

# Strategic Value of IEEE Standards

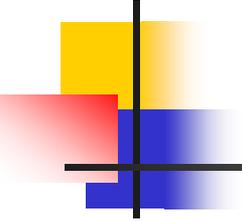
November 2007

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The Center for Global Standards Analysis

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



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# Strategic Value of IEEE Standards

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

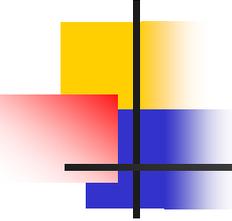
**Markets:**

- Consumer
- Commercial
- Government



**IEEE  
Technologies**

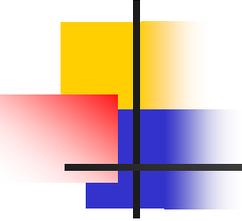
**Whoever controls the bridge  
controls the future...**



# Globalization & Standardization

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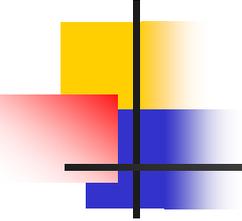
- Globalization is rampant and will remain so for the foreseeable future. (*The World is Flat*, Thomas Friedman (2005); [http://en.wikipedia.org/wiki/The\\_World\\_is\\_Flat](http://en.wikipedia.org/wiki/The_World_is_Flat) )
- Standards directly affect more than 80% of global trade with an estimated 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://www.nssf.info/resources/documents/Guide\\_to\\_NSSF.pdf](http://www.nssf.info/resources/documents/Guide_to_NSSF.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> )



# It Is Time to Start Running...

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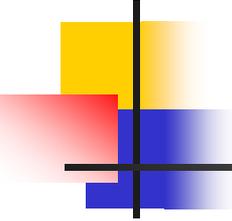
- Every morning in Africa, a gazelle wakes up, It knows it must run faster than the fastest lion or it will be killed . . .
- Every morning a lion wakes up, It knows it must outrun the slowest gazelle or it will starve to death . .
- *When the sun comes up, you better start running.*  
(“The World is Flat,” by Thomas L. Friedman at 114 (2005)  
(emphasis added))



# Standards DNA

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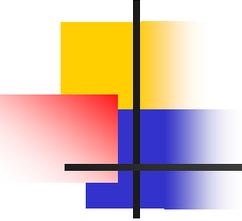
- Standards function at the DNA level of economic, political and social development. Most people never become aware of standards or the process of standardization.



# United States Standards System

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- For over 100 years, the National Standards Policy of the United States has been that the private sector will lead in the development of consensus standards and the government will play a supporting role. [National Technology Transfer and Advancement Act (1996)]. The United States standardization system, based upon specific industry sectors, is the most diverse system in the world.
- According to the U.S. Department of Commerce, there are at least 600 individual standardization groups in the United States representing virtually industry. [DOC Report, Standards and Competitiveness (2004)]. The United States System is a “bottom up” system in which the private sector has the leading role. All other national standardization systems are essentially “top down” systems in which the government has the leading role.

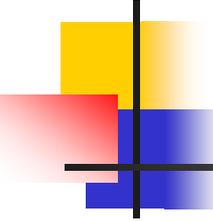


# Global Standards System

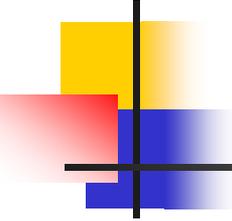
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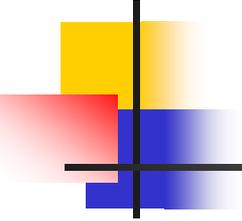
- IEEE estimates there are at least 500,000 technology standards which constitute the foundation of the global standards system and it costs at least \$1.5 billion (U.S.) annually to maintain the system.

