

# Strategic Standardization Overview

## [CMGT 564]



Catholic University School of Engineering

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[www.strategicstandards.com](http://www.strategicstandards.com)



# Purpose

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- The purpose of *Strategic Standardization* (CMGT 564) is to create a new level of awareness concerning standards and standardization. In a world dominated by technology, science and globalization, it is of critical importance that practicing engineers have a fundamental understanding of these concepts.

# Strategic Value of Standards

**Standards are a bridge between  
markets and technologies**

## **Markets:**

- Consumer
- Commercial
- Government



## **Technologies**

**Whoever controls the bridge  
controls the future...**



# Definitions

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- Standards
- Standardization
- Strategic



# Standards

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- Standards govern the design, operation, manufacture, and use of nearly everything that mankind produces. There are standards to protect the environment and human health and safety, and to mediate commercial transactions. Other standards ensure that different products are compatible when hooked together. There are even standards of acceptable behavior within a society. Standards generally go unnoticed. They are mostly quiet, unseen forces, such as specifications, regulations, and protocols, that ensure that things work properly, interactively, and responsibly. How standards come about is a mystery to most people should they even ponder the question. (*Global Standards – Building Blocks for the Future, Report to Congress, Office of Technology Assessment, see Foreword, March 1992*)



# Standardization

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- **Standardization** is the process of developing and agreeing upon technical standards. A standard is a document that establishes uniform engineering or technical specifications, criteria, methods, processes, or practices. Some standards are mandatory while others are voluntary. Some standards are de facto, meaning a norm or requirement which has an informal but dominant status. Some standards are de jure, meaning formal legal requirements. Formal standards bodies such as the International Organization for Standardization (ISO) or the American National Standards Institute are independent of the manufacturers of the goods for which they publish standards.
- The goals of standardization can be to help with independence of single suppliers (commodification), compatibility, interoperability, safety, repeatability, or quality.
- In social sciences, including economics, the idea of *standardization* is close to the solution for a coordination problem, a situation in which all parties can realize mutual gains, but only by making mutually consistent decisions. *Standardization* is defined as best technical application consensual wisdom inclusive of processes for selection in making appropriate choices for ratification coupled with consistent decisions for maintaining obtained *standards*. This view includes the case of "spontaneous standardization processes", to produce de facto standards.
- See <http://en.wikipedia.org/wiki/Standardization>



# Strategic

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- The term “strategic” is defined to include: “A strategy is a long term plan of action designed to achieve a particular goal, most often "winning". . . . Strategy is about choice, which affects outcomes. Organizations can often survive -- indeed do well -- for periods of time in conditions of relative stability, low environmental turbulence and little competition for resources. Virtually none of these conditions prevail in the modern world for great lengths of time for any organization or sector, public or private. Hence, the rationale for strategic management.” (*See <http://en.wikipedia.org/wiki/Strategic>*)



