A New Bold Era of American Science and Technology: What We Can Learn and Leverage from EPSCoR

Dr. Kelvin K. Droegemeier
Director, OSTP
October 28, 2019

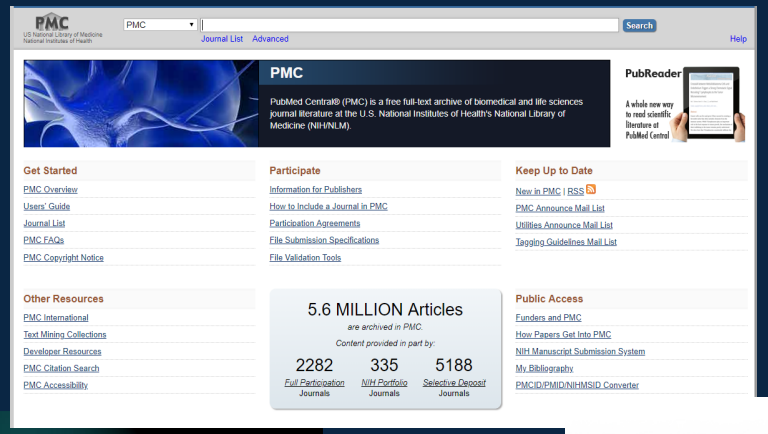
www.whitehouse.gov/ostp
www.ostp.gov
@WHOSTP

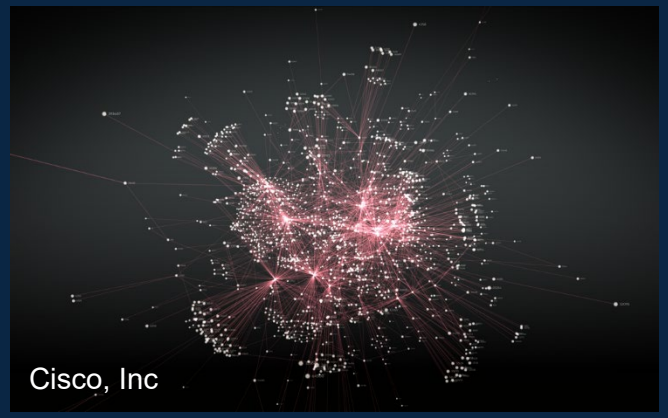
Photo credit: Lloyd Whitman

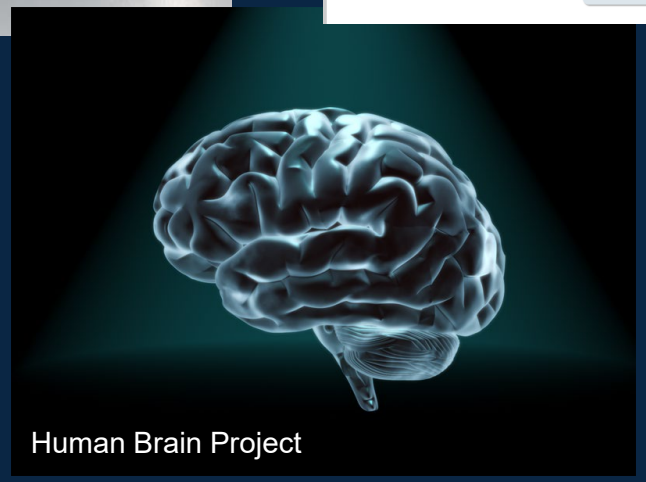
AN AMAZING TIME!

- No better time in the history of the world than RIGHT NOW!!!

US Department of Energy




Cisco, Inc

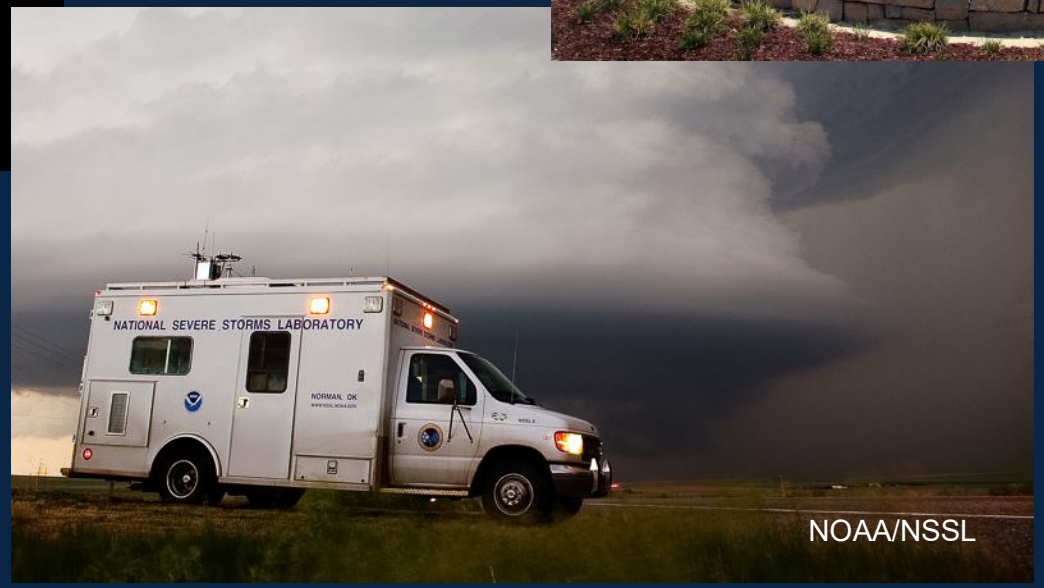

Human Brain Project

Illumina.com

AN AMAZING TIME!

- No better place on the planet than RIGHT HERE!!!

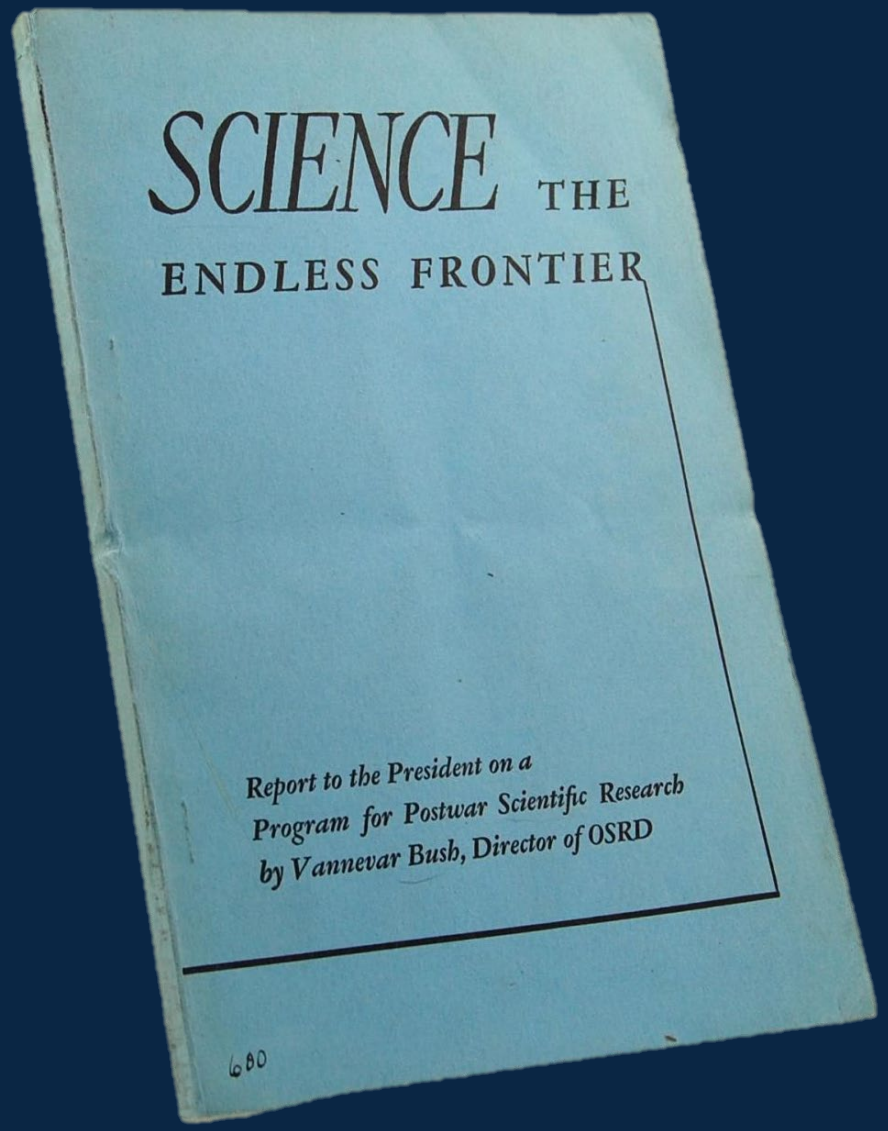
US Department of Energy



NOAA/NSSL

AN AMAZING TIME!

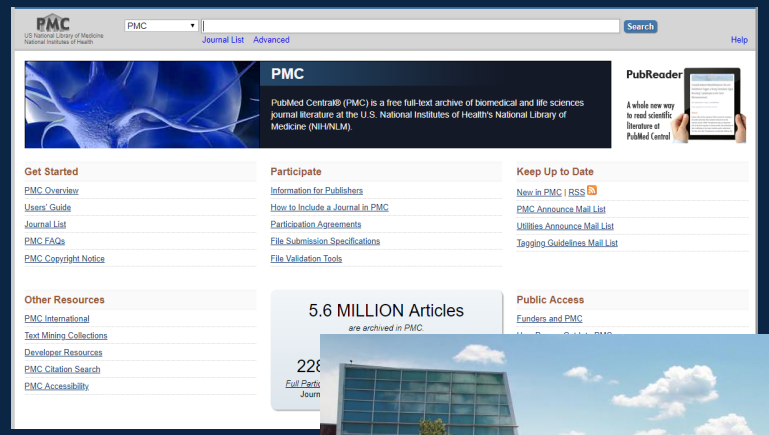
HOW DID WE GET HERE?

