



**A Review of TRIPS and TRIMs Enforcement Issues  
In the People's Republic of China:  
Background and Analysis of the Intellectual Property  
Protection and Enforcement Crisis Facing U.S. Industry**

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*Stewart and Stewart*

**China's Laws, Regulations and Practices in the  
Areas of Technology Transfer, Trade-Related  
Investment Measures, Subsidies and Intellectual  
Property Protection Which Raise WTO  
Compliance Concerns**

September 2007

The enclosed study is part of  
a larger report:

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The views in the enclosed study are those of the authors,  
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## Methodology

“Fear of retribution” was the response from an U.S. industry representative that characterizes many of the interviews conducted for this report on the PRC’s inadequate enforcement of U.S. company intellectual property rights (IPR). U.S. companies and industry trade associations interviewed for this report are not comfortable going on the record to discuss and document how their IP is being infringed upon by Chinese companies. The prevailing view is that to do so would jeopardize their ability to conduct future business in the PRC. As a consequence, the interviews conducted for this study are undocumented.

Rather than provide attribution to the individuals we interviewed, we are able to describe the industry positions these individuals occupy, i.e., small high-technology consumer products company president, small automotive supplier parts manufacturing company president, small and mid-size high-technology company legal counsel, large multinational consumer products corporation senior patent counsel, large multinational pharmaceutical corporation IP product manager, internationally recognized strategic planning consultants, and several industry trade association officials.

Several U.S. companies provided previously unpublished information about the costs incurred for identifying, verifying, and prosecuting IP violations in the PRC, in the U.S., and in countries world-wide. U.S. court dockets and trial documents were obtained from U.S. company legal counsel as well as the internet service Who’s Suing Whom. Internet searches of company press releases and business publications were conducted to identify U.S. companies experiencing IP infringements in the PRC. Due to difficulty accessing affordable English translations of PRC court cases, the report relied upon translations conducted by InterLingua Legal Publishing. These sources were used to develop the section on TRIPS Enforcement Challenges, the case histories of U.S. companies facing inadequate IP enforcement in the PRC court system, and the summary of enforcement issues challenging U.S. companies attempting to conduct competitive business operations in the PRC.

Extensive searches of both PRC government and international databases were conducted for this report. The PRC now makes available on the internet speeches by Deng Xiaoping, as well as other and current government leaders. Deng’s policies were responsible for the beginning of de-collectivization, decentralization of government controls, and industrial reforms – all of which form the basis for China’s current economic success. Analysis of Deng’s speeches reveals his economic philosophy and provides a construct for understanding the cultural and political evolution of China’s economic policies – key to our understanding of China as a trading partner and to our appreciation of what constitutes realistic expectations of China’s enforcement efforts on behalf of U.S. companies. In addition, the PRC annual patent data published by the State Intellectual Property Office were analyzed, as well as the current PRC laws dealing with foreign equity joint ventures, foreign contractual joint ventures, wholly-owned foreign enterprises and foreign invested enterprises. PRC court dockets and summaries of trials

were reviewed to identify cases involving U.S. companies that were relevant to the scope of this report.

Research into the area of TRIMs Enforcement presented a daunting challenge. After extensive searches of company and media reports, industry analyses conducted by consulting organizations, government databases, and numerous industry association websites and publications, the only identifiable case of a reported TRIMs violation was in the motor vehicle supplier industry. The Motor & Equipment Manufacturers Association (MEMA) represents “Manufacturers of Motor Vehicle Components, Tools and Equipment, Automotive Chemicals and Related Products Used in the Production, Repair, and Maintenance of All Classes of Motor Vehicles.”

An internet search identified MEMA’s Government Affairs 2007 Issue Book which included a Legislative and Regulatory Issue Paper on “China’s Development Policy for the Automobile Industry.” This MEMA issue paper states that the association has identified a group of member companies who are most affected by PRC’s auto policy and local content rule. However, MEMA would not identify the names of its member companies who have been most affected. The MEMA issue paper notes further that the Original Equipment Manufacturers (OEMs) have not issued any public information on additional costs or losses caused by China’s auto policy and local content rule. As a consequence, this report was not able to identify any specific OEM’s or auto parts suppliers by company name who have been adversely affected by PRC TRIMs violations. The reticence of major U.S. auto manufacturers and auto parts suppliers can likely be attributed to “fear of retribution” by their partners in the PRC.

Research for this study also identified databases within agencies of the U.S. Department of Commerce which may contain information about TRIMs violations. The International Trade Administration (ITA) operates a Trade Compliance Center which tracks specific cases where U.S. firms are experiencing barriers to entry or not receiving the full potential of negotiated agreements. However, these company data are classified as confidential, and requests for access to the data were rejected.

While vast numbers of articles and data exist about intellectual property infringements in the PRC, precious few sources provide complete case histories that permit a comprehensive understanding of how U.S. companies are indeed being harmed by TRIPS and TRIMs violations. As a consequence, the select cases of inadequate Chinese enforcement of IP infringements provided in Table 1 of the report and the auto supplier case provide a window into the troubling arena of Chinese violations that seriously hamper if not outright cripple many U.S. companies attempting to do business in the PRC. In an effort to ameliorate the fear of retribution surfaced in this report, representatives of the U.S. machine tool industry recommend that a confidential survey of its member companies be conducted to identify the multitude of illegal tactics being employed by Chinese companies to violate U.S. company IP rights. These industry representatives stressed that a guarantee of anonymity would be required to elicit company participation in the survey. This industry stance clearly provides perspective on the seriousness of the IP protection and enforcement crisis facing U.S. industry.

# 1. Executive Summary

For nearly six decades since the Communist Party of China (CCP) won complete victory over the Koumintang (KMT) to end the Chinese Civil War and Mao Zedong declared the founding of The Peoples Republic of China (PRC) on 1 October 1949, its citizens have operated under a socialist paradigm with a centrally controlled economy and state owned communal property.<sup>1,2</sup> Under Mao every effort was made to crush the very smallest vestiges of capitalism. It was also during Mao's tenure that President Richard M. Nixon initiated efforts to make contact with the PRC.<sup>3</sup> This began with National Security Advisor Henry Kissinger's exploratory signaling, his subsequent secret visit to the PRC in July 1971, and his talks with Zhou Enlai. These talks and related secret negotiations culminated with President Nixon's historic visit to the PRC in February 1972 and the formal re-establishment of diplomatic relations between the two countries. Despite President Nixon's visit, a United States (US) – PRC normalization process was not completed prior to Nixon's resignation in 1974 or Mao's death in 1976.

Mao's death was followed by a period of power struggle with little or no normalization progress. By 1980, Deng Xiaoping, a former leader in the CCP, out maneuvered all of his political adversaries and rose to the forefront of the PRC's leadership as the PRC's *de facto* head. While maintaining tight control over the CCP, Deng initiated the policies of *Gaige Kaifang* (Economic Reforms and Openness). These policies were responsible for the beginning of de-collectivization, decentralization of government controls, and industrial reforms. As part of this *Gaige Kaifang* process, Deng conceived the vision and championed implementation of Special Economic Zones (SEZs),<sup>4</sup> regions where foreign companies could undertake investments for light industry without stringent socialist controls and restrictions and operate on a virtual capitalist system.<sup>5</sup> Resultantly, in the early 1980's four SEZs were established at Shenzhen, Xiamen, Zhuhai, and Shantou. Although a socialist economy was maintained and strengthened in the PRC, within each of these SEZs special policies, including preferential tax policies and rates, subsidies, licensing, land, labor, utility, and other benefits were developed and implemented to attract foreign investments. The PRC, its regional and local governments, and the SEZs

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<sup>1</sup> Constitution of the People's Republic of China, as amended in 2003, granted the right to own private assets.

<sup>2</sup> Property Law of the People's Republic of China, adopted by the PRC's National People's Congress on 16 March 2007, and effective 1 October 2007, Chapter 5 defines three types of property as State, Collective, and Private; and Chapter 4, Article 40 divides property rights into ownership, use and security rights.

<sup>3</sup> The Beijing-Washington Back-Channel and Henry Kissinger's Secret Trip to China, September 1970 – July 1971, National Security Archive Electronic Briefing Book No. 66, edited by William Burr, 27 February 2002.

<sup>4</sup> Building a Successful Plant in China, Investing in China's Growth Potential, September 2004, edited by China Knowledge Private Limited, 8 Temasek Boulevard, # 37-01A Suntec Tower Three, Singapore 038988.

<sup>5</sup> "White & Black Cat" analogy, Deng Xiaoping used this analogy on debates of whether the PRC should pursue a capitalist or socialist economic path. Deng indicated that it did not matter if it was a black cat or a white cat as long as the cat was capable of catching mice, it would be a good cat. In other words, the color of the cat (or whether capitalism or socialism should be pursued) is not the issue. Rather, as long as the cat (i.e., the economic direction) caught mice (i.e., led the country into further economic growth), it was a good cat (i.e., it would be the right direction to pursue).

obligated themselves contractually with Foreign-Invested Enterprises (FIEs) to these benefits which have become TRIMs and TRIPS issues.

On 24 February 1984, Deng observed first hand the success of the initial four SEZs, both within the zones and the surrounding regions, and recognized the benefits to the PRC of attracting additional foreign investment for light, heavy, and high-tech industries and related services throughout the PRC.<sup>6</sup> Between 1984 and 1988, fourteen Economic and Technological Development Zones (ETDZs) were established in 12 coastal cities, including Dalian, Qinhuangdao, Tianjin, Yantai, Qingdao, Lianyungang, Nantong, Minhang (Shanghai), Hongqiao (Shanghai), Caohejing (Shanghai), Ningbo, Fuzhou, Guangzhou, and Zhanjiang. As part of the process of developing ETDZs, incentives were provided at the national level with the flexibility to add additional benefits at the regional, local, and zone levels. As a result of opening the investment floodgates, enterprising companies have been able to negotiate lucrative and highly competitive long-term contracts freezing into place many economic and other benefits. Today the number of ETDZs has grown to between 5,000 and 7,000 across the PRC, with more being added daily. Most have been carved from the facilities, resources, management and staffs of state-owned and controlled Ministries like National Defense and State Security. All ETDZs combined utilize less than 0.5 percent of the PRC's land area, but account for approximately 17 percent of their economy including nearly all of the PRC's exports.<sup>7</sup>

Deng also recognized that the PRC's scientific and technological level lagged considerably behind the developed countries of the world. In the early 80s he orchestrated the establishment of a series of national initiatives for science and technology beginning with the Key Technologies Research and Development Program (i.e., established in 1982 and focused on agriculture, electronic information, energy resources, transportation, materials, resources exploration, environmental protection, medical and health care, and other fields).<sup>8</sup> This was followed by the 863 Program (i.e., established in 1986 for themes such as biotech, space flight, information, laser, automation, energy, new material and marine), the 973 Program (i.e., initiated in 1988 in fields including agriculture, energy, information, environment of resources, population and health, and material, providing theoretical basis and scientific foundation for solving problems), the Spark Program (i.e., begun in 1986 to revitalize the non-urban economy through science and technology) and the Torch Program (i.e., launched in 1988 and undoubtedly the PRC's most important and far reaching high-tech initiative).

