

The National Nanotechnology Initiative Structure, Focus Areas, and Resources for Stakeholders

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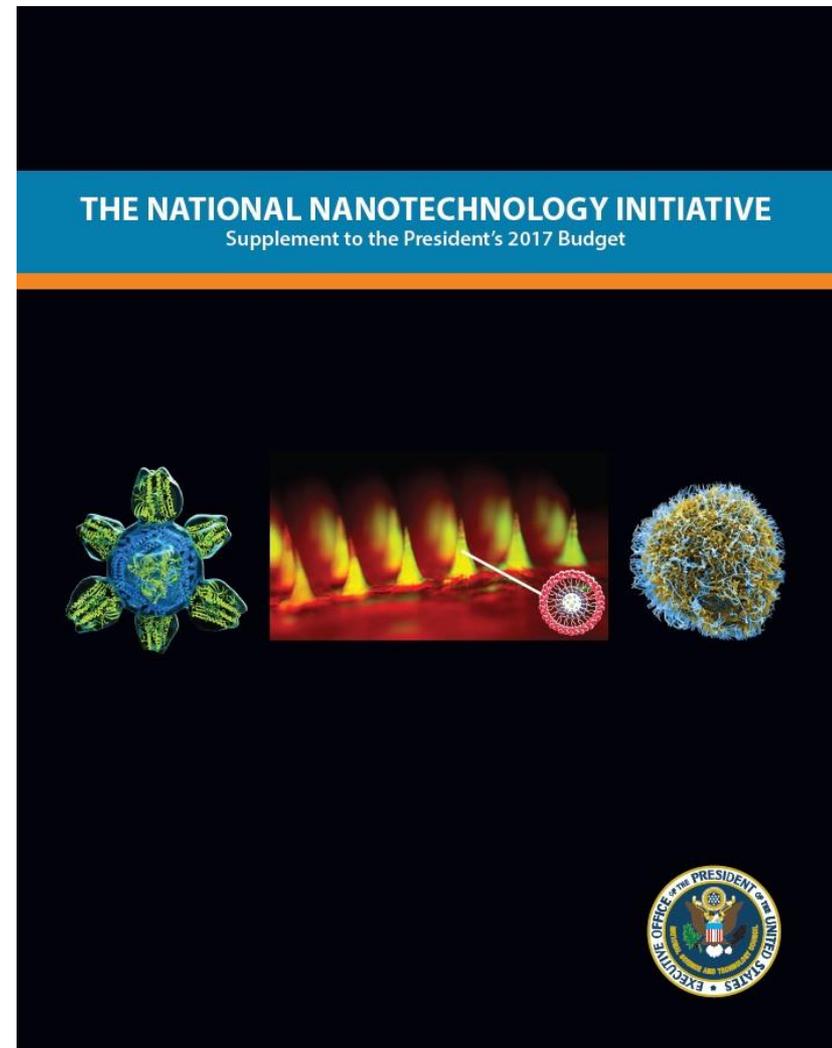
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**NNI Strategic Planning Stakeholders Workshop
Washington, DC**

National Nanotechnology Initiative (NNI)

- Launched in 2000 to promote and coordinate US nanotech R&D
- Collaborative R&D to advance understanding and control of matter at the nanoscale for:
 - National economic benefit
 - National security
 - Improved quality of life
- 20 Federal Departments and Independent Agencies
 - 11 have specific nanotech budgets
- 2017 budget: \$1.4 billion
 - Cumulative ~\$24 billion investment since 2001

A coordinated initiative, NOT a distinct funding program.



