

Asia Overview: Protecting American Interests in China and Asia

Statement by J. Kent Millington Director, Technology Commercialization, Utah Valley University Before the House Committee on Foreign Affairs, Subcommittee on Asia and the Pacific

March 31, 2011

Chairman Manzullo, Representative Faleomavaega, Members of the Subcommittee, thank you for allowing me the opportunity to share with you my perspective on the important links between the United States and our Asian friends.

My name is Kent Millington and I am Director of Technology Commercialization at Utah Valley University (UVU) located in Orem, Utah. Previously I have been in executive positions in financial services firms, as well as internet and software companies. I have lived in Asia, traveled extensively in the area, and I am an adjunct professor of entrepreneurship at The University of Science and Technology of China (USTC) one of China's leading universities, where I teach in the MBA and Executive MBA programs.

Opportunity

Because I have been involved in the development and deployment of technologies on both sides of the Pacific, I am optimistic about the future. There is no question that America leads the world in the development of technologies of all kinds. The world's students, including a large portion of Chinese, come to America for graduate studies in engineering and the sciences. In this area, we have a strong competitive advantage, one that we can use not only to create jobs, opportunity and growth for our future but to forge strong relationships between America and nations along the Pacific Rim. These nations are important to us. They are part of our economic ecosystem and necessary for our future. There are obvious challenges and even threats. However, I believe these are outweighed by opportunity. And that begins with our technological prowess – an advantage that gives us an opportunity to change the current environment that sometimes hinders our US companies in China or prevents them from effectively competing in the Chinese markets.

Current Developments

As China has emerged from its period of isolation, the changes in government policy have not kept pace with the changes in the attitudes and desires of the people of China. My experience

with students and business leaders in China indicates that there is a strong desire to do business with American companies. They are eager to develop business relationships that can be mutually beneficial, in spite of official policies that may limit market access. After the death of Mao Zedong, China's leadership decided to take a gamble and move beyond the isolation in an attempt to become more economically stable and strong. Deng Xiaoping determined that China could engage in international trade and yet still maintain its internal political bearings. The miracle of the last 30 years is largely a testament to his foresight. But old practices die hard and no where is this more evident than China.

Deng's vision has allowed China to grow at a rate of almost 10% per year for most of the last 20 years. His challenge to the people to help build the country and become rich has had marvelous, if uneven, results. China is now the second largest economy in the world and many forecast that it might overtake the US within the next 20 years. Time will tell if that is correct. But the moves by the Chinese government have been very beneficial for a substantial percentage of the people and will continue to improve the lot of millions more every year. New businesses have been created from formerly state owned enterprises (SOEs). Personal freedoms have been significantly increased with decisions about careers and study being left to the individual. Housing reforms have allowed many millions to own their own homes. Illiteracy has all but been wiped out with educational reforms, and the reforms have opened new opportunities for the vast majority of Chinese people. The attitudes of the people have been shifted from reliance on government for all decisions to the desire and ability to make personal choices concerning almost all aspects of life. This transition has been a marvel to behold, but has not yet been complete in its full reach to all aspects of life in China.

Let me point out some of the beneficial effects of the changes and how they now impact the relationships between the US and China. Over 100,000 Chinese students currently are studying in the US, with about 65% of those in graduate schools. This level has been maintained for most of the last 15 years. This growing cadre of American trained engineers and business professionals will be the nucleus of a very bright future of cooperation and strengthening relationships between China and America. Many of these former students are now producing a quality and quantity of technology that is approaching world standards, and in some cases leading the world. For example, China has become the world leader in the research of nanotechnologies as measured by the number of patents and uses of the technologies. A specific use for one nanotechnology is that the CAS (Chinese Academy of Sciences?) has found that sheets of a new technology called graphene oxide are highly effective at killing bacteria such as E-coli. This means that graphene could be useful in applications such as hygiene products or packaging that will keep food fresh for a longer period of time.