While the "Torch Program" focused on organizing and carrying out projects to develop high-tech products with high technological standards and good economic benefits in

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<sup>6</sup> Make a Success of Special Economic Zones and Open More Cities to the Outside World, Discussions between Deng Xiaoping and the Central Committee of the CPC, 24 February 1984, Beijing, People's Republic of China.

<sup>7</sup> Building a Successful Plant in China, Investing in China's Growth Potential, page 163, September 2004, edited by China Knowledge Private Limited, 8 Temasek Boulevard, # 37-01A Suntec Tower Three, Singapore 038988.

<sup>8</sup> Opening Speech at the Twelfth National Congress of the Communist Party of China, 1 September 1982, from the Selected Works of Deng Xiaoping, Volume III (1982 – 1992), edited by People's Daily, Jintaixi Road #2, Chaoyang District, Beijing, 100733, People's Republic of China.



domestic and foreign markets, it also established the initial High-Tech Industrial Development Zones (HIDZs) around China. The first HIDZ was inaugurated in Zhongguancun (northwest Beijing) in 1988 and was followed shortly thereafter by 52 additional zones in Shanghai, Tianjin, Fujian, Guangdong, Hainan, Hebei, Jaingsu, Liaoning, Shangdong, Zhejaing, etc. Initially the HIDZs were put in place to focus on exploring management systems and operation mechanisms suitable for hi-tech industrial development including projects in new technological fields, such as new materials, biotechnology, electronic information, integrative mechanical-electrical technology, and advanced and energy-saving technology. In practice they function much like ETDZs with similar or enhanced privileges and policies. During the initial phases of the HIDZs gestation, Deng recognized that the PRC could accomplish its science and technology goals much more quickly by requiring advanced technology transfer in the HIDZs and later as part of all foreign investment in all types of special economic zones. Deng also noted that numerous former and existing National Defense and State Security officials, trained in intelligence gathering, were involved in the daily operations of most SEZs. As a result, intellectual property mining and advanced technology transfer became national policies initiated under Deng in the 80s.<sup>9</sup> These policies have continued to this day under each of his successors (i.e., Jiang Zemin 1989 - 2003, Hu Jintao 2003 - present). Closely paralleling these early PRC IP practices were a set of expectations and requirements imposed by these same officials upon virtually every foreign investor and business eager to “do business in the PRC.”

With experience came insights. Soon the PRC began to establish special economic or, more appropriately, trade-related zones for a variety of reasons. In the 1990s, the PRC initiated its first Free Trade Zone (FTZ). FTZs were intended for export processing, entrepot trade, logistics, and bonded warehousing. Soon FTZs were followed by Export Processing Zones (EPZs), Border and Economic Co-operation Zones (BECZs), Software Development Parks (SDPs), University Science Parks (USPs), Tourist and Holiday Resort Development Zones (THRDZs), and more. If a trade-related need existed, the PRC’s leadership whether national, regional, or local developed a “Trade-Related Zone” filled with incentives designed to attract foreign investment.

While trade-related zones with their new industries and companies sprang up daily across the PRC, changes began to occur outside the zones and throughout the PRC’s economy as well. With foreign investment and foreign advanced technology rolling in at a torrential pace, State-Controlled Enterprises (SCEs), including those owned by the Ministries of National Defense, State Security, and Justice (i.e., Prisons), adjacent or within local proximity to the zones, began to benefit as well.<sup>10</sup> As product and production experience and expertise regionalized, the PRC began a process of wholesale modernization of its SCEs, establishment of business relations between foreign

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<sup>9</sup> Use the Intellectual Resources of Other Countries and Open Wider to the Outside World, Discussions between Deng Xiaoping and the Central Committee of the CPC, 8 July 1983, Beijing, People’s Republic of China.

<sup>10</sup> “Master new technologies and techniques; be good at learning and better at innovating,” Deng Xiaoping writing in the visitor’s log during a February 1984 visit to the Baoshan Iron and Steel Complex (benefiting from mandatory foreign technology transfer), Shanghai, People’s Republic of China.

companies and SCEs, and manufacture of products for export. Over time, SCEs have evolved from contract production for foreign companies to direct competitive product sales.

In the beginning, few, if any, foreign companies took time to apply for patent protection on their technologies and processes within the PRC. As a result, without adequate intellectual property protection and in a country with a culture of state ownership and communal property, state-sponsored mining for and expropriation of intellectual property was legal and became the norm. Before long, state-owned and controlled enterprises, as well as other ventures were capable of producing product as readily as any foreign company in a trade-related zone. And, so began an outpouring of counterfeits and knock-offs for virtually every product produced by a foreign company in the PRC.

China was one of the 23 original signatories of the General Agreement on Tariffs and Trade (GATT) in 1948.<sup>11</sup> However, with the formation of the PRC in 1949, the PRC government withdrew into isolation and undertook an inactive GATT status until 1986. At that time, the PRC notified the GATT of its desire to resume its status as a GATT contracting party and its intention to seek accession to the World Trade Organization (WTO). In 1987, a “Working Party on China’s Status” was established under GATT. In 1995, the GATT Working Party was converted to a WTO Working Party and its scope expanded to include trade in services, new rules on non-tariff measures, and rules relating to intellectual property rights.

The PRC’s involvement in GATT and its accession to the WTO has been complicated by several prior activities, including Taiwan’s observer status from 1965 to 1971 (also, from September 1992 under a Working Party to the GATT Council of Representatives examining a request for accession of the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu); Hong Kong beginning on 23 April 1986 as a contracting party of GATT (an original Member of the WTO from 1 January 1995 until 1 July 1997 when the PRC resumed exercise of sovereignty; from then to present as Hong Kong, China), and Macau becoming on 11 January 1991 a contracting party of GATT (an original Member of the WTO from 1 January 1995 until 20 December 1999 when the PRC resumed exercise of sovereignty; from then to present as Macau, China).<sup>12</sup> The PRC became a Member of the WTO on 11 December 2001.

The PRC has taken its institutional obligations under the WTO seriously. As part of a rigorous WTO accession protocol, the PRC agreed to detailed procedures, schedules and transitional review mechanisms. Within the first few months of 2002, the PRC abolished

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<sup>11</sup> WTO News: 2001 Press Releases, Press/243, 17 September 2001, WTO Successfully Concludes Negotiations on China’s Entry, World Trade Organization, Rue de Lausanne 154, CH-1211 Geneva 21, Switzerland.

<sup>12</sup> Article XI, Marrakesh Agreement (Final Act Embodying the Results of the Uruguay Round of the Multilateral Trade Negotiations), 15 April 1994, General Agreement on Tariffs and Trade *de facto organization*, Interim Committee for International Trade Organization, Geneva, Switzerland.

more than 800 rules and modified or amended an additional 2,300 laws and regulations.<sup>13</sup> While the PRC continues to make regular and encouraging progress, numerous WTO compliance issues, including Intellectual Property Rights (IPR), remain problematic and subject to further resolution. The PRC, many regional and local governments, and the economic zones remain bound to contractual obligations with various foreign and domestic entities that are in conflict with WTO TRIMs and TRIPS obligations.

Well intended or not, the PRC's efforts to comply with WTO TRIMs and TRIPS obligations have failed. While the PRC has tackled changes to laws, regulations and rules, these have had limited effect on actual operations. Instead, a plethora of threats, intimidation and retribution pertaining to trade related investment measures are employed by officials at regional, local and zone levels to achieve their objectives. Foreign companies, large and small, are blanketed so effectively, that no organization has the ability to successfully conduct business in the PRC while ignoring these covert pressures. For officials the options are unlimited: permits can be delayed; raw materials can be lost; labor can be slowed; finished products can be stalled at ports; etc. For companies the options are limited: play ball and do as you are told; do not complain about your treatment; and do not criticize the PRC.

As with investment measures, the PRC's WTO IPR obligations have not been achieved.<sup>14</sup> Again, many aspects of the PRC's IPR challenge are policy, procedural or regulatory in character. In this regard, the PRC has done a commendable job of identifying and modifying offending policies, rules and laws. However, changing a national level policy or law in no way guarantees implementation and compliance with trade related intellectual property issues at a regional, local or zone level where a strong cultural bias for socialist norms prevails and the goal remains to acquire and obtain benefit from the best available IP, irrespective of its source.

Today, foreign-owned IP continues to be expropriated at an increasing and alarming rate. PRC officials at all levels, many formerly associated with the Ministries of National Defense and State Security, orchestrate vast IP intelligence gathering activities on a massive scale never imagined. Where the PRC identifies valuable IP, every effort is made to acquire the IP. If the IP is exposed and unprotected anywhere in the world, a PRC based organization or consortium takes steps to expropriate the IP and defend its royalty-free use in the PRC. To enhance the prospects of identifying valuable IP, as part of "doing business in the PRC," detailed product and production plans are required by local and zone officials. Once provided by a foreign company, their plans are scoured for IP. Product and machine tool technology are routine targets. IP exposed through foreign patent offices are routinely expropriated to the PRC. Again, threats, intimidation and reprisals are used to keep foreign companies in line. For those few companies that choose

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<sup>13</sup> China's WTO Implementation Efforts, China Business Review, Volume 29, Number 4, July – August 2002, The US – China Business Council, CITIC Building, Suite 10-01, 19 Jianguomenwai Dajie, Beijing 100004, People's Republic of China.

<sup>14</sup> Hawk No. 1, PRC Ministry of Public Security (MPS), March – December 2006, crack down upon IP infringement criminals, incomplete statistics show that public security organs across the country docketed about 3,000 cases, uncovered 2,300 of them and arrested 3,600 suspects, and the amount involved aggregated to RMB1.5 billion.

to fight, the PRC organizes industry consortia, restrains IP use in the PRC, challenges the IP in US and other legal venues, and as a last effort seeks to destroy individual patent claims. In other words, play ball or the PRC will destroy your technology and your company.

## **2. Intellectual Property (IP) Protection Approaches and Practices by United States Companies**

Today, valuable IP from US companies is being compromised by sources in the PRC. Generally, but not always, these sources are associated with one or more state owned and controlled enterprises (i.e., Ministries of National Defense, State Security, and Justice). Many of these IP issues are related to TRIPS challenges to the PRC's compliance with its WTO IP obligations. Other means of acquisition of foreign-owned IP are more sinister and are part of an integrated national strategy, one that utilizes a devastating set of tactics to expropriate foreign-owned IP, or failing that, to destroy the IP or the organization that owns it. Both the TRIPS challenges and the integrated national strategy of acquisitions create difficult problems for the United States. However, the problems are not limited to the United States. The latter approach is destroying the intent of the World Intellectual Property Organization (WIPO) and WTO IPR system.<sup>15</sup> Understanding both types of IP challenges faced by US IP owners requires an understanding of how our IPR system evolved and how it is used by different types of IP creators and owners to protect their rights.

### ***2.1 Intellectual Property Rights in the US***

Intellectual Property protection was established as a right in the Constitution, as adopted on 17 September 1787 and ratified on 21 June 1788<sup>16</sup> that Congress would define by legislation. Since that time, US patent law has undergirded American innovation as inventors and entrepreneurs have availed themselves of the protections afforded by this right. The manner by which IPR are employed today, of course, is often very different from that of late 1700s, reflecting an evolution of innovation.

