National Nanotechnology Initiative

Dr. Celia Merzbacher
Assistant Director for Technology R&D
Office of Science and Technology Policy

Nanocaucus * March 5, 2007
National Nanotechnology Initiative Overview

- Established in FY 2001
- 26 Federal agencies (13 w/ R&D $)
- Over $8.3 billion in R&D in FY 2001—2008
  - Over 4000 active research projects at more than 500 research institutions in all 50 states.
  - Over 50 research centers and user facilities with over 100 university partners.
- Providing educational & training resources for students, teachers, and a skilled workforce
- Promoting technology transfer
- Addressing potential risks & societal concerns
21st Century Nanotechnology Research & Development Act of 2003

One Hundred Eighth Congress of the United States of America

AT THE FIRST SESSION

Begun and held at the City of Washington on Tuesday, the seventh day of January, two thousand and three

An Act

To authorize appropriations for nanoscience, nanomanufacturing, and nanotechnology research, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “21st Century Nanotechnology Research and Development Act”.

SEC. 2. NATIONAL NANOTECHNOLOGY PROGRAM.
(a) NATIONAL NANOTECHNOLOGY PROGRAM.—The President shall implement a National Nanotechnology Program. Through appropriate agencies, councils, and the National Nanotechnology Coordination Office established in section 3, the Program shall—

(1) establish the goals, priorities, and metrics for evaluation for Federal nanotechnology research, development, and other activities;

(2) invest in Federal research and development programs in nanotechnology and related sciences to achieve those goals; and

(3) provide for interagency coordination of Federal nanotechnology research, development, and other activities undertaken pursuant to the Program.

(b) PROGRAM ACTIVITIES.—The activities of the Program shall include—

(1) developing a fundamental understanding of matter that enables control and manipulation at the nanoscale;

(2) providing grants to individual investigators and interdisciplinary teams of investigators;

(3) establishing a network of advanced technology user facilities and centers;

(4) establishing, on a merit-reviewed and competitive basis, interdisciplinary nanotechnology research centers, which shall—

(A) interact and collaborate to foster the exchange of technical information and best practices;

(B) involve academic institutions or national laboratories and other partners, which may include States and industry;
NNI Strategic Plan: Vision

A future in which the ability to understand and control matter on the nanoscale leads to a revolution in technology and industry.

Expedite discovery, development, and deployment of nanotechnology for:

- Economic benefit
- National & homeland security
- Improved quality of life
Sustain world class R&D

Facilitate technology transfer

Develop infrastructure: education; workforce preparation; facilities & instrumentation

Support responsible development of nanotechnology
Areas of investment
(aka Program Component Areas)

1. Fundamental Nanoscale Phenomena and Processes
2. Nanomaterials
3. Nanoscale Devices and Systems
4. Instrumentation Research, Metrology, and Standards for Nanotechnology
5. Nanomanufacturing
6. Major Research Facilities and Instrumentation Acquisition
7. Societal Dimensions (EHS, ELSI, Educ.)

Annual Budget Supplement at www.nano.gov
NNI FY 2008 Budget Request
Total = $1447 million
U.S. Nanotech R&D Investment

- NNI launched
- "Nano Act" signed
International Nanotech R&D Investment

Investment ($M)

Source: M. C. Roco
Take Aways

Nanotechnology R&D...

- is a scientific opportunity
- is an economic and societal opportunity
- is taking place worldwide
- is being coordinated among agencies and countries, with industry...

...and with members of the Nanocaucus.
THANK YOU!
NNI Strategic Plan