I have visited the CAS installation called Science Island located near the city of Hefei in Anhui Province. There I have visited with Dr. Dong Fengzhong who is doing research on products that will enable coal burning plants to operate more efficiency, thus reducing harmful emissions. His stated goal is to eliminate such emissions completely. His technology was tested in the plants

around Beijing prior to the 2008 Olympics and contributed to the ability of the Chinese government to clean the air for the Olympics. Dr. Wang Hongzhang, founder of the Hongshen Group, a large medical products company based in Beijing, has developed several new medical products that have specific application in the West when they are able to get regulatory approvals. His growing company is actively looking for medical devices that can be imported into China from other countries in an attempt to provide better medical care inside China as well. I have worked with Dr. Wang both in China and in the US to facilitate this complementary transfer of medical technology.

I have visited research parks in Beijing, Shanghai, Guangzhou, Hefei, and Chongqing, where the leading technology companies in the world are successfully locating. The Information Technology Park in Chongqing is inhabited by HP, IBM, and a variety of other leading Western companies. GEM, A large American company, has a large chip-making plant in Hefei with over 600 employees now and plans to rapidly expand to over 1,500. Unilever has a large plant in Hefei that supplies products to the Chinese markets through stores like Wal-Mart and Carrefour. There are thousands of US and other foreign companies located in the Science parks in China and are making a difference in the way companies are treated and accepted.

These public and private efforts to both develop and deploy technologies are being promoted by the government of China and are being actively pursued by Chinese entrepreneurs and their companies. In speeches given to major government meetings in October, 2010 and March, 2011, Premier Wen Jiabao specifically stated that the further development of technology and the innovation of the new technologies into useful products is a major focus of the government. In fact, China has a stated goal of becoming an “innovation nation” by the year 2020. Instead of just taking innovations from others and being a low-cost manufacturer, China recognizes the need to once again become a major source of technology and innovation, as it was prior to the 15th Century. There is a realization that future economic strength and vitality come from the development of world-class technology and the creation of products based on those technologies.

To illustrate current activity in China in the areas of science and technology the following statistics are very telling. In all measures about investment in technology, China is investing strongly and expects the results to propel their economy forward in the years to come. If we are to maintain our competitive edge, we need to watch carefully this trend and match it with our own investment in science and technology.

Select S&T Indicators for China	1998	2001	2004	2007
Gross Domestic Spend on R&D (Billion RMB)	55.1	104.2	196.6	371.0
Government S&T Appropriation (Billion RMB)	43.9	70.3	109.5	211.4
Exports of High Tech Products (Billions)	20.3	46.5	165.4	347.8
Percent of Total Exports	11.0%	17.5%	27.9%	28.6%
Patent Applications filed in China	122,000	204,000	354,000	694,000
Patents Granted in China	68,000	114,000	190,000	352,000

It is in the area of technological development and moving those technologies to the marketplace through innovation where the US and China can realize substantial improvement in bilateral relations. I am convinced that the people want this to happen and are willing to make the necessary changes that will allow it to happen.

Moving from a centralized planning system to a more open market system has not come without pain, both in and out of China. It is no secret that companies doing business in China have had a variety of legal problems, including intellectual property violations and contract disputes. Both of these major issues stem from the lack of a well-developed legal system in China. The government is taking a variety of steps to correct these abuses by developing a more robust and recognized legal system. In recent meetings of the Association of University Technology Managers (AUTM) I visited with attorneys from China who made presentations on the changing, and improving, legal environment in China. To expect China to suddenly step from behind its curtain of government imposed regulations into a fully developed legal system as we have in the West is expecting far too much of any country. Improvements in the law are being made and at a rather rapid pace. Adherence to those new laws will take some time as there are entrenched practices that must be rooted out and a new order of business practice accepted. Even in the US, our legal system evolves and adherence can be spotty at times. Recent spectacular business frauds such as Enron and Madoff are indications that our own system is not always adhered to. Criticisms of China's pace as being too slow or not in the right direction need to be muted by a realization of the pace of change our own legal system.

To those who think that business interaction with China is always a disaster or problem for companies from the West, I want to point out a growing business “opportunity” that has emerged in recent years. Some attorney friends of mine who practice in both China and the US are now specializing in collecting receivables from US companies who are not paying their bills to Chinese companies which have provided them with products and services. And these disputes are not largely connected to disputes over contract or IP terms. American companies are simply not paying the bills they rightfully owe. This is a growing concern on the part of Chinese companies and certainly shows that disputes between international companies can be as vexing on both sides of the transactions as the ones seen in our domestic markets.

