

# INVEST IN AMERICAN INNOVATION

## Who We Are

The Task Force on American Innovation is a non-partisan alliance of leading American companies and business associations, research university associations, and scientific societies.

## What We Do

We support federally-funded scientific research and promote its benefits to America's economy, security, and quality of life. The Task Force is particularly focused on federal investments in research and STEM education programs in the physical sciences and engineering.

## Our Leadership

### TFAI Co-Chairs

**Maryam Khan Cope**  
*Director of Government Relations*  
**Semiconductor Industry Association**

**Kathleen N. Kingscott**  
*Vice President, Strategic Partnerships*  
**IBM Research**

## OUR MEMBERS

The Task Force on American Innovation is an alliance of the American business, academic, and scientific communities.

We support federal investment in basic scientific research and education in the physical sciences and engineering.

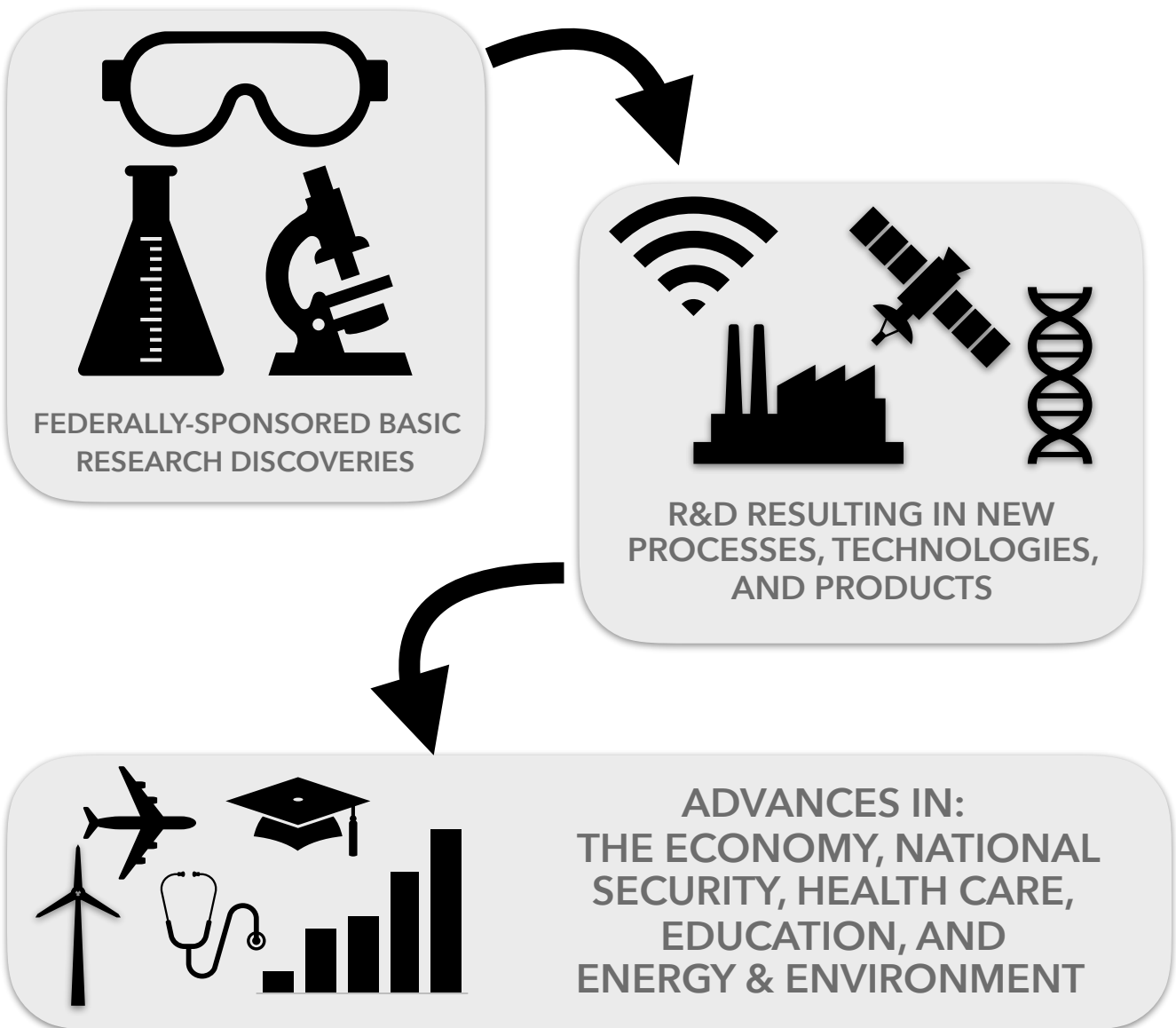


## THE INNOVATION IMPERATIVE

As the Task Force on American Innovation, we believe now is the time to strengthen our nation's commitment to federal basic research investments that are critical to fueling innovation.

We urge Congress and the administration to pursue robust and sustained basic research budgets at the National Science Foundation, the Department of Energy Office of Science, ARPA-E, the National Institute of Standards and Technology, NASA, and the Department of Defense and DARPA.