In the earliest years (i.e., 1700s and early 1800s), our fledgling IPR system was employed to support United States business infringement on the IP of other countries. However, as United States inventors matured (i.e., mid 1800s and beyond), they became the engine for the creation of immense quantities of new IP. This IP was used personally, licensed, and/or sold to others. Beginning in the late 1800s and early 1900s, corporations began to establish corporate research and development departments and divisions for their own benefit. The percentage of inventions issued to corporations rose sharply. Following World War II, the United States began to provide substantially increased financial support to college and university research and education programs. As a result, more and more intellectual property began to emanate from educational organizations. As a final step, with the passage of the National Cooperative Research Act of 1984, teams of individuals, educational institutions and business enterprises, both domestic and

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<sup>15</sup> Convention Establishing the World Intellectual Property Organization, 14 July 1967, Stockholm, Sweden (on 3 March 1980 China began its accession to WIPO as amended on September 28, 1979), WIPO, 34, chemin des Colombettes, Geneva, Switzerland.

<sup>16</sup> United States Constitution, Article I, Section 8, "Congress shall have power . . . to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."

international, began to develop IP collaboratively. IP protection and enforcement strategies evolved in parallel.

## **2.2 Intellectual Property Protection Strategies**

Once created, IP inventors, entrepreneurs, and owners have developed a variety of strategies to use the protections afforded by the Constitution as well as laws of other nations. The types of strategies employed have been and are a function of the perceived value of the IP and the resources of the IP owner. Individuals, small enterprises, medium size organizations, large companies and multi-national entities each have different interests and perceptions of what they need for IP protection. Individuals and small enterprises with limited resources strive to minimize their IP protection costs. They tend to be domestically oriented, although this is changing, and they defend their IP within domestic borders. Generally they meet their needs by writing less sophisticated patents, spending less on patent attorneys and by applying for IP protection only in the US. With increased corporate size and resources come improved patents and broader coverage, generally to the EU nations and Japan. Large companies maintain in-house patent counsel, and contract with the best outside support and patent organizations throughout the world. Only in the last few years have US companies, mostly larger organizations, included the PRC on the list of nations where IP protection is required and/or desired. Further, larger companies undertake considerable multinational cross-licensing and defend their IP globally. Today, 36 percent of all US-origin patent applications are also filed in one or more foreign patent offices.

Since the first US technology began to flow legally into the PRC after Nixon's 1972 visit, an interesting IP paradigm has evolved. Most products sold by US companies or imported to the PRC for their use contained embedded IP that was and is active and protected in one or more countries, including the US. Until very recently, an extremely limited amount of this foreign embedded IP was protected within the PRC with Chinese patents. Although virtually impossible to verify the actual extent, it would appear that foreign IP unprotected in the PRC has been copied and used openly and extensively throughout that nation. Most often, but not always, the sources most associated with these IP infringements appear to be in state-owned and controlled enterprises like the Ministries of National Defense, State Security and Justice. Many of their facilities have undertaken, in whole or in part, the production of billions of dollars of export oriented products.

Recently, the numbers of both resident and non-resident applications for IP protection have surged in the PRC. For instance in 2005, the total number of patents granted in the US for both resident and non-resident entities was 157,740.<sup>17</sup> In the PRC, the number was 214,003, including 171,619 to resident entities.<sup>18</sup> PRC resident inventors applied for and were granted more patents than the resident inventors of any other country except Japan.<sup>19</sup> In 2006 the number of patents issued to resident entities in the PRC rose by an additional 30 percent. This is an unusually high growth rate for IP creation and a

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<sup>17</sup> PTMD Special Report – All Patents, All Types – January 1977 – December 2005, June 2006, U.S. Patent and Trademark Office, Electronic Information Products Division, Alexandria, Virginia, USA.

<sup>18</sup> Patents Granted for Home and Abroad, 1985-2005, State Intellectual Property Office of the People's Republic of China, Beijing, People's Republic of China.

<sup>19</sup> WIPO Patent Database, 1883 – 2006, World Intellectual Property Organization, 34, chemin desColombettes, Geneva, Switzerland.

disproportionately high percentage of IP attributed to PRC resident inventors. While it is possible that all of this IP is original and was fully developed by PRC entrepreneurs and entities, it is more likely that a serious percentage of the patents have resulted from mining unprotected foreign IP as well as the worldwide early open access to pending patent applications of other nations like the US. It should be noted that state owned and controlled enterprises associated with the Ministries of National Defense and State Security are well equipped for the massive IP intelligence gathering that would be required for this magnitude of IP expropriation.

As an example, most US machine tool companies are small and medium size organizations with limited resources, thereby restricting their ability to apply for IP protection or enforce their IP in the PRC. A typical machine tool might contain embedded IP from 5 to 25 active patents. It is highly likely that many features, technologies, and processes protected in the US are copied or reverse engineered and integrated into manufacturing systems utilized by PRC enterprises. In fact, SCEs routinely request detailed proposals for advanced technology production lines from US and foreign machine tool suppliers. Rarely do the SCEs purchase all they have requested. A token machine tool purchase is made; the rest is reverse engineered.

Of course, this creates an interesting problem. Under current WTO rules and IP treaties and laws, if the IP were protected legitimately in the PRC by domestic individuals or firms, it would be legal to manufacture, distribute and sell products within the PRC. The challenge arises when the PRC manufactured products are produced on technology that incorporates expropriated IP and is then exported to destinations such as the US where the original IP was created and is protected. Based upon the levels of genuine machine tool purchases and the levels of export production, industry experts estimate that between 50 to 75 percent of products are manufactured on technology that contains in whole or in part expropriated IP.

Practically speaking, this is an extremely difficult challenge to address. It would require an audit of every piece of manufacturing equipment (i.e., hundreds to thousands of pieces per facility) in every production facility in the PRC (tens to hundreds of thousands of facilities both within and outside of SEZs) for an unlimited number of pieces of active IP with dozens of claims each. No company or government organization in the world has the willingness and capability to undertake this level of protection and enforcement.



### **3. PRC Noncompliance in the WTO Areas of TRIPS and TRIMs Obligations**

The leadership of the PRC understands its TRIPS and TRIMs obligations under its WTO accession protocol.<sup>20</sup> Moreover, they agreed to detailed procedures, schedules and transitional review mechanisms when the PRC became a WTO Member on 11 December 2001. In large part, the PRC's leadership has been committed to meeting its WTO obligations. In fact, the PRC has made remarkable progress on numerous fronts. For instance, in early 2002 all levels of government – national, regional, and local – reviewed laws, regulations and rules that resulted in WTO compliance issues. In the next few months more than 800 rules were abolished. Additionally, 2,300 laws and regulations were modified or amended to ensure compliance.<sup>21</sup> The PRC did not stop with these actions. They continue to review every aspect of the PRC economy and to make changes as compliance issues are identified.

If eliminating rules, or modifying laws were all that was needed to meet WTO TRIPS and TRIMs obligations, the PRC might be brought into compliance. However, the challenges that remain are much more vexing. For instance, the PRC controls its currency tightly and does not allow it to float freely in the open market. This is a problem which creates artificial economic subsidies for every activity that takes place within the PRC. These subsidies impact every piece of IP that is used or created in the PRC, every investment that is undertaken in the PRC, and every product or service that is exported from the PRC. It creates an unfair and daunting challenge for the entire world economic system.

IP has been the engine for all manner of economic development for as long as man's creative energies have flowed. Today, a substantial percentage of the results of the world's creative energies, i.e., IP, is being compromised at an alarming rate by PRC entities. Current national and global IP systems are fraught with loopholes and weaknesses that encourage IP expropriation. By utilizing the massive intelligence gathering capabilities of the PRC's state owned and controlled enterprises, including the Ministries of National Defense and State Security, PRC entities have been able to identify desirable and valuable IP. It appears that these mining activities have involved both domestic activities with regard to technologies brought into the PRC as well as international activities associated with US and other Patent Office policies and procedures. Once inadequately protected IP is identified, it is expropriated, expanded upon, and used openly and freely throughout the PRC.

Original IP creators and owners face overwhelming challenges as each nation has its own patent system. First, the IP owner must identify the foreign-based infringement; an undertaking that could easily cost in the millions of dollars per infringement. Second, IP owners must enforce against the infringement in one or more other nations; a cost

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<sup>20</sup> Report of the Working Party on the Accession of China, 8<sup>th</sup> Revision, WT/MIN (01)/3, 10 November 2001, Ministerial Conference, Fourth Session, World Trade Organization, Doha, Qatar.

<sup>21</sup> China's WTO Implementation Efforts, China Business Review, Volume 29, Number 4, July – August 2002, The US – China Business Council, CITIC Building, Suite 10-01, 19 Jianguomenwai Dajie, Beijing 100004, People's Republic of China.

prohibitive activity for all but the largest multinational companies. Lastly, IP owners must endure the threats, intimidation and retribution from PRC officials for not “playing ball.” Not surprisingly, even the largest and financially strongest companies in the world “roll over” to these pressures.

Another challenge within the PRC is the legacy obligation it incurred when a foreign investor entered an SEZ. The PRC, the regional government, the local government and the SEZs undertook contractual obligations with many thousands of investors. Investment decisions involving billions of dollars were predicated on receiving special economic, location, utility, material, labor, technology and other considerations from all levels of government and the zones themselves. Many of these contracts which are in conflict with WTO TRIPS and TRIMs obligations linger today. Where contracts have been changed publicly, covert pressure is applied to play ball or face costly retribution.

### **3.1 TRIPS Enforcement Challenges in the PRC**

The PRC initiated its efforts to protect foreign-owned IP in 1979. On 3 June 1980 the PRC became a contracting member of the WIPO and started to integrate its socialist laws, regulations and rules with capitalist IP conventions.<sup>22</sup> The PRC leadership began by patterning its IPR laws after the Berne Convention for the Protection of Literary and Artistic Works.<sup>23</sup> It continued on 14 November 1984 when the PRC began its accession to and became an official member on 19 March 1985 of the Paris Convention for the Protection of Industrial Property<sup>24</sup> and followed with implementation of the Agreement on Trade Related Aspects of Intellectual Property (TRIPS).<sup>25</sup> The PRC also initiated its accession to the Madrid Agreement for the International Registration of Trademarks in June 1989.<sup>26</sup> In addition, the PRC has concluded several bilateral negotiations with the US. Copyright protection was addressed in a January 1992 US – PRC Memorandum of Understanding (MOU)<sup>27</sup> concerning US and other foreign works. This was followed by a series of negotiations which resulted in the Sino-US Agreement on Intellectual Property Rights, in 1995.<sup>28</sup> Upon accession to an international agreement or execution of a bilateral agreement, the PRC People’s Courts began to apply the language directly in their decisions.

In the PRC, responsibilities for administration and protection of various IP types are dispersed at the national, regional and local levels of government. Nationally, patents are the responsibility of the State Intellectual Property Office. Trademarks fall under the State Administration for Industry and Commerce, while copyrights are the jurisdiction of the State Administration for Press and Publication. Similar patterns are seen at lower government levels.

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<sup>22</sup> Convention Establishing the World Intellectual Property Organization (Signed at Stockholm on July 14, 1967 and as amended on September 28, 1979), WIPO, 34, chemin des Colombettes, Geneva, Switzerland.

