

NIST: Promoting U.S. Innovation and Industrial Competitiveness

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NIST Today: Mission

To promote U.S. innovation and industrial competitiveness by advancing

measurement science, standards, and technology

in ways that enhance economic security and improve our quality of life

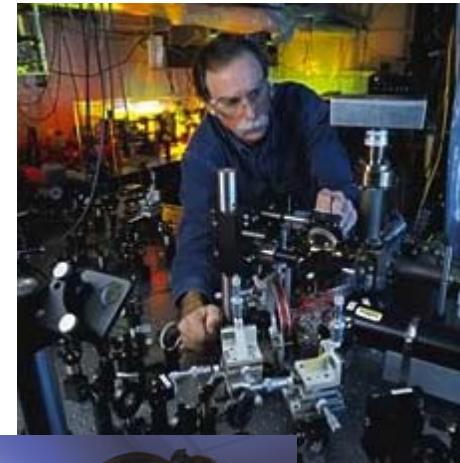


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NIST At A Glance

Major Assets

- ~ 2,900 employees
- ~ 2600 associates and facilities users
- ~ 1,600 field staff in partner organizations
- ~ 400 NIST staff serving on 1,000 national and international standards committees



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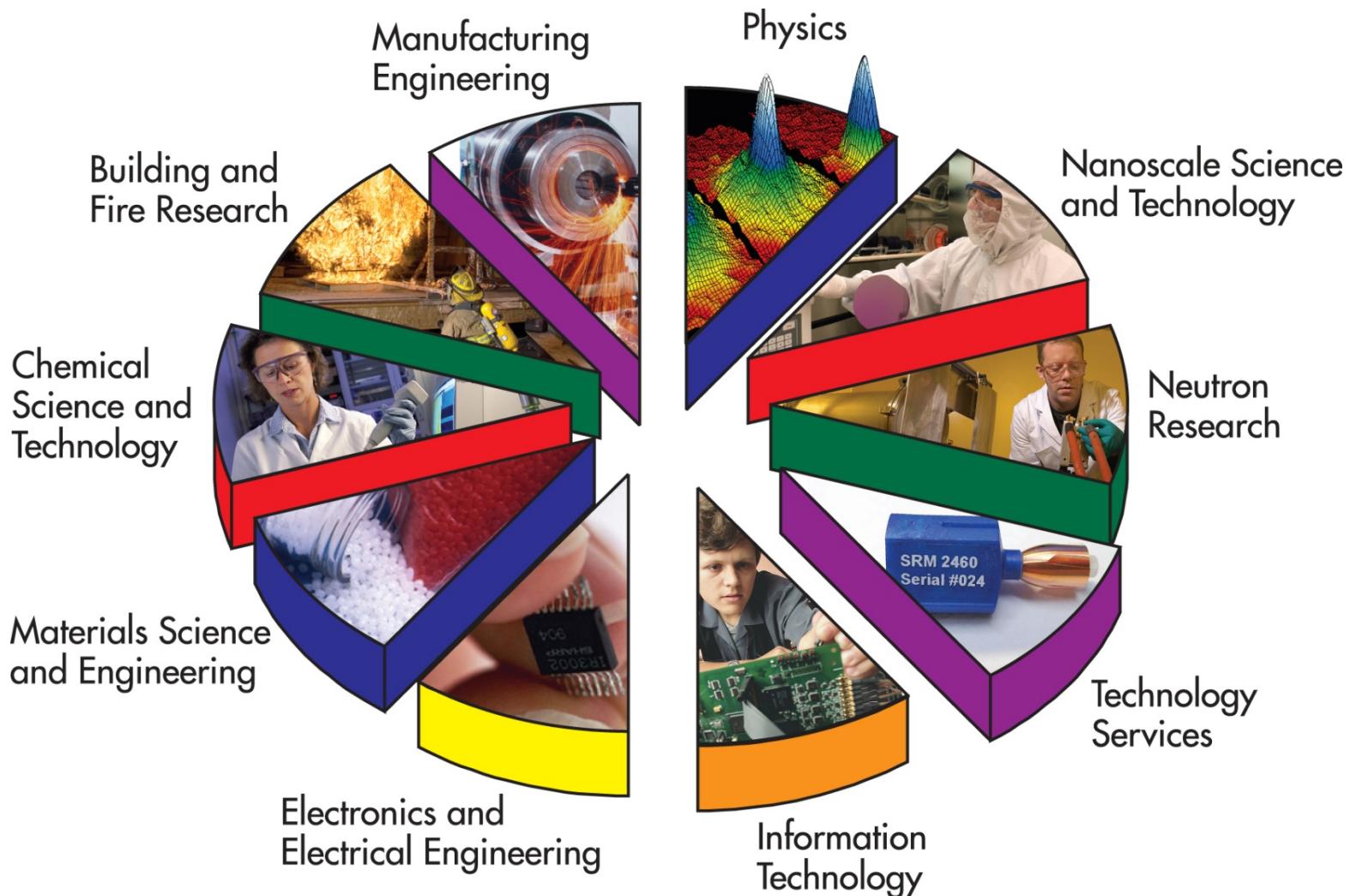


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Major Programs

- NIST Laboratories
- Baldrige National Quality Program
- Manufacturing Extension Partnership
- Technology Innovation Program

The NIST Laboratories



NIST Publications

- ~ 2200 Manuscripts produced annually
- Most published in peer-reviewed journals
- ~ 10% in NIST publications
 - Journal of Physical and Chemical Reference Data (published by the American Institute of Physics)
 - Journal of Research of the National Institute of Standards and Technology (published by NIST)
 - Other publications such as Handbooks, Special Publications, Voluntary Product Standards, etc.
- Issues -- Preservation, authentication, access, interoperability, version control, and cooperation & coordination with US GPO, NTIS, and the library community

NIST Standard Reference Data Program

Governed by Standard Reference Data Act (P.L. 90-396)

140 Scientific and Technical Databases

- 54 on-line SRD out of total 91 NIST
- 46 PC databases available for purchase
- 3 On-line databases available by subscription

Examples

- (free) NIST Chemistry WebBook is the most widely used NIST data product and is used by scientists, engineers, educators and students worldwide for applications in the areas of chemical engineering, physical chemistry, analytical chemistry, and chemical informatics.
- (fee) NIST/EPA/NIH Mass Spectral Database is used by environmental, toxicology, forensic, and biomedical laboratories throughout the world and is distributed as an option by mass spectrometer manufacturers.

NIST's Databases

- NIST's databases are a national resource representing an investment of several hundred million \$ since the 1950s.
- Realizing their value into the future will require appropriate policies and solutions for:
 - Archiving
 - Preservation
 - Maintenance
 - Cyberinfrastructure (metadata standards, ...)

Fundamental Constants

- Data on fundamental constants
- NIST Physics Laboratory Fundamental Constants Data Center
- CODATA internationally recommended values
 - Physical constants
 - Atomic spectroscopy
 - Molecular spectroscopy
 - Atomic and molecular data
 - X-ray and gamma ray data
 - Radiation dosimetry data
- Available at:
<http://physics.nist.gov/cuu/Constants/index.html>