



# CHINA'S IP, STANDARDS, AND INNOVATION STRATEGIES

THE NATIONAL BUREAU  
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& WASHINGTON, D.C.

Since the mid-1990s, The National Bureau of Asian Research (NBR) has been at the forefront of analyzing and researching China's intellectual property rights (IPR) regime and industrial policies, including technology standards, innovation policies, and IP protection. Building on its comprehensive network of scholars, practitioners, and policymakers, NBR engages experts from the United States, China, and other countries to analyze these important issues and inform decisionmakers on the policy implications through high-level briefings, conferences, reports, workshops, and working papers.

## INITIATIVE PHASES

### CHINA'S IPR POLICIES AND ENFORCEMENT

Guided by the late Professor Michel Oksenberg of Stanford University, this groundbreaking, five-year initiative brought together scholars, practitioners, and government officials from China and the United States to explore the landscape of China's IPR policies and enforcement. The initiative culminated in a series of conferences in Beijing, Chongqing, and Shanghai, which produced several reports, articles, and working papers. By bringing together a wide range of scholars and practitioners, NBR was able to shed light on a topic that was just beginning to concern U.S. and Chinese policymakers.

### CHINA'S TECHNOLOGY STANDARDS AND INNOVATION

On the basis of this groundbreaking work, NBR launched a multi-year initiative designed to strengthen and inform policymaking in both the United States and China by exploring the effects of stakeholder involvement in technology standards and innovation policies. This stage featured several conferences in Beijing and Washington, D.C., that convened hundreds of scholars and practitioners and served as the basis for a series of briefings to senior business leaders and policymakers in Washington, D.C., Silicon Valley, and Beijing.

### IP AND INNOVATION IN THE GLOBAL KNOWLEDGE ECONOMY

Building on this phase, NBR's current research aims to analyze China's policy environment, assess the goals and intentions of Chinese policymakers, and evaluate trends and trajectories associate with China's indigenous innovation policies, with particular focus on China's evolving IP strategy. This stage of the initiative will help inform the public policy dialogue in both countries, and research findings will be published and disseminated throughout the policymaking communities and among a diverse network of scholars, government officials, and business leaders that NBR has developed through previous work on China's IP regime.

## JULY 2011 REPORT



### CHINA'S IP TRANSITION: RETHINKING INTELLECTUAL PROPERTY RIGHTS IN A RISING CHINA

*Richard P. Suttmeier  
and Xiangkui Yao  
(University of Oregon)*

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Standards, and Innovation  
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# SELECT NBR RESEARCH ON CHINA'S IP, STANDARDS, AND INNOVATION STRATEGIES

## CHINA'S IP TRANSITION: RETHINKING INTELLECTUAL PROPERTY RIGHTS IN A RISING CHINA (2011)

*Richard P. Suttmeier and Xiangkui Yao*

This study explores the factors shaping the evolution of China's IP regime and argues that while movement toward greater harmonization with international IP norms is evident, the direction is by no means assured.

## INDIGENOUS INNOVATION AND GLOBALIZATION: THE CHALLENGE FOR CHINA'S STANDARDIZATION STRATEGY (2011)

*Dieter Ernst*

This report examines the defining characteristics of the evolving Chinese standards system that set it apart from the U.S. standards system and explores the possible impacts of this policy for China and the global economy.

## STANDARDS, STAKEHOLDERS, AND INNOVATION: CHINA'S EVOLVING ROLE IN THE GLOBAL KNOWLEDGE ECONOMY (2008)

*Scott Kennedy, Richard P. Suttmeier, and Jun Su*

This report examines the circumstances in which China's efforts to develop its own technology standards are occurring and assesses the implications and prospects for success of the initiatives.

## THE POLITICAL ECONOMY OF STANDARDS COALITIONS: EXPLAINING CHINA'S INVOLVEMENT IN HIGH-TECH STANDARDS WARS (2006)

*Scott Kennedy*

This essay seeks to explain China's inability to successfully adopt and commercialize new technology standards by contrasting two standards development cases: wireless local area networks and home networking.

## STANDARDS OF POWER? TECHNOLOGY, INSTITUTIONS, AND POLITICS IN THE DEVELOPMENT OF CHINA'S NATIONAL STANDARDS STRATEGY (2006)

*Richard P. Suttmeier, Xiangkui Yao, and Alex Zixiang Tan*

This report examines both China's growing interest in high-technology standards and its efforts to craft a national standards strategy, and identifies important implications for international cooperation with China.

