

Leveraging the Benefits of Global Industry Standards in China

IHS Whitepaper

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China is no stranger to global industry standards. In January 2006, China's Ministry of Information Industry (MII) announced the formal ratification of TD-SCDMA as China's national third-generation (3G) mobile wireless services standard¹ with hopes that the "Chinese standard," as it has come to be known, will also become the global industry standard for wireless communications.

At the same time, China understands the need for compliance with industry standards developed by other nations due to its prolific exportation of manufactured goods: 39.7 million color TV sets in 2005, up 43% from the previous year; manufactured 303 million mobile phones in 2005, or 40% of the world's production². By both working to develop its own global standards, and complying with already established international and U.S. industry standards, businesses in China can leverage such benefits of standards as discussed in this white paper:

- contributing to the historic and prestigious tradition of standards development
- minimizing costs while maximizing value and innovation
- streamlining trade relations and product approval

In addition, tools and techniques will be explored that simplify the process of standards research, identification, procurement, and management.

Contributing to the Standards Development Tradition

China is poised to contribute to the tradition of standards development in unprecedented fashion with its Time Division-Synchronous Code Division Multiple Access (TD-SCDMA) wireless standard. Licensed by the International Telecommunication Union (ITU) in 2000³, TD-SCDMA now enjoys support from such telecom giants as Siemens

AG, Agilent Technologies, Huawei Technologies, Motorola, Nokia, LG Electronics² and France Telecom⁴.

Such integration of national governments and business communities goes back to the very beginning of the evolution of industry standards as we currently know them. In Britain, for example, the Engineering Standards Committee formed in 1901; established industry standards that resulted in steel production savings of approximately £1 million a year; and shortly thereafter received the first government grant in support of standards development⁵.

While national and industry-specific standards were more prevalent in the early days of standards development, the trend toward international standards cooperation had already begun. A conference in 1926 led to the formation of the International Standards Association (ISA), which remained active until World War II, and in 1947 the International Organization for Standardization (ISO) was formed⁶.

As of Autumn 2004, China had more ISO 9000 certificates than any other country in the world (75,755), and led the way with the revised ISO 9001:2000 standard, with 54% of certificates⁷, while holding its first globally recognized standard in telecommunications. Through using international and U.S. industry standards and contributing to the ongoing standards development process, China can proudly continue its contributions to the international standards development tradition.

The Tradition of Industry Standards Development

1901	Engineering Standards Committee forms in UK.
1926	International Standards Association (ISA) contributes to cross border standards cooperation.
1947	International Organization for Standardization (ISO) forms, taking global standardization to a new level.
1957	China joins the International Electrotechnical Commission (IEC) and International Telecommunications Union (ITU) .
1978	China joins the ISO.
1987	Initial ISO 9000 document is released, influenced by numerous standards in use around the world.
2004	China led the world in ISO 9000 and 9001:2000 certification.

Minimizing Costs While Maximizing Value and Innovation

In 2005, the UK Department of Trade and Industry (DTI) released the report titled “The Empirical Economics of Standards,” which studied the impact of standardization on economics, productivity, and innovation. The report concluded that 13% of Britain’s post-WWII labor productivity growth could be attributed to standards. In economic terms, that amounts to approximately £2.5 billion per year of Britain’s current economy⁸. Clearly, standards help the bottom line of business for several reasons.

First, standards help the bottom line of business by minimizing costs in a number of ways: reducing unnecessary variety of product parts; increasing control over business processes, such as customer billing; managing regulatory compliance. Perhaps the most sought after cost saving benefit of using standards, however, comes in the form of taking advantage of previously gained experience. By leveraging the lessons already learned by others in a given field through codified as standards, businesses can speed their research and development (R&D) endeavors, while anticipating maintenance and replacement issues.

Second, standards help the bottom line of business by increasing the overall value of products. Simply conforming to standards increases product value since public perception of whether a product is ‘up to standard’ plays a critical role in purchase decisions. As well, conforming to international and U.S. industry standards gives businesses a measurable way to demonstrate not only the quality and safety of their products, but also their social and/or environmental responsibility. Furthermore, businesses can add value to their industry and market sector by contributing their gained experience to the standards development process.

Third, standards help the bottom line of business by facilitating innovation. Rather than constricting businesses to prescribed approaches, standards provide proven templates that serve to increase speed to market of new products. All newly developed products still incorporate previous technologies, parts and components, all of which are more easily managed through the application of standards. Finally, standards serve as guides to the R&D process to ensure the development of products that meet industry established regulations.