<sup>23</sup> Berne Convention for the Protection of Literary and Artistic Works, of September 9, 1886, completed at PARIS on May 4, 1896, revised at BERLIN on November 13, 1908, completed at BERNE on March 20, 1914, revised at ROME on June 2, 1928, at BRUSSELS on June 26, 1948, at STOCKHOLM on July 14, 1967, and at PARIS on July 24, 1971, and amended on September 28, 1979, World Intellectual Property Organization, 34, chemin des Colombettes, Geneva, Switzerland.

<sup>24</sup> Paris Convention for the Protection of Industrial Property, of March 20, 1883, as revised at Brussels on December 14, 1900, at Washington on June 2, 1911, at The Hague on November 6, 1925, at London on June 2, 1934, at Lisbon on October 31, 1958, and at Stockholm on July 14, 1967, and as amended on September 28, 1979, World Intellectual Property Organization, 34, chemin des Colombettes, Geneva, Switzerland.

<sup>25</sup> Agreement on Trade Related Aspects of Intellectual Property (TRIPS), part of Uruguay Round, General Agreement on Tariffs and Trade (GATT), September 1986 to April 1994, Punta del Este, Uruguay.

<sup>26</sup> Madrid Agreement for the International Registration of Trademarks (dates from 1891, and the Protocol Relating to the Madrid Agreement, which was adopted in 1989, entered into force on December 1, 1995, and came into operation on April 1, 1996), World Intellectual Property Organization, 34, chemin des Colombettes, Geneva, Switzerland.

<sup>27</sup> US – PRC Memorandum of Understanding (MOU), January 1992, Beijing, PRC & Washington, DC, USA.

<sup>28</sup> Sino – US Agreement on Intellectual Property Rights, 26 February 1995, Beijing, PRC & Washington, DC, USA.

IP protection and enforcement are a challenge throughout the PRC. The concept of an individual or an entity having an IP right is alien to the past and present culture of the PRC. Only about 3,000 delegates to the National People's Congress (NPC), meeting for two weeks annually, are responsible for the laws affecting 1.3 billion citizens. As a result the PRC's leadership has been slow to recognize the implications of cultural issues and to tackle the challenge of educating its citizens about IP rights. In addition, government officials at regional and local levels do not always share the views of the NPC and CPC leadership. Often, they look the other way when infringements are identified, interfere with enforcement, and actively assist infringers or counterfeiters to support local employment or achieve personal gain. Further, Courts generally order only nominal financial awards for economic losses and court costs. Indeed, even when a US or other foreign company "wins" an IP infringement case, it is routine for the Court to order the plaintiff to pay court costs along with the defendant.

In spite of these internal challenges, the PRC is expanding its IP activities across the board. Recently, the National IPR Protection Working Group Office, in conjunction with other relevant departments, formulated "PRC's Action Plan on IPR Protection 2006"<sup>29</sup> ("Action Plan") to better protect the IPR, resolutely punish and combat various infringement and other illegal activities.

The Action Plan covers four major areas: trademark, copyright, patent, and import and export, which involve the IPR protection plans and arrangements of eleven departments, including the Ministry of Public Security, Ministry of Information Industry, Ministry of Commerce, Ministry of Culture, Customs General Administration, State Administration of Industry and Commerce, Administration of Quality Inspection, Supervision and Quarantine, Copyright Bureau, State Food and Drug Administration, State Intellectual Property Office, and Legislative Affairs Office of the State Council.

The Action Plan covers nine areas: legislation, law enforcement, mechanism building, propaganda, training and education, international communication and cooperation, promoting business self discipline, services to right holders, and subject research. In line with the Action Plan, in 2006 China drafted, formulated and revised 17 laws, regulations, rules and measures relating to trademark, copyright, patent and customs protection, and drafted, improved and revised six judicial interpretations.

The IPR law enforcement efforts include seven dedicated campaigns such as the "Mountain Eagle I and II", "Sunshine", "Blue Sky", and "Hawk I", eight regular enforcement initiatives and 20 specific measures. The government established a long standing mechanism constituting 12 parts, including a service center for reporting and complaining IPR violations and publicizing law enforcement statistics, and 19 specific measures. Seven approaches and 39 measures have been adopted to raise the general public's awareness of IPR protection. Twenty-one IPR training programs have been organized under the Project of Training Thousands of IPR Personnel. The focus of IPR

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<sup>29</sup> PRC's Action Plan on Intellectual Property Rights Protection – 2006, National IPR Protection Working Group, State Office of Intellectual Property Protection of the P.R.C and Ministry of Public Security, Beijing, People's Republic of China.

related international exchanges and cooperation has been focused on legislation (trade mark, copyright, patent and customs protection) which is being facilitated through 19 exchange and cooperation activities, out of which seven have been or will be between China and the US. With a view to improving enterprises' consciousness and awareness of IPR protection, three initiatives have been launched, including the convening of a conference on enterprises' IPR protection and proprietary innovation. Twelve specific measures covering nine areas have been put in place to better serve the IP right holders. In addition, countermeasure oriented research is planned in five fields to strengthen IPR protection.

Many of the PRC's special operations and dedicated campaigns have shown success. For instance, recently completed Mountain Eagle II resulted in the arrests of nearly 4,000 suspects involved in over 3,000 cases nationwide. The vast majority of arrests were local merchants selling counterfeit products from small store fronts. While this represents commendable progress, it's only scratching the surface leaving many infringing and counterfeiting operations to continue undeterred. The production operations involve both Foreign Invested Enterprises in SEZs as well as State-Owned Enterprises in adjacent regions. Often when product infringements are identified, production equipment is hidden and moved to other locations. Even when infringers are apprehended and prosecuted, Courts routinely order that offending production equipment and molds be saved because of the employment implications. Practically speaking, they put the infringing and counterfeiting operations back into business.

According to Interpol and the World Customs Organization (WCO), infringing and counterfeit goods constituted approximately seven percent of all goods or more than \$600 billion in global trade during 2004.<sup>30</sup> US companies alone lose an estimated \$250 billion annually and the number is rising.<sup>31</sup> The truth is that no organization knows the real extent of infringing and counterfeit goods because the task of identifying all offending activities is unachievable. In addition to product infringements and counterfeits, a large, but unknown, quantity of non-counterfeit export products are manufactured on technology and production systems which themselves violate the IP of process equipment and machine tool suppliers.

US companies report that the costs associated with enforcing IP infringements are high and rising. For instance, one US company indicates that it invests heavily in IP protection and enforcement around the world, including the PRC. This company continuously investigates competitive products globally for IP violations. Costs for a typical investigation will range from several hundred thousand to a million dollars, or more. When they discover and investigate a violation, they aggressively pursue remedies. In the PRC, as soon as they begin a legal action, the offending party may cease production of the product covered by the legal action, but will immediately convert to another product or relocate to another manufacturing facility. By the time a legal remedy is obtained, the Court awards cover only a small fraction of the plaintiff's true costs of bringing the

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<sup>30</sup> World Customs Organization, Rue du marché 30, 1210 Brussels, Belgium.

<sup>31</sup> International Intellectual Property Enforcement Fact Sheet, 22 July 2005, Office of the Coordinator for Intellectual Property Enforcement, Department of Commerce, Washington, DC, USA.

violation to trial, and the same factory, management, and workers are now producing a different product violating additional IP of the company. This pattern of IP abuse is experienced in the PRC by numerous multinational and global companies.

Of the typical cases summarized for this report (presented in Table 1 that follows), in only one instance did the Chinese court order remedies in keeping with the plaintiff's request for relief. In this case, i.e., *Borland Software Corp. v. Abay Technology Ltd., et. al.*, the Beijing Supreme People's Court affirmed the Beijing No. 2. Intermediate People's Court ruling and ordered Abay to cease infringements of Delphi 5.0, Delphi 6.0, and Delphi 7.0, and to pay \$50,000 in economic losses and \$1,280 in court costs. Abay, defendant and appellee, argued that it had purchased the software from what it believed was an authorized distributor of Borland. The court rejected this argument due to a lack of supporting evidence. The court also rejected Abay's claim that the company was founded after the infringements took place, because it was established during the trial that Abay, before changing its name to Abay Technology, was previously known as Beijing Niuwanqing Centre, and the records indicated that the company had a history of using pirated versions of Borland's software. While the court, in this case, provided the requested remedies, it is highly likely that the economic damages and court costs awarded were significantly less than the costs incurred by Borland to investigate the IP infringements and take the case to trial and then to the appeals court.

Two of the cases illustrate the courts' common practice not to order the destruction of infringers' molds and tools used in the manufacture of infringing products. Both Bridgestone Ltd. and OBE-Werk, in their respective IP infringement trials, requested that the defendants' infringing molds and tools be destroyed. In both cases, the courts ordered the infringements to be halted, but did not order the destruction of the infringing molds and tools, and ordered damages and court costs substantially below the amounts requested by the plaintiffs.

In a third and similar case, *Schneider Electric v. CHINT*, the court refused to order the defendant (found guilty of infringing on Schneider's patent for a multifunctional circuit breaker) to deliver to the court (for destruction) all associated manuals used by CHINT in the manufacture and sale of the infringing product. Once again, the court ordered substantially reduced damages from the amounts requested.

In an unusual order, even in the PRC, after the Beijing Supreme People's Court affirmed the Beijing No. 1 Intermediate Court's ruling in favor of Canon in a patent infringement case for Canon's patented camera design, the defendant (Kun Lian Photography, Ltd.) was ordered to pay only \$6.50 in legal costs. In this case, there can be absolutely no question that the court award was microscopic when compared to Canon's costs to investigate the IP infringement, and prepare for and prosecute the initial trial followed by an appeal.

In *Gillette Co. v. Chengpu*, the Wenzhou Intermediate People's Court ordered Chengpu to cease infringing Gillette's patent for electric shavers, and awarded modest economic damages and court costs. But, the court also ordered Gillette to pay \$400 in legal costs.

In the remaining IP cases summarized for this report, the courts ruled in favor of the US and other foreign company plaintiffs, but ordered only modest, nominal awards for economic losses, travel and court costs. The lesson for US companies investing in the enforcement of their IP in the PRC is clear and unambiguous: the cost of enforcement is very high and rising, and the court awards, when legal enforcement is “successful,” are generally so low as to be an undisguised message to others not to use litigation as a means of IP protection.

Faced with experiential data about the costs involved in field investigations of potential IP infringements in the PRC, followed by field investigations of infringing products that are consequently sold in the US and in other countries around the globe, the US company has to conduct a number of consequential cost/benefit analyses. As noted earlier in this report, US companies can spend from several hundred thousand dollars (at a minimum) to a million dollars or more, to conduct their investigations to determine if an infringement has occurred, and who specifically the infringers are. Then the company has to factor in the costs involved in attempting to enforce its IP in the PRC courts. The costs add up quickly: in-house attorneys and support staff, external attorneys and support staff, further investigations, cost of document translations from Chinese to English and from English to Chinese, travel, hotel, and numerous miscellaneous expenses. Based on the history of awards granted thus far by the PRC courts, the financial costs of enforcement far outweigh the financial awards granted to successful litigants. It is a system operated in a way so that plaintiffs get no real relief.

