NIST is part of the Department of Commerce

Penny Pritzker
Secretary of Commerce

Under Secretary and Administrator
National Oceanic and Atmospheric Administration

- ASSISTANT SECRETARY FOR CONSERVATION AND MANAGEMENT/DEPUTY ADMINISTRATOR
- ASSISTANT SECRETARY FOR ENVIRONMENTAL OBSERVATION AND PREDICTION/DEPUTY ADMINISTRATOR
- CHIEF SCIENTIST

Under Secretary for International Trade
International Trade Administration

- DIRECTOR GENERAL OF THE U.S. AND FOREIGN COMMERCIAL SERVICE AND ASSISTANT SECRETARY FOR GLOBAL MARKETS / DEPUTY DIRECTOR GENERAL OF THE U.S. AND FOREIGN COMMERCIAL SERVICE
- ASSISTANT SECRETARY FOR INDUSTRY AND ANALYSIS / DEPUTY ASSISTANT SECRETARY FOR INDUSTRY AND ANALYSIS
- ASSISTANT SECRETARY FOR ENFORCEMENT AND COMPLIANCE / DEPUTY ASSISTANT SECRETARY FOR ENFORCEMENT AND COMPLIANCE

Under Secretary for Industry and Security
Bureau of Industry and Security

- ASSISTANT SECRETARY FOR EXPORT ADMINISTRATION
- ASSISTANT SECRETARY FOR EXPORT ENFORCEMENT
- DEPUTY UNDER SECRETARY FOR INDUSTRY AND SECURITY

Under Secretary for Economic Affairs
Economic and Statistics Administration

- CHIEF ECONOMIST
- DIRECTOR BUREAU OF THE CENSUS
- DIRECTOR BUREAU OF ECONOMIC ANALYSIS

Under Secretary for Standards and Technology
National Institute of Standards and Technology

- DIRECTOR NATIONAL TECHNICAL INFORMATION SERVICE

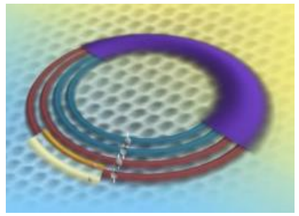
Under Secretary for Intellectual Property and Director
United States Patent and Trademark Office

- ASSISTANT SECRETARY FOR ECONOMIC DEVELOPMENT / ECONOMIC DEVELOPMENT ADMINISTRATION
- NATIONAL DIRECTOR / MINORITY BUSINESS DEVELOPMENT AGENCY
- ASSISTANT SECRETARY FOR COMMUNICATIONS AND INFORMATION / NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION

NIST 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.

- **The development and maintenance of standards provides the first and primary reason for NIST's existence. This standards work must keep abreast with the expansion of the frontiers of science.**
- **Our deep and broad research expertise and competencies support expanding standard needs as well as technological innovation – e.g., new materials, advanced clinical diagnostics and therapies, advanced communications, forensic science, Voting etc.**



Nanomanufacturing: New measurement tools for advanced materials manufacturing

Cybersecurity: Improved response to cyber threats

Advanced Communications: Testbeds, quality control, interoperability for next-generation communications

- **Our non-regulatory status enables our important role as a convener to facilitate collaborations between industry and government**

Who We Are and What We Do in 2016

NIST is a world-class scientific and technical agency uniquely focused on driving innovation and economic competitiveness through:

- **a world-leading scientific research program –** measurement, technology, and standards solutions to our stakeholders
- **a Manufacturing Extension Partnership –** focused on strengthening our nation's small and medium manufacturers --- thousands of small manufacturers in 50 states and Puerto Rico rely on the NIST MEP program for hands-on technical and business assistance to assist them in competing in the global marketplace
- **an Advanced Manufacturing National Program Office –** facilitating expansion of a nationwide network of 15 Manufacturing Innovation Institutes
- **a Baldrige Performance Excellence Program –** used to assess performance excellence in the nation's companies and organizations. Criteria from the BPEP are recognized, utilized, and emulated around the world

We have a great and unique Mission and are:

- a key player on the Administration's Innovation Team
- the nation's go-to agency for measurements, standards, and technology
- receiving bipartisan and bicameral support

NIST At-a-Glance

Major Assets, Partnerships, People, Budget

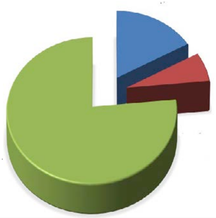
2 Large Research Campuses

Gaithersburg, MD– **62** bldgs. **578** acres
Boulder, CO—**26** bldgs., **208** acres