Streamlining Trade Relations and Product

Approval

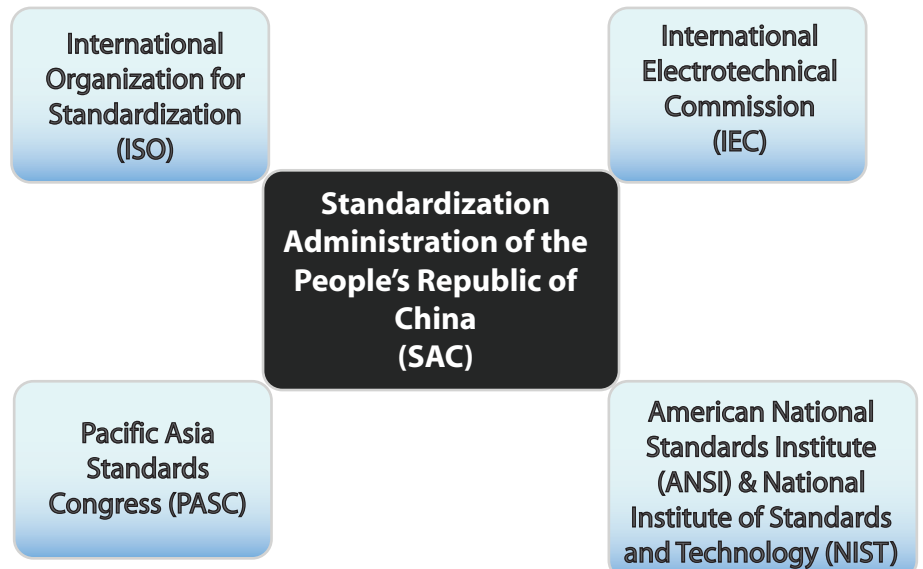
Beyond minimizing costs while maximizing value and innovation, standards also facilitate trade relations and the approval of newly developed or exported products. For example, aerospace giant, Boeing, has worked together with China since 1972. Boeing has earned the right to be China's aviation manufacturing industry's largest foreign customer through years of cooperation with Chinese airlines, the Chinese aviation industry, China's Civil Aviation Administration (CAAC), and the Chinese government, all of which involve numerous industry, regulatory, and safety standards.

By working with the standards in China, as well as offering the insights of their own U.S. quality standards, Boeing has avoided costly market battles over preferred technologies, while establishing rewarding and longstanding business relationships that smooth cross-border interaction and flow of goods and services⁹.

In an effort to similarly streamline trade relations and product approval, China formed the Standardization Administration of the People's Republic of China (SAC) in 2001. The SAC represents the country's international standards activities with the ISO, the IEC, and other international and regional standardization organizations, such as the Pacific Asia Standards Congress (PASC)¹⁰. The SAC currently cooperates with 52 countries in relation to standardization issues¹¹.

A recent example of the SAC's standards leveraging activities involves cooperating with the American National Standards Institute (ANSI) and the National Institute of Standards and Technology (NIST) in the late-2006 launching of an online Standards Portal

(www.StandardsPortal.org) designed to facilitate trade of goods and services between China and the U.S. through the mutual exchange of information. The Mandarin/English portal includes educational materials on the U.S. and Chinese standards systems; a database of 1,000 trade-vital standards from each nation; and almost 300,000 other standards and guidelines of national, regional and international origin¹².



Tools and Techniques that Simplify the Standards Process

While the benefits of using international and U.S. industry standards have long been clear, what is often less clear is how to research, identify, procure, and manage those standards that apply to a given business. However, the goal of international and U.S. standards compliance can be realized through the help of proven tools and techniques.

For example, manufacturers and suppliers in China can often reduce the time required to identify international and U.S. standards appropriate to their specific product by taking their lead from those standards most commonly procured by others in their industry segment.

For example, the table below lists a sample of the most common electronics and electrical standards and regulations acquired from a third-party standards supplier. In each case, the Standards Developing Organization (SDO) behind the standard in question is recognized internationally, such as the IEC, which represents over 60 countries, or the Institute of Electrical and Electronics Engineers (IEEE), which represents 150+ countries.