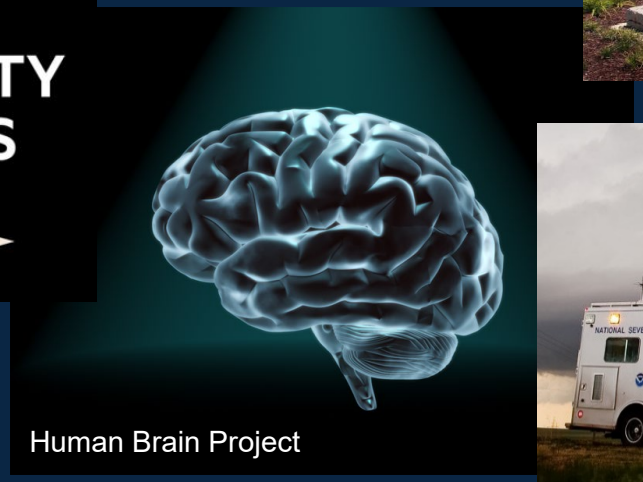


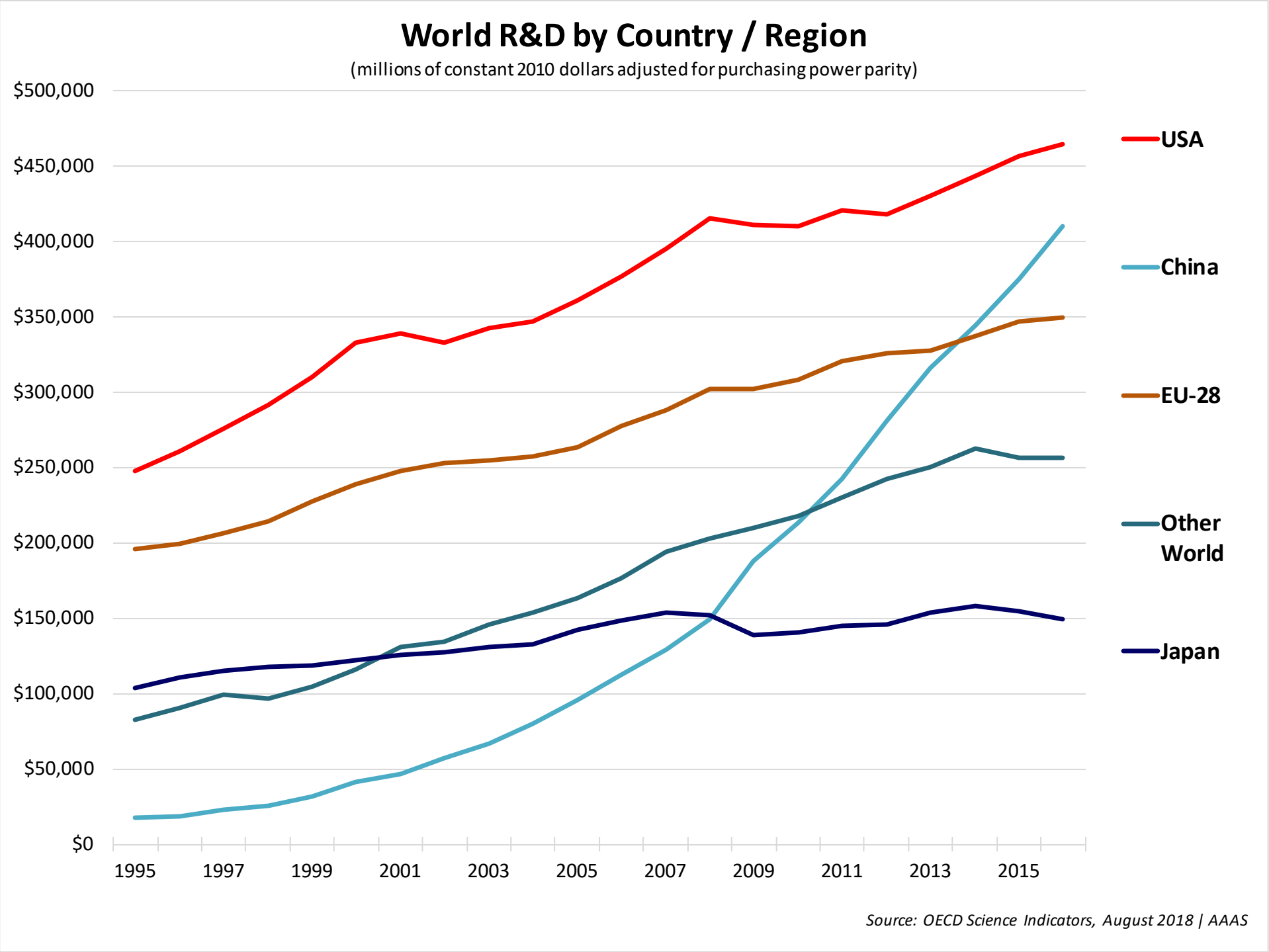
AMERICA'S MULTI-SECTOR R&D ECOSYSTEM

Private Industry	Academia	Non-Profits	Government
$400B	$20B	$22B	$150B

WE ARE ENTERING A SECOND BOLD ERA!






World R&D by Country / Region
(millions of constant 2010 dollars adjusted for purchasing power parity)
$500,000
$450,000
$400,000
$350,000
$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
USA
China
EU-28
Other World
Japan
Source: OECD Science Indicators, August 2018 | AAAS

THE WHITE HOUSE OFFICE OF SCIENCE AND TECHNOLOGY POLICY

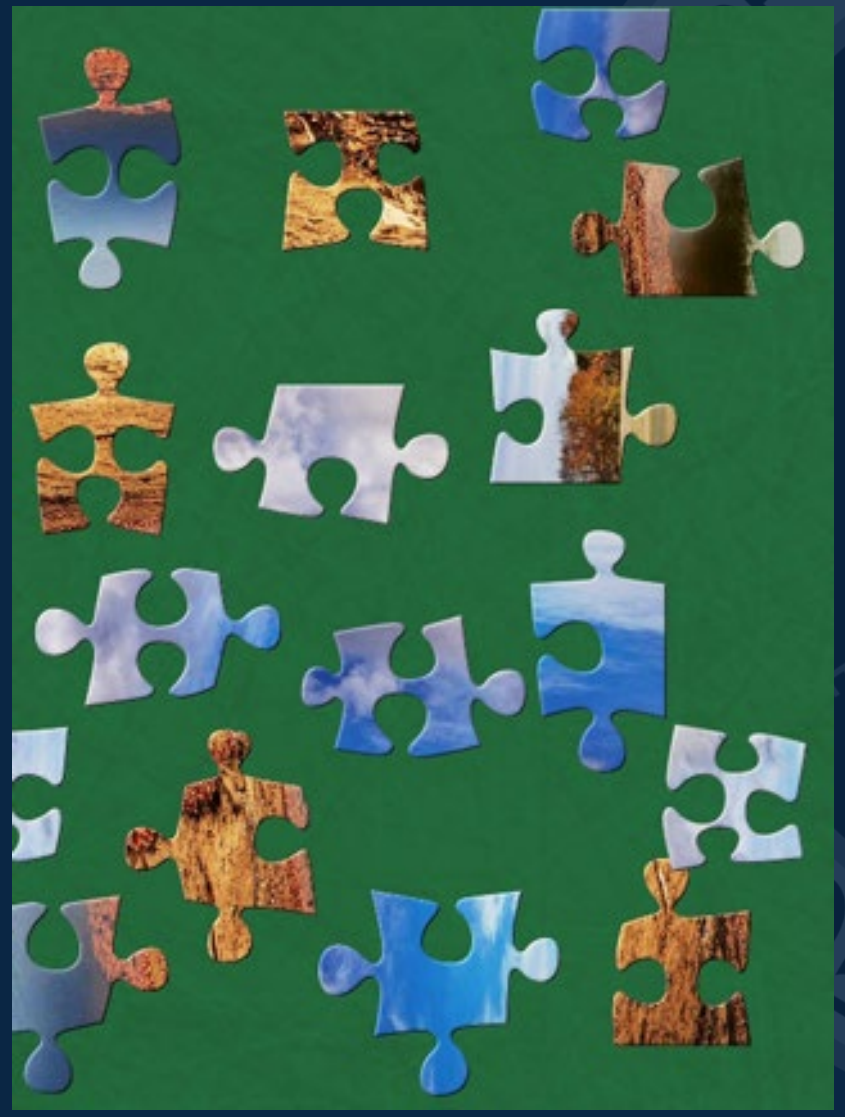
www.whitehouse.gov/ostp
www.ostp.gov
@WHOSTP

OSTP MISSION

To ensure America is the world leader in science and technology by:

- **Unleashing Discovery and Innovation**
- **Building the Workforce of the Future**
- **Advancing America's Values at Home and Abroad**

