

# NIST

Global Standards Information



## Standards and Trade

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***“Sanliu de qiye zuo chanpin; erliu de qiye zuo jishu;  
yiliu de qiye zuo biao zhun”***

Third-class companies make products;  
second-class companies develop technology;  
first-class companies set standards

A saying in vogue in China,  
originally attributed to Sony Corp.

# Today's Discussion

- The relation between standards and trade
- Why is this important and why should we care
- Framework
- Case studies

# Standards and/or Trade Issues?

- SMS 4 Block Cipher
- Standard Practice for Calculation of Mean Size/Diameters and Standards Deviations of Particle Size Distributions
- Guidance for evaluation of products with respect to substance-use restrictions in electrical and electronic products
- Nanotechnologies – Methodology for the classification and categorization of nanomaterials
- Greenhouse gases- Requirements for greenhouse gas validation and verification bodies to use in accreditation or other forms of recognition

# Foundational nature of standards

- Enable interoperability
- Are the basis for technical regulations
- Are used to meet requirements for health, safety and environment
- Can support contractual obligations
- Standards impact both trade in goods and services

*Up to 80% of trade may be affected by standards* –  
1999 OECD report on Regulatory Reform and International Standardization

# How does this impact us?

- DOC bureau interests in standards issues:
  - Technical, policy, trade, security, innovation – common elements?
  - Bureau responsibilities and missions
- Unique resource to the private sector and our government partners
- Broad ramifications of our work, extending well beyond just the work item that we are involved in
  - Policy implications
  - Understanding the impact of our actions and activities
  - Understanding the motivation and actions of other players

# Standards and Trade

- Reduction in tariff based barriers to trade
- Increasing global trade flows
  - New competition in domestic markets
  - Genuine concern about quality and safety of imports
- Standards and conformity assessment requirements are one form of Non Tariff Measures (NTMs) that can be used in a protectionist manner – aka Technical Barriers to Trade (TBT).
- Measures such as standards, testing, labeling, certification, inspection, etc.:
  - Can increase the cost of doing business
  - Can be discriminatory
  - Can be used to protect domestic industry

# WTO TBT Agreement and Standards

- Treaty where technical standards and trade come together
- Standards and conformity assessment measures do not create unnecessary obstacles to trade
- Use of international standards as the basis for technical regulations
- Use and recognition of conformity assessment procedures

# U.S. implementation of the TBT Agreement

- Trade Agreements Act of 1979, as amended
- Title 19, Chapter 13, Section II of the United States Code “Technical Barriers to Trade (Standards)”
  - Engage in activities related to standards-related measures
  - Not creating unnecessary obstacles to foreign commerce of the United States
  - Federal agency use of international standards
  - Use of performance criteria, rather than on design criteria

# What do we need to be aware of?

- Cannot predict all the policy implications of standards related work, while participating in standards and conformity assessment activities.
- Most technical standards activities will not lead to trade issues
- The potential for standards becoming trade issues varies widely from sector to sector
- Knowledge and awareness of the strategic importance of standards varies widely – organizations and participants
  - Who are the participants contributing to the effort?

# What do we need to be aware of?

- Things to consider:
  - The genesis of new work item proposals
  - Is the standards or conformity assessment activity in response to, or in anticipation of proposed regulatory action?
  - Where is the activity taking place?
  - Are there patented technologies that are being brought to the standardization activity?
  - Are there trade policy concerns or discussions during the standards development activities, e.g. discussions about a country or region specific approach to regulation, etc.

# Case Study: Nanotechnology

- Cross-disciplinary nature of this technology creates some unique challenges:
  - Multiple definitions
  - To regulate or not?
  - Measurement science and methodologies are still being developed
  - Toxicology and exposure effects are being studied
  - Technology offers potentially significant consumer benefits

# Case Study: Nanotechnology

- Nanotechnology standards and related development work currently underway in ISO, IEC, ASTM International, OECD, and numerous other organizations
- Depending upon organization, involvement of government officials varies
- Differences in perspectives on whether to regulate, how to regulate, what to regulate, and who should regulate
- Current issues of significant debate:
  - Definition – also impacts legal liability
  - Labeling – what should the label say
  - Regulation – what to regulate and scope of regulation

# Case Study: China CA requirements for information security products

- Chinese requirements for testing and certification of 13 categories of IT products with security functionality
- China unique conformity assessment requirements.
- Chinese standards are based upon ISO standards
- Attempts to base conformity assessment requirements on an international system
- Products worth billions of dollars implicated
- U.S. and international concerns about loss of intellectual property and markets

# Case Study: China CA requirements for information security products

- Significant concern among US industry due to:
  - Extensive scope of the requirements
  - Cost
  - Legitimate objectives
- Extensive NIST staff involvement due to expertise in both standards and conformity assessment:
  - NIST work incorporated in the ISO standard in question
  - NIST role in NIAP

# Restriction on Hazardous Substances (ROHS)

- EC Directive based on concern about use of certain substances in electrical and electronic devices
- Significant impact on the supply chain
- Variations of the measure around the world, including in states within the US
- Significant standards related challenges:
  - Technical details
  - Lead time
  - Implementation
  - Variation in technical regulations

# Review

- Integral relation between standards and trade
- Most standards do not lead to trade issues, but those which do – implicate billions of dollars in trade
- Most standards developers are technical experts – usually not well versed in trade policy
- Trade impact of standards may take shape during standards development or during implementation of standards

Thank You

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# Thank You

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