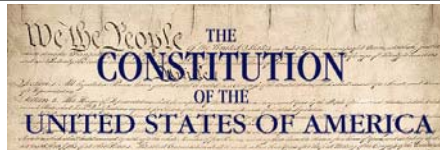


## Session II: NIST User Facilities and Other Examples of Ways in which NIST Partners with Others

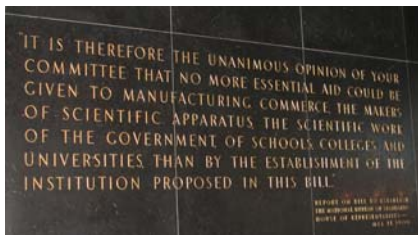
- 10:35 am Context Setting  
Willie E. May, Associate Director for Laboratory Programs
- 10:45 am NIST Center for Neutron Research (NCNR)  
Rob Dimeo, Director, NCNR
- 11:05 am Discussion
- 11:20 am Center for Nanoscale Science and Technology (CNST)  
Bob Celotta, Director, CNST
- 11:40 am Discussion
- 11:55 am Other Examples of NIST's Unique Capabilities  
Willie E. May
- 12:15 pm Discussion

## National Institute of Standards and Technology (NIST)

- Non-regulatory agency within U.S. Department of Commerce
- Founded in 1901 as National Bureau of Standards



Article I, Section 8: The Congress shall have the power to ...*coin money, regulate the value thereof, and of foreign coin, and fix the standard of weights and measures*



### Unique Mission within the Federal Government ...

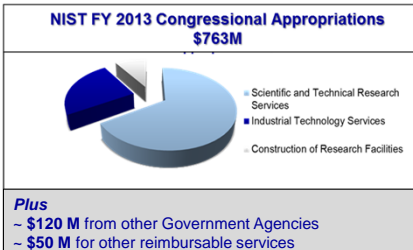
to promote U.S. innovation and industrial competitiveness by advancing **measurement science, standards, and technology** in ways that enhance economic security and improve our quality of life

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# NIST Laboratory Program -at-a-Glance

## Major Assets

- ~ **3,000 Employees**; 1800 Scientists and Engineers
- ~ **2,800 Associates** and Facilities Users
- ~ 400 NIST Staff on ~1,000 national and international standards committees



NIST has two main campuses.....



Gaithersburg, MD  
62 buildings; 578 acres



Boulder, CO  
26 buildings; 208 acres

- + two sites housing NIST radio stations:
- Ft. Collins; 390 acres
  - Kauai; US Navy 30 acre site

and six joint institutes

- JILA – *amo physics*
- JQI – *quantum science*
- IBBR – *biotech – adv. therapeutics*
- HML – *marine bioscience*
- NCCoE – *cybersecurity*
- CHMaD – *“materials by design”*

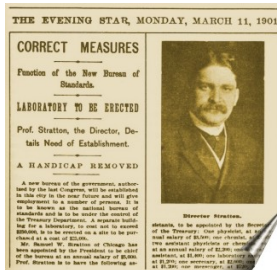
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## NIST (NBS) established in 1901

“It is therefore the unanimous opinion of your committee that no more essential aid could be given to

- manufacturing
- commerce
- the makers of scientific apparatus
- the scientific work of Government
- schools, colleges, and universities

than by the establishment of the institution proposed in this bill.”



*House Committee on Coinage, Weights and Measures ... on the establishment of the National Bureau of Standards (now NIST) May 3, 1900*

## Organic Act of 1901; Updated in 2008

*Functions and activities of the Institute include:*

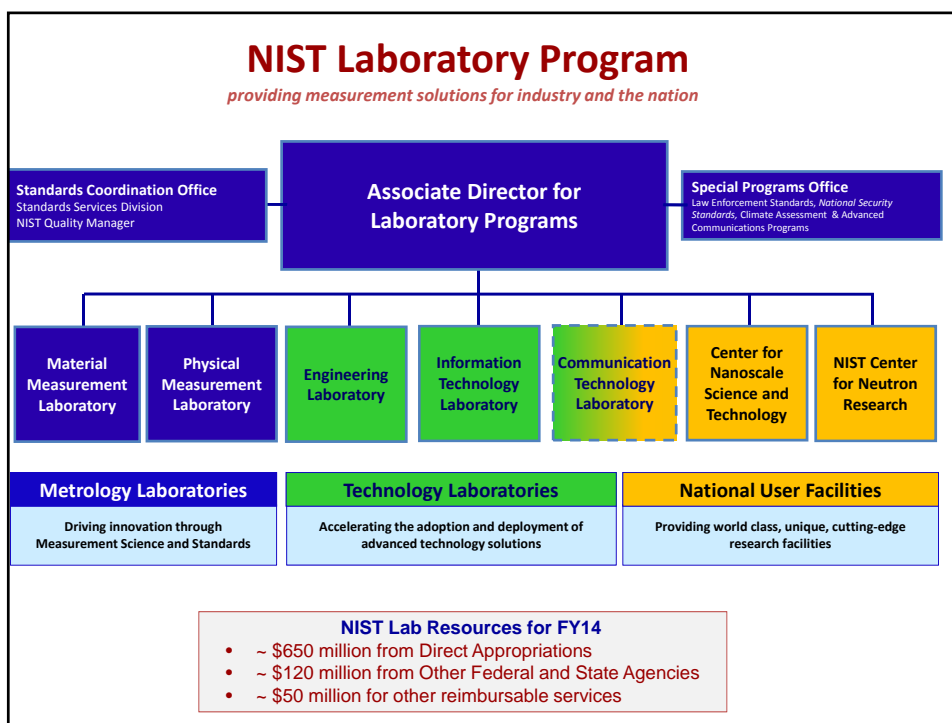
- custody and dissemination of national standards.
- determination of physical constants and the properties of materials,
- comparison of US national standards with those of other nations
- solutions to measurement and standards problems of other government agencies
- **providing (Innovation) assistance to industry**

## NBS/NIST: Organic Act of 1901; Updated in 2008

### Assistance to industry by:

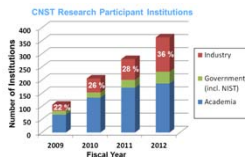
- development of measurements, measurement methods, and basic measurement technology
- development of technology and procedures needed to improve quality, modernize manufacturing processes, ensure product reliability and cost-effectiveness, promote more rapid commercialization ...
- **operation of National User Facilities**

[www.nist.gov/director/ocla/NIST%20Organic%20Act%20Updated%201-08.htm](http://www.nist.gov/director/ocla/NIST%20Organic%20Act%20Updated%201-08.htm)



## User Facilities

The **Center for Nanoscale Science and Technology (CNST)** operates a national, shared-use facility for nanoscale fabrication and measurement and develops innovative nanoscale measurement and fabrication capabilities to support researchers from industry, academia, NIST, and other government agencies in nanoscale technology from discovery to production.



The **NIST Center for Neutron Research (NCNR)** operates a national user facility providing neutron-based measurement capabilities to U.S. researchers from industry, academia, NIST, and other government agencies in support of materials research, neutron imaging, chemical and biological analysis, neutron standards, dosimetry, and radiation metrology.

**nSoft**

A consortium focused on neutron-based measurement science  
To support the manufacturing of Soft Materials

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