FEATURE

US misses China's grand design

US potshots at Huawei miss China's grand design Washington is using the wrong weapons to fight the wrong battle in the wrong war

by David P. Goldman

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The tide is turning against Huawei as citizens around the world are waking up to the danger of the Chinese Communist Party's surveillance state," US Secretary of State Mike Pompeo declared in a June 24 press statement.

"The more countries, companies, and citizens ask whom they should trust with their most sensitive data, the more obvious the answer becomes: not the Chinese Communist Party's surveillance state," the statement concludes.

The US claims that China's People's Liberation Army (PLA) wants to steal the world's data from Huawei's 5G broadband networks, and that Western countries should use equipment from Huawei's competitors like Ericsson and Nokia instead.

On May 15, the Commerce Department asserted extraterritorial control over foreign chip foundries who use American equipment for fabricating chips for Huawei, which manufactures most of its chips in Taiwan. This measure is supposed to stop Huawei from obtaining the chips required to build out 5G networks and give Washington time to cajole its allies into switching to other providers.

Washington is using the wrong weapons to fight the wrong battle in the wrong war. First, it won't stop Huawei from leading the rollout of 5G broadband, especially in China, where the new technology acts as a giant magnet for European capital-goods producers. Second, it will have small impact whatever on Huawei's

An Ericsson executive making a 5G rollout presentation in a file photo. Photo: Ericsson website

larger objective, namely to dominate the Fourth Industrial Revolution technologies that 5G makes possible.

China's US$170 billion investment budget for 5G broadband dwarfs the capital budgets of American carriers, whose present 5G technology offers only minor improvements above existing 4G LTE speeds.

The overriding issue for Europe is not, as the State Department seems to believe whether China can steal industrial secrets, but whether Europe will have a role in the next generation of technologies. That requires the application of Artificial Intelligence to the so-called Internet of Things (IoT), and portends a much higher degree of automation and productivity.

Oddly, Washington thinks that promoting Ericsson will restrain China.

China doesn't want Huawei to crush Ericsson; China wants to assimilate Ericsson, that is, to make it in large measure a Chinese company, along with Swedish partner companies like ABB, the giant producer of industrial robots and one of Huawei's main corporate partners.

In April, Ericsson won 10% of the 5G infrastructure work in China from China Telecom and China Unicom. A 10% market share for 5G buildout in China is worth nearly $20 billion over two to three years, compared to Ericsson's annual revenues of $26 billion. Ericsson's largest and newest plant is in Nanjing.

"Factory automation with the latest cellular IoT technology improves efficiency and results. Combining cellular IoT and Industry 4.0, the Nanjing located Ericsson Panda factory is continuously exploring ways to optimize manufacturing processes. Recently celebrating its 1,000th cellular IoT device, the factory sees great results. The first year provided a 50% return on investment, while breakeven is projected to be reached in less than two years," Ericsson wrote in a recent press release.

Ericsson's presence in China is expanding rapidly despite a recent deterioration in diplomatic relations between China and Sweden. By contrast, Ericsson recently opened a

small plant in Texas with 100 employees to produce Internet base stations for the US market. Ericsson already earns 27% of its revenue in Asia. In two years, Ericsson might produce and sell the majority of its product in Asia, and mainly in China.

The US has been playing Coyote-and-Roadrunner with Chinese technology companies since the Trump Administration briefly banned sales of American chips to China's ZTE in April 2018.