The Way Forward

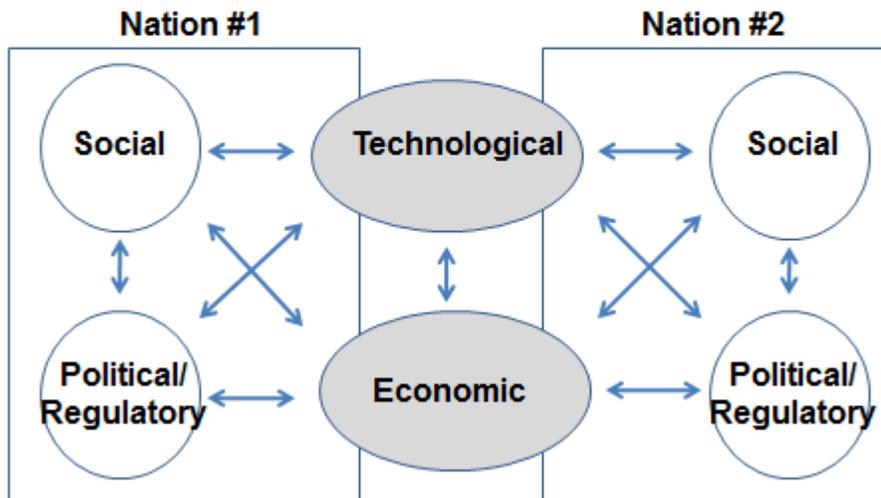
China is evolving from a closed to an open society and is finding a new place among the leading countries of the world. From scientific discovery, to educational reform, to business practices, China is finding its way out of its cloistered past and into the world community as a full partner among developed nations. While by some measures it is still a developing nation, it now seeks to participate on more equal footing with developed nations because China has reached an important economic milestone of being the second largest economy in the world. We need not view such growth with suspicion nor should we unnecessarily ascribe nefarious motives to China’s efforts to build scientific, economic, and military strength. We value those efforts by our own government, and should simply see the Chinese efforts as a logical response to the world in which China finds itself. China has never been an aggressive nation, claiming lands or invading other nations, and we should at least recognize the strength of history as we try to predict the future.

China is facing many problems that will need to be addressed in order to keep achieving its technological and economic goals. Some of these problems are the same ones we face in the West and as we solve these problems together we can not only protect our own interests but help China achieve greater prosperity and stability. The first of the problems is that of demographics. The population is aging faster than most other countries and it is already a poor country. Much has already been said of the pending problems of an aging population in countries like Japan. Instability could result from this imbalance in all of the countries facing this issue, including the US. As we solve our own internal problem, we can shed light on solutions that can be implemented in other countries, especially China. Where they are already a poor country in terms of per capital income, demographics can play a rather harsh trick on Chinese economic expansion. Another problem is that of the environment. There is worldwide concern for pollution and its effects on the quality of life we enjoy. But in China these impacts are even more severe than most. In some places in northern China crop yields are down because the sunshine cannot reach the plants to make them grow to full yield. With lower yields on crops, food supplies are squeezed making imports necessary and putting overall pressure on food supplies in the world. As we mutually solve the problems that cause such pollution and lower crop yields, we can impact the quality of life for people around the world, and could have an

especially favorable impact on the lives of the Chinese people. While these problems are especially acute in China, they are not the only country facing these issues. Solving problems like these together can add to our mutual security and trust.

While individual nations may have their own cultural and political heritage, they interface with each other in the major areas of technology and economy. Because economies are very significantly influenced by technological advances, technology exchanges can be of great importance in the way in which economies of the world respond to the problems we face as individual nations and as a world community. One illustration I like that demonstrates this individual and collective interaction is the following, showing how the influences within an individual country can be altered as a result of technological and economic dynamics. The more technology is exchanged between countries the more those countries come to rely on and trust each other.

MacroEnvironment



US ingenuity is still the best in the world. The technologies discovered here and the products that flow from our technological advances are still the envy of the world. It has been my privilege to work with some of the most creative minds in the world, whether they are in specific technologies or innovations or business applications. We still lead the world and recognize that the flat world we inhabit was made flat by technologies developed largely right here in the US.