National Nanotechnology Initiative

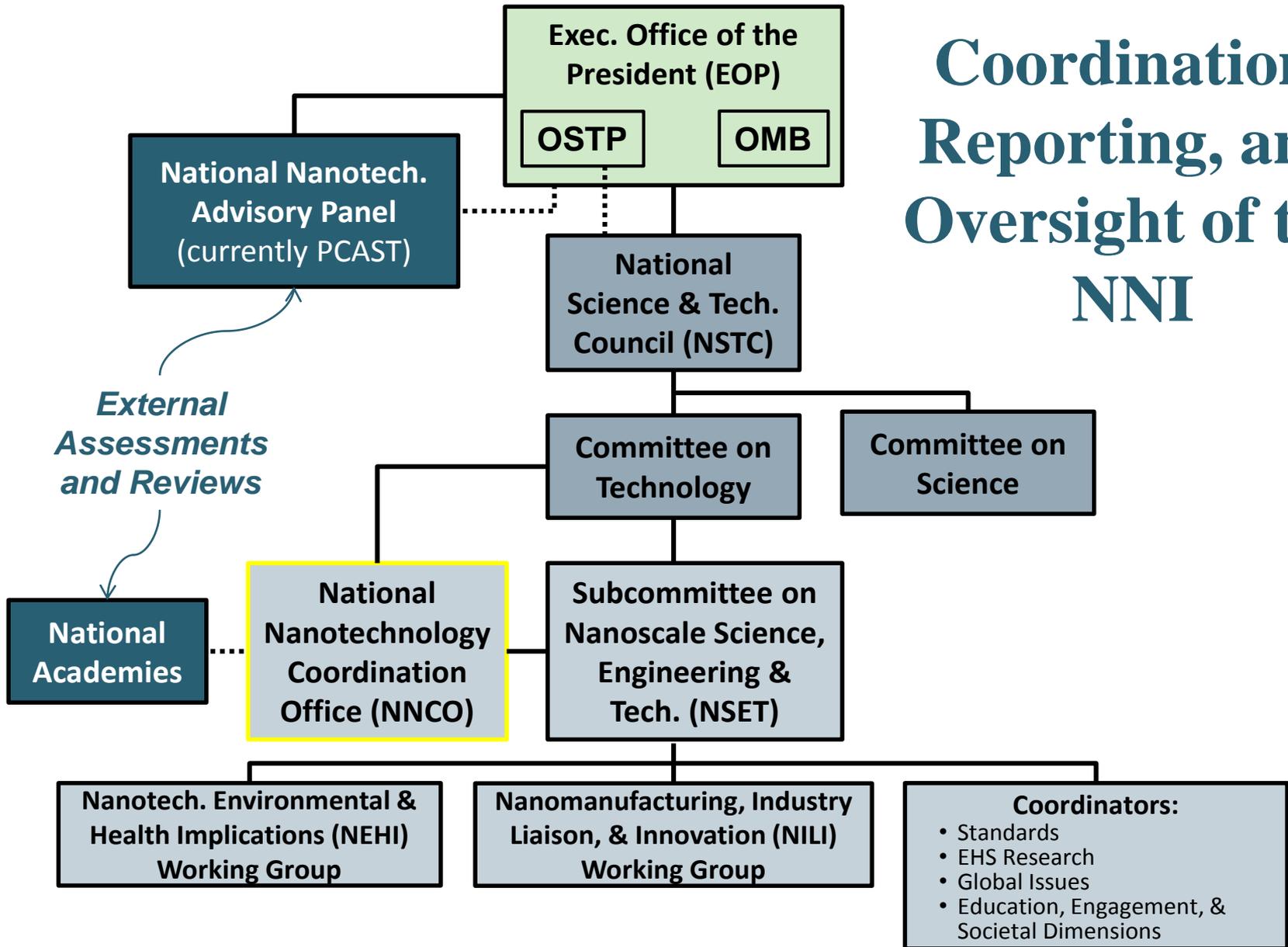
Vision: A future in which the ability to understand and control matter on the nanoscale leads to a revolution in technology and industry that benefits society.

Goals:

- Advance a world-class nanotechnology research and development program.
- Foster the transfer of new technologies into products for commercial and public benefit.
- Develop and sustain educational resources, a skilled workforce, and a dynamic infrastructure and toolset to advance nanotechnology.
- Support responsible development of nanotechnology.



