



NATIONAL SCIENCE BOARD

VISION 2030

The U.S. science & engineering (S&E) ecosystem, fueled by federally funded fundamental research, has led to innovation and new industries, revolutionized health care, promoted peace, created the mobile and digital world, and transformed our lives.

Fundamental S&E research benefits the entire world. Yet a strong economy and our national security depend on a significant share of future scientific breakthroughs and world-changing innovations being made here. In this era – when S&E is a global enterprise, knowledge and technology intensive industries play a larger role in our economic prosperity, and STEM skills are important in many lines of work – **we must address three questions:**

- **How can America keep its lead in fundamental research?**
- **How can American discoveries continue to empower U.S. businesses and entrepreneurs to succeed globally?**
- **How can the U.S. increase STEM skills and opportunities for all Americans?**

Vision 2030 lays out actions to which the National Science Board commits, in partnership with the National Science Foundation and other S&E stakeholders, to **ensure that the U.S. remains a world innovation leader.**

DELIVER BENEFITS FROM RESEARCH

To enhance the return to U.S. taxpayers from our S&E investments and empower the nation's businesses and entrepreneurs to compete globally, the U.S. must build on progress from the past decade, improve coordination, and speed translation from discovery to innovation.

DEVELOP STEM TALENT FOR AMERICA

To keep our lead in fundamental research and bolster the workforce of the future, the U.S. must develop America's STEM talent, including a STEM-capable workforce at all educational levels, and continue to welcome foreign talent.

EXPAND THE GEOGRAPHY OF INNOVATION

The U.S. must do more to create STEM-related opportunities and jobs across the country. Empowering American workers, entrepreneurs, and businesses will require strategically building S&E capacity and infrastructure across the nation and seeding and nurturing innovation clusters.

FOSTER A GLOBAL S&E COMMUNITY

The U.S. must compete and collaborate to remain preeminent in S&E and lead in innovation. Openness and high ethical standards in S&E are critical to fostering engagement among like-minded partners throughout the global S&E enterprise.

ELEMENTS OF LEADERSHIP



In a highly competitive global S&E environment, the U.S. must stay on the leading edge of the practice of S&E. As we face greater international competition, we must speed the movement of research from the laboratory to product. We also need to invest more strategically, embrace new research tools and modalities, foster an inclusive and ethical S&E enterprise, and welcome – as well as capitalize on – the globalization of S&E. In the process, we must preserve what works well in our system while being open to new possibilities.



Our nation's greatest resource is its people. To remain competitive, the U.S. must be a STEM talent powerhouse. To be ready for 2030, the U.S. will need a research and development workforce that pushes the frontiers of knowledge, within a strong STEM-capable workforce in which many more Americans have the skills to thrive in a knowledge and technology-intensive economy. To meet these needs, the U.S. must take a two-pronged approach. We must expand domestic talent and attract global talent. And we must do more to retain both groups in STEM.



The world's best talent – including American talent – will go where the S&E opportunities are greatest. Data, software, computation, and networking capabilities, as well as the facilities needed to conduct science, help make the U.S. competitive in S&E. To sustain our global leadership, we need to continue to invest in research infrastructure. We must be strategic in making these investments, creating opportunities for researchers in all parts of the country and at a range of institutions.



The U.S. must strengthen existing partnerships as we face competition from countries that organize their S&E enterprises much more centrally. To make the most of our investments in fundamental research, we must strengthen interagency coordination and add more partnerships with the private sector, state governments, and philanthropic organizations. We must also foster international partnerships to encourage collaboration in S&E research and to provide unique and costly research infrastructure.