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China takes a short-cut to power

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To travel on one of China's high-speed trains as I did recently, is to experience China's rapid industrial advance. We cruised from Nanjing to Shanghai at speeds of which Amtrak's service from New York to Washington can only dream.

If CSR Corporation, the Chinese company that built the train, has its way, the US will get a taste of the technology in the next decade. This week, CSR struck an agreement with **General Electric** to bid jointly against **Siemens** and **Alstom** for the high-speed rail services intended for Florida and California.

On the face of it, the high-speed train is a shining symbol of China's intended shift from being the world's manufacturing plant to being a high-skilled, innovative economy. It is tooling up in other ways – it emerged this week that 15-year-olds in Shanghai outperform their counterparts in 65 countries in reading, science and maths.

But the train is as much a symbol of something else – China's determination to gain technological ascendancy by any means possible, including taking western technology and reworking it just enough to claim it as its own. CSR's use of the strategy has left its former partner **Kawasaki Heavy Industries**, maker of Japan's bullet train, smarting.

Western companies have had to disclose details of their technology in order to gain contracts and later had to compete against Chinese state-owned enterprises selling near-identical products. Westinghouse Electric, a US nuclear group, has just handed over 75,000 documents as part of a deal to build four advanced nuclear reactors in China.

This is upending the old faith among technology and industrial equipment companies that China would take decades to catch up with them. If it can acquire power and transport blueprints as easily as the ability to make air conditioners and refrigerators, the GEs and Siemens of the world are vulnerable.

Instead, a pattern is developing. One company cedes its intellectual property to a Chinese SOE and then all of them are then squeezed to the margins of China's domestic market, and face a new competitor.

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None of this is accidental, or a case of over-eager SOEs crossing the line. China wants to transform from being the factory of the world to an advanced economy and is using its market power to take a short-cut by "digesting" others' intellectual property. One State Council report called for the "absorption, assimilation and re-innovation of imported technologies".

The rail case has shocked foreign companies – Christian Murck, president of the American Chamber of Commerce in China, says it has "changed considerably" their commercial calculations – but they have shown little backbone in resisting it. "They squawk a bit but there has been no mass exodus," says Denis Simon, a professor at Pennsylvania State University.

The lesson the Chinese government will probably take from the affair is that it can get away with its "re-innovation" with impunity. Jeff Immelt, GE's chief executive, complained at a private dinner in June about China not wanting western companies "to win" but GE is now partnering with CSR in the US while Siemens bids with CSR for a Saudi Arabian contract.

The Chinese knack of copying products – the *shanzai* or "knock-off" culture that spawns imitations of iPhones and Adidas shoes – is an old challenge for western brands. It is hard to get too angry at China for going through a phase in which enforcement of intellectual property law is lax when countries including the US did the same.

But there is a difference between informal pirating, which the Chinese government accepts is a problem and has tried to curb, and the state-approved co-option of technologies. The former is private enterprise running wild whereas the latter is an official effort to leapfrog a phase of industrial development.

It is also an admission of weakness. Chief executives of private Chinese companies, particularly in technology and software industries, worry about their country lacking an innovative culture. In spite of high educational standards in Shanghai, they are concerned that people do not think creatively enough to produce the next Google.

If China kids itself that "micro-innovation" and "re-innovation" are as good as the real thing, it risks getting stuck halfway to being an advanced economy. Its current policy favours SOEs that have cheap capital – both financial and intellectual – over private companies that are more capable of innovation.

Thomas Howell, a trade lawyer at Dewey & LeBoeuf, says the US could challenge China through the World Trade Organisation but it is more likely to change if it realises it will hurt itself. "There is a limit to how far you grow when your innovation comes from outside," he says.

So far, China is not getting that message. US companies such as GE continue to pour technology into the country. GE Healthcare is investing $500m in six new research facilities in China, while GE Aviation has partnered with Avic, a Chinese SOE, to supply avionics to China's new C919 commercial aircraft.

It is tough to make a solo stand when China exercises procurement control over the world's second-largest economy, and the biggest market for new infrastructure. It is a past master at squashing dissidents and offering inducements to those who co-operate quietly.

But unless companies stand together, with the support of Chinese private companies that will also suffer from state-owned enterprises taking technology, they will keep being divided and conquered.

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