## CHINA'S POST-WTO TECHNOLOGY POLICY: STANDARDS, SOFTWARE, AND THE CHANGING NATURE OF TECHNO-NATIONALISM (2004)

*Richard P. Suttmeier and Xiangkui Yao*

This study reviews the origins and motivations for China's standards strategy, places it in the context of China's accession to the WTO, and examines the operation of China's new standards regime.

## INTELLECTUAL PROPERTY RIGHTS IN CHINA: EVOLVING BUSINESS AND LEGAL FRAMEWORKS (1999)

*Barry Naughton and Donald C. Clarke*

These essays argue that although the Chinese government launched a major effort to expand its administrative capabilities to protect IPR, legal and economic institutions could be more sustainable sources for the development of a sound IPR regime in China.

## A PATCHWORK OF IPR PROTECTION (1999)

*Michel Oksenberg and Pitman B. Potter*

This article, written for *The China Business Review*, outlines improvements in IPR enforcement within China, and argues that true advancement depended more on support from local stakeholders and less on international agreements.

## PRIVATE ENFORCEMENT OF INTELLECTUAL PROPERTY RIGHTS IN CHINA (1999)

*Donald C. Clarke*

This analysis found that although decentralized enforcement is subject to numerous problems, it offers the promise of overcoming other problems endemic in administrative enforcement, and thus should not be overlooked.

## ADVANCING INTELLECTUAL PROPERTY RIGHTS: INFORMATION TECHNOLOGIES AND THE COURSE OF ECONOMIC DEVELOPMENT IN CHINA (1996)

*Michel Oksenberg, Pitman B. Potter, and William B. Abnett*

This study found a window of opportunity to influence the future handling of IPR cases in China, and that a program that contributes expertise and highlights the benefits of a more effective dispute resolution system could play a decisive role in the outcome of reform efforts.

# CHINA'S IP TRANSITION: RETHINKING INTELLECTUAL PROPERTY RIGHTS IN A RISING CHINA

Richard P. Suttmeier and Xiangkui Yao  
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## 中国知识财产的过渡时期： 重新评价崛起中国的知识产权

China's drive to promote indigenous innovation has given intellectual property (IP)—its creation, utilization, management, and protection—a prominent position in the nation's policy agenda.

### MAIN ARGUMENT

In conjunction with its ambitious policies to support indigenous innovation, China launched a major IP strategy in 2008 to support the creation, utilization, management, and protection of IP. The implementation of the strategy comes at a time when the population of scientists, engineers, entrepreneurs, designers, and others in the cultural and creative industries who have a stake in a more robust national IP regime is expanding. The experience of other countries would suggest that China is therefore poised to make a transition to a national IP regime that is more in harmony with international norms. Yet the development of the IP system at times fits awkwardly with other indigenous innovation policies. This essay explores the factors shaping the evolution of China's IP regime and argues that while movement toward greater harmonization with international IP norms is evident, the direction is by no means assured.

"CHINA HAS BECOME THE MOST LITIGIOUS COUNTRY IN THE WORLD WITH REGARD TO INTELLECTUAL PROPERTY (IP) ... [YET] ONLY ABOUT 3% OF ALL CIVIL IPR LITIGATION IN CHINA TODAY INVOLV[ES] A FOREIGN ENTITY. A GROWING NUMBER OF IP SPECIALISTS NOW BELIEVE THAT FOREIGN IP SHOULD BE REGISTERED IN CHINA AND THAT FOREIGN RIGHTS HOLDERS SHOULD USE CHINESE IP LAW MORE AGGRESSIVELY."

