NIST...Enabling the Future: Innovation, Trade, Security, Jobs

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National Institute of Standards and Technology

Presentation to the Science and Technology Policy Committee
IRI Annual Meeting 2004
Marriott Marco Island, Marco Island Florida

May 16, 2004
**Strong Relationships with Industry**

Industry is a vital partner in accomplishing NIST’s mission:

**Planning**
- workshops
- roadmaps

**Execution**
- consortia
- centers
- CRADAs
- guest researchers

**Dissemination**
- products
- measurements labs
- standards committees

**Assessment**
- NRC Board on Assessment
- Visiting Committee for Advanced Technology

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**Enabling Innovation**

- “Excellence in measurement science, driven by NIST, positions U.S. industry and universities to more quickly solve problems.”—IRI

- “Consequently, additional research in metrology at NIST is critical to future chip development.”—SIA

- “NIST stimulates and supports the development of the cutting-edge technology infrastructure needed to strengthen and safeguard America’s economic foundations and security capabilities.”—BIO
Enabling Innovation

NIST Laboratories
Providing the foundation for discovery and innovation
- Nanomanufacturing and Nanometrology
- Quantum Computing and Communications
- Lab-on-a-Chip
- DNA Technologies

Baldrige National Quality Program
Premier U.S. Criteria and Award for performance excellence and quality achievement.
- Manufacturing
- Service
- Small Business
- Education
- Health Care

Advanced Technology Program
Fosters innovation through cost shared funding of high risk technologies
- Auto Body Consortium - improved fitting of parts to save money for manufacturers and consumers
- Tissue Engineering - new materials to repair damaged ligaments and tendons: several billion dollar impact
- “DNA Chips” - new technology for cheap, rapid genetic analysis
- HDTV Joint Venture – project developed critical technologies, such as software-based tools permitting end users to browse, retrieve, and view HDTV programs

Manufacturing Extension Partnership Program
- Serves as a nationwide network providing hands-on help to smaller manufacturers to become globally competitive
- Provides access to and encourages the use of innovative manufacturing technologies and processes
Facilitating International Trade

NIST Participation

• International Standards Organizations
• Technical Trade Barrier Issues
• International Measurement System

Contributing to Public Safety and Security

Critical Technical Contributions

• Standards for Ballistic-Resistant Armor—2,700 Casualties Prevented
• Advanced Encryption Standard—Secure electronic transactions for millions of Americans
• Standards for Metal Detectors—Improved safety in airports, courthouses
• Standards for DNA Analyses—Accuracy goes up, costs go down
• Interoperability Standards for Fingerprint Databases—FBI system can link to the rest of the world
### President’s FY 2005 Budget Request ($M)

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<tbody>
<tr>
<td><strong>Scientific &amp; Technical Research &amp; Services (STRS):</strong></td>
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<tr>
<td>NIST Laboratories</td>
<td>381.8</td>
<td>331.7</td>
<td>+85.7</td>
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<td>Baldrige National Quality Program</td>
<td>5.8</td>
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<td><strong>Subtotal, STRS</strong></td>
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<td>337.2</td>
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<td>Advanced Technology Program (ATP)</td>
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<td>170.5</td>
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<td>Manufacturing Extension Partnership (MEP)</td>
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<td><strong>Subtotal, ITS</strong></td>
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<td><strong>Construction of Research Facilities (CRF)</strong></td>
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<td><strong>Total</strong></td>
<td>496.8</td>
<td>610.7</td>
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<td>521.5</td>
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Numbers may not add due to rounding.
Summary

• NIST programs have a tremendous impact on U.S. job creation, innovation, trade, and security.
• NIST has been successful in achieving its mission through strong partnerships.