Standard/Requirement	Description
NEMA C119.1 Electric Connectors Sealed Insulated Underground Connector Systems Rated 600 Volts	This standard covers sealed, insulated underground connector systems rated at six hundred (600) volts for utility applications and establishes electrical, mechanical, and sealing requirements for sealed underground connector systems.
API RP 500 Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Division 1 and Division 2	This document applies to the classification of locations for both temporarily and permanently installed electrical equipment. It is intended to be applied where there may be a risk of ignition due to the presence of flammable gas or vapor, mixed with air, under normal atmospheric conditions.
IEC 60529 Degrees of Protection Provided by Enclosures (IP Code)	This standard applies to the classification of degrees of protection provided by enclosures for electrical equipment with a rated voltage not exceeding 72,5 kV. The object of this standard is to give: a) Definitions for degrees of protection provided by enclosures of electrical equipment, b) Designations for these degrees of protection, c) Requirements for each designation, and, d) Tests to be performed to verify that the enclosure meets the requirements of this standard.
IEEE C63.4 American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment	This standard specifies U.S. consensus standard methods, instrumentation, and facilities for measurement of radio-frequency signals and noise emitted from electrical and electronic devices in the frequency range 9 kHz to 40 GHz. Where possible, the specifications herein are harmonized with other national and international standards used for similar purposes.

Third-party standards suppliers can also simplify the process of standards research, identification and procurement through offering up-to-date databases with powerful search and document management tools. Such standards management solutions can provide an instant international access point to the

full spectrum of international and U.S. standards and regulations produced by the various standards-related bodies pertaining to every active industry in China today.

How IHS Simplifies Global Standards Compliance

IHS (<http://www.ihs.com>) is an industry-leading third-party standards supplier providing solutions for companies using international and U.S. standards and specifications. IHS provides an integrated, online solution for the searching, researching, procuring, and tracking of both current and historic standards. Whether leasing access to a set of documents through a subscription, or purchasing individual retail documents, IHS simplifies the process of leveraging the benefits of global industry standards.

¹He, Junmei. "Chinese TD-SCDMA: A Government Sponsored Standard Faces Stiff Competition." ABI Research. 31 Mar. 2006. 27 Oct. 2006. <http://www.abiresearch.com/products/insight/Chinese_TD-SCDMA_A_Government_Sponsored_Standard>.

²Basu, Indrajit. "China and the art of (standards) war." Asia Times Online. 13 Apr. 2006. 27 Oct. 2006. <http://www.atimes.com/atimes/China_Business/HD13Cb05.html>.

³Parthajit. "Alcatel and Datang Mobile join for development of TD-SCDMA in China." DMAAsia.com – Digital Media News for Asia. 12/11/2004. 27 Oct. 2006. <<http://www.digitalmediaasia.com/default.asp?ArticleID=4371>>.

⁴"France Telecom joins China 3G standard alliance." Reuters. 25 May 2006. 27 Oct. 2006. <<http://today.reuters.com/news/articlebusiness.aspx?type=telecomm&storyID=nSHA66502&from=business>>.

⁵"History of the BSI Group." British Standards Institution. 27 Oct. 2006. <<http://www.bsi-global.com/News/History/index.xalter>>.

⁶"ANSI – an Historical Overview." American National Standards Institute. 27 Oct. 2006. <http://www.ansi.org/about_ansi/introduction/history.aspx?menuid=1>.

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⁷"ISO Survey." National Quality Assurance Limited. Autumn 2004. 27 Oct. 2006. <<http://www.nqa.com/Press/priso.html>>.

⁸British Standards Institution. 27 Oct. 2006. <<http://www.raisingstandards.com/html/index.htm>>.

⁹"Boeing in China." The Boeing Company. 27 Oct. 2006. <<http://www.boeing.com/companyoffices/aboutus/boechina.html>>.

¹⁰"Standardization Administration of China." Standardization Administration of the People's Republic of China. 27 Oct. 2006. <<http://www.sac.gov.cn/english/cnorg/index2.asp>>.

¹¹"International Exchange and Cooperation." Standardization Administration of the People's Republic of China. 27 Oct. 2006. <<http://www.sac.gov.cn/english/inter/index.asp>>.

¹²"New Standards Portal Focuses on U.S.-China Trade." National Institute of Standards and Technology. 18 Sep. 2006. 07 Nov. 2006. <http://www.nist.gov/public_affairs/releases/US-China_standards_portal.htm>.

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"Institute of Electrical and Electronics Engineers." Answers.com. 27 Oct. 2006. <<http://www.answers.com/topic/ieee>>.

"International Electrotechnical Commission." Answers.com. 27 Oct. 2006. <<http://www.answers.com/topic/international-electrotechnical-commission>>.

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