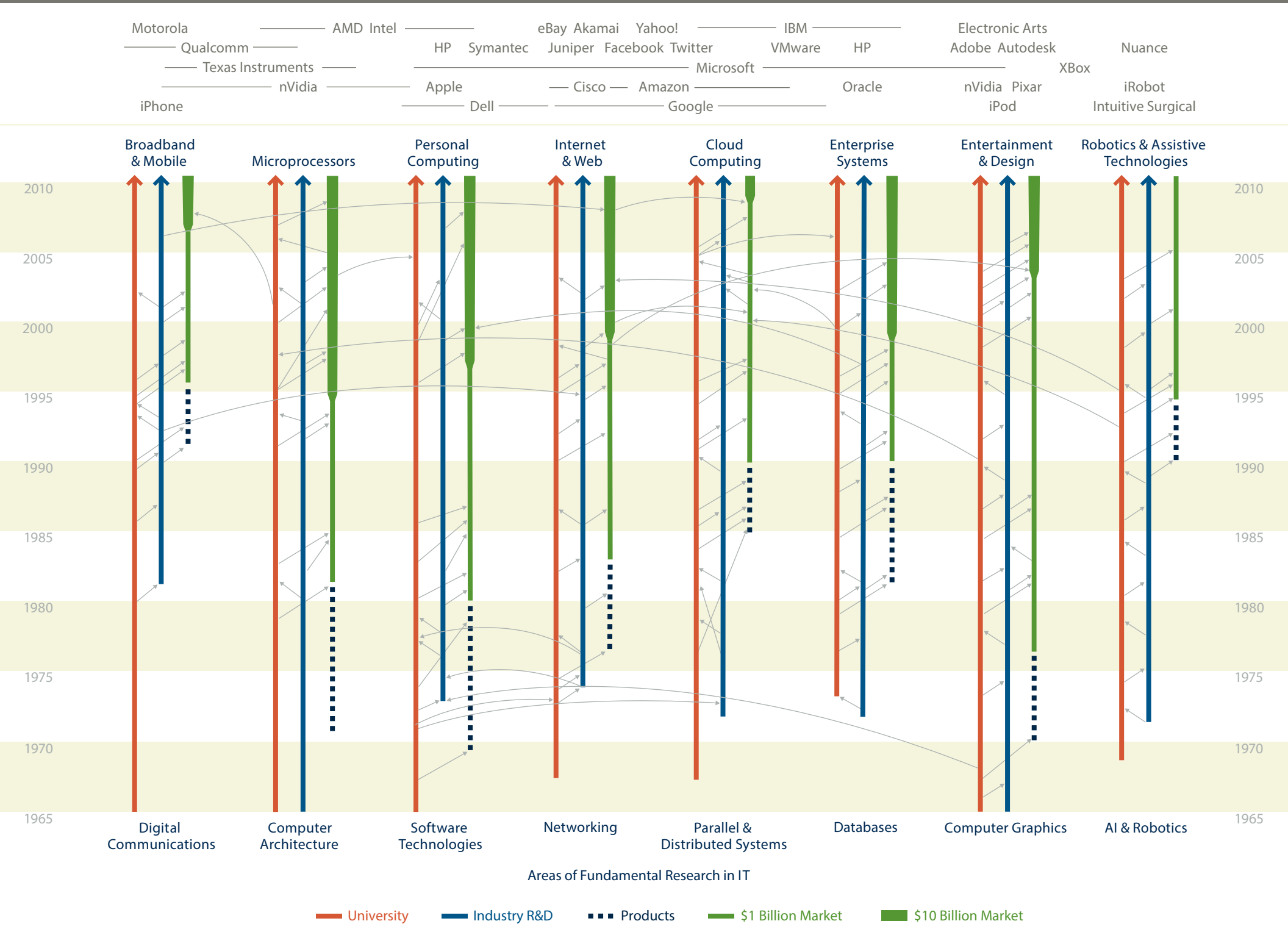
info@cra.org

IT Sectors With Large Economic Impact



TALKING POINTS FOR THE CSTB TIRE TRACKS CHART

1. The chart is a timeline that tracks the growth of different sectors of the IT economy. You can see the dates of the timeline up top.

2. The chart has three lines for each subsector of the IT economy -- a red line that indicates when research was performed in universities (largely supported by the federal government), a blue line that shows when industrial research labs were working in the space (largely with private sector funding), and a dotted black line that indicates when the first product was introduced in the sector. Where that dotted black line turns solid green, it indicates when that became a billion-dollar sector. The arrows indicate the flow of people and ideas between the sectors.

3. When the National Research Council's ***Computer Science and Telecommunications Board*** originally produced this chart back in 1995, they identified nine different billion-dollar subsectors. When they went back and revised it in 2003, they identified 10 more -- 19 total billion-dollar subsectors of the IT economy. They're currently revising the chart for a third time and will identify even more (there's no search there, no social networking, digital video, etc.).

4. The chart shows a number of key aspects of early-stage scientific research:
    a) It often takes a long time before it pays off -- in a number of cases, the earliest research is more than 15 years before the introduction of the first product in the space.
    b) It often pays off in unanticipated ways -- developments in one sector often enable advances in others, often serendipitously.
    c) That research in universities doesn't supplant work done in industry, and vice versa
        I. The research performed in universities is generally a completely different character than research funded by industry.
        II. Industry is generally focused on the next product cycle, or two – not 5 or 10 years out.
        III. It's difficult for industry to capture the benefit of early-stage scientific research because the results of that research, by nature, are available to everyone.
        IV. The payoffs of early-stage research are unpredictable.
    d) The research ecosystem is fueled by the flow of people and ideas back and forth from university and industry, and this robust ecosystem has made the U.S. the world leader in information technology.

5. Each one of these sectors bears the clear stamp of the federal investment, investments that have demonstrated extraordinary payoff.
    a) Payoff in the explosion of new technologies that have touched every aspect of our lives
    b) Economic payoff, in the creation of new industries and literally millions of new jobs.

An excellent slide deck explaining the Tire Tracks Chart can be found on the CRA website.