Our members stand ready to work with Congress and the administration to ensure that America remains the global leader in innovation for generations to come.





The United States has a rich history of global leadership in science and technology.

From the lightbulb to the transistor to the internet and search engine, American scientists and innovators have led the way in taking discoveries from the lab to the market and improving quality of life.

Much of this success is due to the unique partnership between the federal government, universities, and private industry.

This innovation ecosystem has allowed for the generation of new knowledge and foundational ideas helping make the U.S. the world leader in many scientific and technological fields. It has also helped to attract the best and brightest students and scholars from around the world to come to the U.S. to study, work, and contribute to advancing U.S. scientific research and our economy.

However, America's competitive edge is now at stake, as China and other countries are rapidly increasing investments in research and workforce development in order to assume positions of global leadership.

Maintaining America's global leadership status is critical to national security as well as to future economic growth and prosperity.

## ECONOMY

Federal investment in research pays huge dividends by boosting America's innovation economy and creating high-skill, high-wage jobs.



## NATIONAL SECURITY

Federal investment in research creates advanced technologies and capabilities that equip our military and protect our nation.



## HEALTH CARE

Federal investment in physical sciences and engineering research cultivates cutting-edge technologies and medical devices that help diagnose and fight disease.



## EDUCATION

Federal investment in research not only leads to new scientific discoveries but supports America's universities and national labs train the next generation of scientists and engineers.



## ENERGY & ENVIRONMENT

Federal investment in research provides new approaches to developing alternative energy sources and improving American energy efficiency.



## Federal Agencies That Are Vital to Innovation

### DEPARTMENT OF DEFENSE



Basic scientific and engineering research funded by the Department of Defense (DOD) has made significant contributions to economic and national security. Past DOD investments in university basic research by agencies have led to innovations like: cryptology; radar; lasers; fiber optics; drones; nanotechnology; biological detection capabilities; satellite and global positioning system (GPS) navigation;

DARPA Net, the predecessor to the Internet; stealth technology; and anti-stealth detection sensors.



DOD Research Has Produced the Internet, Lasers, and GPS

DOD is the leading federal sponsor of university engineering research, providing 46 percent of all federal funding for mechanical engineering, 58 percent for electrical engineering and 44 percent for computer sciences.

### NATIONAL SCIENCE FOUNDATION



National Science Foundation (NSF) funding provides more than 25 percent of the federal support for basic research at academic institutions. These investments fund discoveries related to climate prediction, aircraft design, pioneering medical tools, robotics and how children best learn math.

NSF funding has led to: web browsers; barcodes; internet routers; Doppler Radar; MRIs, artificial retinas, driverless cars, and web search engines.



NSF Funding Has Produced Radar, Web Search Engines, and Internet Routers

### DEPARTMENT OF ENERGY OFFICE OF SCIENCE



The largest funder of basic research in the physical sciences in the US is the Office of Science at the Department of Energy. Research supported by the Office of Science at US national laboratories and at university contributed to: development of the Internet; magnetic resonance imaging (MRI); CT scanning; and solar panels.

Office of Science funding also led to the Nobel Prize-winning discovery of new forms of carbon that ushered in nanotechnology, non-invasive detection of cancers and other diseases, and improved computer models for understanding global climate change.



DOE Office of Science Has Produced MRIs, Solar Panels, and CT Scanning



## Federal Agencies That Are Vital to Innovation



### NATIONAL INSTITUTE OF STANDARDS & TECHNOLOGY

The National Institute of Standards and Technology, the lead agency for Manufacturing USA, promotes American innovation by advancing measurement sciences, standards, and technology designed to improved quality of life. NIST labs work with industry and academia to address these research challenges.

NIST research has had a direct impact in the creation of: the atomic clock; Synthetic rubber; Closed captioning; Panoramic X-Rays; standards for radiation detectors at US ports of entry.



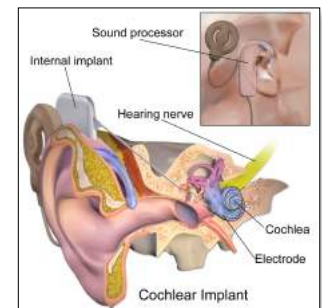
NIST Research Has Helped Produce Synthetic Rubber, Closed Captioning, and Panoramic X-Rays

### NATIONAL AERONAUTICS & SPACE ADMINISTRATION



For over 60 years, NASA has captivated the public with accomplishments that have revolutionized our understanding of space sciences, the life sciences, and aeronautics, and have led to new technologies that will enable space travel beyond low-Earth orbit and scientific discoveries.

NASA research has been pivotal in the creation of memory-metal alloys which can be found in everything from eyeglasses to golf clubs to helicopter blades; high-resolution digital imaging software and pixel sensors used in camera-phones; light-emitting diodes; infrared technology; LASIK technology; cochlear implants; improved radial tires; aircraft anti-icing systems; and artificial limbs, to name a few of the thousands of NASA spinoff technologies.



NASA has published over 2,000 spinoffs in the fields of computer technology, environment and agriculture, health and medicine, (including the cochlear implant shown above), public safety, transportation, recreation, and industrial productivity.

#### How To Find Us

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