In an interview with the Sr. Patent Counsel for a large US consumer products corporation whose IP is constantly being infringed upon by PRC competitors, as well as infringers in a host of other countries, the discussion logically made its way to the IP enforcement cost/benefit issue. At the conclusion of the discussion, the question that remained unanswered was “when will top corporate management begin to factor in the cost of IP enforcement when it makes its future investment decisions?”

When asked what government actions might prove beneficial to facilitate IP protection and enforcement for his company, the Sr. Patent Counsel suggested “a level playing field for all US companies.”

**Table 1. Selected Cases of Inadequate Chinese Enforcement of U.S. and Other Foreign Company Intellectual Property Infringements**

<b>Plaintiff/Defendant(s)</b>	<b>Cause of Action</b>	<b>Product</b>	<b>Requested Remedy</b>	<b>Disposition</b>
Gillette Co. v. Chengpu <sup>32</sup>	Gillette charged Chengpu with manufacturing, marketing, and selling electric shavers which infringed Gillette's patent.	Electric shaver	RMB 500,000 in damages and legal costs, stop infringement and conduct full investigation of factory.	Wenzhou Intermediate People's Court Mingshanting ordered Chengpu to cease infringing, and pay RMB 180,000 (\$23K) in damages, and RMB 8,210 (\$1050) in court costs. Also, ordered Gillette to pay RMB 3000 (\$400) in legal costs.
Pfizer Inc. v. Beijing Health New Concept Pharmacy, Lianhuan Pharmaceutical Co. <sup>33</sup>	Pfizer charged defendants with production and sales of Weige, the generic version of Viagra.	Viagra	Cease production and sales, and payment of damages.	Beijing No. 1 Intermediate People's Court ordered the defendants to halt production and sales of Weige. Lianhuan was ordered to pay RMB 300,000 or \$38,363 in damages.

<sup>32</sup> China Intellectual Property Report, July 2006, InterLingua Legal Publishing, Redondo Beach, CA, File No. C0604058, p. 1.

<sup>33</sup> [bigblog.com/Pfizer-wins-viagra-infringement-case-in-china-pfe](http://bigblog.com/Pfizer-wins-viagra-infringement-case-in-china-pfe).



<b>Plaintiff/ Defendant(s)</b>	<b>Cause of Action</b>	<b>Product</b>	<b>Remedy Requested</b>	<b>Disposition</b>
Bridgestone Ltd. Japan v. Aeolus Tyre Ltd., Beijing Bai Shi Qiang Trade (BSQ) Ltd. <sup>34</sup>	Aeolus' infringement of Bridgeston's patent right by manufacturing and selling Bridgestone's patented tire design.	Tire	Injunction, RMB 300,000 in damages, destroy all infringing products and associated molds.	Beijing No. 2 Intermediate People's Court ordered that production and sales be halted, RMB 80,000 (\$10K) in damages and RMB 4,140 (\$500) in court costs.
OBE-Werk Ohnmacht & Baumgartner GmgH& Co., KG v. Kanghua Glasses Co., Ltd. <sup>35</sup>	OBE charged Kanghua with infringement of its patent by plagiarizing its proprietary technology for the making of spectacle hinges.	Spectacle hinges	Injunction, public apology, destruction of all infringing molds and tools, RMB 4.15 M in damages for loss of revenue, cost of travel and investigations, and court costs.	Beijing No. 1 Intermediate People's Court ordered Kanghua to stop all acts of infringement, pay RMB 50,000 (\$6,400) for economic losses and RMB 2,010 (\$250) for court costs. OBE was ordered to pay RMB 5,000 (\$640) for court costs.
Canon Co., Ltd., Japan v. Xiamen Kun Lian (KL) Photography Equipment, Ltd., Xiamen Bao Da Cameras Ltd., Beijing Hong Fa Clocks and Eyewear, Ltd. <sup>36</sup>	Canon charged KL with infringing on its patent by manufacturing and selling cameras featuring Canon's patented design.	Camera	N/A	Beijing Supreme People's Court affirmed the Beijing No. 1 Intermediate People's Court's ruling in favor Canon, and ordered KL to pay legal costs in the amount of RMB 50 (\$6.50).

<sup>34</sup> China Intellectual Property Report, November 2006, InterLingua Legal Publishing, Redondo Beach, CA, File No. C0607022, p. 1.

<sup>35</sup> China Intellectual Property Report, July 2006, InterLingua Legal Publishing, Redondo Beach, CA, File No. C0604037, p. 2.

<sup>36</sup> China Intellectual Property Report, December 2006, InterLingua Legal Publishing, Redondo Beach, CA, File No. C0607050, p. 1.

<b>Plaintiff/ Defendant(s)</b>	<b>Cause of Action</b>	<b>Product</b>	<b>Remedy Requested</b>	<b>Disposition</b>
3M Facemask Co. v. Dasheng Mask Co., Ltd. <sup>37</sup>	3M charged Dasheng with infringing its patent for a personal breathing device and its method of manufacture.	Facemask	N/A	Shanghai First Intermediate People's Court ruled for 3M and ordered payment of RMB 200,000 (\$25,000) in damages for the invention patent infringement and RMB 50,000 (\$6,250) for design patent infringement.
Lark Ltd., Germany v. Shanghai ZLD Electrical Equip. Ltd., Beijing LSWY Electrical Equip., Ltd., Beijing Dazhong Electrical Mdse. Ltd. <sup>38</sup>	Lark charged ZLD and LSWY with infringing on its design patent by manufacturing and selling electric kettles which counterfeited Lark's product. Dazhong was charged with selling the counterfeits.	Electric-kettle	Injunction, public apology, RMB 300,000 for economic losses, and RMB 5,000 for court costs.	Beijing Supreme People's Court affirmed the Beijing No. 1 Intermediate People's Court ruling in favor Lark, and ordered the defendants to stop the infringing acts, ZLD and LSWY to pay RMB 50,000 (\$6,250) in damages and court costs.

<sup>37</sup> China Patent Express, Issue 124, 9 June 2006, citing 20 April 2006, [www.sh.xinhuanet.com](http://www.sh.xinhuanet.com). Also, China Intellectual Property Report, July 2006, InterLingua Legal Publishing, Redondo Beach, CA, File No. N060407, p. 7.

<sup>38</sup> China Intellectual Property Report, November 2006, InterLingua Legal Publishing, Redondo Beach, CA, File No. C0607001, p. 2.

<b>Plaintiff/ Defendant(s)</b>	<b>Cause of Action</b>	<b>Product</b>	<b>Remedy Requested</b>	<b>Disposition</b>
Schneider Electric SA v. The CHINT Electric Co., Ltd., Sales & Marketing Division of Huayunzhengtai <sup>39</sup>	Patent infringement	Multi-functional circuit-breakers	CHINT to stop manufacturing and exporting its infringing products and, selling & advertising on the internet; Huayan to stop selling its infringing products by any & all means; defendants to deliver to the court all associated manuals; a written apology to be published in Voltage Apparatus & E-world Magazines; CHINT to pay RMB 500,000 in damages; and defendants to pay all legal costs.	Beijing No. 1 Intermediate Court ordered defendants to stop all infringements, and ordered CHINT to pay RMB 300,000 (\$38,363) for economic losses.
Staubli Faverges, France v. Changshu Textile Machinery, Ltd., Beijing CQXY Trade, Ltd., Beijing ZCWY Trade Center <sup>40</sup>	Changshu charged with manufacturing and distributing infringing machinery (Staubli's patent). CQXY and ZCWY were charged with selling the infringing machinery.	Textile Machinery Component	Changshu to stop manufacturing, selling, promoting and exporting the infringing products; CQXY and XCWY to stop selling the infringing products.	Beijing No. 2 People's Court ordered Changshu to stop manufacturing & selling infringing products & to pay RMB 220,000 (\$28,100) for economic losses & court costs. CQXY and ZCWY were ordered to stop selling

<sup>39</sup> China Intellectual Property Report, July 2006, InterLingua Legal Publishing, Redondo Beach, CA, File No. C604037, p. 4.

<sup>40</sup> China Intellectual Property Report, December 2006, InterLingua Legal Publishing, Redondo Beach, CA, File No. C0607023, p. 1.

<b>Plaintiff/ Defendant(s)</b>	<b>Cause of Action</b>	<b>Product</b>	<b>Remedy Requested</b>	<b>Disposition</b>
				infringing products.
Borland Software Corp., U.S.A. v. Abay Technology Ltd., Beijing Zihuan Electronics Ltd., Beijing Zihuan Business Management Consultant, Ltd. <sup>41</sup>	Defendants were charged with infringing on Borland's software applications copyright by using pirated versions of its software.	Delphi 5.0 Delphi 6.0 Delphi 7.0	Injunction, RMB 378,200 in economic damages, and RMB 10,000 in court costs.	Beijing Supreme People's Court affirmed the Beijing No. 2 Intermediate People's Court ruling and ordered defendants to cease infringements, pay RMB 378,200 (\$50,000) in economic losses and RMB 10,000 (\$1,280) in court costs.
Astellas Pharmaceuticals Ltd., Japan v. Shenzhen QHYX Pharmaceuticals, Beijing Wan Wei Medicine Ltd. <sup>42</sup>	QHYX was charged with patent infringement by producing a drug using the same process as Astellas, Wan Wei was charged for selling the infringing products.	Drug	Injunction, destroy the infringing products, QHYX to pay RMB 500,000 in economic losses and QHYX to pay RMB 4,500 in court costs.	Beijing No. 2 Intermediate People's Court ordered QHYX to cease the infringing acts, pay RMB 50,000 (\$6,400) for economic losses and RMB 4,500 (\$575) in court costs. The court rejected the charges against Wan Wei.

<sup>41</sup> China Intellectual Property Report, January 2007, InterLingua Legal Publishing, Redondo Beach, CA, File No. C060611, p. 9.

<sup>42</sup> China Intellectual Property Report, February 2007, InterLingua Legal Publishing, Redondo Beach, CA, File No. C061008, p. 5.

<b>Plaintiff/ Defendant(s)</b>	<b>Cause of Action</b>	<b>Product</b>	<b>Remedy Requested</b>	<b>Disposition</b>
K-2 Company, U.S.A. v. Mr. Shen Zhongzhi, Mr. Wang Genliang, Foshan City Shuo Zhan Industry, Ltd. <sup>43</sup>	K-2 charged defendants with infringing on its patent right and exclusive right to use its registered trademark by manufacturing ski products that imitated K- 2's patented design and trademark.	Ski products	Injunction, destroy all infringing products, pay damages for economic losses in the amount of RMB 300,000.	Beijing No. 1 Intermediate People's Court ordered Shuo Zhan Industry to cease production and distribution of infringing products and pay RMB 100,000 (\$12,800) in damages. Court ordered Shen Zhongzhi & Wang Genliang to cease sale of the infringing products.

