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Guy de Jonquieres: The China high-tech myth

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Having become workshop to the world, is China poised to storm the bastions of its high-technology industries? Thanks partly to foreign expansion by Huawei, telecommunications equipment maker, and a few other Chinese companies, the idea is starting to be taken seriously abroad - above all in the US, ever jealous of its technological pre-eminence.

Some commentators predict China may rival US information technology leadership in only a decade. Its scientific achievements also provoke awe. Stephen Minger, a stem-cell scientist who led a UK fact-finding mission to China last year, says he was stunned by the sophistication of its medical research and laboratories.

Since the late 1980s, the number of science and engineering doctorates awarded in China has exploded. It now has more researchers than Japan. Its annual research and development spending, though still well below US levels, is rising five times faster, while the Organisation for Economic Co-operation and Development says China's biggest exports are now high-tech products. But those dazzling statistics mask an often more mundane reality. The bulk of China's "high-tech" exports are actually low-margin commodity products such as personal computers and DVD players, assembled from imported components that account for most of their value.

In contrast to the home-grown IT industries of Japan and South Korea, two-thirds or more of those exports are from partly or wholly foreign-owned plants. China's state-owned companies spend relatively little on R&D and have almost no international brands or distribution networks - a drawback acknowledged by Lenovo's purchase of IBM's barely profitable PC business.

Ah, say the China-boosters, but all that is mere prologue. China's abundant cheap brainpower, energy and determination to succeed make it only a matter of time before it grows into a formidable "knowledge economy". Again, appearances may deceive. R&D effort is only a rather crude measure of input. Its economic value depends on the quality of output and how it is commercialised. On both counts, China still has much to prove.

Its engineers' high calibre and low cost have spurred western companies such as General Electric and International Business Machines to set up laboratories there. But China's state-owned enterprises seem less adroit at exploiting those assets. The OECD last year gave most SOEs low marks for innovation and for training and organising researchers. McKinsey, the management consultancy, says China's software industry lags behind India's, because of its fragmented structure and poor management. That may change as more foreign-trained IT engineers with business experience return from abroad. However, they face big barriers to disseminating technology across industry. Not only are foreign companies operating in China increasingly careful to keep core technologies to themselves but Chinese companies collaborate little with each other or with universities.

Weak intellectual property laws, long assailed by western companies, are also a self-inflicted handicap because they provide no rewards for innovation. China's international patent applications, though growing, are still less than 1 per cent of the total filed in the US and Europe. And while start-up companies abound in China, they are poorly supported by its financial system. Its bigger banks favour lending to state-owned industries; venture capital is in its infancy, and the country's immature equity market fails to offer the dependable exit route demanded by sophisticated early-stage investors.

That compels many company founders to rely on funds raised from relatives. Some management gurus believe China's model of family-based capitalism is a shaky foundation for enduring corporate structures. Japan's Kenichi Ohmae says his successful Chinese friends care more about getting rich quickly than creating world-beating businesses.

Historians puzzle over why, for 500 years after inventing gunpowder, China invented so little else. No country, of course, is bound to repeat history, and China has shed centuries of insularity to embrace foreign investment, trade and technology. But whether its future is as a high-tech powerhouse in its own right or as the world's biggest branch-plant economy remains an open question.

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