National Photonics Initiative
Congressional Visit Day 2023

NPI

Support Critical Science and Technology Research and Development Funding

The National Photonics Initiative (NPI) urges Congress to provide strong investments in science R&D programs.

Stable investments in science research & development (R&D) programs are critical to advancing our economy, healthcare innovation, national security, and global competitiveness. Federal support of optics and photonics – a field of science that enables an array of technologies – has been critical to the development of innovations that affect every aspect of our lives. Government funding of optics and photonics research made it possible for millions of miles of optical fiber to carry voice, video, and data around the globe. Medical lasers have revolutionized surgical practices. High-efficiency light is poised to reduce electricity consumption dramatically. Applications such as night-vision and satellite surveillance have transformed military operations. These are just a few examples of the developments made possible through national support of optics and photonics. The National Photonics Initiative (NPI) urges all members of Congress to support the following R&D investments that will fund discoveries and new life-enhancing technologies already on the horizon.

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NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

NIST works with our nation's businesses and universities to drive American economic growth and job creation. Companies, academic institutions, and other federal agencies rely on Scientific and Technical Research and Services (STRS) programs to provide foundational research and material development for their products and programs. The National Quantum Initiative Act, which passed with overwhelming bipartisan support in 2018, includes NIST as one of three key agencies that will help ensure the U.S. remains a global leader in quantum.

Additionally, due to the ongoing need for repairs and maintenance at NIST facilities and its direct impact on NIST's ability to provide critical services to industry, we request $200 million in funding for the NIST construction account excluding any earmarks.

FY22 Enacted STRS: $850 million
FY22 Enacted Construction: $206 million ($80 million excluding earmarks)
FY23 Enacted STRS: $890.5 million*
FY23 Enacted Construction: $130 million*
FY24 Request: $1.047 billion (STRS) and $200 million (Construction)

*excluding earmarks

DEPARTMENT OF ENERGY (DOE) OFFICE OF SCIENCE

The DOE Office of Science is the nation's largest funder of research in the physical sciences and plays a dominant role in underwriting engineering, mathematics, and computing research. It supports discoveries in new fields such as quantum, biotechnology, nanotechnology, and supercomputing – enabled by optics and photonics – and is critical to our nation's economy and competitiveness. The Office of Science has provided grants to researchers and facilities in all 50 states and the District of Columbia, DOE's national laboratories, and more than 300 higher education institutions. The National Quantum Initiative Act includes DOE as one of three agencies that will help ensure the U.S. remains a global leader in quantum.

FY22 Enacted: $7.475 billion
FY23 Enacted: $8.1 billion
FY24 Request: $9.5 billion

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NATIONAL SCIENCE FOUNDATION (NSF)

The NSF is a key funder of optics and photonics research. An example is the Laser Interferometer Gravitational-Wave Observatory (LIGO), which measured gravitational waves from a binary black hole merger. This discovery, enabled by photonics, confirms Einstein's Theory of General Relativity. Another example is work being done by researchers to make solar cells that can be used on almost any surface, including windows, walls, computer bags, and clothing.
The National Quantum Initiative Act includes NSF as one of three key agencies that will help ensure the U.S. remains a global leader in quantum.

FY22 Enacted: $8.8 billion
FY23 Enacted: $7.6 billion
FY24 Request: $11.9 billion

DOD'S SCIENCE AND TECHNOLOGY PROGRAM

The Department of Defense (DOD) is a key federal supporter of physical sciences research. The R&D supported by DOD's Science and Technology (S&T) Program plays a direct role in protecting and equipping our nation's armed forces to carry out their present and future missions and is the source of many of the innovations that drive our high-tech economy. Defense S&T program funding provides important investments in future military scientific workforce development and helps sustain the research base of participants from the academic community.

FY22 Enacted: $18.9 billion
FY23 Enacted: $22.4 billion
FY24 Request: 5% increase

About the National Photonics Initiative

The National Photonics Initiative (NPI) is a collaborative alliance among industry, academia and government to raise awareness of photonics and the impact of photonics on our everyday lives.