As we continue our technological leadership, China will be a cooperative partner and we will be able to strengthen political and cultural ties along with growing economic ties. There are some things that we can do in the US to preserve our competitive edge in an increasingly technological world.

1. Promote further technological development by increasing our investment in research and development.
2. Provide tax incentives for investment in early stage companies that are based on specific technologies like alternative energy, communications, medical devices and treatments, and nanotechnologies.
3. Increase our focus on early education in the sciences, mathematics, reading, and writing.

There are also things we can do to assist China in completing its transition to a stronger legal system that will allow for more cordial and profitable economic interactions.

1. Provide legal tutoring and legal training opportunities for Chinese students and attorneys in areas of business and contract law and intellectual property law.
2. Assist in developing intellectual property law and observance by inviting patent office personnel from China to intern in the US at universities and perhaps the USPTO.
3. Promote scientific and educational exchanges to acquaint both sides with the other especially in the areas mutual R&D.
4. Promote technological exchanges especially in areas that address mutual problems of health, environment, energy, medicine, etc.

Instead of further isolating China, we need to engage China's leaders as well as business and legal professionals in a systematic process of dialogue and education in how to develop and adhere to a system of laws. Just as in the US, it will take time to make this transition, but pulling back from this responsibility will not lead in the direction that we need to go. We protect America's interests best when we assist others in seeing the value of the systems and processes we have put into place and show how effectively they work to provide a functional business environment. Rather than being fearful of China's economic growth and resulting political influence we need to welcome them into the community of developed countries and expect the respect for law and compliance with international standards of conduct, both from the government as well as the business community. It has been my experience that business leaders are anxious to learn new techniques and cooperate to develop successful business partnerships. We can foster America's ideals when we reciprocate that cooperative attitude.

Summary

China was once the leading technological nation on earth. By sharing its technology with Europe, it paved the way for the emergence of the modern world that we enjoy now. China is now beginning to recover its former status as a generator of technologies that the world both needs and will eagerly accept. Though fraught with uncertainty, an expanded base of economic and technological exchange is the surest way to promote and protect American interests with China and in the greater Asian Pacific region. The need to develop these strong ties with China has been made more apparent by the unfortunate disaster in Japan in the last three weeks. As Japan works to recover and restore that which has been lost, that country will, of necessity, be looking inward and will focus more on internal development than on external relationships. China, already a major power in the Pacific region, will continue to expand its influence through its technological and economic prowess. If the US is to maintain a strong presence, we must engage the Chinese in the two areas where nations most effectively interact: technology and economy. We should strengthen our relationship with China by carefully pursuing cultural, legal, technological, and economic exchanges that benefit both countries.

Thank you for allowing me to present this information to you today.

For the record I want to add this historical perspective.

Historical Perspective

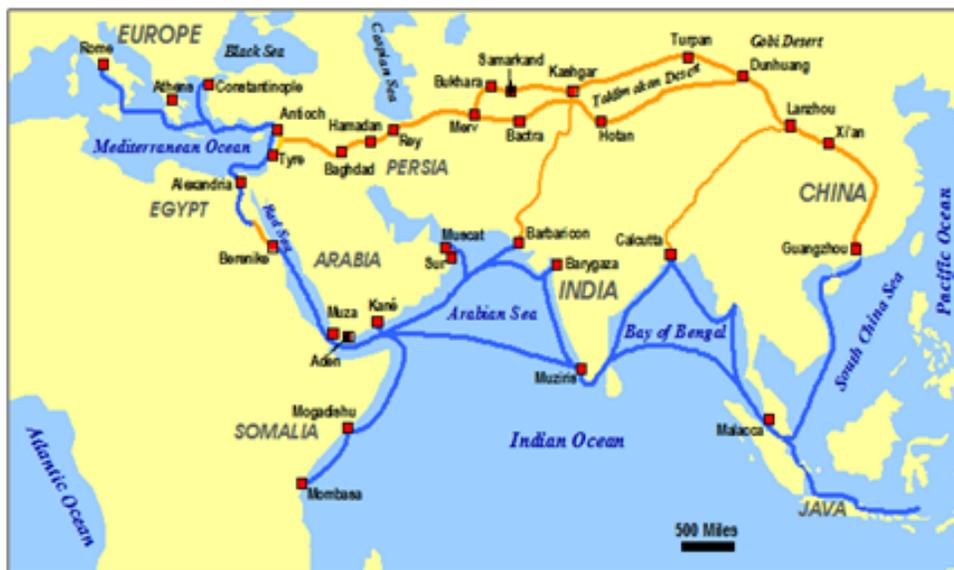
For over 3000 years China was a leader in invention and scientific discovery. They were the first to chart the heavens, the first to describe the circulation of blood, the first to develop mechanical clocks, the first to invent paper and the moveable type to print on paper, the inventors of the compass, and numerous other inventions. These technological firsts have been described extensively. (For example, see *Science and Civilisation in China*, by Joseph Needham, Cambridge University Press; *Ancient China's Technology and Science*, Foreign Language Press; and *The Genius of China*, by Robert Temple, Simon and Schuster.)