Coordination, Reporting, and Oversight of the NNI



Key NNI Documents

- **Strategic Plans**

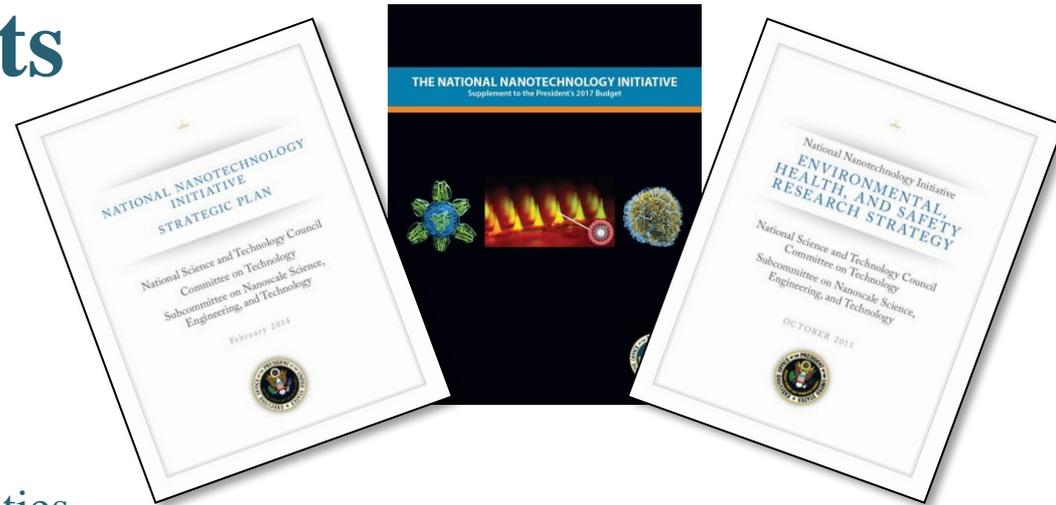
- Lay out a series of objectives under each NNI goal
- Describe Program Component Areas (PCAs)
- Define agency interests and priorities, coordination and assessment structures and mechanisms, collaborative agency activities and plans, and stakeholder input

- **Annual Budget Supplements**

- Report Federal nanotechnology investments and activities
- Serve as the annual reports of the NNI

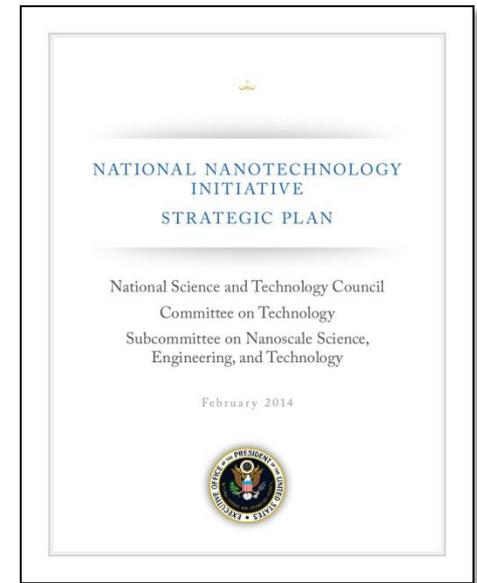
- **2011 NNI EHS Research Strategy**

- Federal agency nanoEHS research activities, priorities, and program plans



2014 NNI Strategic Plan

- Describes vision and goals, strategies to achieve the goals, and investment strategy
- Describes new PCAs, and importance of Nanotechnology Signature Initiatives (NSIs)
- Identifies specific objectives toward collectively achieving the vision
- **Example (Goal 2):** Foster the transfer of new technologies into products for commercial and public benefit.
 - Goal 2 Objective 2.1: Assist the nanotechnology-based business community in understanding the Federal Government’s R&D funding and regulatory environment
 - 2.1.1. Disseminate information on supporting sponsors and programs to assist transfer of nanotechnology-based technologies into Federal Government acquisition programs
 - 2.1.2. Improve public access to informational materials about resources available that support nanotechnology commercialization
 - 2.1.3. Provide informational materials, including points of contact, to explain issues pertinent to nanotechnology-enabled products and businesses



