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NANOTECHNOLOGY

Mid-Atlantic Region Well Positioned to Be Global Leader In Multi-Trillion-Dollar Nanotechnology Arena

Philadelphia, PA., October 12, 2006 -- The Mid-Atlantic region is well positioned to become a global leader in prototyping and commercializing discoveries for applications in the multi-trillion-dollar nanotechnology-related energy, biomedical and optoelectronics markets. Announced at a press conference today in Philadelphia, this was the key finding of a study prepared by the Battelle Technology Partnership Practice and commissioned by the Mid-Atlantic Nanotechnology Alliance (MANA[®]).

Another important finding from the study was that nanotechnology, a key driver for the next industrial revolution, is a critical technology to maintain the competitiveness of the Mid-Atlantic region's existing economic base — already an industrial powerhouse and home to a growing number of industry and academic players in the expanding nanotechnology field.

Nanotechnology involves research and technology development at the atomic, molecular or macromolecular levels. Researchers work to develop new technologies in industries such as biopharmaceuticals, therapeutics, advanced materials, agriculture, chemicals, electronics, energy, defense and transportation.

The press conference, co-sponsored by Select Greater Philadelphia, presented the results of the Battelle study, "Getting to the Future First: A Strategic Roadmap for Advancing Nanotechnology in the Mid-Atlantic Region."

The study indicated that the Mid-Atlantic region — spanning Delaware, New Jersey and Eastern Pennsylvania — is already a national leader in the nanotechnology arena. The region ranks #2 among all states in nano-related patents, as well as in research; #3 in National Science Foundation (NSF) nano-related grants; and #4 in National Institute of Health (NIH) nano-related grants. Additionally, there are currently more than 100 companies in the region engaged in nanotechnology research, product development and near-term business activities.

Given its current national leadership position in nanotechnology, the Battelle study concluded that the Mid-Atlantic region has the potential to emerge as a major world

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center in a wide range of applications for a nanotechnology market estimated by industry analysts to be \$12.5 trillion in 2015. In order to be successful in this huge market, the region must form strategic alliances and collaborations among universities, industry, government laboratories, and state and local economic agencies that take advantage of the region's core competencies in nanotechnology.

Additionally, the study pointed to four specific strategic nanotechnology-related opportunities that should be aggressively pursued by the Mid-Atlantic region. They include:

- Rapid prototyping to demonstrate commercial value of nanotechnology innovations;
- Identifying unique approaches to nano-enabled energy applications;
- Integrating the region's efforts to continue its leadership in optoelectronics; and
- Growing the region's bio-nano research capabilities for the pharmaceutical, biotechnology and medical device industries.

To address this regional need and maximize potential opportunities on a global basis, the study concludes that MANA can play the pivotal role. MANA was formed as a cooperative effort by the Ben Franklin Technology Partners of Southeastern Pennsylvania, the New Jersey Commission on Science and Technology, and the Delaware Technology Park. Launched in 2004, with the support of the U.S. Department of Commerce Economic Development Administration, MANA represents the nation's first multi-state nanotechnology initiative.

MANA's principal role, according to the study, will be to establish the tri-state region as a global hub for expanded research, development, application, and commercialization of nanotechnology. The organization will do this by highlighting emerging opportunities and building partnerships needed to advance nanotechnology; attracting and securing federal, state and private investments to accelerate nanotechnology-related product commercialization; and marketing the region's nanotechnology strengths and capabilities.

"By 2015, industry analysts estimate that consumer spending on nanotech-enabled products could reach \$12.5 trillion annually on upgraded, everyday products, super-electronic communications, and life-saving medical devices, said Mitch Horowitz, of Battelle, one of the speakers at the press conference. "This clearly represents an incredible opportunity for the Mid-Atlantic region, which already has a strong nanotechnology leadership position in the U.S."

"The companies, governmental bodies and universities can go it alone to try to capitalize on this potential, but the most effective results will come from working together and collaborating under MANA," said Horowitz.

MANA representative, Bob Gittler, Senior Manager, Program Analysis and Development Group with Ben Franklin Technology Partners of Southeastern Pennsylvania,

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commented, "There's no question that the Mid-Atlantic region has been a leader in the nanotechnology area. We've achieved the top national rankings in related patents and grants. And, we can boast of over 100 companies focused on nanotechnology. Now comes the next step, through MANA, to bring together the significant business, academic and governmental resources, across state lines, to maintain industrial leadership, establish the Mid-Atlantic as a world standard in nanotechnology research and commercialization, and to generate new jobs for the region."

Dr. Mihail C. Roco, Senior Advisor, NSF National Science and Technology Council and Chair, Subcommittee on Nanoscale Science, Engineering and Technology (NSET) has commented, "Advances at the nanoscale are leading to a new understanding of nature and manmade things, and an increased ability to restructure matter at the atomic and molecular levels. In due course, nanomanufacturing promises to arrive at the top of the wave of productive processes with a dominant role in chemicals, electronics, pharmaceuticals and advanced materials. The Ben Franklin Technology Partners and the Nanotechnology Institute have had a pioneering concept of networking academia, industry, local and federal government for advancing nanotechnology. The current Pennsylvania-New Jersey-Delaware partnership, through MANA, brings to a higher, transforming level, the entire concept, and may have a key role in the progress for the pharmaceutical and chemical industry in the region and elsewhere."

Providing the overall regional business perspective at the press conference was Tom Morr, President and CEO, Select Greater Philadelphia. "The success of MANA could certainly be considered a great case study on how an organization can bring together diverse entities to achieve region-wide economic prosperity and recognition. If it can be done in nanotechnology, just think about the other possibilities," Morr said.

Speakers at the press conference included: Mitch Horowitz, Director of Strategy, Battelle Technology Partnership Practice; Tom Morr, President and CEO, Select Greater Philadelphia; representatives from MANA; and representatives from companies in the Mid-Atlantic region working with nanotechnology.

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The Mid-Atlantic Nanotechnology Alliance (MANA[®]) is a collaborative effort among Ben Franklin Technology Partners of Southeastern Pennsylvania, the New Jersey Commission on Science and Technology, and the Delaware Technology Park. MANA benefits from the support the State of New Jersey, the state of Delaware, and the Commonwealth of Pennsylvania, and receives funding from the U.S. Department of Commerce Economic Development Administration.

Battelle is a global leader in technology development and the nation's largest nonprofit R&D organization. The Technology Partnership Practice serves as Battelle's technology-based, economic development consulting organization.

Additional information about MANA is available at: www.midatlanticnano.org