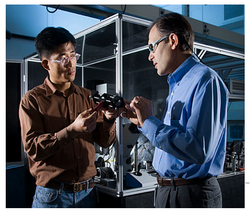
Partnerships In Every State

60 Manufacturing Extension Centers
10 joint institutes/Centers of Excellence

FY 2016 Appropriations. $964 Million



NIST labs, $**690 M**
Industrial Technology Services, $**155 M**
Construction of Research Facilities, **$119 M**



People: Employees & Associates

~3,400 Federal Employees
~3,700 Guest Researchers & other NIST Associates
~ 900 foreign Guest Scientists
~400 NIST Staff on **~ 1,000** standards committees

Additional Resources
~ $120 M from other government agencies
~ $50 M from reimbursable services

NIST (NBS) established in by 1901 Organic Act of 1901; Updated in 2008

Functions and activities of the Institute include:

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

THE EVENING STAR, MONDAY, MARCH 11, 1901

CORRECT MEASURES

Function of the New Bureau of Standards.

LABORATORY TO BE ERECTED

Prof. Stratton, the Director, Details Need of Establishment.

A HANDICAP REMOVED

A new bureau of the government, authorized by the last Congress, will be established in this city in the near future and will give employment to a number of persons. It is to be known as the national bureau of standards and is to be under the control of the Treasury Department. A separate building for a laboratory, to cost not to exceed $250,000, is to be erected on a site to be purchased at a cost of $25,000.

Mr. Samuel W. Stratton of Chicago has been appointed by the President to be chief of the bureau at an annual salary of $5,000. Prof. Stratton is to have the following as-

Director Stratton.

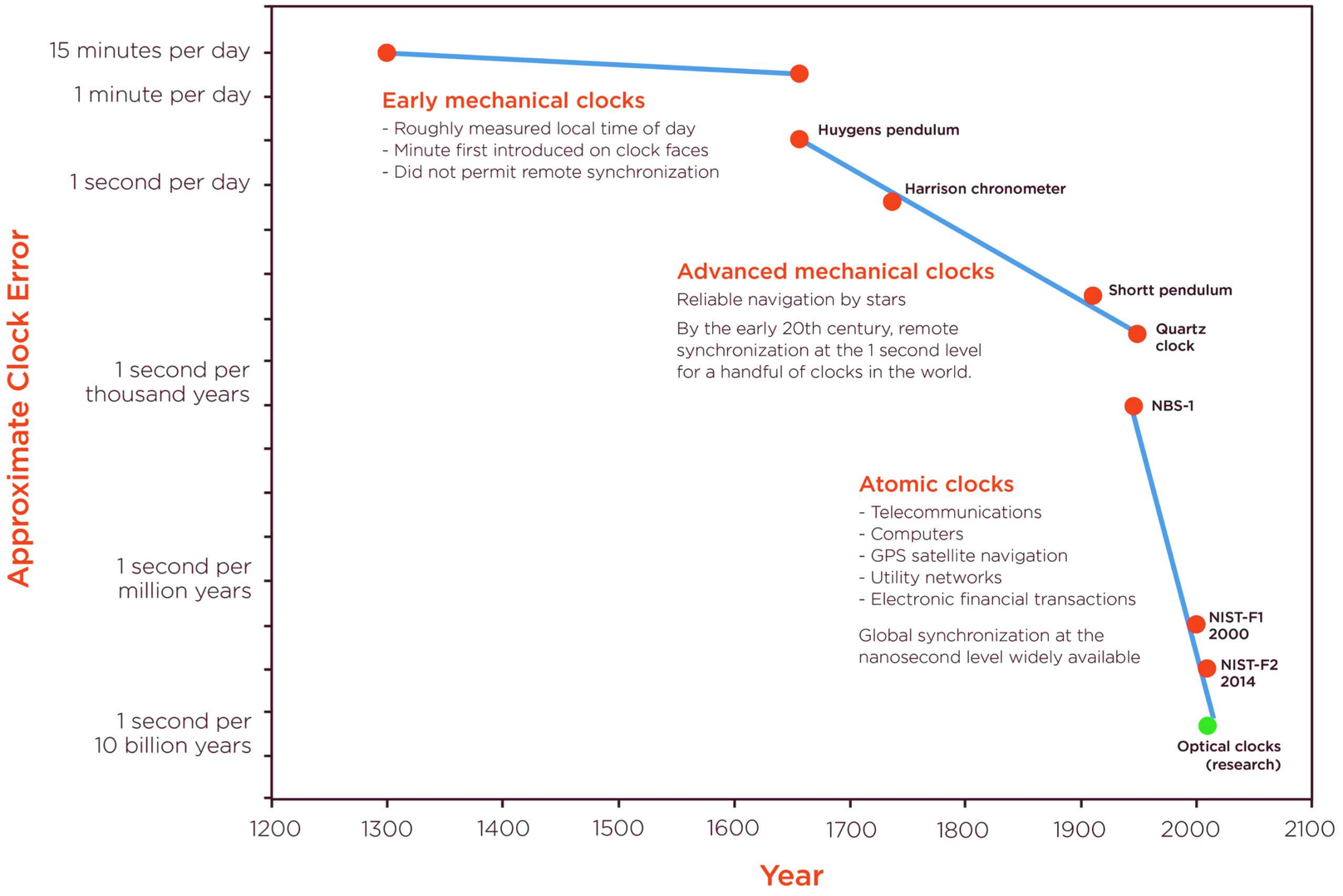
House Committee on Coinage, Weights and Measures … on the establishment of the National Bureau of Standards (now NIST) May 3, 1900

