



Global Standards Information



When Standardization is More  
Than Just Technical Standards:  
*Policy Implications and  
Strategic Aspects of  
Standardization*



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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 non-technical aspects of standardization
- Why is this important and why should we care
- Framework
- Case studies

# Pop Quiz: Standards or more?

- 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
- Guidance on the labeling of manufactured nano-objects and products containing manufactured nano-objects
- Wireless Local Area Network (WLAN) Authentication and Privacy Infrastructure
- Supply chain applications of RFID – Freight Containers

# 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

# NIST's interests in standardization

- Ensure technical quality and efficacy of the standards
- Ensure usability of resulting standards
- Enable NIST technology transfer
- Ensure US interests are adequately represented
- Where appropriate and unambiguous, convey USG positions on issues
- Understand trends and drivers
- Improve awareness about these activities and their value

# How does this impact us?

- Need to consider a broader perspective:
  - 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

# USG agencies with an interest in standards

- Standards users: regulators (e.g., EPA, FDA, OSHA, FCC, DOT etc.), procurement (e.g., GSA, DOD, DHS, etc.)
- Standards developers: NIST, DOD, EPA, FDA, USDA, etc.
- Standards specifiers: DOE, HHS, VA, FERC, etc.
- Competition agencies: DOJ, FTC
- Trade agencies: USTR, ITA
- Others: State, Education, Interior, PTO, etc.

***BOTTOM LINE:*** Virtually every agency in the USG has some interest in standards and standardization

# Standards and Trade

- “Rubber meets the road” – where the policy issues play out
- Increasing global trade flows
  - New competition in domestic markets
  - Genuine concern about quality and safety of imports
- Technical Barriers to Trade (TBT) – unintentional or protectionism
- 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

# IPR and standardization

- Patents and IPR in standards
  - Can have very significant downstream effects
  - Can directly impact international competitiveness
  - More of an issue in technologies with significant IT component
  - Important role of patent policies of standards organizations and how they are implemented
  - Evolving policies and positions

# Domestic policies and positions impacting standardization

- Role of innovation and/or industrial policies of countries
  - Standards and standardization as a vital element
  - Can obfuscate motives of other players involved in standardization
- Non-traditional participants genuine learning curve or attempts to level playing field
- International standardization as a means to implement domestic policies

# 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 major policy 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 Standardization

Cross-disciplinary nature of this technology creates some unique challenges (not unique to standards):

- Multiple definitions
- To regulate or not, and if so, how to regulate?
- 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
- Current issues of significant debate:
  - Definition – also impacts legal liability
  - Labeling – what should the label say
  - Regulation – what to regulate and scope of regulation
- Questions for NIST staff:
  - Where do we participate?
  - Who do we represent?
  - How do we coordinate?
  - How do we develop positions?

# 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 can 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
- Seek out NIST resources – SCO, Counsel, etc.

Thank You

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