

# Standards in the U.S. and the role of NIST

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Acknowledgements

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NIST Global Standards and Information Group



### Background

- NIST is a non-regulatory federal agency
  - About 3,000 people
  - Two locations (Gaithersburg, MD and Boulder CO)
- NIST is part of the Department of Commerce
  - Measurements and standards are important to trade and commerce
- NIST is not a Standards Developing Organizations (SDO)
  - The US relies on private sector SDOs
  - ANSI is not an SDO
  - NIST is an impartial and knowledgeable participant with industry
- NIST is the National Measurements Laboratory (NML)
  - This carries national and international responsibilities
  - Some codes and standards require measures "tracable to NIST"
  - Fundamental units, constants, meas, SRMs, calibrations



### Fundamental U.S. Standards Concepts

- Market drive
- Openness
- Transparency
- Balanced participation
  - No single interest may dominate
- Due Process
  - Appeals mechanism



### Standardization in the US



- The system relies on <u>cooperation</u> and communication amongst:
  - private sector standards organizations
  - industry and representative trade groups
  - professional and technical organizations
  - Government
  - consortia formed by some combination of above
- The U.S. standards and conformity assessment system is decentralized and <u>sector-based</u>
  - Medical devices: Federal Regulations
  - Building: State and Local Codes
  - Others, Industry maintained, voluntary standards

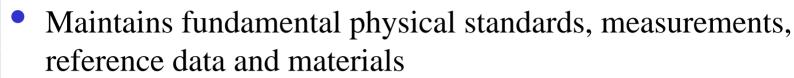


#### Standardization in the US

- Private sector voluntary standards provide the <u>backbone</u> (approximately 400 private sector organizations and 150 consortia develop approximately 30,000 voluntary standards)
- There is <u>no national standards body</u> in the US the American National Standards Institute (ANSI) coordinates the US interests in the voluntary private sector standards process (over 270 SDOs are accredited by ANSI)
- The government's role is:
  - to issue regulations when necessary after Federal Register notice and adequate comment period
  - as a standards user
  - to participate in standards development
  - to contribute technical knowledge underlying these standards
  - to advocate U.S. national interests



# NIST's Role



- Participation in voluntary standards committees
- Accredits testing and calibration laboratories needed by industry
- Supports international trade activities
- Coordinates government efforts
  - NIST Chairs the Interagency Committee on Standards Policy (ICSP)
  - agencies use ISO 9000 and 14000 standards
  - policy on laboratory accreditation
  - policy on use of voluntary standards in regulations
  - policy on strategic standards management



### NIST Standards Activities



- Technical input to standards committees
- Technical Advisory Groups (TAGs)
- Service on Boards and Councils
- Produces directories, indices, and input to standards network



# NIST Helps Ensure the Technical Efficacy of Documentary Standards



- By participating as measurement experts in the development of test methods; product, system, and process specifications; etc.
- By participating in data collection efforts in support of the development of test methods
- By providing measurement standards needed to calibrate instruments used in test methods
  - e.g., ASTM standards reference ~800 NIST Standard Reference Materials
- NIST's objective is to be an impartial and unbiased participant whose main interest is technical merit.

"Ensuring the technical efficacy of documentary standards" "providing added confidence in measurements"



## NIST Participation in Documentary Standards Activities

- 440 staff members, 29% of the technical staff, participate in 111 voluntary standards organizations
  - 41% of these organizations are international
- ASTM committee memberships (470) account for 33% of NIST committee memberships, followed by
  - ANSI, ISO, IEEE, IEC, ASME
- Focus is on analytical testing, building and construction, health care, information technology, manufacturing, and telecommunications



# NIST Programs and Conformity Assessment Activities



- National Voluntary Laboratory Accreditation Program (NVLAP)
  - Accreditation of testing & calibration labs
- Representation to International Organization of Legal Metrology (OIML)
- National Voluntary Conformity Assessment System Evaluation (NVCASE) Program
  - Recognition of U.S. conformity assessment bodies to assure foreign governments under MRAs



# NIST Programs and Conformity Assessment Activities (contd.)



 Development and marketing of standard reference materials and data

 Certification of software; accreditation of facilities testing software for federal use



# National Center for Standards and Certification Information (NCSCI)



- WTO TBT Article 10 establishment of inquiry point to respond to technical regulations requests
- U.S. WTO TBT Notification Authority
  - Articles 2 and 5 notification of central government proposed regulations and conformity assessment procedures



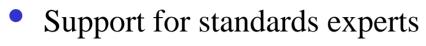
# NIST promotes efficiency in the U.S. system



- By continuing to encourage Federal agencies to rely on standards developed by private, consensus organizations
- By supporting the U.S. laboratory accreditation system
  - Encourage the use by Federal, State, and local government of recognized accreditation bodies and their accredited laboratories
- By assuring that other types of private-sector accreditation programs meet Federal agency needs
  - e.g., NIST has recognized ANSI as an accreditor of product certifiers to Federal Communications Commission (FCC) requirements



#### Standards Related NIST Outreach Programs



- U.S. Mission to EU in Brussels
- U.S. Embassy, Mexico City, Mexico
- U.S. Embassy, Brasilia, Brazil
- SASO & U.S. Embassy, Riyadh, Saudi Arabia
- Workshops on standards and conformity assessment systems and procedures
  - SIT: Standards in Trade
  - SABIT: Special American Business Internship Training (with the U. S. Department of Commerce- DoC)
- Participation in regional organizations



### **Summary**



- The United States relies heavily on the private sector whenever feasible
- Tests for conformity are essential
- Competence must be verified
- Governmental assurances under MRAs
- Acceptance of valid test results