Based upon analysis of the IP infringement cases presented above, as well as interview data collected about the costs of identifying, verifying, and prosecuting IP violations, the following conclusions are reached:

- The level of fines and/or compensation awarded by Chinese courts to U.S. companies is too low to serve as actual deterrents to Chinese infringers.
- The “common practice” of Chinese courts not ordering the destruction of infringers’ molds, tools, and manuals used in the manufacture and sale of infringing products facilitates the ability of infringers to set up new illegal operations on a timely basis. In response to local employment requirements or as a result of official corruption, too often the Chinese courts actually serve as enablers of new IP infringement activities by not ordering the destruction of infringers’ equipment and manuals. Viewed from the perspective of the company being infringed upon, this common practice is clearly an outrage, rather than a deterrent. Viewed from the infringer’s perspective, it’s back to business as usual.
- The high cost of investigations – ranging from several hundred thousand dollars to a million dollars or more – needed to confirm that IP violations are occurring, and to identify the infringers, coupled with the knowledge that success in the Chinese courts will only result in nominal fines and/or compensation, leads many companies to not seek IP enforcement in the Chinese courts, but to write-off the losses from infringers as a cost of doing business in China.

<sup>43</sup> China Intellectual Property Report, February 2007, InterLingua Legal Publishing, Redondo Beach, CA, File No. C061014, p. 1.

### **3.2 TRIMs Enforcement Challenges in the PRC**

Throughout history China has contributed to world innovation and participated in international trade. However, even with this history when Mao Zedong grabbed the leadership of the PRC in October 1949, capitalism was over. Mao brutally destroyed every vestige of capitalist activity or thinking. He was very thorough; few survived his purges. As a result, when Deng Xiaoping succeeded Mao, socialism was deeply ingrained throughout the culture, and few had any knowledge of capitalist systems and processes.

Deng believed that Mao had been 70 percent right and 30 percent wrong. He began immediately to change those aspects of socialism that he believed Mao ignored and which impeded the PRC's rise to a super power. Deng recognized that the PRC needed the resources to change the country. He looked at Hong Kong and Macau for insight and conceived of Special Economic Zones (SEZs) in the early 1980's. And he ordered the PRC to aggressively seek foreign investment as part of its experimentation with SEZs. To attract this investment, the PRC offered a range of lucrative inducements, including subsidies for land, facilities, utilities, labor, technology, raw materials, etc., as well as other financial incentives and tax rebates for exports. On the flip side, the PRC incorporated numerous requirements, including technology transfers, local content purchasing, maximizing exports, limited market access, etc., into every investment. Since that time, many of the legacy inducements and requirements have become WTO TRIMs issues.

As a socialist economy, the PRC under Deng began on a steep learning curve during a period when current trade conventions were being negotiated on a global basis by all of the trading nations. What the PRC put into place to attract the initial investments seemed appropriate to its leadership at that time. Everything was new to the PRC's socialist economy. Laws, including the Chinese – Foreign Equity Joint Ventures<sup>44</sup> and its implementation regulations, the Chinese – Foreign Contractual Joint Venture<sup>45</sup> and its implementation regulations, the Wholly-Owned Foreign Enterprise<sup>46</sup> and its implementation regulations, the Foreign Invested Enterprises<sup>47</sup> and its implementation regulations, etc., had to be put in place or modified. In addition, corporate laws, contract laws, insurance laws, arbitration laws, labor laws, intellectual property laws, trademark laws, copyright laws, tax laws, and a host of others were needed over night at national, regional, and local levels of government. It was a mammoth undertaking. Adding new legislation didn't necessarily mean all conflicts from the past were eliminated. It also didn't mean that everyone understood, approved and would vigorously implement and enforce these changes.

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<sup>44</sup> Law of the People's Republic of China on Chinese-Foreign Equity Joint Ventures, adopted on 1 July 1979 at the 2<sup>nd</sup> Session of the Fifth National People's Congress, as amended.

<sup>45</sup> Law of the People's Republic of China on Chinese-Foreign Contractual Joint Ventures, adopted at the 1<sup>st</sup> Session of the Seventh National People's Congress, and promulgated by Order # 4 of the President of the People's Republic of China on 13 April 1988.

<sup>46</sup> Law of the People's Republic of China on Wholly-Owned Foreign Enterprises, adopted on 12 April 1986 at the 4<sup>th</sup> Session of the Sixth National People's Congress.

<sup>47</sup> Law of the People's Republic of China on Foreign Invested Enterprises, adopted 9 April 1991 by the National People's Congress.

The PRC ended up with a centrally controlled socialist economy overlaid with a “virtual” capitalist system. It was clumsy and cumbersome, but it worked. Each change in the global trade system and each step in the PRC’s accession to international standards, treaties and organizations precipitated changes and ripples throughout the PRC’s legal structure and culture. Each change also caused problems with tens of thousands of long term agreements and contracts which the PRC, its regional and local governments, and their SEZs had entered into in order to induce earlier investments. Almost all were in conflict with TRIMs requirements.

While the PRC’s senior leadership has been willing to make the law, rule, and policy changes necessary to achieve compliance, their greatest challenge has been and remains changing their socialist culture. This embedded culture is responsible for the actions of many regional and local officials, the practices of their entrepreneurs and business professionals, the standards of their citizens and may take several generations to fully dissipate. While cultural issues are not an acceptable excuse, they can not be ignored and must be addressed as such. For instance, many of the officials responsible for the activities of foreign entities in the PRC are former officials (or members of their immediate families) of PRC Ministries. As a result, even when contracts are changed to remove requirements like technology transfers, local content purchasing, maximizing exports, etc., they resort to threats, intimidation, and retribution against companies that do not cooperate. So significant are these covert actions that not even the world’s largest companies are able to endure the pressure. It is play ball, do as you are told, don’t complain, or you are gone or destroyed.

Where the international community, including the US, finds itself is in the midst of a transition to clean up TRIPS and TRIMs infractions. As a result, the US Department of Commerce (DOC) Import Administration sees a constant stream of complaints and violations which they investigate. Accordingly, the DOC maintains a database of US company TRIMs complaints, with proprietary information and related actions. The database, while not publicly available, is used in concert with the Office of the US Trade Representative (USTR) to conduct dispute settlement consultations with the WTO.

One major industry currently seeking assistance is the “Motor Vehicle Components, Tools and Equipment, Automotive Chemicals and Related Products Used in the Production, Repair, and Maintenance of All Classes of Motor Vehicles.” Serious challenges faced by this US industry are discussed in the following case study.

## **Case Study: Manufacturers of Motor Vehicle Components, Tools and Equipment, Automotive Chemicals and Related Products Used in the Production, Repair, and Maintenance of All Classes of Motor Vehicles<sup>48</sup>**

In many respects, motor vehicle suppliers are the foundation of US Manufacturing. Motor vehicle suppliers directly employ 783,100 in the United States, making the industry the nation's largest manufacturing sector. The Motor & Equipment Manufacturers Association (MEMA) has a membership of 700 motor vehicle supplier companies. Every supplier job creates another 4.5 other jobs in the economy. These include an additional 1,970,000 jobs in industries from steel to plastics that support the automobile supplier industry and 1,700,000 jobs supported by the spending of direct and indirect employees. The total economic footprint of the supplier industry accounts for nearly 4,500,000 private industry jobs.

In addition, the supplier industry sector accounts for 40 percent of all automotive industry spending on research and development. Today's automobiles are high tech as well as safe, with approximately 18 computers in each vehicle to oversee the operation of such items as airbags, anti-lock brakes, engine control modules (ECM), climate control and adaptive suspension systems. Computers help enable the vehicle to be more reliable, fuel-efficient, and easier to diagnose for repair.

The motor vehicle supplier industry association has developed a position statement on "China's Development Policy for the Automobile Industry." This position statement provides salient background and a current status report of its assessment of the PRC's TRIMs violations, in particular, local content requirements on specific parts.

**Background:** In June 2004, the Government of the PRC issued broad regulatory guidance to OEMs and suppliers through its "Development Policy for the Automobile Industry." Sections of the policy intended to prevent tariff circumvention appear to violate World Trade Organization (WTO) rules over national treatment, use of local content requirements and China's tariff commitments to the WTO. In 2006 the EU, the United States and Canada filed a case against the PRC in the WTO for elimination of the local content requirements. The U.S. Trade Representative (USTR) and industry have been monitoring implementation of this policy closely.

**Status:** PRC's "Measures on Importation of Parts for Entire Automobiles," issued in February 2005 require manufacturers in the PRC to register the parts they use in the assembly of new automobiles to determine whether the parts have been assembled in the PRC. If the number or value of imported parts exceeds specified thresholds, the PRC's General Administration of Customs will apply the higher tariff rate assessed a complete automobile on each of the various imported parts rather than the lower tariff rate applicable to an individual part. Application of these new regulations appears to result in imposition of a tariff on auto parts in excess of the bound rate. The new regulations also

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<sup>48</sup> Government Affairs 2007 Issue Book, Legislative and Regulatory Issue Paper: China's Development Policy for the Automobile Industry, p. 13, Motor & Equipment Manufacturers Association, 1225 New York Avenue, N.W., Suite 300, Washington, DC 20005.



specify certain key parts and assemblies that must be manufactured locally in the PRC. If these specified parts are imported instead, the higher tariff rate assessed on a complete automobile is applied. This aspect of the new regulation appears to improperly condition tariff treatment on local content, contrary to Article III of GATT 1994 and the commitment in the PRC's accession to the WTO.

**Impact on Industry:** The financial impact on suppliers is occurring on both the application of higher duties and loss of exports to the PRC due to local content requirements on specific parts. The Original Equipment Manufacturers (OEMs) have not issued any public information on additional costs or losses caused by the new regulations. Accurate determination of the impact on industry is made even more difficult by the complex multi-tiered rules used by Chinese officials for determining whether OEMs meet or fail a 40 percent local content requirement that triggers an increase in imported parts tariffs from 10 to 25 percent.

**2007 Anticipated Action:** The Motor & Equipment Manufacturers Association has identified a group of members who are most affected by the PRC's auto policy and local content rule. MEMA will work with these members to advise and consult with USTR through the course of the WTO dispute settlement case. Final resolution of the case, including appeals, is not expected until 2008.

## 4. Nature of the Crisis in IP Enforcement

Simply stated, the intellectual property systems of developing nations, in their current form, encourage abuse. And abuse, infringement and pirating are precisely what exist.

Without a doubt, some abuse exists within the individual inventor and small company community. However, major contributors to this abuse are the many transnational corporations that avoid confidentiality agreements with individuals and small companies and refuse to undertake patent due diligence, lest they be accused of willful infringement and assessed treble damages if they lose a lawsuit in US courts. Large companies allocate resources to ensure they are well informed; they attend conferences globally; they scour the published literature; and they follow leads for product and process information of interest. And, when relevant IP is identified, if it's not adequately protected, they claim it and patent it.

A major challenge facing inventors is the advent of national strategies to expropriate their IP, when they do not understand the global IP systems or lack the resources to protect their IP globally. In this regard, according to WIPO, residents of two countries, South Korea and the PRC, are amassing intellectual property at disproportionately high rates. It appears that these countries have encouraged and/or organized efforts to mine for IP, to expropriate that IP, and to modify it sufficiently that they can claim invention and protect that IP in their countries.

Consider the challenge. In 2004, approximately 1.6 million patent applications were filed and about 600,000 patents were granted worldwide. By the end of 2004 there were more than 5.4 million active patents globally.<sup>49</sup> On a worldwide basis, patent growth is about 4.75 percent annually. In the last twenty years the proportion of non-resident patents filed globally has increased from less than 40 percent to about 70 percent. While there has been no definitive study of this change, it would appear that the great majority of non-resident patent filings are virtual duplicates of filings in resident nations to obtain foreign protection. Practically speaking, any duplicate filing should be considered a “non-value added activity” and thus, a waste of resources.