Unit		*Reference value used to define the unit*		
		in current SI	*in the new SI*	
second,	s	$\Delta\nu(^{133}Cs)_{hfs}$	$\Delta\nu(^{133}Cs)_{hfs}$	Cs hyperfine splitting
metre,	m	c	c	speed of light in vacuum
kilogram,	**kg**	$m(\mathcal{K})$	h	**Planck constant**
ampere,	A	μ_0	e	elementary charge
kelvin,	K	T_{TPW}	k	Boltzmann constant
mole,	**mol**	$M(^{12}C)$	N_A	**Avogadro constant**
candela, source	cd	K_{cd}	K_{cd}	luminous efficacy of a 540 THz

NMI's around the world are working together to link our measurement system to fundamental constants of nature

Based on natural phenomena such as the **Planck constant**, **Boltzman constant, electric charge**, and **Avogadro's constant**

Leading the world in the realization of international system of units



TIME

Record-setting Atomic Clock

NIST/JILA's strontium lattice atomic clock, accurate to:
1 second in 15 billion years

Why this level of Precision Matters:

Electric power grid requires:

synchronization to about 1 millionth of a second per day

Modern telecommunications and computer network systems require:

synchronization to about 1 millionth of a second per day

GPS system requires:

synchronization to about 1 billionth of a second per day.

NIST official time is used to time-stamp hundreds of billions of dollars in U.S. financial transactions each working day.

In addition to maintaining the more traditional National Physical Measurement Standards, **we also focus a significant portion of our research and measurement services activities on addressing contemporary societal needs**

NIST has become:

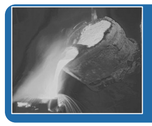
- a key player on the Administration's Innovation Team
- the nation's go-to agency for measurements, standards, and technology

