



EXECUTIVE SUMMARY OF THE REPORT TO THE PRESIDENT
AND TO CONGRESS

The Seventh Assessment of the National Nanotechnology Initiative

Executive Office of the President
President's Council of Advisors on
Science and Technology

August 2023



Executive Summary

Nanotechnology sparked a new phase of scientific discovery, producing groundbreaking innovations over the last 30 years. Microelectronics, mRNA vaccines, and next generation energy technologies are examples of the social and economic benefits of nanotechnology to the American people. The ingenuity of scientists and engineers in the United States and the leadership of the federal government across five administrations nurtured an emerging technology into an established advanced technology that continues to provide solutions to American and global challenges.

The National Nanotechnology Initiative (NNI) was a driving force behind these accomplishments. Launched in 2003 as a dedicated whole-of-government R&D program, the NNI was instrumental in coordinating federal activities for nascent nanotechnology research and funding. The 2003 21st Century Nanotechnology R&D Act that authorized the NNI directed a National Nanotechnology Advisory Panel (NNAP) to review periodically the status of the NNI. Nanotechnology is now fully established in numerous research and commercial initiatives across the federal government and private sector. In this 2023 report, the President's Council of Advisors on Science and Technology (PCAST), designated as the NNAP by Executive Order, provides three recommendations on federal nanotechnology coordination that reflect the success of the initiative and the maturity of the field.

Recommendations

Recommendation 1: PCAST recommends the President work with Congress to sunset or substantially revise the 21st Century Nanotechnology Research & Development Act.

Recommendation 2: PCAST recommends the Director of the Office of Science and Technology Policy (OSTP) work with the Executive Director of the National Science and Technology Council (NSTC) to direct the Nanoscale Science, Engineering, and Technology (NSET) Subcommittee to continue leadership for federal coordination of nanotechnology strategic planning, implementation, and outreach.

Recommendation 3: PCAST recommends the NSET Subcommittee enhance experiential learning programs for nanotechnology students and scientists to create the collaborative, multi-disciplinary workforce needed for nanotechnology and other advanced technologies.

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