### IMPLICATIONS

- More attention should be given to understanding the links between China's R&D system and the evolving IP regime, the development of corporate IP strategies among Chinese firms, the actions of local governments in promoting the IP strategy, the emergence of IP brokers, and the development of specialized markets for IP. This requires not only better eyes and ears on the ground in China, and a greater recognition of China's regional and other differences, but also new forms of cooperation between foreign legal communities and specialists on innovation studies.
- Chinese leaders have recently made a number of commitments to the U.S. and other foreign parties to crack down on piracy and reverse industrial policies that seek to use IP in ways that are outside accepted international norms. Foreign stakeholders should continue to engage China on these issues, drilling further down into how these policies are implemented at national and local levels and pressing for the full implementation of the commitments Beijing has made.
- Engagement with China on its efforts to integrate its IP and innovation strategies should be expanded. The initiation of the "innovation dialogue" within the framework of the Strategic and Economic Dialogue is a useful first step to this end, but the U.S. side should be prepared to commit more staff and analytic resources to this effort in order to engage China from a more informed position.
- A changing IP landscape in China requires that foreign companies rethink their approaches to protecting IP in the country. Many foreign companies have been reluctant to pursue their rights in the Chinese legal setting, but a growing number of IPR specialists now believe that foreign rights holders should register their IP in China and use Chinese IP law more aggressively to protect their interests.

# INDIGENOUS INNOVATION AND GLOBALIZATION: THE CHALLENGE FOR CHINA'S STANDARDIZATION STRATEGY

This report examines the defining characteristics of the evolving Chinese standards system that set it apart from the U.S. standards system and explores the possible impacts of this policy for China and the global economy. A fundamental challenge for China's standardization strategy is how to reconcile the objective of strengthening the innovative capacity of Chinese firms and industries with China's leading role in international trade and integration into global networks of production and innovation. These issues will continue to wield important influence in the U.S.-China relationship going forward, but once both countries accept that their standards systems are different and operate under different priorities, there will be ample scope for selective cooperation.

## MAIN ARGUMENT

- China's standardization strategy exists within a broader development strategy to catch up with the U.S. EU, and Japan. To achieve this, Beijing seeks to move from being a standard-taker to being a co-shaper, and in some areas, a lead shaper, of international standards. Recent initiatives on standardization indicate that both Beijing and industry are learning from mistakes and are moving to a more flexible, pragmatic approach.
- China is working within the international system with the long-term goal of creating patent-worthy technology essential to global standards. By including Chinese technology into global standards, China seeks to strengthen its bargaining power and reduce exposure to high royalty fees. Yet at the same time, China wants to use its increasing influence to promote new rules for international standardization.
- Globalization and market complexities require China to combine a government-centered strategy with elements of market-led standardization. However, a lack of flexibility remains in Chinese policy and institutions for coping with the disruptive effects of unexpected changes in technology, markets, and business strategies.

Dieter Ernst

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- China's policies for standardization that were successful during its catch-up period will need to be adjusted when shifting to a strategy based on upgrading through innovation. Yet policy changes are constrained by the need to build on accumulated capabilities. Big Bang-style change often involves prohibitively high opportunity costs, and may destroy social consensus, the fundamental prerequisite for economic development.
- In its current form, China's policy on information security standards and certification creates unintended disruptive side effects for upgrading its standardization system. An extensive scope of regulation and a lack of coordination between Chinese security and trade policies could create potentially serious trade disputes.

## IMPLICATIONS

- Technology-centered competition need not be a zero-sum game. However, when countries are at different stages of development, supportive public policies are required to transform this competition into a positive-sum game. Given the challenges faced by latecomers such as China, the same criteria should not be applied in judging their performance as would be applied to advanced industrial economies.
- The international community will want to monitor China's trial-and-error methods to reconcile strengthening the innovative capacity of Chinese firms and industries with the country's international trade and integration into global networks of production and innovation.
- China should seek to reduce trade conflicts that could arise from its current policy on information security standards and certification. An important trust-building measure would be improving the collection of and access to data to allow for a better assessment of how information security standards and certification can be implemented.

# STANDARDS, STAKEHOLDERS, AND INNOVATION: CHINA'S EVOLVING ROLE IN THE GLOBAL KNOWLEDGE ECONOMY

## 标准、相关利益方与创新：全球知识经济下中国作用之演进

This report examines the circumstances in which China's efforts to develop its own technology standards are occurring and assesses the implications and prospects for success of the initiatives.