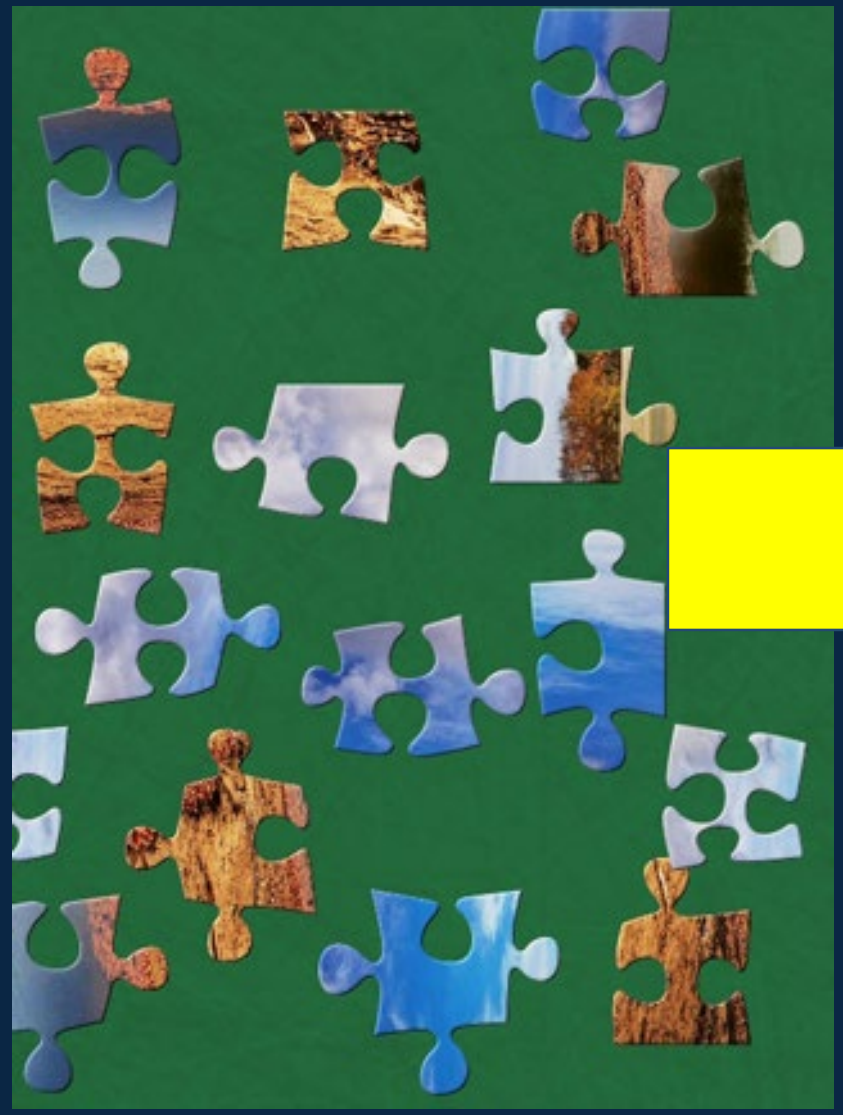
WHAT SOME TEND TO SEE

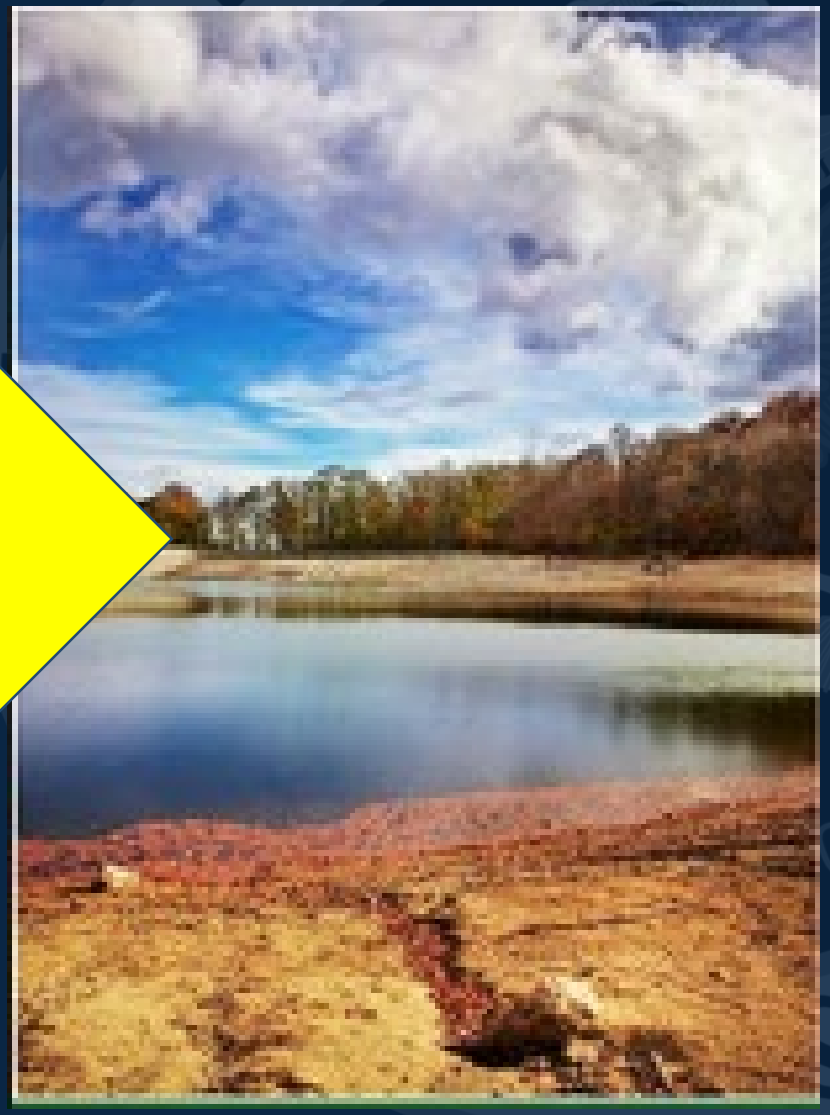


WHAT OTHERS TEND TO SEE

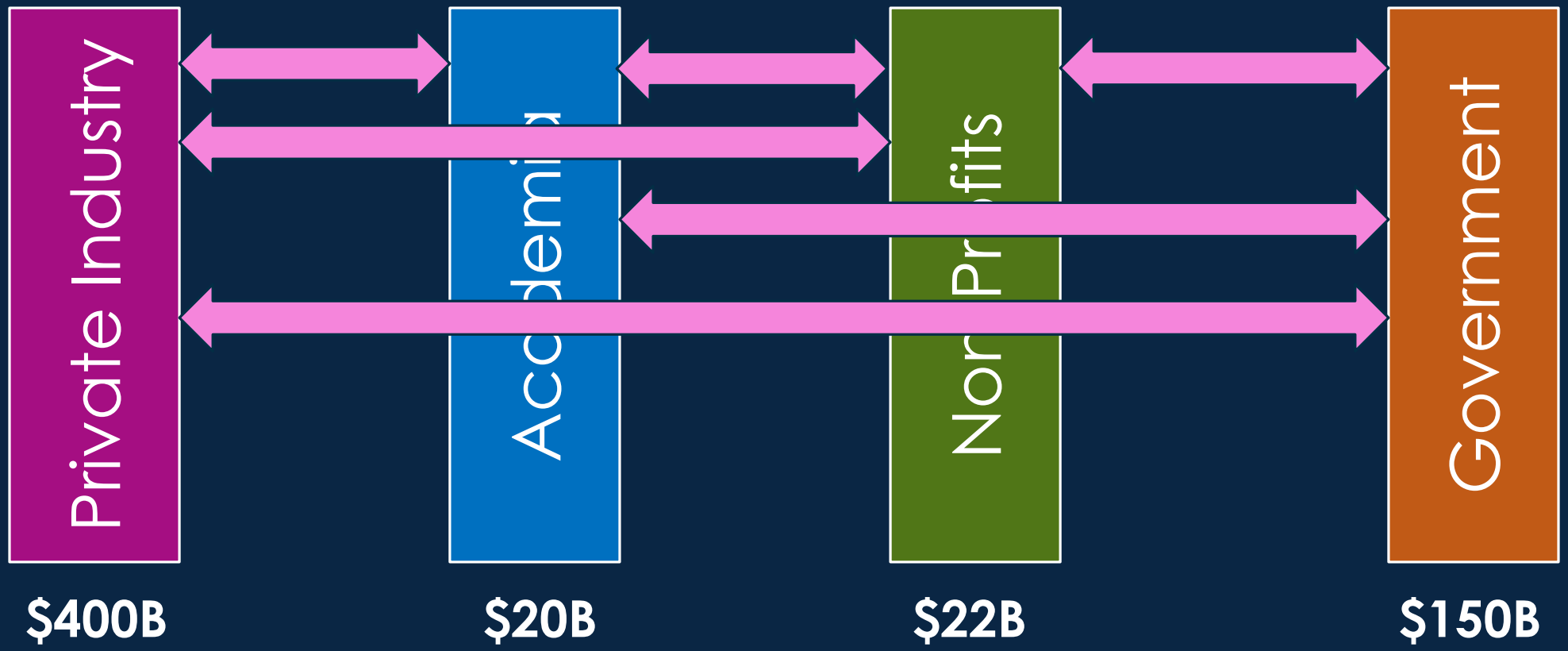
WHAT WE NEED TO SEE

HOW DO WE MAKE THE JUMP?





PARTNERSHIPS AND LEVERAGING



HOW DO WE LOOK BEYOND THE NEXT BUDGET CYCLE?

Source: publicdomainpictures.net

EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON, D.C.