1901

Supporting the Industrial Revolution


Interoperability of fire hose screw threads


Light bulb standards


Standards for irons and steels

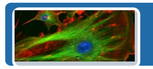

Working with ICC to reduce railway accidents

2016


Advanced communications


Advanced manufacturing


Advanced materials


Bioscience and health

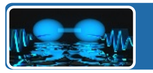

Climate assessment


Cyber-physical systems


Cybersecurity


Disaster resilience

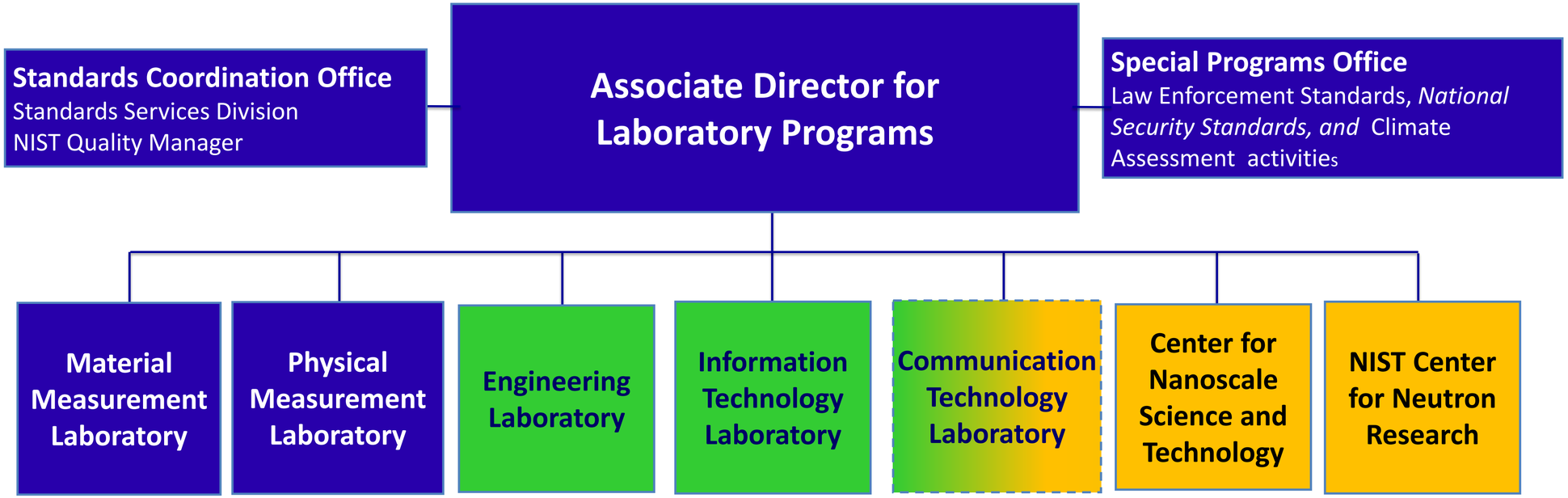

Forensic science


Quantum science

Voting standards

NIST Laboratory Program

- providing measurement solutions for industry and the nation



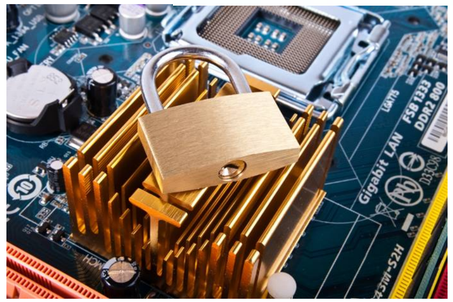
Metrology Laboratories	Technology Laboratories	National User Facilities
Driving innovation through Measurement Science and Standards	Accelerating the adoption and deployment of advanced technology solutions	Providing world class, unique, cutting-edge research facilities

- Advanced Communications
- Bioscience & Health
- Building and Fire Research
- Cybersecurity
- Chemistry, Math, Physics
- Electronics & Telecommunications
- Energy; Environment/Climate Assessment
- Information Technology
- Manufacturing
- Materials Science
- Nanotechnology
- Neutron Science
- Public Safety & Security
- Transportation

NIST Technology Laboratories

Information Technology Laboratory

- Cybersecurity
- Cloud Computing
- Identity Management
- Computer Forensics
- Wireless Communications
- Health IT
- Privacy Measurement
- Voting Standards



Day 1: September 15, 2016 - Morning

8:30 – 9:00 AM

- *Pledge of Allegiance*
- Opening Remarks
- **Dr. Willie E. May**, Chair, Under Secretary of Commerce for Standards & Technology and NIST Director
- **Matthew Masterson**, Designated Federal Officer for U.S. Election Assistance Commission
- TGDC Introductions

9:00 – 9:15 AM Agenda – **Mary Brady**, Manager, Voting Program, NIST

9:15 – 10:00 AM Project Charter – **Brian Hancock**, Director, Testing and Certification Division, EAC

10:00 – 10:15 AM BREAK

10:15 – 11:30 AM Status of Public Working Groups

- **Human Factors Update**
  - Human Factors WG – **Diane Golden**, Association of Assistive Technology Act Programs & **Shaneé Dawkins**, NIST
- **Security Update**
  - Cybersecurity WG – **David Wagner**, University of California, Berkeley
- **Interoperability Update**
  - Interoperability WG – **John Wack**, NIST

11:30 – 12:00 PM FVAP Update – **Matthew Boehmer**, Director, Federal Voting Assistance Program

12:00 – 1:00 PM LUNCH

Day 1: September 15, 2016 - Afternoon

1:00 – 3:00 PM VVSG Next Generation Discussion

- VVSG 1.1 Coverage – **Jessica Myers**, Certification Program Specialist, EAC
- Use Case Discussion & Feedback – **Mary Brady**, Manager, Voting Program, NIST
  - Voter Registration (VR)
  - Electronic Pollbooks (EPB)
  - Ballot Delivery (BD)
  - Ballot on Demand (BoD)
  - Ballot Marking (BM)
  - Election-Night Reporting (ENR)
  - Post-Election Auditing (AUDIT)

3:00 – 3:15 PM BREAK

3:15 – 4:45 PM Continue Discussion & Next Steps

4:45 – 5:00 PM Wrap-up and Overview of Day #2

11

Day 2: September 16, 2016 – Morning

8:30 – 8:45 AM Day #2 Opening Remarks

8:45 – 10:15 AM Testing & Certification Process

- Testing & Certification Updates – **Brian Hancock**, Director, Testing and Certification Division, EAC
- NVLAP Updates – **Bradley Moore**, Voting Systems Testing Program Manager, NVLAP, NIST

10:15 – 10:30 AM BREAK

10:30 – 12:30 AM DHS Cybersecurity Services for State & Local Officials

- **Tom Millar**, Communications Chief at US-CERT
- **Neil Jenkins**, Director, Enterprise Performance Management Office, DHS
- **Geoff Hale**, Cybersecurity Strategist, Enterprise Performance Management Office, DHS

12:30 – 1:00 PM Next Meeting & Wrap-Up

12