NNI Signature Initiatives

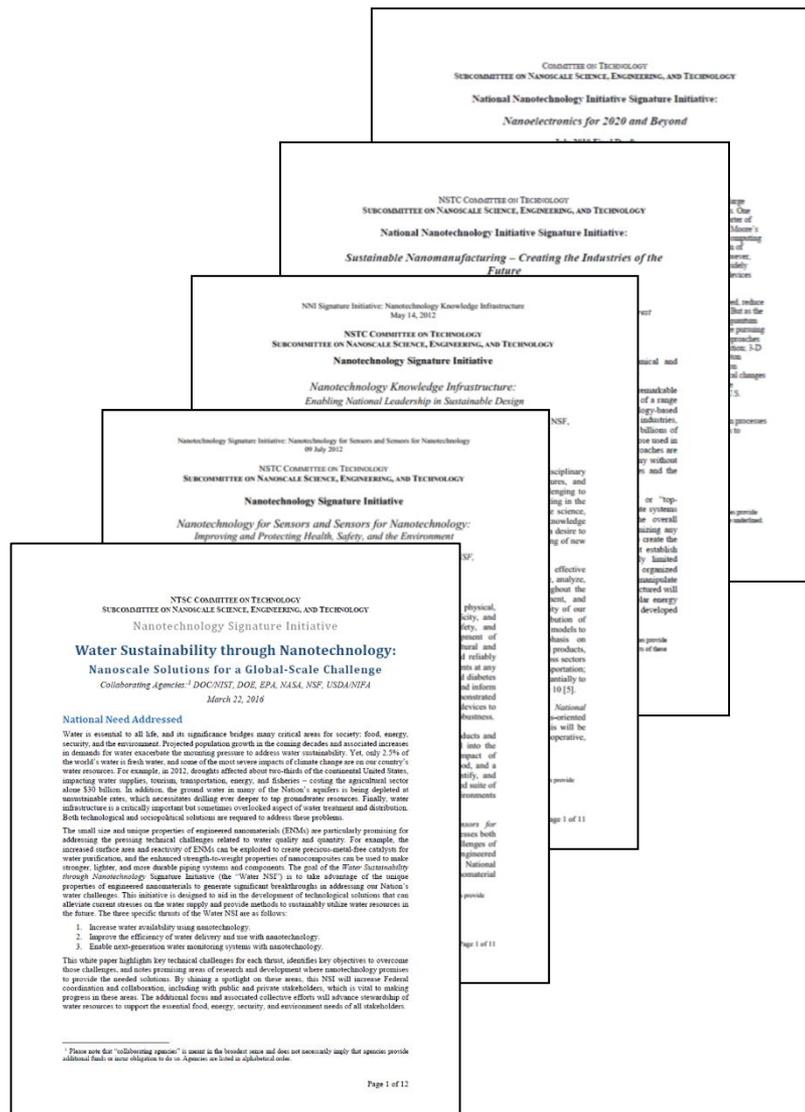
The Nanotechnology Signature Initiatives (NSIs) spotlight areas of national significance that can be more rapidly advanced through focused and closely-coordinated inter-agency collaboration.

The NSIs

- ***Address R&D gaps*** within areas of critical national need
 - Identify research ***thrust areas***
 - Select ***key research targets*** associated with near-and long-term expected outcomes
- ***Leverage*** skills, resources, and capabilities among multiple NNI agencies to maximize scientific and technological progress
- Provide a forum for communication and ***ongoing assessment*** of direction and progress
- ***Catalyze*** communities of practice and public private partnerships to accelerate commercialization

The NNI's Nanotechnology Signature Initiatives

- Intended to be dynamic; topical areas will likely be added and rotate/evolve over time.
- Five current signature initiatives:
 - Sustainable Nanomanufacturing
 - Nanoelectronics for 2020 and Beyond
 - Nanotechnology Knowledge Infrastructure
 - Nanotechnology for Sensors and Sensors for Nanotechnology
 - Water Sustainability through Nanotechnology



NNI Grand Challenge

Create a new type of computer that can proactively interpret and learn from data, solve unfamiliar problems using what it has learned, and operate with the energy efficiency of the human brain

- Announced on 10-20-15 by the WH Office of Science and Technology Policy
- Moving beyond conventional (von Neumann) computing architectures to make computers that can solve problems faster than conventional computers and require much less energy

NNI 2.0 Depends on You

The promise of nanotechnology can only be achieved through community involvement. We want to hear from you.

How to engage?

- Webinars
- Workshops
- Respond to RFIs
- Contact NNCO



NNI 2016 Strategic Plan

- Are there any obvious gaps in the goals and objectives? Are there any objectives that are no longer among the top priorities that need to be addressed?
- What will be the new/hot areas of research or challenges in the next 5-10 years?
- Outside of additional funding, what can the Federal Government do to support activities or address challenges in the areas above?
- How will we know when the nanotechnology enterprise is successful in this area? How do we measure this?

Thank you.

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