August 30, 2019

M-19-25

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: RUSSELL T. VOUGHT
ACTING DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET

DR. KELVIN K. DROEGEMEIER
DIRECTOR, OFFICE OF SCIENCE AND TECHNOLOGY POLICY

SUBJECT: Fiscal Year 2021 Administration Research and Development Budget Priorities

"We stand at the birth of a new millennium, ready to unlock the mysteries of space, to free the Earth from the miseries of disease, and to harness the energies, industries, and technologies of tomorrow."

President Donald J. Trump, 2017 Inaugural Address

America's rise as the global leader in science and technology (S&T) began shortly after World War II, during which the Federal Government began investing significantly in basic and applied research, infrastructure, and education across many disciplines. From then until now—during America's First Bold Era in S&T—these Federal investments helped create a massive, multisector American S&T enterprise consisting of Federal agencies, world-leading colleges and universities, private industry, non-profit organizations, and Federal and National Laboratories.

The resulting extraordinary discoveries and innovations laid the foundation for today's Second Bold Era in S&T—one characterized by unprecedented knowledge, access to data and computing resources, ubiquitous and instant communication, and technologies that allow us to peer into the inner workings of atomic particles as well as the vastness of the universe. Unfortunately, this Second Bold Era also features new and extraordinary threats which must be confronted thoughtfully and effectively.

The Trump Administration is firmly committed to continuing American S&T leadership in the Second Bold Era. Success will depend, in large part, on our ability to leverage—in entirely new and creative partnership and collaborative frameworks—the multisector S&T enterprise that emerged during the First Bold Era. It will depend upon striking a balance between the openness of our research ecosystem and the protection of our ideas and research outcomes. It will depend upon ensuring that our research environments are diverse, safe, inclusive, and accommodating as well as free from unnecessary administrative burdens. Success will depend upon ensuring that research is conducted with integrity and respect, which are foundational not only to the research process, but to the trust placed in the research enterprise by American taxpayers and reflective of America's values.

OSTP AND OMB
SET R&D PRIORITIES

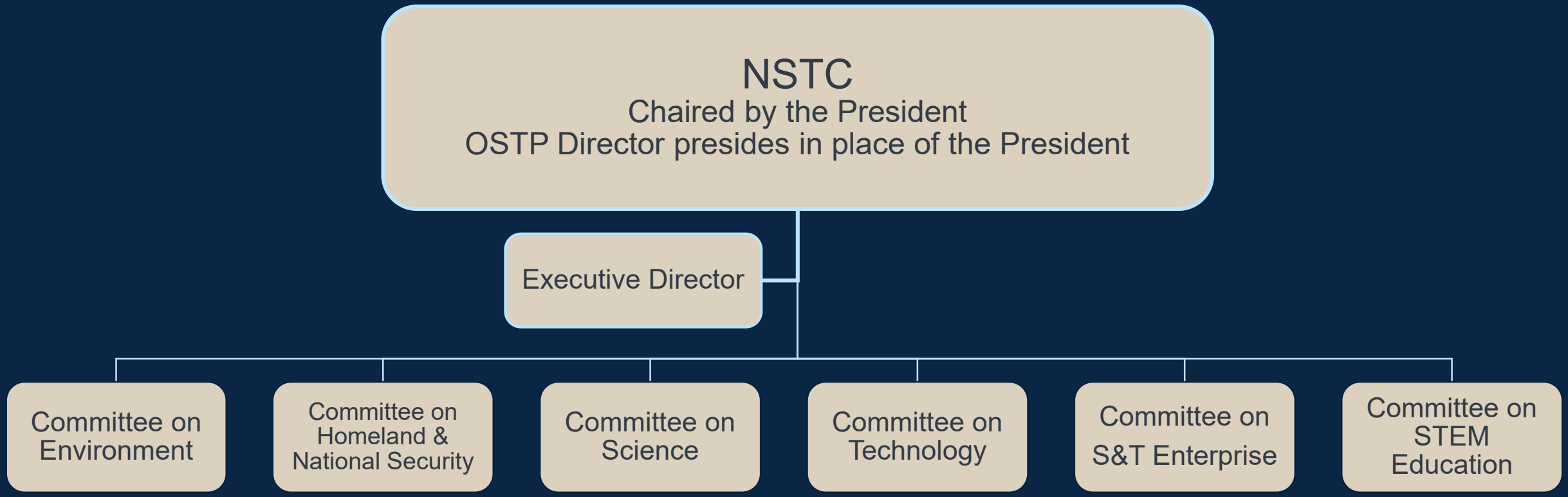
R&D PRIORITY AREAS

- **American Security**: Advanced military capabilities, critical infrastructure resilience, semiconductors, and critical minerals.
- **Industries of the Future**: Artificial intelligence (AI), quantum information science, 5G connectivity, and advanced manufacturing.
- **Energy and Environmental Leadership**: American energy resources, ocean science and technology, and Earth system predictability.
- **Health and Bioeconomic Innovation:** Biomedicine, bioeconomy, and Veteran health and wellness.
- **American Space Exploration and Commercialization**: In-space resource utilization, manufacturing and assembly, fuel storage and management, and advanced space-related power and propulsion capabilities.

CROSS-CUTTING PRIORITY AREAS

- Build and leverage a diverse, highly skilled American workforce
- Create and support research environments that reflect American values
- Support transformative research of high intellectual risk and potentially high reward
- Leverage the power of data
- Build, strengthen, and expand strategic multisector partnerships

NATIONAL SCIENCE AND TECHNOLOGY COUNCIL



NATIONAL SCIENCE AND TECHNOLOGY COUNCIL

COORDINATES FEDERAL R&D AND ENGAGES THE BROAD COMMUNITY

SAMPLE POLICY ACCOMPLISHMENTS: **SCIENCE**

- Quantum Strategic Overview
- Quantum Summit
- Ocean Decadal Vision
- RBM-reducing administrative burdens
- Opioids
- Emerging Contaminants
- Desalination

REDUCING FEDERAL ADMINISTRATIVE AND REGULATORY BURDENS ON RESEARCH

A Report by the

NATIONAL STRATEGIC OVERVIEW FOR QUANTUM INFORMATION SCIENCE

Product of the
SUBCOMMITTEE ON QUANTUM INFORMATION SCIENCE
under the
COMMITTEE ON SCIENCE
of the
NATIONAL SCIENCE & TECHNOLOGY COUNCIL

SUMMARY:

The Office of the Director, National Institutes of Health (NIH), on behalf of the National Science and Technology Council (NSTC); Committee on Science; Fast Track Action Committee on Health Science and Technology Response to the Opioid Crisis (Opioid FTAC), is requesting input on the content of a draft report, "Health Research and Development to Stem the Opioid Crisis: A Federal Roadmap."

SAMPLE POLICY ACCOMPLISHMENTS: **TECHNOLOGY**

- Established the Select Committee on AI
- Created a National Strategy for American Leadership in Advanced Manufacturing
- Held the first ever AI Summit
- Executive Order on AI
- Quantum Information Science Bill/National Coordination Office
- Developed Presidential Memorandum on 5G/ spectrum

STRATEGY FOR A
LEADERSHIP IN A
MANUFACTURIN

Charter of the
NATIONAL SCIENCE AND TECHNOLOGY COUNCIL
SELECT COMMITTEE ON ARTIFICIAL INTELLIGENCE

A. Official Designation

The Select Committee on Artificial Intelligence ("Select Committee") is hereby established by action of the National Science and Technology Council (NSTC). The NSTC, a Cabinet-level council, is the principal means for the President to coordinate science and technology (S&T) ranch.

nmittee is to advise and assist the NSTC to improve the overall of Federal research and development (R&D) efforts related to The Select Committee will address significant national and hat cut across agency boundaries and shall provide a formal olicy coordination and the development of Federal artificial g those related to autonomous systems, biometric identification, uter interactions, machine learning, natural language processing,

o improve the coordination of Federal efforts related to AI to ensure his field. This will include advising the Executive Office of the R&D priorities; creating balanced and comprehensive AI R&D on of agency partnerships with academia and industry; establishing he Federal government plans and coordinates AI R&D; leveraging resources across department and agency missions; and supporting rce.

