COMMITTEE ON
SCIENCE, SPACE, & TECHNOLOGY
Lamar Smith, Chairman

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Statement of Rep. Darin LaHood (R-Ill.)

Networking and Information Technology Research and Development Modernization Act of 2016

Rep. LaHood: Thank you, Chairman Smith, for your support and your help with this bipartisan bill.

As you noted in your opening statement, the Networking and Information Technology Research and Development (NITRD) Program is the main Federal R&D investment portfolio in unclassified networking, computing, software, cybersecurity, and related information technologies.

Information technology is all around us in our day to day lives – on our smart phones, in our cars, and in our homes. It improves our way of life, even in ways that are not always visible or apparent. As noted in the most recent President's Council of Advisors on Science and Technology (PCAST) report, "information technology empowers scientific inquiry, space and Earth exploration, teaching and learning, consumer buying and selling, informed decision-making, national security, transportation, [and] advanced manufacturing."[1]

Research conducted under the NITRD Program has led to scientific growth and innovation in several areas, including:

- Computational decoding of the human genome;
- Modeling and simulation of complex physical systems, like aircraft, automobiles, power grids, and pharmaceuticals;
- Visualization technologies in science, engineering, and medicine;
- Near-real-time weather forecasts;
- Digital libraries;
- Devices for assisted living, and;
- Computer-based education and training.

[1] "Ensuring Leadership in Federally Funded Research and Development in Information Technology," President's Council of Advisors on Science and Technology, August 2015, available at: https://www.whitehouse.gov/sites/default/files/microsites/ostp/PCAST/nitrd_report_aug_2015.pdf

This bill implements several important provisions to help lead the way for future technological innovations. It does so by:

- Improving interagency coordination and planning;
- Focusing on areas of research and development with increasing importance like data analytics, privacy protection, and human-computer systems; and
- Rebalancing R&D portfolios to focus less on short-term goals and placing more emphasis on large-scale, long-term interdisciplinary research.

Specific to cybersecurity, the NITRD program focuses on R&D to detect, prevent, resist, respond to and recover from the actions that compromise or threaten to compromise the availability, integrity, or confidentiality of computer-and network-based systems.

As technology rapidly advances, the need for research and development continues to evolve. NITRD works to prevent duplicative and overlapping R&D efforts, thereby enabling more efficient use of government resources and taxpayer dollars, while also supporting new and innovative research and development efforts at our nation's universities and through public-private partnerships.

I would like to take a moment to highlight some of the related work going on in my home state of Illinois. The University of Illinois, which is close to my district, houses the National Center for Supercomputing Applications (NSCA), and one of the most powerful supercomputers in the world, Blue Waters. This computer is used by scientists, engineers and private industry to address some of today's largest and most complex research challenges. Blue Waters, which is supported by the NITRD program, represents over $400 million in combined National Science Foundation (NSF) and Illinois investments, reaching over 200 additional projects across science and industry research and development.

Up to 80 percent of Blue Waters capacity is available to scientists and researchers across the country through the National Science Foundation's Petascale Resource Allocation program. Western Illinois University, located in my district, uses Blue Waters for research and educational purposes, including studies like Professor Laurence Jeff's "Genetic Algorithms in Participatory Democracy."

Another program assisted by Blue Waters is the Private Sector Partnership, which is administered by the National Center for Supercomputing Applications. This program allows private industry to use the Blue Waters computer to improve business methods, products, and enhance competitiveness. One company in my district that participates in the Private Sector Partnership is Caterpillar. Caterpillar uses the supercomputer to run test simulations on their new products and proposed designs for off-road trucks.

The engineers at Caterpillar use the supercomputer to enhance their development process by identifying potential advantages or disadvantages to various designs.

Blue Waters and the research it supports is a direct result of the original national interest in developing computers capable of solving complex national problems. This legislation will continue and expand upon this national interest based on modern technology.

Our investments on information technology research and development are crucial for our nation: to bolster economic competitiveness and create new industries and businesses; to assure future national security, including cybersecurity; and to create the good-paying jobs we need for today and tomorrow. I look forward to working with my colleagues on both sides of the aisle to mark up this bill and modernize the NITRD Program.

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