### MAIN ARGUMENT

- In information and communications technologies (ICT), China is making a long-term commitment to the development of standards as part of an effort to promote domestic technological innovation and make China an “innovative society.”
- China's aspirations to become a standards setter in ICT should be seen against a background of institutional uncertainty in an international economy struggling to devise mechanisms of governance to accommodate rapid technological change and the emergence of large economies, and amidst a pluralism of views on techno-nationalist versus techno-globalist approaches.
- China's efforts to set and commercialize ICT standards domestically have met with only limited success due to inappropriate government intervention, failures to forge winning coalitions in standards-setting forums, and an inability to displace established international standards. Nevertheless, China is learning from experience, will push forward with standards development, and is likely to have greater success in the future.
- China has achieved some success in having its domestic standards adopted internationally and has made some contributions to jointly developed standards but has proven less capable of blocking standards initiatives that it opposes. Those elements of the Chinese government, research community,

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“CHINA IS MAKING A LONG-TERM COMMITMENT TO THE DEVELOPMENT OF STANDARDS AS PART OF AN EFFORT TO PROMOTE DOMESTIC TECHNOLOGICAL INNOVATION AND MAKE CHINA AN ‘INNOVATIVE SOCIETY.’ ”

and industry that are most deeply integrated into the global economy have had the greatest chance for success because they have more quickly adapted to the global standards system.

### IMPLICATIONS

- The techno-nationalist sentiments sometimes associated with China's standards initiatives should be tempered with a techno-globalist vision, both to promote the technological progress of the Chinese economy and to contribute to the provision of international public goods.
- The international community will want to monitor the implementation of China's innovation and standardization strategies and work with China in developing its capabilities for standards development.
- The international community can accommodate the emergence of a technologically dynamic, standards-setting China by facilitating Chinese participation in international standards bodies and consistently engaging Chinese experts, industry, and officials.

# STANDARDS AND INNOVATION POLICY IN THE GLOBAL KNOWLEDGE ECONOMY: CORE ISSUES FOR CHINA AND THE UNITED STATES (BEIJING, CHINA – 2009)

On October 14, 2009, NBR and The East-West Center hosted an invitation-only workshop in Beijing, China, entitled “Standards and Innovation Policy in the Global Knowledge Economy: Core Issues for China and the United States” with workshop support from the National Electronics Manufacturers Association. The conference convened over fifty top academic, business, and government leaders from China, the United States, and the European Union for a robust dialogue about the current challenges facing the existing international standardization system in a technically complex and globalized economy.

Topics addressed include:

- Standards and innovation policy in the global knowledge economy
- China’s approach to standards-related IPR development
- Current challenges for IPR, “open” standards, and new players
- Achievements and shortcomings of China’s indigenous innovation strategy

Conference participants discussed the strengths and weaknesses of the existing international standardization system, and focused on the challenges that need to be overcome in order to maintain an open, equitable, non-discriminatory standardization system.

## SPEAKERS AND PANELISTS

- **Baisheng An**  
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- **Jun Cao**  
Xidian Jietong  
Wireless Network  
Communications
- **Duncan Clark**  
BDA China Limited
- **Ted Dean**  
BDA China Limited
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The East-West Center
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Peking University
- **Xudong Gao**  
Tsinghua University
- **Claudia Tapia Garcia**  
Research in Motion
- **D. Linda Garcia**  
Georgetown University
- **Tiejun Huang**  
Chinese Academy  
of Sciences
- **Fusheng Ji**  
Tsinghua University
- **Konstantinos  
Karachalios**  
International/  
Intergovernmental  
Organizations &  
Institutions European  
Patent Office
- **Xielin Liu**  
Chinese Academy  
of Sciences
- **Amy Marasco**  
Microsoft Corporation
- **Rongping Mu**  
Chinese Academy  
of Sciences
- **Chuck Powers**  
Motorola, Inc.
- **Cliff Reader**  
Chinese Academy  
of Sciences
- **Anne Stevenson-Yang**  
Wedge MKI
- **Ping Wang**  
China National Institute  
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- **Yiyi Wang**  
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of Standardization
- **Lincun Yang**  
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and Technology  
of the People’s Republic  
of China
- **Lan Xue**  
Tsinghua University

### WORKING PAPERS

INDIGENOUS INNOVATION AND GLOBALIZATION:  
THE CHALLENGE FOR  
CHINA’S STANDARDIZATION STRATEGY

*Dieter Ernst* (JUNE 2011)

STANDARDIZATION STRATEGY OF CHINA—  
ACHIEVEMENTS AND CHALLENGES

*Wang Ping, Wang Yiyi, and John Hill*  
(JANUARY 2010)