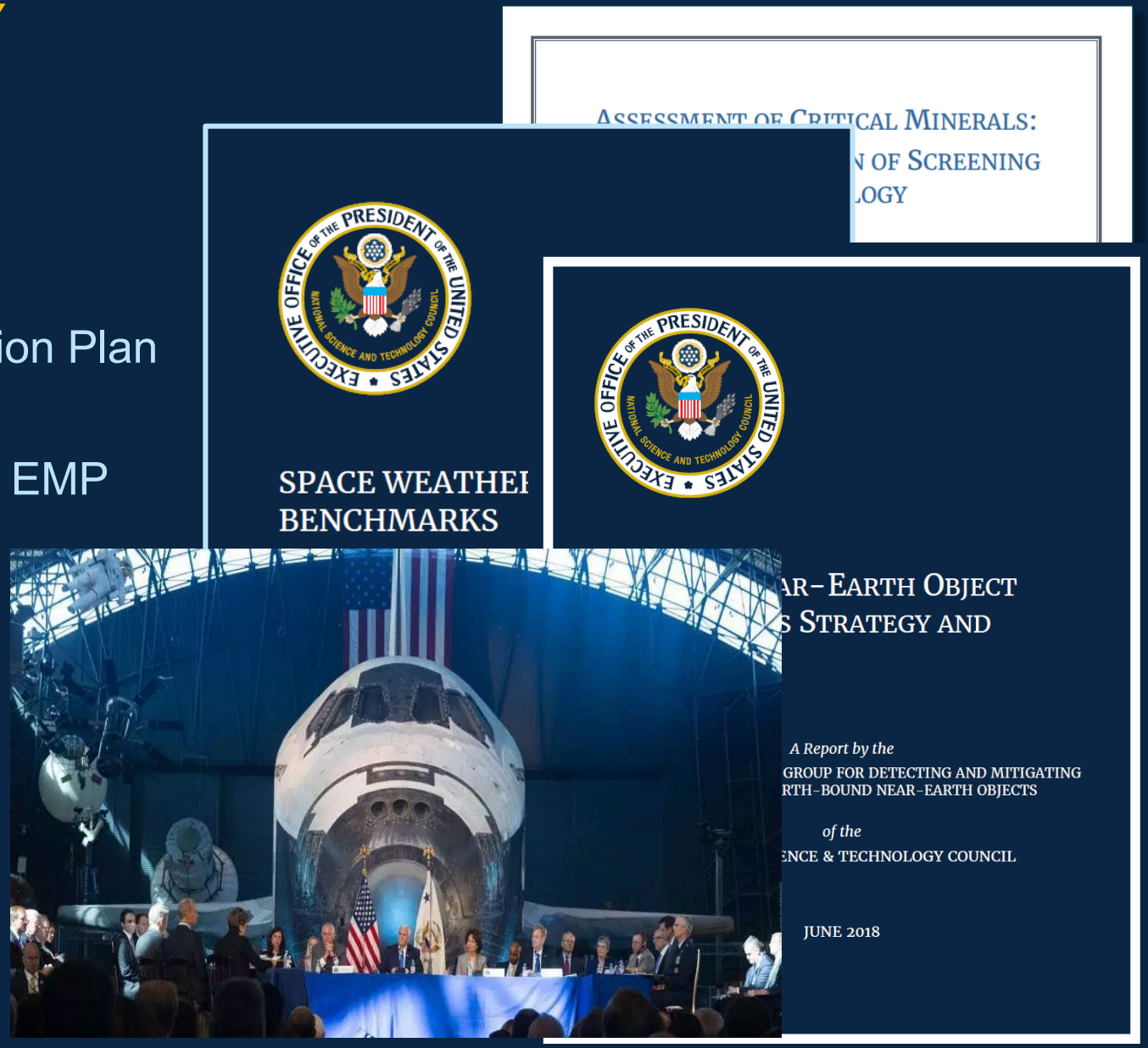
Executive Order 12881, as amended, and to the extent permitted by he Select Committee are to:

planning, coordination, and communication among Federal ncies;

advise the NSTC on interagency priorities and plans related to AI, eas of AI R&D critical to national security, and recommend options R&D priorities;

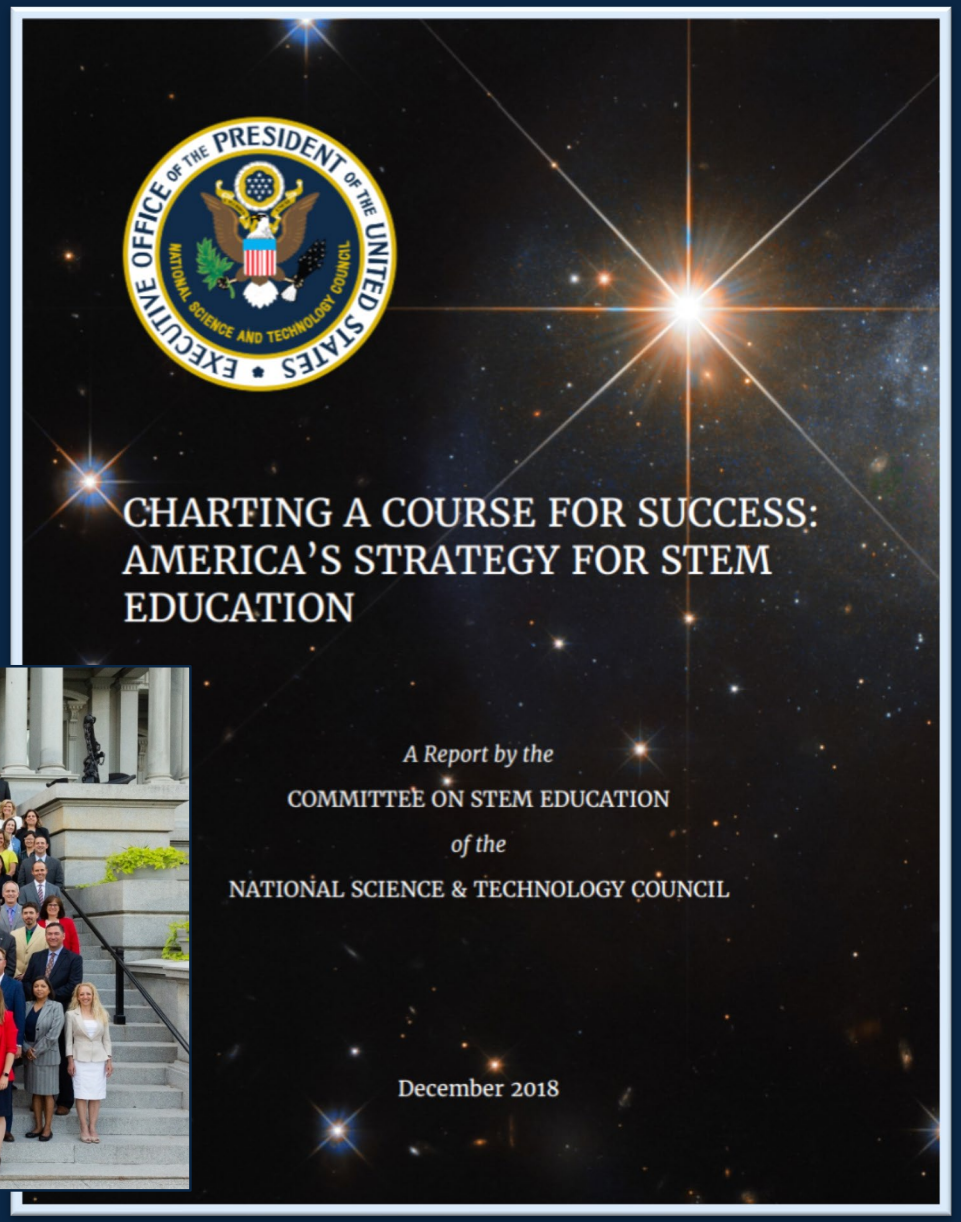
SAMPLE POLICY ACCOMPLISHMENTS: **NATIONAL SECURITY**

- Near Earth Objects Plan and Workshop
- Critical Minerals
- National Space Weather Strategy and Action Plan
- Space Weather Benchmarks
- Executive Order on National Resilience to EMP
- Presidential Memorandum on Launch of Space Nuclear Systems
- Counter UAS
- Economic and Security Implications Quantum Science (ESIX)



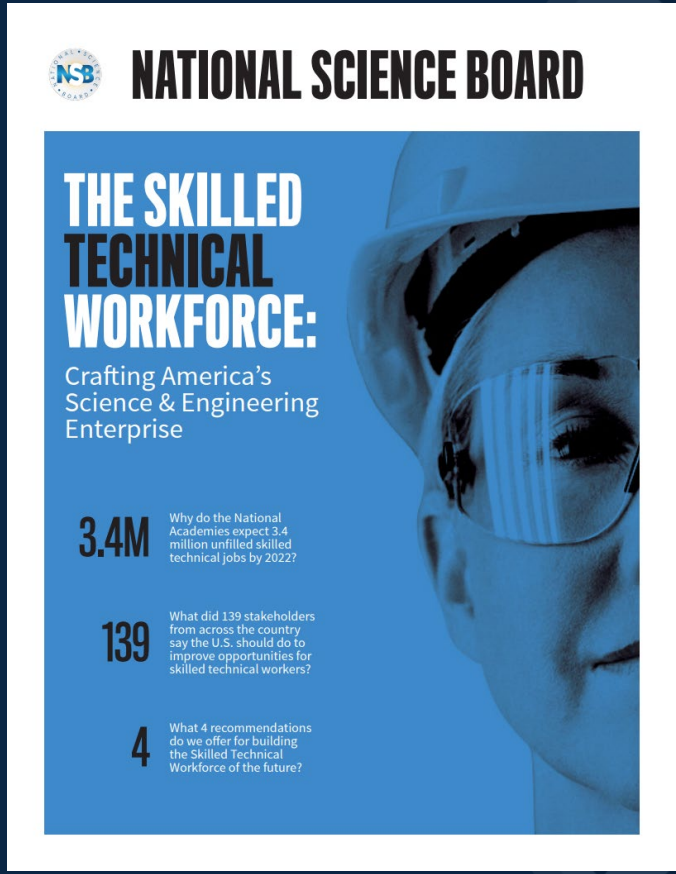
SAMPLE POLICY ACCOMPLISHMENTS: **STEM EDUCATION**

- Re-chartered the Committee on STEM Education
- National Council for the American Worker
- HBCU Executive Order
- Apprenticeships Executive Order
- Hosted State-STEM Education Summit
- STEM Strategy and Implementation Plan



WORKFORCE

- Skilled Technical Workforce is a key part of our innovation system and economy
- 350+ companies have pledged to re-skill and up-skill more than 14 million people



PLEDGE TO AMERICA'S WORKERS

National Science and Technology Council

Joint Committee on the Research Environment (JCORE)

RESEARCH ENVIRONMENT DEFINITION

Professional research settings including but not limited to laboratories, field sites, institutions, classrooms, conferences and workshops, and any location (physical or virtual) where scholarly colleagues interact.