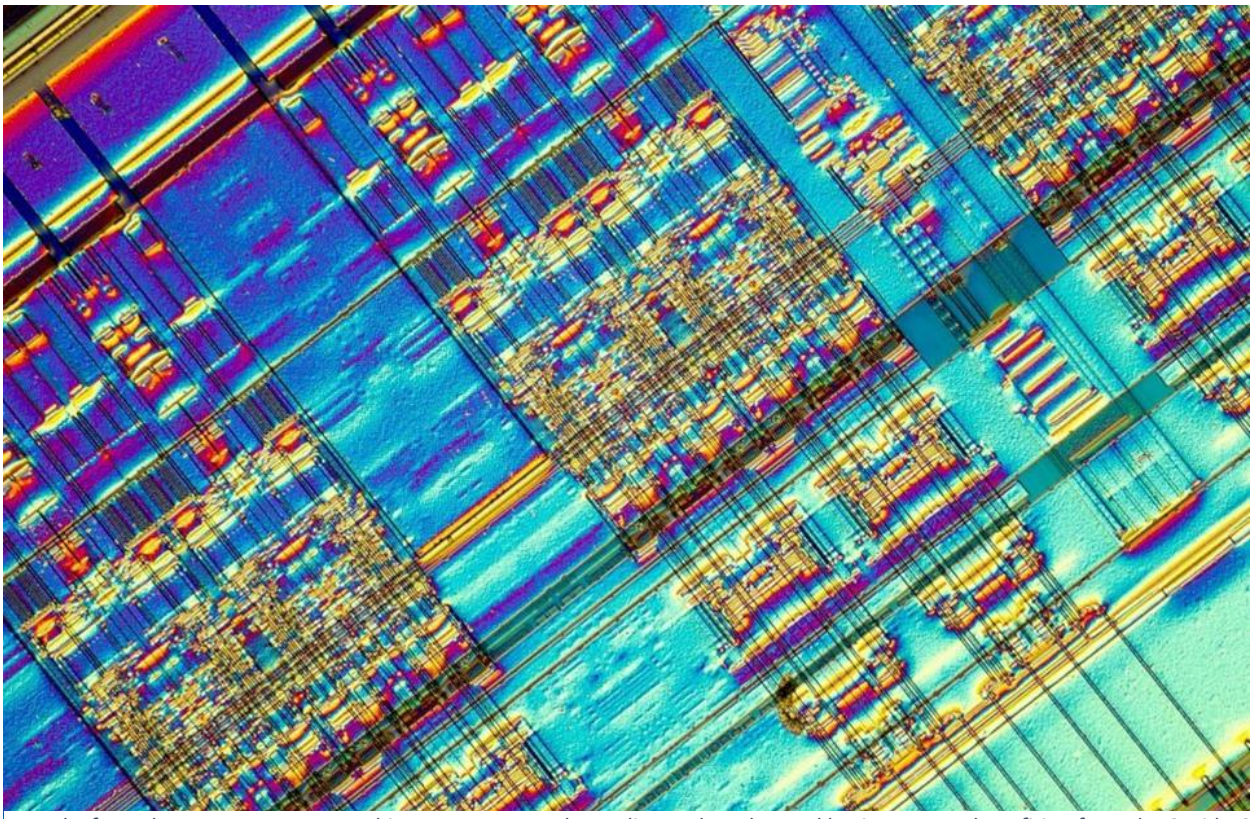
In the worst case, Huawei can obtain 14-nanometer chips from China's Semiconductor Manufacturing International Corp. (SMIC) to power its 5G networks, reports industry expert Handel Jones, although the new US rules might constrain Huawei's high-end smartphone business.

The State Department appears to think that Huawei's 5G is simply a faster version of today's mobile broadband that will allow faster downloads of streaming video and computer games, while giving Chinese spies access to the world's secrets.

As I explain in my book *You Will Be Assimilated: China's Plan to Sino-Form the World* (available June 30), China's objectives go far beyond eavesdropping. 5G isn't important for what it does, but for what it makes it possible to do—for example, to allow industrial controls, sensors and robots to communicate in real-time with near-zero latency (signal delay).

5G makes possible flexible manufacturing in which robots work out production processes without human intervention, mining robots driven by white-coated technicians wearing augmented-reality visors on the surface, remote medical testing, diagnosis and operations.

Huawei calls this the Fourth Industrial Revolution, and it promises to transform economic life during the 21st century. In addition, 5G also will make it possible to employ



Results from the computer memory chip sector suggest that online and on-demand businesses are benefiting from the Covid-19 pandemic. Photo: AFP

Huawei launched a promotional 5G trailer for the media last year and now the ultra-fast networks are being rolled out across China. Photo: AFP/Fred Defour

quantum cryptograph, a theoretically unhackable form of data security pioneered by Chinese scientists.

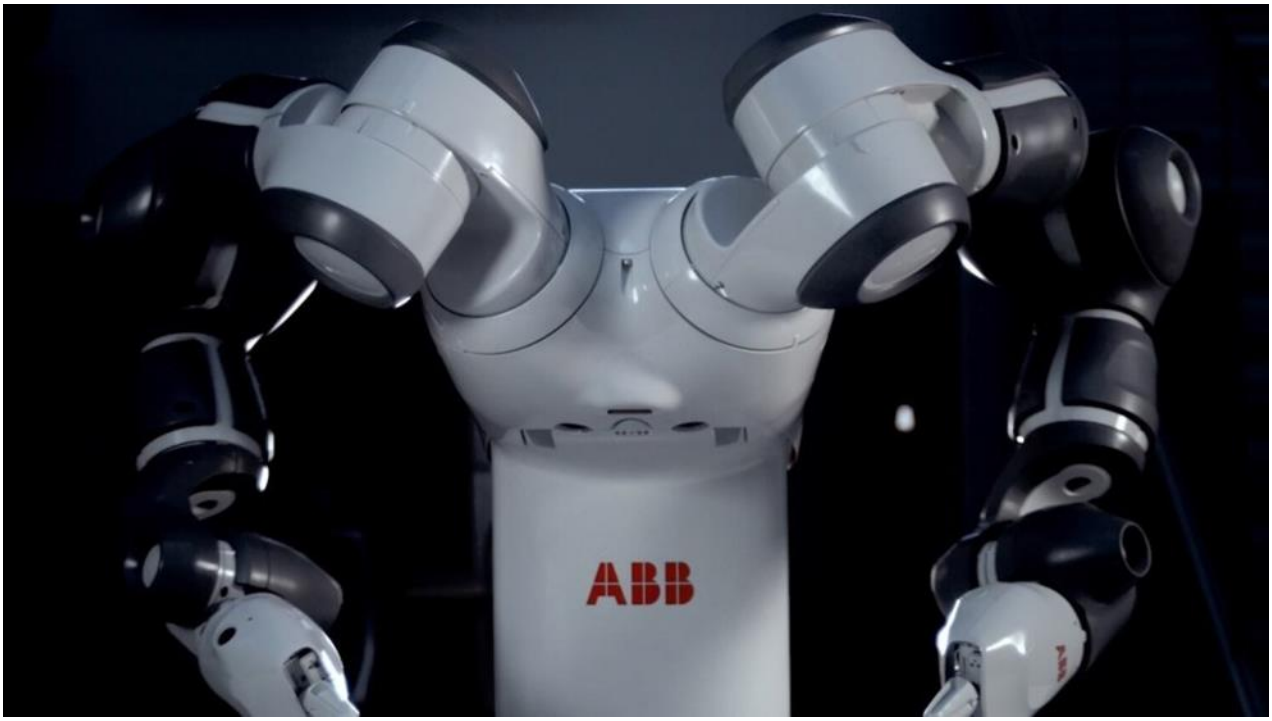
The risk to US security is not that China will be able to steal the world's data, but rather that the "Five Eyes" consortium of Anglo-Saxon intelligence agencies will no longer be able to tap into the world's communications. Again, my book contains a full exposition of quantum cryptography and its implications for signals intelligence.