THE COMMON CRITERIA FOR INFORMATION  
TECHNOLOGY SECURITY EVALUATION—  
IMPLICATIONS FOR CHINA’S POLICY  
ON INFORMATION SECURITY STANDARDS

*Dieter Ernst and Sheri Martin*  
(JANUARY 2010)

THE CHALLENGE OF PATENT GOVERNANCE  
IN ICT STANDARDS, SEEN FROM A PATENT  
AUTHORITY’S PERSPECTIVE

*Konstantinos Karachalios* (FEBRUARY 2010)

# TECHNICAL STANDARDS AND INNOVATION IN CHINA: PUBLIC POLICY AND THE ROLE OF STAKEHOLDERS (BEIJING, CHINA – 2007)

On October 29, 2007, NBR and Tsinghua University convened more than seventy international leaders from academe, business, and policy for an invitation-only conference, “Technical Standards and Innovation in China: Public Policy and the Role of Stakeholders,” held in Beijing, China. This full-day event brought together senior experts from across the globe to explore stakeholder influence in public policy development and the effects of standards policy on innovation. Participants examined these issues through the lens of three case studies: home networking, mobile media, and RFID standards.

Topics included:

- China’s desire to move from being a “standards taker” to being a “standards maker”
- Increases in Chinese companies’ R&D investments, participation in standards alliances in China, and efforts to engage in international standards-setting processes
- The complex relationship between standards and innovation, and the differing interests of diverse stakeholders
- The varying levels of government involvement in the standards-setting process

Following the conference, NBR briefed members of the Information Technology Industry Council Standardization Policy Committee on key workshop findings in January 2008. Drawing on these findings and subsequent research, NBR published the report “Standards, Stakeholders, and Innovation: China’s Evolving Role in the Global Knowledge Economy” in Fall 2008. The project team also briefed senior business leaders and policymakers in Washington, D.C., and Beijing.

## RELATED RESEARCH - NBR SPECIAL REPORT (SEPTEMBER 2008)

### STANDARDS, STAKEHOLDERS, AND INNOVATION: CHINA’S EVOLVING ROLE IN THE GLOBAL KNOWLEDGE ECONOMY

*Scott Kennedy, Richard P. Suttmeier, and Jun Su*

## SPEAKERS AND PANELISTS

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Chinese Academy  
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- **Klaus Ziegler**  
EU Delegation

# CHINA'S TECHNOLOGY STANDARDS POLICY: IMPLICATIONS FOR THE U.S. AND CHINA (BEIJING, CHINA – 2006)

In January 2006, NBR sponsored a bilateral workshop at Beijing's Tsinghua University that featured papers both from Chinese and American researchers as well as critical comments from representatives of Chinese, American, and European companies and governments. Participants examined these issues through the lens of three case studies: telecommunications and 3G; AVS and RFID; WAPI and IGRN-Home networking.

Topics addressed included:

- The growing importance of standards in the international political economy
- China's evolving standards system
- Standards development, intellectual property rights regimes, and anti-trust policies

The workshop, which was attended by some sixty participants, generated useful data concerning China's standards system and standards initiatives as well as a range of views that provided essential background for the report "Standards of Power? Technology, Institutions, and Politics in the Development of China's National Standards Strategy" by project specialists Richard P. Suttmeier (University of Oregon), Xiangkui Yao (University of Oregon), and Alex Zixiang Tan (Syracuse University).

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- **Rongping Mu**  
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Wilmer Cutler  
Pickering Hale & Dorr
- **Richard P. Suttmeier**  
University of Oregon
- **Alex Tan**  
Syracuse University
- **Chaoyi Zhao**  
China's National  
Institution of  
Standardization

### **RELATED RESEARCH - NBR SPECIAL REPORT (JUNE 2006)**

**STANDARDS OF POWER?  
TECHNOLOGY, INSTITUTIONS, AND POLITICS IN THE DEVELOPMENT  
OF CHINA'S NATIONAL STANDARDS STRATEGY**

*Richard P. Suttmeier, Xiangkui Yao, and Alex Zixiang Tan*

For more information about NBR's program on China's IP, Standards, and Innovation Strategies, contact Clara Gillispie: [eta@nbr.org](mailto:eta@nbr.org)



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