America Leading the World in Science & Technology

OSTP R&D: Priority Cross-cutting Actions

Skilled Workforce | Research Environment | Leverage Data | Multisector Partnerships | Transformative Research

National Science and Technology Council (NSTC)

Committee on S&T Enterprise

+

Committee on Science

New NSTC Committee: JCORE

Need for Change

Factors Impacting S&T Leadership

- Integrity
- Security
- Safe & Inclusive Research Environments

- Administrative Burden

S&T Leadership & Sustained Cultural Change

Joint Committee on the Research Environment (JCORE)

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20502

September 16, 2019

Letter to the United States Research Community

Dear Colleagues,

As a fellow researcher and former university vice president for research, I know firsthand that the open and internationally collaborative nature of the United States research enterprise has been critical to our success in research, and that this success has underpinned our Nation's prosperity and security. Indeed, the values we cherish as Americans are the ethos of research itself; namely, the freedom to explore new frontiers, the commitment to openness and transparency through the sharing of methods and results, the ability to debate difficult issues thoughtfully and with civility, and the passion to work with and improve the lives of others. By adhering to these values and operating with due regard to principles of integrity – including reciprocity, openness, and transparency – your work has made America the world leader in science and technology. The Nation is indebted to you.

Yet we must not take our research enterprise or its global leadership position for granted. Over the past several years, some nations have exhibited increasingly sophisticated efforts to exploit, influence, and undermine our research activities and environments. As researchers, we must acknowledge the changing geopolitical and international scientific landscape: United States policies and practices must evolve thoughtfully and appropriately to meet current and future challenges. The success of our research enterprise is dependent on *everyone* upholding the principles of research.

Some of those recent efforts to exploit America's research enterprise have come through foreign government-sponsored talent recruitment programs. Historically, researchers at United States institutions could in many cases participate in a talent program and simultaneously receive both foreign and United States government support. Under some circumstances, this may still be acceptable. However, it has become clear that features of some talent programs are unacceptable and inconsistent with our research values and research principles. Breaches of research ethics, both within talent programs and more generally, include the failure to disclose required information such as foreign funding, unapproved parallel foreign laboratories (so-called shadow labs), affiliations and appointments, and conflicting financial interests. Other inappropriate behaviors include conducting undisclosed research for foreign governments or companies on United States agency time or with United States agency funding, diversion of intellectual property or other legal rights, and breaches of contract and confidentiality in or surreptitious gaming of the peer-review process.

Ultimately, these inappropriate behaviors, whether or not they arise through participation in a foreign talent program, interfere with the allocation of Federal funding in a fair manner based on merit. As a result, these breaches of research security and integrity position others to reap the benefits of your hard work without bearing the associated risks or making the investments borne by American taxpayers and other funders. These activities ultimately undermine the integrity of the research enterprise and, thus, our economic and national security.

As Director of **The White House Office of Science and Technology Policy (OSTP),** I see a significant opportunity for the Federal Government, research institutions, private companies, non-profit organizations, and law enforcement to come together to ensure the integrity and security of the American research enterprise in light of increasing threats. Striking the right balance between openness and security, using a risk-based framework, is especially important.

OSTP plays a unique role in this multi-sector activity by virtue of its formal authority to convene all research funding agencies on matters of policy through the **National Science and Technology Council (NSTC).** Both OSTP and NSTC engage other elements of the research enterprise as well, and I write here to apprise you of the structure and progress of OSTP and NSTC activities.

Specifically, on May 6 of this year, NSTC, which I chair on behalf of President Donald J. Trump, formally established the Joint Committee on the Research Environment (JCORE). This top-priority committee contains four sub-committees: research security (the main topic of this letter), safe and inclusive research environments, research rigor and integrity, and coordinating administrative requirements for research. Each sub-committee consists of approximately two dozen top leaders across numerous Federal science, foreign affairs, and security agencies. These sub-committees collaborate on interrelated issues and are making exceptional progress. Additionally, JCORE is working closely with the Congress, the National Academies of Science, Engineering, and Medicine, private companies, non-profit organizations, and professional associations and societies to inform the work of its four sub-committees.

With regard to research security, JCORE is organizing its work along the following four lines of effort:

- **Coordinating outreach and engagement** with Federal agencies, academic research institutions, companies, non-governmental organizations, researchers, and students. In order to help relay the nature and scope of the challenges America faces, JCORE is assembling an array of examples in which our research enterprise was exploited or compromised.
- **Establishing and coordinating disclosure requirements** for participation in the federally-funded research enterprise. Disclosure is a central tenet of research integrity and a key mechanism for ensuring compliance with applicable policies and laws.
- **Developing best practices for academic research institutions,** in collaboration with academia, professional societies, and other organizations.
- **Developing methods for identification, assessment, and management of risk** in the research enterprise.

During the next few months, OSTP will be holding meetings at academic institutions across the Nation to converse with researchers and students on matters of research security and other topics within JCORE. I hope you will join in these discussions. Working together, we will ensure that our research environments are safe and inclusive; operate with maximum integrity; protect our research assets in a manner balanced with the openness and international collaboration that have been so critical to our success; and do not encumber researchers, agencies, or institutions with unnecessary administrative work. In doing so, we will ensure America continues to lead the world in science and technology. I look forward to working with you on these important issues!

Sincerely,

Kelvin K. Droegemeier
Director

RESEARCH SECURITY LINES OF EFFORT

- **Coordinating outreach and engagement** with Federal agencies, academic research institutions, companies, non-governmental organizations, researchers, and students. In order to help relay the nature and scope of the challenges America faces, JCORE is assembling an array of examples in which our research enterprise was exploited or compromised.
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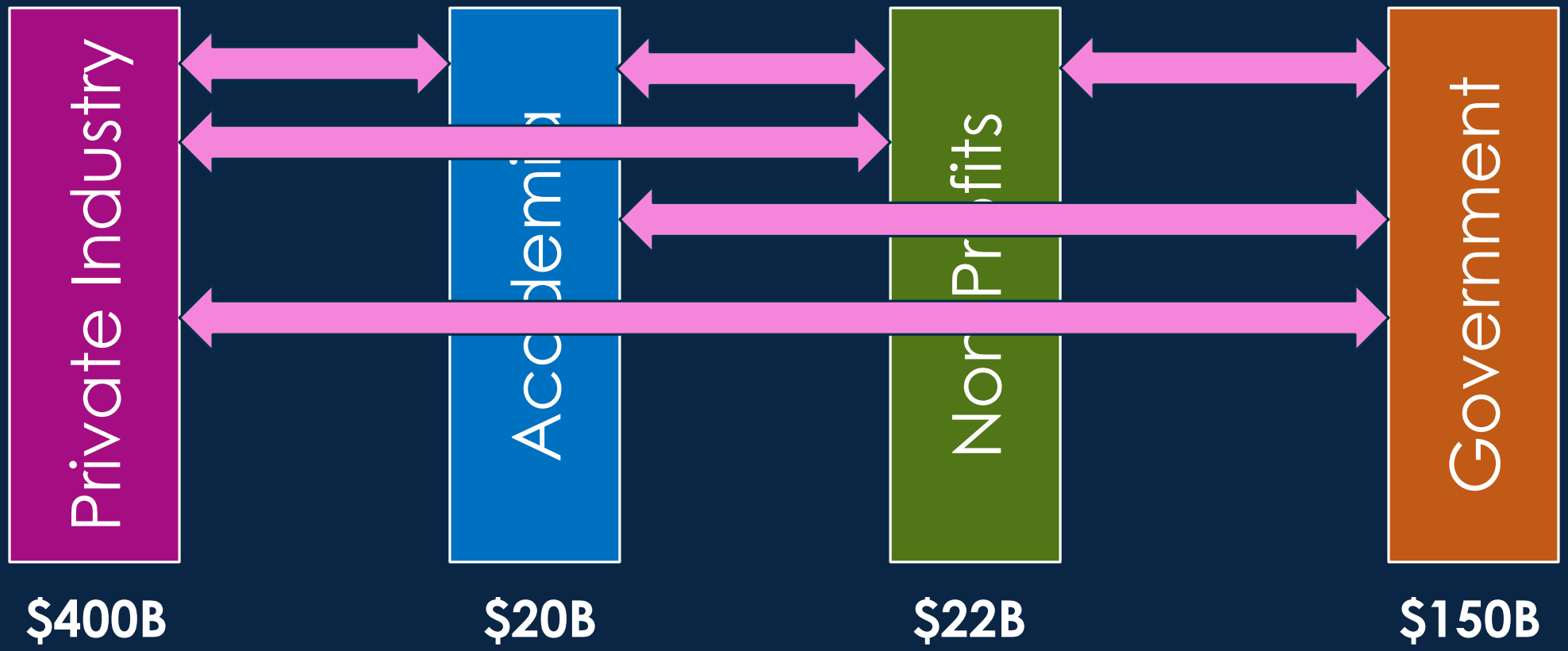
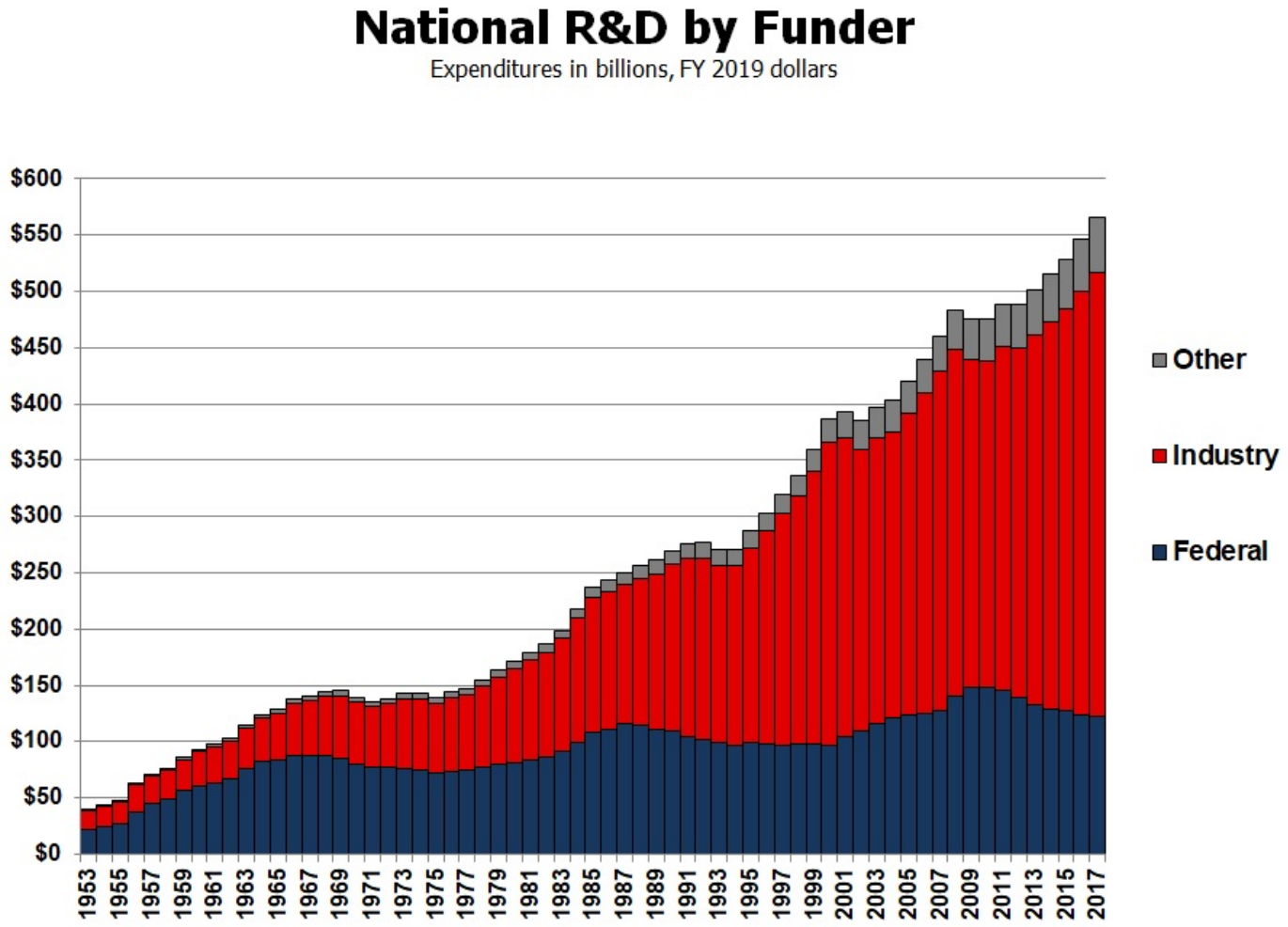
PARTNERSHIPS AND LEVERAGING

