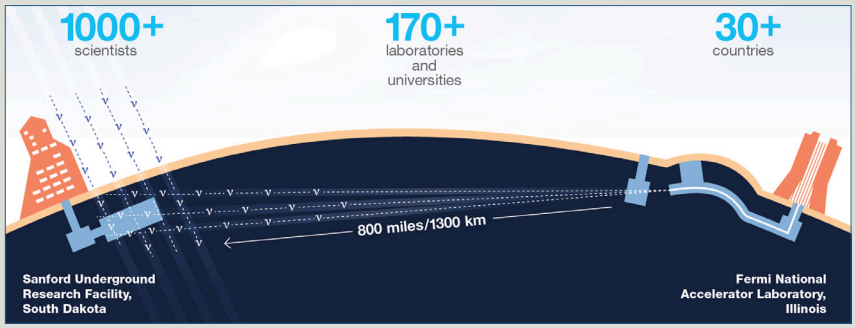
Federal Research Funding: Sustained, Robust Investments Essential for U.S. Global Leadership

ACTION

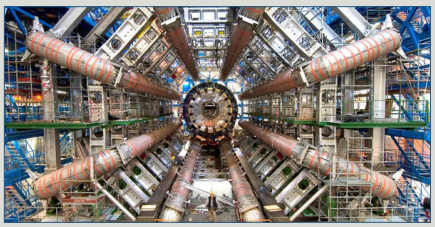
Members of Congress should include increases of at least 4 percent real growth for DOE Office of Science, NIST Scientific and Technical Research and Services (STRS), and NSF in their appropriations request.

Federal Investments Support Essential International Collaborations

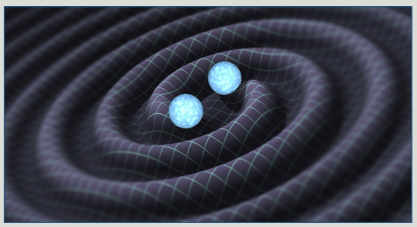
- Today, some of the most pressing questions in science require new, state-of-the-art facilities and infrastructure, **which typically have construction and operation costs exceeding what any single country can finance on its own.**
- By partnering with other countries to support large-scale, international collaborations – e.g. CERN, LIGO, LBNF – the U.S. leverages its investments and in-kind contributions, providing U.S. scientists opportunities to contribute to leading-edge research and have access to the results.
- **The U.S. directly benefits from international collaborations.**



LBNF DUNE (United States)



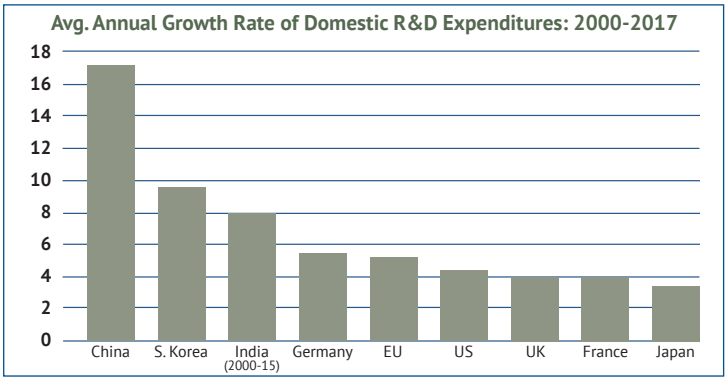
CERN ATLAS (Switzerland)

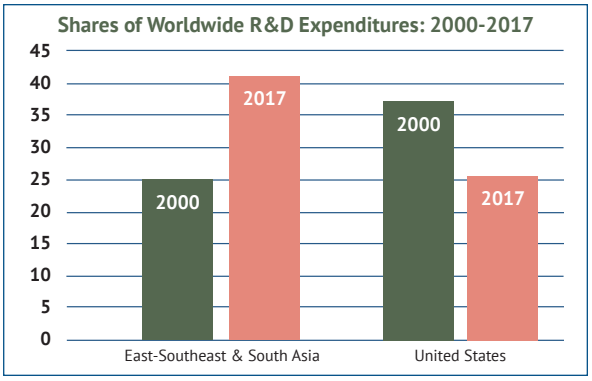


LIGO (United States)

Federal Investments Critical to American Competitiveness

- By contrast, there are areas of research where competition is required, including those that might impact our economic or national security. These areas include accelerator science, artificial intelligence, battery chemistry, laser science and quantum information science.
- Global R&D investments are rising at a substantial pace during the 21st century, led by China with an average annual R&D growth rate from 2000-17 that was four times higher than the U.S.
- This global investment expansion reflects the escalating economic competition among the world's leading nations.
- **Robust and sustained federal investments in R&D are required for the U.S. to remain a global leader in science, technology and innovation.**





Source: NSB Science and Engineering Indicators 2020

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