During the last four years significant new research has shown that the early Ming Dynasty Emperor Xuan De sent emissaries from China to the rest of the world to let the world know of the technological advances of China and to request tribute to the Emperor. In the year 1434, the great Chinese Admiral Zheng He led an expedition that carried him to Europe where he visited the Vatican and other Italian leaders. He carried with him a series of printed books where the inventions and technological advances of China were carefully catalogued and illustrated. The Admiral himself was a seasoned voyager and was able to give significant and important evidence of ocean travel to the Europeans. There is mounting evidence that this singular visit by the Chinese to Europe ignited the Renaissance that began in Italy within 30 years of the visit by the Chinese. (See two books by Gavin Menzies: *1421, The Year China Discovered America*, and *1434, The Year a Magnificent Chinese Fleet Sailed to Italy and Ignited the Renaissance*.) This unusual visit provided the fertile minds of Europe with examples of technology that had been used for centuries in China before they were ever "invented" in Europe.

“One of the greatest untold secrets of history is that the ‘modern world’ in which we live is a unique synthesis of Chinese and Western ingredients. Possibly more than half of the basic inventions and discoveries which the ‘modern world’ rests come from China. Without the importation from China of nautical and navigational improvements such as ships’ rudders, the compass and multiple masts, the great European Voyages of Discovery could never have been undertaken. Without the importation from China of paper and printing, Europe would have continued for much longer to copy books by hand.” (*The Genius of China*, page 9)

Almost immediately after this significant voyage to Europe, the Ming dynasty began to close its doors to the outside world and to stop its own scientific development. But the visit made possible the explosion of scientific and geographic discovery centered in Europe from which the modern world has emerged. For the last 600 years Europe and the West have been the centers of scientific and technological advancement, but the impetus for that improvement is squarely placed on the technology that was transferred to Europe by the Chinese. This transfer occurred along the ancient Silk Road and the ocean passages that were first traversed by the Chinese.

The Silk Road The First Technology Transfer



The technologies that were developed in China have had an impact on our modern world. The technologies that are being developed now will also have an impact, both those developed in

China coming to the rest of the world, and those being developed in the rest of the world and taken to China.

United States House of Representatives
Committee on Foreign Affairs

"TRUTH IN TESTIMONY" DISCLOSURE FORM

Clause 2(g) of rule XI of the Rules of the House of Representatives and the Rules of the Committee require the disclosure of the following information. A copy of this form should be attached to your written testimony.

1. Name: J. KENT MILLINGTON	2. Organization or organizations you are representing: UTAH VALLEY UNIVERSITY
3. Date of Committee hearing: MARCH 31, 2011	
4. Have you received any Federal grants or contracts (including any subgrants and subcontracts) since October 1, 2008 related to the subject on which you have been invited to testify?	5. Have any of the organizations you are representing received any Federal grants or contracts (including any subgrants and subcontracts) since October 1, 2008 related to the subject on which you have been invited to testify?
Yes <input type="radio"/> No <input checked="" type="radio"/>	Yes <input type="radio"/> No <input checked="" type="radio"/>
6. If you answered yes to either item 4 or 5, please list the source and amount of each grant or contract, and indicate whether the recipient of such grant was you or the organization(s) you are representing. You may list additional grants or contracts on additional sheets. 	
7. Signature: 	

Please attach a copy of this form to your written testimony.