Also, the time and cost associated with checking any patent claim against the claims in 5.4 million active patents is prohibitive even for the largest of multinational companies and the best of patent firms. In fact, the EPO indicates that it can easily take up to 84 months to process a patent application and that their average processing time is 46.2 months.<sup>50</sup> It's highly likely that any patent filed today does and will infringe on some claim in some patent in some place in the world. As a result, “doing business” around the world carries with it intellectual property challenges.

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<sup>49</sup> WIPO Patent Report 2006 – Statistics on Worldwide Patent Activity, Publication 931 (E), World Intellectual Property Organization, 34 chemindes Colombettes, CH-1211 Geneva 20, Switzerland.

<sup>50</sup> EPO Annual Report 2004, European Patent Organization, Munich, Germany.

When a foreign company undertakes to conduct business in the PRC, intellectual property is always an issue. First, the PRC doesn't want companies that can not or will not transfer their newest and most advanced IP to the PRC. While there is not a single definition of what transferring IP to the PRC means, it's likely to be problematic under any definition. The challenges vary with the industry and the companies involved, but they exist for all industries and all companies. They impact small and large companies, albeit somewhat differently.

A variety of state-directed "strong arm" tactics, including threats, intimidation, and retribution are common. Play ball, do as you are told, do not complain, and do not criticize the PRC or you lose. For a small or even a medium size company the impacts can be devastating. These companies have very few bargaining chips and far too many competitors. Nor do they have the support of the US government, which has loudly denounced violations of US-owned copyrights and trademarks, but has been silent about patent violations.

Most small companies, moreover, either do not know their IP has been compromised, or if they do, they ignore it. If they fight, either the IP or the company is destroyed. Unfortunately even the world's largest companies are almost as powerless if they plan to remain in the PRC markets.

Consider SigmaTel, Inc., a small, high-tech, specialty chip company. SigmaTel's patented technology is critical to most electronics. Their IP was compromised by a PRC firm. They decided to fight. While they have been winning the battles, the diversion and litigation costs have severely injured the company. SigmaTel could easily lose the war.

Or, consider General Motors. GM developed IP associated with a small vehicle. The IP was compromised. At first it appeared that GM would try to protect and enforce its IP. Shortly thereafter, it appears that GM was pressured to "roll-over" in exchange for continued access to the PRC markets.

Or, take the case of Microsoft. Recently, Microsoft released its new operating system, Vista. Before Vista was released and available on store shelves in the US, it was openly sold on the streets of Beijing at \$ 1.30 per copy.<sup>51</sup> Earlier the PRC threatened to fully develop and provide a domestic operating system and applications program.<sup>52</sup> Microsoft went on a charm offensive and, it would appear, cut a deal. When the Vista infringement occurred, it appears that Microsoft "rolled-over" in exchange for long term access to PRC markets.

Or take Pfizer, Inc. Pfizer has had numerous pharmaceuticals infringed upon in the PRC. They have rigorously enforced their IP both in the PRC and around the world. In May 1994 Pfizer submitted an application for a patent entitled "Pyrazolopyrimidinones for the treatment of impotence" (i.e., Viagra). In a protracted litigation that has had setbacks and

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<sup>51</sup> Pirated Vista Beats Microsoft to China's PCs, 31 January 2007, Kathleen E. McLaughlin, Chronicle Foreign Service.

<sup>52</sup> China Blocks Foreign Software, 18 August 2003, Zhang Xiaonan, CNET News.

successes, Pfizer finally received the favorable ruling they sought on 2 June 2006. This should have been a joyous event. However, shortly thereafter Pfizer announced it would be closing a significant number of its US operations. It appears production and market access was traded with the PRC.

#### **4.1 Pirating of Patented Equipment in China and Downstream Products Produced**

When Mao Zedong declared the founding of The Peoples Republic of China (PRC) on 1 October 1949, the country was in the manufacturing Middle Ages, a nation recovering from both a foreign and civil war. Although China had made some strides prior to WW II, by the end of the war much of the country was in shambles. The majority of China's production capability had been destroyed or severely damaged during, or as part of, the Japanese occupation and subsequent liberation. And, little was accomplished in the years immediately following WW II while the Koumintang (KMT) and the Communist Party of China (CCP) battled to end the decades old Chinese Civil War. What Mao inherited was a country marginally able to provide products for its communal or national needs. It had difficulty producing clothing, housing, sustenance, transportation, and minimal else for its citizens. On a national basis, Mao had extreme difficulty addressing defense needs. From a manufacturing perspective, the PRC was starting from zero.

Obviously, resources were scarce for Mao and the PRC. Initially, Mao undertook land reform and suppressed opponents, often violently. Mao was then ready to consolidate power and build a socialist economy. His plan was simple: end the PRC's dependence on agriculture and develop its industrial capabilities with the help of the Union of Soviet Socialist Republics (USSR, i.e., Союз Советских Социалистических Республик, СССР). Mao intended that the PRC would become a world super power through industrial modernization and production. Two issues are important concerning the PRC's industrialization approach. The first is that every industrial complex was state owned and was associated with a particular Ministry. Most of the heavy industrialization was owned by the Ministry of National Defense. Second, most industrial operations tended to be totally self-contained, virtually integrated, cellular compounds. Each compound, usually walled, was a "mini-city". It had incoming raw material transportation, raw material processing (e.g., steel production, etc.), a full manufacturing capability to end products, and outgoing finished product shipping and transportation. In addition, each compound had a dedicated workforce, living accommodations, health care facilities, stores and pharmacies, religious amenities, children's education, and even burial grounds.

With the help of the USSR, the PRC was able to acquire manufacturing technology. Throughout the PRC's mass industrialization period, both they and the USSR were isolated from the western economies and their technologies. As a result, the PRC ended up with factories reminiscent of a late 1800s factory in the US. Typically, the factory would have had central drive motors, overhead belt power transmission, tightly packed, ganged, belt driven production machinery. Production lines were dirty and dangerous. Workers had little or no education. Components and products rolling off any given production line would have had accuracies of a few hundredths, give or take a little. There would have been a group of workers with hand files on every line to fix out of tolerance parts. PRC factories weren't pretty, but they were a giant step above the pre-WW II era.

While Mao's Cultural Revolution varied somewhat over time, his industrial focus remained unchanged. When the PRC – Soviet relations waned, the PRC developed a domestic manufacturing technology capability, albeit 1800s era. Simply, the PRC disassembled every technology, copied or reverse engineered every component, and reproduced every type of production system it had acquired through the USSR. And so, when President Nixon made his historic trip to the PRC, it functioned like a late 1800s or early 1900s economy. The discussions with Nixon left Mao's goals unaltered and the condition of its manufacturing capability unchanged.

As a result, when Deng Xiaoping became the "de facto" leader of the PRC in the early 1980s, the manufacturing capability was distinctly obsolete by global standards. Deng's early experimentation with Special Economic Zones (SEZs), while economically successful, did little or nothing to modernize the PRC's manufacturing capability. Activities in the SEZs of the 1980s involved predominantly very low tech, labor intensive operations. Little, if any, IP found its way into the PRC. It wasn't until the implementation of the Torch Program of the late 1980s and beyond, including the realization of the High-Tech Industrial Development Zones (HIDZs) that the situation began to change. By this time, PRC political and technical leaders had been exposed to advances of the western cultures. The PRC knew what existed and was determined to bring every modern technology to the PRC as quickly as possible. From this point forward, if a company wanted to "do business" in the PRC, a requirement would be the transfer of advanced technology. It was simple, PRC laws and policies required the newest, best, most advanced product and manufacturing technologies. In addition, there were old fashioned arm twisting, competitive "auctions" and pressures, and a host of veiled threats, intimidation and retribution.

The technological floodgates opened. Companies from around the globe began to surrender their technologies to the Chinese so they could conduct business in the PRC. Of course their hope was twofold. First, obtain the competitive cost advantage of manufacturing their products in a very low cost environment. And second, over time gain access to the potential, but large market of the PRC itself. At first, only commercial products were brought to the PRC. However, it didn't take long for competition and greed to get the better of many business executives around the world. Soon dual use technologies were on the way to the PRC. In some cases, a number of unethical executives migrated military technology and products to the PRC.

From the PRC's vantage point, they saw a bonanza. Former officials from the Ministries of National Defense, State Security, etc., many of whom were well trained in intelligence gathering probably couldn't believe what they were seeing. Every technology they needed to modernize the PRC, privately, commercially, and militarily was being dropped on their doorstep. All the PRC needed to do was harvest this bumper crop of technology. Their socialist culture was right; their under-dog mentality was right; and the money to do what was needed was flowing in faster than the PRC could use it. The decisions were made hundreds of times, but they were made easily. State owned facilities surrounding various SEZs could be modernized with the advanced technologies. It was

straightforward: access the best technologies, copy or reverse engineer them and reproduce them for the State owned facilities.

Of course, IP pirating and infringement on such a scale would not be tolerated anywhere else in the world, but it was and is happening in the PRC. Few companies operating in the PRC and even fewer machine tool companies were willing to admit, much less discuss, the compromise of either product or production IP. For instance, the US machine tool manufacturing industry consists of about 7,000 companies with combined annual revenue of \$25 billion worldwide. The industry is exceptionally fragmented. A typical company has revenues under \$10 million annually, while the larger companies reach somewhat over \$100 million. All have limited research and development budgets and depend heavily on the IP they create.

For a typical US machine tool company with about \$10 million in annual sales, pursuing marketing opportunities in the PRC is not an insignificant cost. If the US machine tool companies are successful and acquire customers, it becomes important to retain those customers. Like most business executives “doing business” in the PRC, US machine tool industry associations and company executives are loathe to provide public insight to the challenges they face. Most have been subjected to extensive threats and intimidation by PRC customers, competitors and partners just to get started. They have been told to “play ball” or experience retribution.

However, the practices being used in the PRC are well known, and are routinely and privately discussed between executives and industry experts. Unfortunately, no solution to the loss of machine tool IP is in sight. Losing machine tool IP through a sale or joint venture in the PRC is considered a hazard of doing business in the PRC. Pirating and infringement are so rampant that it’s expected. It literally occurs under all types of arrangements, during all phases of the business cycle, and at all locations. Machine tool IP can not be provided and protected.

All too often IP pirating and infringement involves the misappropriation of engineering designs, process engineering studies and leading edge technology throughout the sales cycle. The order process for machine tools, particularly a system of interconnected machine tools, often requires the sharing of engineering designs and the intricate process by which the raw material becomes a finished product. These designs include specification for the machines, the components that will be integrated into the product, how long the material will be at each machine for processing, the best order in which the machining steps should occur, etc. These are the elements of the machine tool business in which US manufacturers excel. PRC customers ignore the IP issues and violate confidentiality agreements required by machine tool builders the world over by taking these plans to their current PRC technology providers to determine whether the machines or system can be built domestically. US builders have no means to protect themselves as the PRC legal process does not provide recourse to violations of the confidentiality agreements in a timely or equitable fashion. As a result, US machine tool builders end up with no, or at best, token orders.