# Significant Standards Issues

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

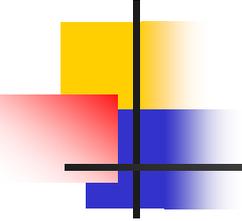
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- Effectiveness & relevance (need)
  - Scope of standard (national, regional or international)
  - Standardization forum (national, regional or international)
  - Fairness & impartiality (credibility)
  - Transparency & openness
  - Consensus process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



# IEEE 802 Standards: Top Public Policy Issues

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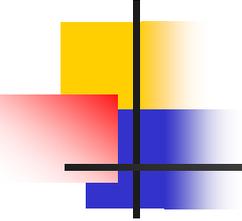
- Security & Privacy
- Global Competition
- Health, Safety & Environment



# Security & Privacy

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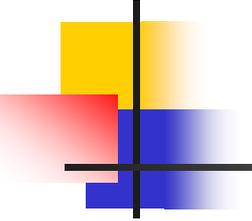
- How effective is security for transmission of information and data based on 802 standards?
- Does privacy exist for the transmission of information and data based on 802 standards? Who is listening?  
(individuals & firms engaged in data mining, governments, terrorists)
- What impact, if any, will command & control strategies of interested parties have on the introduction, distribution and implementation of 802 standards?



# Competition

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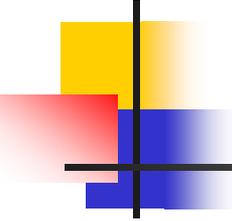
- What are the top 2008 global markets for 802 standards?
- What are the top 2009+ global markets for 802 standards?
- What are the alternative technologies, if any, to 802 (wireless) standards?
- In competitive terms, how will alternative technologies respond to revised 802 standards?
- What interoperability, compatibility & reliability issues must be resolved to implement 802 standards?
- What impact will 802 standards have on global commercial networks, systems & relationships?



# Health, Safety & Environment

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- What will be the impact, if any, of 802 standards on health, safety & the environment?
- To what extent have 802 standards and wireless technology help resolve natural disasters & acts of terrorism?



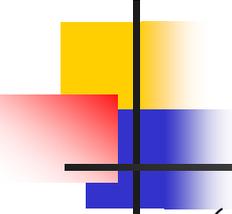
# Strategic Value of United States International Trade

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- International trade is a critical component of economic growth for the United States.
- 1940's: 5% (GDP)
- End of 20<sup>th</sup> Century: 20% (GDP)
- 2010: 25% (GDP) [Projection of International Development Institute (IDI)]
- 2020: 31% (GDP) [IDI Projection]
- 2025: 35% (GDP) [IDI Projection]

*(See Joint Statement of International Trade Council (ITC) and International Development Institute before Ways & Means Trade Subcommittee concerning Future of WTO, U.S. House of Representatives (May 2005);*

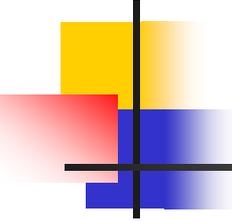
<http://waysandmeans.house.gov/hearings.asp?formmode=printfriendly&id=4089> )



# International Standards & Competition

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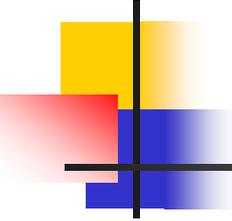
- “The scramble over (international) standards has become remarkably contentious.” (Wall Street Journal, *Microsoft and Its Rivals Take ‘Office’ Politics Global*, August 30, 2007, p B1)
- ISO voting requirements have “given rise to a stampede to win votes in every corner of the Globe.” (*Id.*)
- The goal among “warring parties” is to recruit as many votes as possible. (*Id.*)



# Education of Technology Ambassadors

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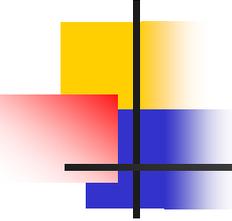
- If global standards are a nation's bridge to a brighter future, then nations need to recognize it is in their best interests to prepare their brightest students to be exceptional bridge builders.
- Strategic Value of Standards Education
  - South Korea: 50 universities and 7,000 engineering students.
  - Asia-Link Program: European Union program to fund 2 European and 6 Asia universities to create new standards education internet program which will be available in 2007.
  - United States: ABET (engineering standards), 3 university courses: Catholic University School of Engineering, University of Colorado (Boulder-Technology Communications), Yale University School of Law.
- If a nation's economic future is at risk, is it worth investing in educating a country's best and brightest students to be effective Technology Ambassadors who participate in global technology negotiations which will determine a nation's economic future?



# Next Generation

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- It is estimated that at least 50% of standards practitioners in the United States will retire in the foreseeable future (3-5 years).
- What is IEEE doing to prepare the next generation of Technology Ambassadors to negotiate the technology and economic future of the United States?



# Contact Information

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