China Gaining Control Of Global Telecom Industry

China’s steady rise as a telecommunications manufacturing and research powerhouse has “profound” national security and economic ramifications for the United States, according to the United States-China Economic and Security Review Commission.

High-tech equipment produced by Chinese state-owned telecommunications companies is quickly becoming integrated into American and global computing, communications, wireless and next generation networks. U.S. and other foreign telecommunications companies have signed hundreds of joint venture agreements with Chinese firms, providing them with entry into American markets. Entire equipment supply chains have

The number of manufacturing plants in the United States dropped precipitously between 2009 and 2010, according to the Census Bureau. There were 345,613 factories in the first quarter of 2010, a decline of 8,012 from the same period in 2009. Over the past decade, the United States has lost 53,224 factories, a 13 percent decline from 398,837 factories in 2000, according to the Quarterly Census of Employment and Wages. Virtually all of the factories lost employed more than five workers, with the largest losses among the largest factories.

The number of manufacturing plants with 1,000 or more employees declined from 946 in 2009 to 876 in 2010, a loss of 70 major factories. Since 2001, the country has lost 603 factories employing more than 1,000 workers, a 41 percent drop. The number of workers at large factories has declined from 3,134,248 in 2001 to 1,836,222 in 2010.

The number of factories with between 500 and 1,000 employees declined from 1,972 in 2009 to 1,799 in 2010, a loss of 173 factories. Over the past 10 years, the number of factories with between 500 and 999 employees has plunged from 3,198 to 1,799, a loss of 1,399 factories, a decline of 44 percent. The number of workers in these factories has declined from 2,186,081 in 2001 to 1,231,194 in 2010.

The number of factories with between 250 and 499 employees fell
U.S. Loses Factories... (From page one)

from 5,187 in 2009 to 4,826 in 2010, a decline of 361. In 2001, there were 7,636 factories employing between 250 and 499 workers, a 37 percent decline over 10 years with the net loss of 2,810 factories. The number of employees working at these factories has declined from 2,642,170 in 2001 to 1,655,802 in 2010.

The number of factories with between 100 and 249 employees declined by 922, from 16,627 in 2009 to 15,705 in 2010. In 2001, there were 22,490 factories employing between 100 and 249 workers, a decline of 6,785 factories, or 30 percent over 10 years. The number of workers at these factories has declined from 3,482,268 in 2001 to 2,371,373 in 2010.

The number of factories with between 50 and 99 employees declined by 1,218, from 22,752 in 2009 to 21,534 in 2010. Since 2001, there has been a decline of 7,099 factories with between 50 to 99 workers, from 28,633, or 25 percent. The number of workers in these factories has declined from 2,018,512 in 2001 to 1,490,781 in 2010.

The number of factories with between 20 and 49 employees declined from 48,545 in 2009 to 46,264 in 2010, a loss of 2,281. Since 2001, there has been a decline of 12,678 factories employing between 20 and 49 workers, or 22 percent, from 58,942 to 46,264. The number of workers in these factories has declined from 1,839,077 in 2001 to 1,428,370 in 2010.

The number of factories with between 10 and 19 employees declined from 52,049 in 2009 to 49,596 in 2010, a drop of 2,453. In 2001, there were 60,267 factories employing between 10 and 19 workers, a decline of 10,671 or 18 percent. The number of workers in these factories has declined from 828,111 in 2001 to 676,459 in 2010.

The number of factories with between five and nine employees declined from 59,845 in 2009 to 57,880, a decline of 1,965. In 2001, there were 67,510 factories employing between five and nine employees, a loss of 9,630 factories or 14 percent. The number of workers at these factories declined from 3,482,268 in 2001 to 2,371,373 in 2010.

The number of factories with fewer than five employees increased during the first quarter of 2010, to 147,133, up from 145,720 in 2009. In 2001, there were 148,682 factories employing fewer than five employees, a decline of 1,549 or 1 percent. The number of employees working at these firms has declined from 296,325 in 2009, to 296,606 in 2010. The average size of these firms is 1.6 employees.
The total number of manufacturing employees in the United States has declined from 16,893,907 in 2001 to 11,670,000 in December 2010, a loss of 5,223,907, or 31 percent.


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NIST Spearheads New Mfg. Initiative

The National Institute of Standards and Technology’s Engineering Laboratory’s manufacturing division is spearheading a national effort aimed at reestablishing the United States as a leader in advanced manufacturing systems technology. The agency held a two-day meeting January 11-12 with industry representatives and government agency officials aimed at defining concepts and developing strategies associated with “extreme” manufacturing. The meeting was “a first step to identify the new, long-term technology advances needed to make future manufacturing competitive in the United States,” according to NIST.

The workshop was deemed a success, with organizers having to turn away too many people wanting to attend. “We are trying to keep the momentum up,” says Howard Harary, NIST’s deputy director for manufacturing and conference host. “This is one of many first steps. We are very conscious of making plans to sustain interest for making a difference.”

The meeting focused on long-term issues associated with making U.S. manufacturing more competitive with a push toward “extremely” agile, rapid, custom, precise and even extremely “weird” manufacturing. “NIST is in the technology space, not the policy space for the macro-economics for manufacturing,” Harary explained in keeping the focus of the initiative on long-term technology advances needed to push performance. “It was a challenge for many people attending the workshop to think long term because we have so many problems in the short term. But if we don’t think long term, we are never going to solve the long-term problems. If we don’t start thinking about them now, the future will be upon us without us having thought about it and we will be addressing the problems in less of a planned way and more in a reactionary way.”

Attendees at the workshop say the initiative should gather strength. This is a “now-or-never moment,” said one conference attendee from a large U.S. manufacturing firm. Company representatives said they intend to start involved, and NIST intends to broaden the community through networks such as LinkedIn. “This is just the first step and now it’s our job to continue the momentum,” says Harary.

The workshops looked at the future of intelligent manufacturing systems, including rapid product realization and scale up of new products based on emerging technologies and materials. It looked at “snap together” modular processes and system modeling; highly integrated control of complex and precise processes; customized production; 3D printing; design for sustainability; bioscience and biosystems for manufacturing; computational biology for process controls; precise, high-volume directed self assembly of multifunctional nano-microsystems; additive manufacturing; dynamic collaborations across reconfigurable supply chains; tightly integrated design, test and validation; and potential “game-changing” production paradigms including digital direct manufacturing of complex products and assemblies, service oriented manufacturing and cloud manufacturing, http://www.nist.gov/el/extrememanu.cfm.