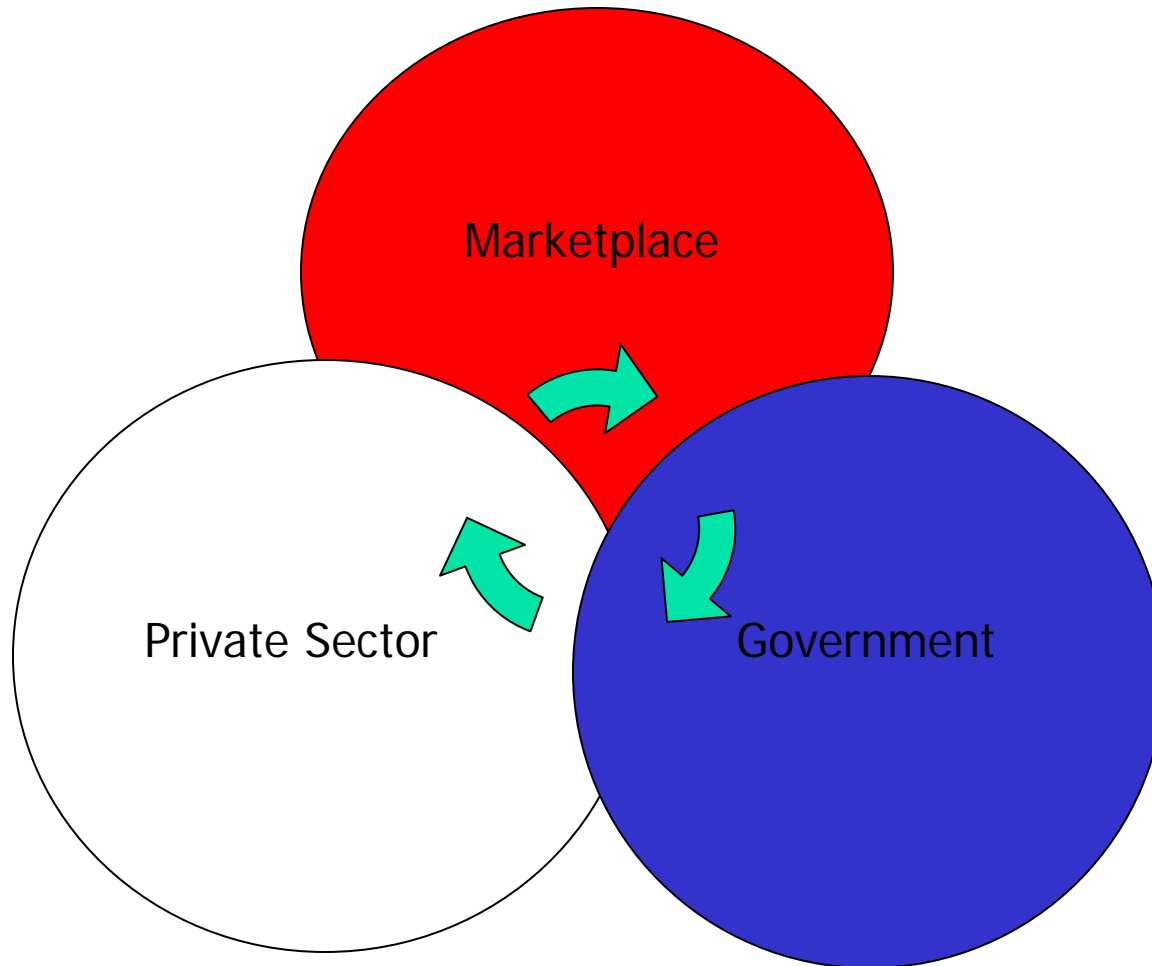
# Need for Awareness

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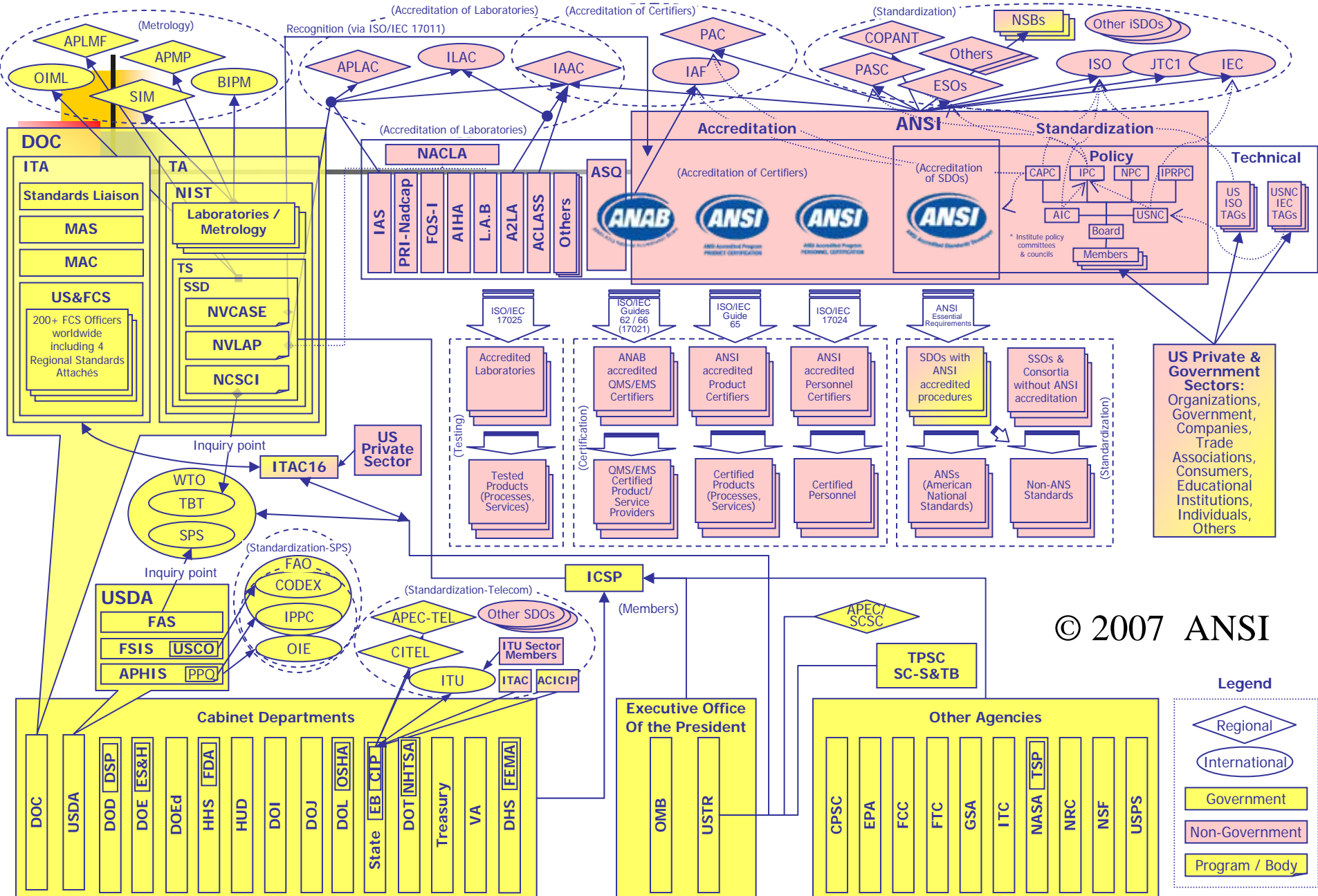
- Globalization is rampant and will remain so for the foreseeable future. (*The World is Flat*, Thomas Friedman (2005); <http://www.thomasfriedman.com/worldisflat.htm> )
- Standards directly affect more than 80% of global trade with an estimated value exceeding \$7 trillion (US). (US Congressional Hearing (May 2005); [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109\\_house\\_hearings&docid=f:20998.wais](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_house_hearings&docid=f:20998.wais) )
- Standards influence everything we do. (UK Standards Strategy (2003); <http://publicaa.ansi.org/sites/apdl/Documents/Standards%20Activities/NSSC/UK%20NSSF.pdf> )
- Standards control markets. (German Standards Strategy (2005); [http://www.din.de/sixcms\\_upload/media/2896/DNS\\_english%5B1%5D.pdf](http://www.din.de/sixcms_upload/media/2896/DNS_english%5B1%5D.pdf) )
- Standardization is one of the best sources of competitive intelligence available. (Canada Standards Strategy (2005); <http://www.scc.ca/en/nss/css-scn/index.shtml> )