But the pirating and infringements do not stop there. In 2001, machine tool imports (i.e., Standard International Trade Classification (SITC) codes 731, 733, 735, & 737) totaled \$3,567,454. Imports rose to \$9,982,216 in 2005. While these machine tool imports, mostly by foreign companies doing business in the PRC, went predominantly into their Foreign Invested Enterprises (FIEs) in Special Economic Zones, some were directed to State Owned and Controlled Enterprises (SCEs). Industry observers report that once a machine tool is in place anywhere in the PRC, pirating the IP is easy. Teams of engineers and others familiar with a particular technology are brought together. Operating covertly on weekends and at other times, equipment is disassembled, studied, measured, copied, including machine operating systems and applications software, and reassembled. When the workweek rolls around few are any the wiser, but the machine tool IP has been compromised. A short time later, infringed machine tools are being manufactured in a SCE for use in that and other SCEs. For a typical machine tool company with revenues of about \$10 million per year, identifying when a machine tool IP compromise has taken place is literally impossible. As a result, machine tool companies try to stay ahead by making generational improvements in their technologies and IP. It's not right, but for a typical US machine tool company, it's the only viable choice.

The magnitude of the pirated and infringed machine tool IP is impossible to determine with any reasonable degree of confidence. However, the PRC routinely claims that SEZs nationwide account for most imported machine tools and about 17 percent of the PRCs economy. It would appear that in parallel to national development of SEZs, the PRCs SCEs have modernized at an unbelievably high rate using domestically produced advanced technology. According to industry experts, easily 50 to 75 percent of these manufacturing systems could include pirated and infringed IP. Also, 50 to 75 percent, possibly more, of all manufactured goods could be produced on machine tools and systems with pirated and infringed IP. Only a rigorous inspection of tens to hundreds of thousands of SCE factories, including every piece of technology by experts could answer the question. No company or government is capable of conducting an investigation of this size and breath.

It is likely that almost any product exported from the PRC has undergone one or more manufacturing operations that are based upon pirated and infringed IP. These products could come from any industry sector and could be destined for any part of the world.



## **4.2 Publication of Patent Applications**

China's history has been long and rich with innovation. Silk and embroidery, the focus of the trade routes across Asia and the Middle East, were invented between the 11<sup>th</sup> – 8<sup>th</sup> centuries B.C. China's Book of Rites documented the science of medicine in the Zhou dynasty (11<sup>th</sup> century – 256 B.C.). The origin of the compass dates to the Qin dynasty (221 – 206 B.C.); paper was discovered in 105 A.D.; printing came during the Tang dynasty; and gunpowder and fireworks were invented in the Han dynasty and the reign of Emperor Wu Di, etc. The world was a much simpler place during those times. Of course, intellectual property protection didn't exist. However, Chinese entrepreneurs offered products for sale based upon their discoveries and were financially successful.

Intellectual property protection arrived in the PRC only in recent years. As a right in a socialist economy, intellectual property wasn't recognized until 1979. The following year the PRC became a contracting member of the WIPO. The PRC's patent laws were patterned after the Berne Convention for the Protection of Literary and Artistic Works. Subsequently, the PRC became an official member of the Paris Convention for the Protection of Industrial Property on 19 March 1985 and followed this with implementation of the Agreement on Trade Related Aspects of Intellectual Property (TRIPS). The basis for intellectual property law in the PRC is "first to file" including publication of patent applications. Table 2, which follows, illustrates the PRC's progress.

There are indications that something like patents had their genesis in ancient Greece. However, most experts consider the Republic of Florence's Venetian Statue of 19 March 1474<sup>53</sup> as the beginning of modern intellectual property law. Beginning in the 1400s, the English Crown issued "letter patents" granting a monopoly to a person to produce a product. In 1623 this was organized and standardized in the Statue of Monopolies<sup>54</sup> and refined to apply to inventions. It was this procedure that migrated to the Massachusetts Bay Colony and used by early settlers in the 1600s and 1700s until intellectual property rights became part of the US Constitution. The US government passed its first patent legislation in 1790.<sup>55</sup>

Intellectual property rights law developed around the globe along a number of parallel tracts. While similar in many respects, intellectual property laws vary from country to country. Patent law in the US is based on the principle of "first to invent." From 1790 to 1999, information relating to a US patent, including its application was published only after a patent was issued. Subsequent to 1999, all applications are published after 18 months.

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<sup>53</sup> The Juridical Origins of the International Patent System: Towards a Historiography of the Role of Patents in Industrialization, 12 November 2004, Ikechi Mgbeoji, Brill Academic Publishers.

<sup>54</sup> An Act Concerning Monopolies and Dispensations with Penal Laws, and the Forfeitures Thereof, 1623, 21 Jac. 1,c.3.

<sup>55</sup> Patent Act of 1790, Chapter VII, 1 Statue 109 – 112, (10 April 1790).

**Table 2**  
**Three Kinds of PRC Patents Granted for Domestic and Foreign Entities, 1985-2007<sup>56</sup>**

	Total				Domestic				Foreign			
	Total	Invention	Utility Model	Design	Total	Invention	Utility Model	Design	Total	Invention	Utility Model	Design
1985-2005 Accumulated Total	1469502	238717	730573	500212	1264887	87365	725326	452196	204615	151352	5247	48016
2001	114251	16296	54359	43596	99278	5395	54018	39865	14973	10901	341	3731
	8.5%	28.5%	-0.7%	15.0%	4.2%	-12.7%	-0.7%	15.0%	48.1%	67.6%	1.5%	14.2%
2002	132399	21473	57484	53442	112103	5868	57092	49143	20296	15605	392	4299
	15.9%	31.8%	5.7%	22.6%	12.9%	8.8%	5.7%	23.3%	35.6%	43.2%	15.0%	15.2%
2003	182226	37154	68906	76166	149588	11404	68291	69893	32638	25750	615	6273
	37.6%	73.0%	19.9%	42.5%	33.4%	94.3%	19.6%	42.2%	60.8%	65.0%	56.9%	45.9%
2004	190238	49360	70623	70255	151328	18241	70019	63068	38910	31119	604	7187
	4.4%	32.9%	2.5%	-7.8%	1.2%	60.0%	2.5%	-9.8%	19.2%	20.9%	-1.8%	14.6%
2005	214003	53305	79349	81349	171619	20705	78137	72777	42384	32600	1212	8572
	12.5%	8.0%	12.4%	15.8%	13.4%	13.5%	11.6%	15.4%	8.9%	4.8%	100.7%	19.3%
2006	268002	57786	107655	102561	223860	25077	106312	92471	44142	32709	1343	10090
	25.2%	8.4%	35.7%	26.1%	30.4%	21.1%	36.1%	27.1%	4.1%	0.3%	10.8%	17.7%
2007*	31056	5659	11996	13401	26923	2873	11871	12179	4133	2786	125	1222
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

\* Data for Jan 2007 only (Patents Granted / % increase over previous year)

<sup>56</sup> Annual Data on Patents Granted by Type and Applicant's Nation of Residence, State Intellectual Property Office of the People's Republic of China, Beijing, People's Republic of China.

The patent process is somewhat more complex in Europe; individual nations developed their intellectual property laws generally based upon the Venetian Statute of 1474. Patent law in the EU is based upon the principle of “first to file.” However, since 1977 when the European Patent Organization (EPO) came into existence, Contracting Members have sought to harmonize part or all of the intellectual property protection process. Publication of patent applications became part of the procedure of the EPO.

Recognition of intellectual property came to Japan somewhat later. During the Meiji era, in 1867 the concept of a patent was first recognized. An experimental patent system was tested beginning in 1871. On 18 April 1885, the Senbai Tokkyo Jorei (i.e., Patent Monopoly Act)<sup>57</sup> was established. Since that time it has been replaced and revised numerous times, including in 1888, 1899, 1909, 1921 and 1959. Ultimately, Japan incorporated many principles from European countries, particularly Germany, and practices including the “first to file” basis for patents.

There are no easy ways to compare patent systems or, more specifically, use of the various patent systems. However, WIPO has done an extremely good job of harmonizing much of the data from around the world, including resolving obvious errors and filling in missing data. WIPO has also tried to make sense of the data, albeit with some difficulty, and produces a number of reports from its database.

Unfortunately, some of the WIPO correlations and related observations can be misleading. For instance, correlating parameters from a low tech agricultural society with a high tech industrial society may be possible, but most often the conclusions drawn will be meaningless. Since this type of correlation happens inadvertently, the underlying data must be examined directly, particularly where the PRC is concerned.

Relatively speaking, the PRC is a recent entrant to the global economy. One would expect that non-resident (i.e., foreign) companies would rush to protect their IP in the PRC. A surge in applications and subsequent granting of patents should stand out in the data. No such surge exists, but there has been a gradual, but consistent build up of patent applications by non-residents as more and more companies decided to do business in the PRC. Since the PRC itself, and its universities and industries were modernizing themselves, a patent application lag and slower growth rate would be expected. Actually it turns out to be higher. Why?

One of the landmark studies on competitiveness was undertaken by Michael Porter. In particular he studied innovation and was able to develop an innovation index based on numerous factors like education, numbers of scientists and engineers, R&D spending, etc. Porter found that his innovation index was not subject to rapid fluctuations and changes, but rather reflected the real and lengthy time it took to change a nation. He determined that the US ranked # 1 with a score of 30.3 while the PRC ranked # 41 with a score of

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<sup>57</sup> Senbai Tokkyo Jōrei (Patent Monopoly Act), 18 April 1885, National Diet Library, Tokyo, Japan.

18.1.<sup>58</sup> So how can a country ranking # 41 out-patent a country ranking # 1? The short answer is that it probably can't.

Two issues stand out: first, the absolute number of patent applications and patent grants; and second, the rate of increase in patent applications and grants. It's highly unlikely that all of the resident PRC patent applications and patent grants resulted from their own R&D. While the PRC is a country with an extremely long history, it is a new entrant to modern research and development. Even Deng's high technology initiatives can't explain all of the changes that would have been necessary. Just upgrading education, developing the talent pools, constructing the facilities, and buying the technologies would have taken time and resources. Of course, this doesn't even include the time required to define and conduct research and development programs. It's a stretch to accept that in less than a decade the PRC surpassed the entire world in nearly every category.

It's highly likely that about 40 to 50 percent of resident patent applications and grants resulted from expropriated IP brought into the PRC or from mining activities in patent and patent application databases around the world. A lower number of patent applications and patent grants would be consistent with Porter's innovation index. All other things being equal, the PRC's innovation rating is approximately 59 percent of the US rating. Comments and insights from industry experts representing all types and sizes of companies currently doing business in the PRC reflect a 40 to 50 percent infringement and pirating rate as well. Concerning the rate of growth in patent applications, according to WIPO, the annual rate of growth since 1995 of total patent filings is 4.75 percent while residents account for 3.4 percent. This would be expected because more non-resident companies are protecting the IP in more nations where they do business. The PRC's resident patent application annual rate of growth is running between 25 and 30 plus percent. Even allowing for faster than normal ramp up, the numbers seem unusually high.

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<sup>58</sup> National Innovation Capacity, Chapter 2, The Global Competitiveness Report 2001 – 2002, Michael E. Porter & Scott Stern, Oxford University Press, New York, NY.