

project on emerging nanotechnologies



Promoting the Safe Integration of New Technologies

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Momentous change can come in tiny packages. Nanotechnologies have been hailed by many as the next industrial revolution, likely to affect everything from clothing and medical treatments to engineering. Although focused on the very small, nanotechnology—the ability to measure, manipulate and manufacture objects that are 1/100th to 1/100,000th the circumference of a human hair—offers immense promise. Whether used in cancer therapies, pollution-eating compounds or stain-resistant apparel, these atomic marvels are radically and rapidly changing the way we live. The National Science Foundation predicts that the global marketplace for goods and services using nanotechnologies will grow to \$1 trillion by 2015 and employ 2 million workers.

While nanotechnology's possible benefits are clear, its potential risks are not. As nanotechnology products and processes move into daily use, the risks to human health and the environment must be evaluated and addressed. Both the public and private sectors have a responsibility to ensure that advances in nanotechnology proceed in lockstep with a comprehensive understanding of its consequences.

Seeking policy solutions. The Pew Charitable Trusts established the *Project on Emerging Nanotechnologies* (PEN) in partnership with the Woodrow Wilson International Center for Scholars. Based in Washington, D.C., PEN works to improve awareness of nanotechnologies' benefits and risks, and ensure that those risks can be properly assessed and handled. Since 2005, PEN has become a visible and respected information source on the scope of nanotechnology product development and potential health and environmental safety questions. It has drawn attention to inadequate levels of investment in research into the risks of nanotechnology, and also to flaws in existing laws and regulations that provide oversight in this area. The project engages a wide spectrum of government, industry and academic leaders in working to close gaps in knowledge and develop more robust oversight measures. Its efforts include:

Ensuring that government and industry undertake more strategic and focused research into the risks inherent in nanotechnology, by:

- Expanding the comprehensiveness of the existing risk-research database by including data from industry and other countries, and ensuring the transfer of that data to a permanent entity that will keep it updated indefinitely.
- Highlighting and pressing for increased resources to fund the most vital research needs, as outlined in a recent peer-reviewed article in the journal *Nature* and endorsed by key public policy leaders.

Helping to identify and fill gaps in oversight, by:

- Continuing to analyze weaknesses in federal oversight authority and highlight these for relevant agencies and the public.
- Encouraging the adoption of industry agreements that can help supplement federal efforts.

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