# Standards & Dynamic Relationships



# U.S. Standards and Conformity Assessment System



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# Global Perspectives on Strategic Value of Standards

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- “The technology standard has become the source of a core competitive edge for industrial development. To some extent, a technology standard is a kind of development order and rule. Whoever controls the power of standard making and has its technology as the leading standard, commands the initiative of the market. Technology standards have become an important means of global economic competition, and directly influence the competitiveness of an industry, region or country. Therefore, as for Chinese enterprises, possessing the successful standard is a *strategic choice* to seize the leadership of the future industrial development.” [Program, Conference on Information Technology, Beijing, China (May 2005); emphasis added]
- “*Standards have become the new [international] battleground.*” [Phillip J. Bond, Undersecretary of Commerce for Technology Policy, *New York Times* article, “China Poses Trade Worry as It Gains in Technology,” January 13, 2004; emphasis added]



# Current Global Technology Base

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- IEEE estimates 500,000 standards exist in the world today that form the technology foundation of the global marketplace.
- IEEE estimates that it costs at least \$1.5 billion (US) to maintain these standards.
- Imagine a world in which the global marketplace will be significantly transformed by technological advancement in the next few years, requiring the revision of many existing standards and potentially affecting trillions of dollars (US) in international trade.
- Imagine all nations may have to significantly restructure their standardization system in order to remain competitive in a new global marketplace.
- Is the United States prepared to maintain its economic position in the World (30% world income) and participate in development of standards which form the basis for a new global marketplace?



# Global Governance and Coalitions

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- In the future, what role(s) will national coalitions and/or regional standards organizations play in development of a new global marketplace, e.g., the Northeastern Asian Standards Coalition (China, Japan & South Korea)? [*The Political Economy of Standards Coalitions: Explaining China's Involvement in High-Tech Standards Wars*, Scott Kennedy, Associate Professor, Indiana University (2006); see also article - *China, South Korea and Japan formalize alliance*, [http://www.findarticles.com/p/articles/mi\\_m0PAT/is\\_2005\\_Nov/ai\\_n15966600](http://www.findarticles.com/p/articles/mi_m0PAT/is_2005_Nov/ai_n15966600) ]



# Standardization Issues

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- Effectiveness & relevance (need)
- Scope of standard (national, regional or international)
- Standardization forum (national, regional or international)
- Fairness & impartiality (credibility)
- Transparency & openness
- Consensus process & stakeholders
- Trade & competition
- Reconciliation of conflicting standards
- Security
- Social responsibility & technical assistance
- Government regulatory reform (alternatives)
- Technological change & internet
- Education & awareness
- Information and knowledge transfer
- Resources & funding



# Standards Issues

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- Health
- Safety
- Environment
- Sustainability
- Performance vs design
- Trade & competition
- Language & symbols
- Security
- Testing, certification & conformity assessment
- Legal & public policy issues
- Review & maintenance



# Contact Information

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