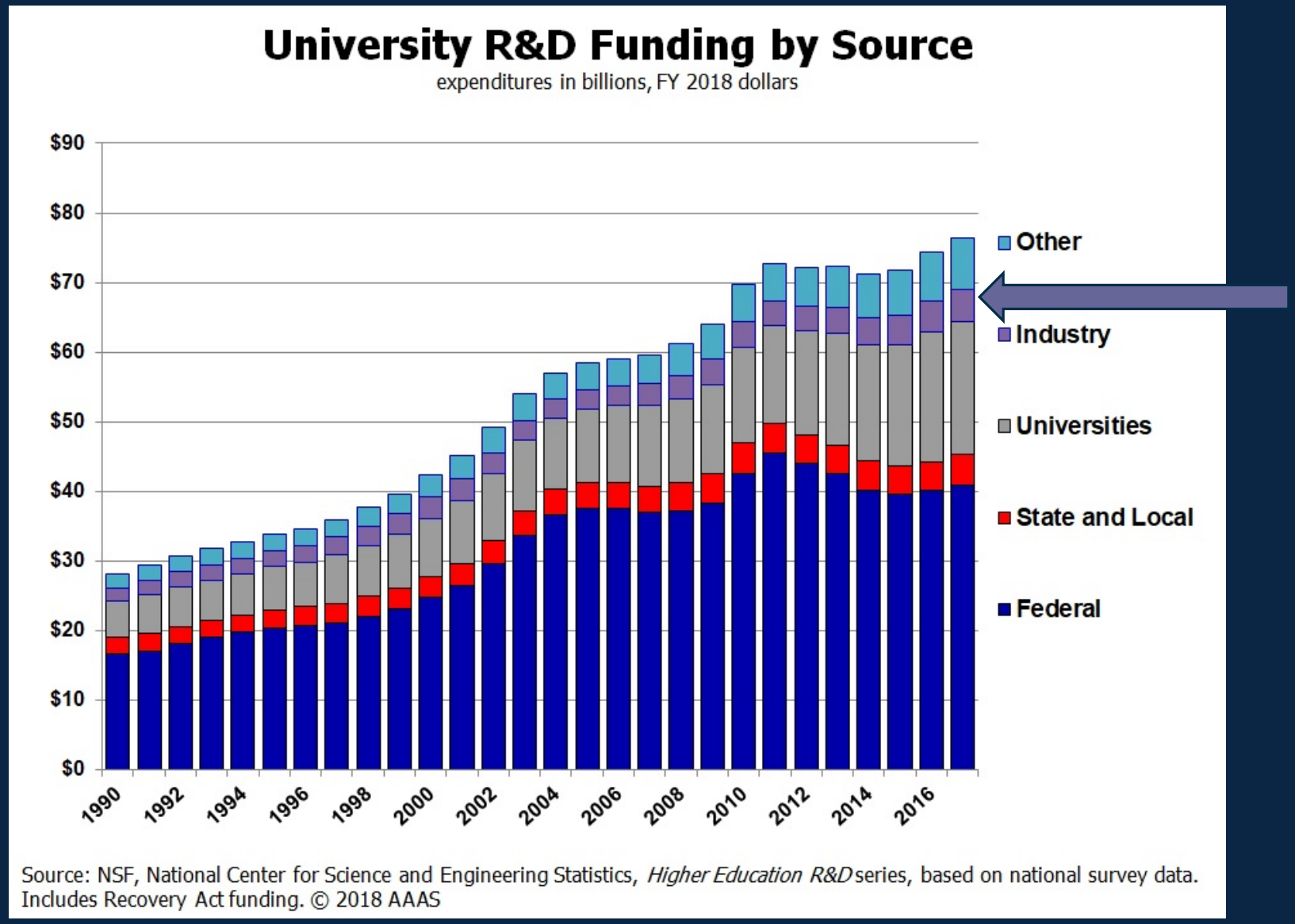


AMERICA'S FIRST BOLD ERA OF S&T WITHIN THE ENDLESS FRONTIER



Source: Source: National Science Foundation, *National Patterns of R&D Resources* series. Constant-dollar conversions based on GDP deflators from *Budget of the U.S. Government FY 2020.* © 2019 AAAS

PARTNERSHIP OPPORTUNITIES MISSED?



HYPOTHESIS: AMERICA CAN OBTAIN A FORCE MULTIPLIER EFFECT BY GREATLY INCREASING ITS PARTNERING ACROSS SECTORS

Private Industry	Academia	Non-Profits	Government
$400B	$20B	$22B	$150B

PARTNERSHIPS: EVERYONE AGREES ABOUT THEM

Why Higher Ed and Business Need to Work Together

by Michael D. King

JULY 17, 2015

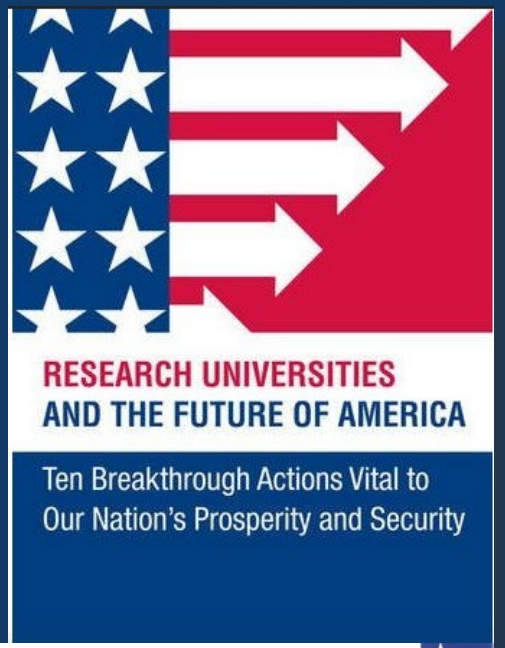
Opening Industry-Academic Partnerships

By Chris Tachibana | Apr. 12, 2013 , 2:00 PM

Forming collaborations between academia, industry, government agencies, and private organizations can offer benefits to all parties.

Getting the University-Industry Partnership Right … Or Not

Recent significant changes in industry are raising the level of collaboration between the private commercial sector and universities, bringing about a cultural shift in higher education. This deep—but not immediately obvious—shift
important areas of the academy. Maria Klawe, dean of e
years as a researcher in an industry laboratory and has be
ups. She discusses the ramifications of the changing relati
and explores the resultant opportunities and potential threa



Recommendation 3

Strengthening Partnerships with Business

Strengthen the business role in the research partnership, facilitating the transfer of knowledge, ideas, and technology to society, and accelerate "time-to-innovation" in order to achieve our national goals.

News Release 18-086

Boeing, National Science Foundation announce partnership for workforce development and diversity in STEM

PARTNERSHIPS: LOCAL TO GLOBAL

U. S. SMALL BUSINESS ADMINISTRATION
Mississippi District Office
210 E. Capitol Street, Suite 900
Jackson, MS. 39201
601-965-4378
www.sba.gov/ms

SBA Strategic Alliance with Historically Black Universities and Colleges Initiative

In conjunction with SBA's Office of Strategic Alliance, SBA Regional Administrator Cassius Butts and Mississippi District Director Janita Stewart have signed Strategic Alliance Memorandums (SAMs) with Historically Black College and Universities (HBCUs) in Mississippi in support of minority-owned businesses and youth entrepreneurship.

PARTNERSHIPS IN ACADEMIA

UIDP Projects

10 Case Studies of High-Value, High-Return University-Industry Collaborations

Table of Contents

PARTNERSHIPS ACROSS AGENCIES

Partners

NSF Collaborations With Federal Agencies and Others

Programs that NSF conducts in partnership with other federal agencies and other organizations are listed below, alphabetically by the program title.

Updated: May 3, 2018

- **Algorithms for Modern Power Sysems (NSF 17-521)**
  The Algorithms for Modern Power Systems (AMPS) program will support research projects to develop the next generation of mathematical and statistical algorithms for improvement of the security, reliability, and efficiency of the modern power grid.
  Agencies: NSF and the U.S. Department of Energy
  Program Information: https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505322

- **Algorithms for Threat Detection (NSF 17-510)**
  The Algorithms for Threat Detection (ATD) program will support research projects to develop the next generation of mathematical and statistical algorithms for analysis of large spatiotemporal datasets with application to quantitative models of human dynamics.
  Agencies: NSF and the National Geospatial Intelligence Agency
  Program Information: https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503427

- **Collaborative Research in Computational Neuroscience (NSF 18-501)**
  Through the Collaborative Research in Computational Neuroscience (CRCNS) program, the listed agencies support collaborative activities that will advance the understanding of nervous system structure and function, mechanisms underlying nervous system disorders, and computational strategies used by the nervous system.
  Agencies: NSF and National Institutes of Health (NIH) -- National Institute of Neurological Disorders and Stroke, National Eye Institute, National Institute on Aging, National Institute on Alcohol Abuse and Alcoholism, National Institute of Biomedical Imaging and Bioengineering, National Institute on Drug Abuse, National Institute on Deafness and Other Communication Disorders, National Institute of Mental Health; Federal Ministry of Education and Research-Germany, National Center for Complementary and Integrative Health, U.S.-Israel Binational Science Foundation, French National Research Agency, National Institute of Information and Communications Technology, Japan
  Program Information: https://www.nsf.gov/funding/ pgm_summ.jsp?pims_id=5147

- **Consortium for Advanced Manufacturing Foresights: Defining the Critical Needs of the Advanced Manufacturing Research Community** (NSF 15-565)
  Accelerating U.S Advanced Manufacturing, the October 2104 report to the President produced by the Steering Committee of the Advanced Manufacturing Partnership 2.0 (AMP 2.0) for the President's Council of Advisors on Science and Technology (PCAST), calls for the creation of a technology-focused consortium to provide coordinated private-sector input on national advanced manufacturing technology research and development priorities. This solicitation is to establish the Consortium for Advanced Manufacturing Foresights (the "Consortium") to implement that recommendation.
  Agencies: NSF, National Institute of Standards and Technology (NIST)
  Program Information: https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505203

https://www.nsf.gov/about/partners/fedagencies.jsp

PARTNERING IS BAKED INTO EPSCOR

ABOUT EPSCOR

MISSION

EPSCoR enhances research competitiveness of targeted jurisdictions (states, territories, commonwealth) by strengthening STEM capacity and capability.

VISION

EPSCoR envisions its jurisdictions as recognized contributors to the national and global STEM research enterprise.

GOALS

- Catalyze research capability across and among jurisdictions;
- Establish STEM professional development pathways;
- Broaden participation of diverse groups/institutions in STEM;
- Effect engagement in STEM at national and global levels; and
- Impact jurisdictional economic development.

Building EPSCoR State/National Laboratory Partnerships

BY SD EPSCOR ON APRIL 5, 2018 ANNOUNCEMENTS, NEWS & UPDATES

The ***Department of Energy (DOE) Office of Science, Basic Energy Sciences*** has released Funding Opportunity Announcement (**DE-FOA-0001897**) for Building EPSCoR-State/National Laboratory Partnerships. These partnerships are to advance fundamental early-stage energy research collaborations with the DOE national laboratories. The research must be of public benefit within DOE's Congressionally-authorized mission-space. ***Please contact your sponsored programs office for more information about your institution's internal process.***

NSF-wide

EPSCoR Research Infrastructure Improvement Program: Track-2 Focused EPSCoR Collaborations (RII Track-2 FEC) N

CONTACTS

PARTNERSHIPS: WHY?

- Because they allow us to do something we otherwise could not do
- They bring important resources to the table
  - People
  - Facilities
  - Ideas
  - Money
  - Reputation
  - Linkages

PARTNERSHIPS: THE KEY ELEMENTS

- Mutual need
- Mutual benefit
- Mutual trust
- Effective management

GREAT EXAMPLES, BUT ARE WE MISSING OPPORTUNITIES?

UIDP Projects

10 Case Studies of High-Value, High-Return University-Industry Collaborations

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What Do Companies Need/Want?

- Workforce
- Facilities/Infrastructure
- Capital Incentives
- Tax and Other Incentives
- Land
- Corporate-Friendly Policies/Laws
- Technology
- Raw Materials/Suppliers
- Transportation
- Quality of Life/Culture/Community
- To be Good Corporate Citizens
- Others...

From the Oklahoma Access for Success Concept

What Do Colleges & Universities Need/Want?

- Jobs for graduates
- Internships for students
- Funding & practical uses for research
- Projects for capstone projects/service learning
- An ability to show practical value to stakeholders, including with regard to community engagement
- Philanthropic support
- A clear ROI for state funding
- Input about future directions/needs
- Other...

From the Oklahoma Access for Success Concept

Program Elements

- Access to Consultants (A2C)
- Access to Data (A2D)
- Access to Entrepreneurs (A2E)
- Access to Interns/Apprenticeships (A2I)
- Access to Facilities (A2F)
- Access to Opportunities (A2O)
- Access to Partnerships (A2P)
- Access to Research (A2R)
- Access to Technology (A2T)
- Access to Workforce (A2W)

From the Oklahoma Access for Success Concept

PARTNERSHIPS FOR HBCU LEADERSHIP

- Create deep, mutually beneficial, trusting, and **sustainable partnerships** between HBCUs and private for-profit companies
  - Contribute to local and regional **job growth and economic development**
  - Substantially advance the research, educational and public service **mission and public view of HBCUs**
  - **Make HBCUs the go-to place** where private sector interests obtain transformative ideas, professional expertise, informal consultation, business-critical data, access to unique facilities, a highly educated and diverse workforce, and research outcomes that drive innovation

PROGRAM ELEMENTS

- Access to HBCU Faculty and Students as **Contract Consultants** and to Company Professionals and Researchers as **Loaned Consultants**
- Access to HBCU and Corporate **Data Sets** and **Data Analytics** Capabilities
- Access to HBCU **Entrepreneurs** and Company **Intrapreneurs**
- Access to HBCU Students for **Internships/Apprenticeships** and to Company & Federal Lab **Faculty Externships**
- Access to and Leveraging HBCU **Facilities**
- Access to and Creating **Opportunities** Uniquely Afforded HBCUs
- Access to HBCUs for Public-Private **Partnerships**
- Access to and Strengthening HBCU **Research Capabilities**
- Access to HBCU **Technology** for Startups, Investment and Licensing
- Access to HBCU **Students** as Workforce of the Future

ISSUES FOR CONSIDERATION

- Appropriate **value recognition/credit** for participants
- Sharing of practices and policies in consulting and **conflict of interest** for institutions that don't have them
- **Inventory** of available facilities and other assets
- Staff who will provide **administrative support** to the program, including research administration
- **Marketing** the partnerships program

SOME MEASURES OF SUCCESS

- Greatly increased numbers of students serving in **internships, apprenticeships** and faculty serving in **externships**
- More effective portrayal of **workforce availability** to the private sector, including **STEM-capable** individuals
- **Faculty and students** working on R&D projects relevant to private company needs, including as consultants
- Much greater use of university **facilities** by private companies
- Greater alignment between higher education **curricular priorities** and local and state **workforce needs**
- Development and adoption of **local and state strategies** to strengthen HBCU research, tech transfer and commercialization, returning greater local value

SOME MEASURES OF SUCCESS

- More students staying in state and actually **becoming entrepreneurs**
- An increase in the number of **startup** companies
- **Increased capture** of companies wishing to locate in the HBCU city/state
- Much better **understanding**, and greater **visibility**, of the **value and practical benefits** of **HBCUs** beyond simply awarding degrees
- Greater amount of **public and private capital** attracted to institutions, faculty, staff and students

OSTP ACTIVITIES IN PARTNERSHIPS

- Interagency roundtable on October 31
- Meeting at Stanford with UIDP on December 3
- National Multi-Sector Summit early next year
- Other…

Science & Technology Highlights

in the First Year of the Trump Administration

Science & Technology Highlights

in the Second Year of the Trump Administration

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