I interviewed Huawei's Chief Technology Officer Paul Scanlan. Here's a brief extract of what he had to say:

"Let's take robotics today. 5G changes everything. Typically, 5G is spoken about in terms of download speed, but that's not the most important advantage. For industrial processes, autonomous vehicles and other applications, the latency—the time it takes for one device to acquire and respond to a signal from another device—is more important.

On a factory floor today, Robot A does its instruction, passes the bit to Robot B, and it's the same thing. Now if we put very low latency inside each of the robots—and they can be robots from different manufacturers—and put them in a room and give them the rules, like Go or like chess, to enable them to connect in real-time—milliseconds, lightning-fast—then put a bit of plastic in view and say, I want you to make a plastic cup, the robots will organize themselves much better than we would have thought. You're going to push the plastic flat, you're going to extrude it this way, you're going to finish it that way—that's the way we think, and that might be the first attempt of the robots.

Then afterwards we can talk about cutting down the amount of wastage, or the time it takes to make these things, or other key performance indicators, and they will start to do things differently. What we saw when we did this is collaboration between robots from different manufacturers— ABB, Kawasaki, and others. Connectivity allows you to move from very basic



An ABB-made robot used in Ericsson's 5G rollout presentations. Photo: Ericsson

stuff to very sophisticated stuff. This connectivity requires a platform enabled with AI."

As noted, Huawei's chief partner in robotics is ABB, whose Chief Technology Officer Bazmi Husain addressed Huawei's September 2019 conference in Shanghai on the future of industrial automation.

"One thing that is clear to us is that for these revolutions to succeed and deliver the value that is expected of them, we have to go beyond automation. Why do we need to do that? Because automation fundamentally has to be told how to react to every situation that it encounters. Given the growing complexity that is developing in industry, we need systems that not only react as they are programmed but are able to handle situations that are not planned … These systems are what we call autonomous systems," Hussain said.

ABB and Ericsson are linked by overlapping shareholdings and governing boards; the Swiss-Swedish robotics giant and the Swedish telecommunications company both embody the ambitions of small but sophisticated European nations to play a big role on the world's economic stage.

US Attorney General William Barr earlier this year suggested that the US or a US company might want to acquire Ericsson to create a bulwark against Huawei. In an October 19, 2019 interview with the Swiss newspaper Weltwoche, I mentioned that a senior Huawei executive wondered out loud why the US didn't just have Cisco buy Ericsson to create an American national champion.

Presidential economic adviser Larry Kudlow, the Wall Street Journal reported June 25, broached the idea to Cisco CEO Chuck Robbins, who told him that Cisco "was unwilling to invest in a less profitable business without some sort of financial incentives." Cisco's 2019 return on equity was 30.3%, a reflection of its abandonment of manufacturing in favor of higher-margin, capital-light software businesses, while Ericsson's return on equity was only 2.6%.

According to industry sources familiar with Ericsson management's thinking, the Swedish company's major stockholders "pay no attention to return on equity," but look towards the firm's long-term viability as a pillar of the Swedish national economy.

At work are two fundamentally different business philosophies. Cisco has followed its American peers into software, exiting capital-intensive manufacturing businesses, while Ericsson has doubled down.

Meanwhile, a number of US software companies have banded together in the Open Radio Access Network coalition, which seeks government subsidies to develop an alternative to Huawei's dedicated systems using smart software and generic hardware. That, I argue in You Will Be Assimilated, is less like re-arranging the deck chairs on the Titanic than stealing the silver from the Titanic dining room.

China views 5G as basic infrastructure and is prepared to subsidize the massive cost of a full-scale rollout, in order to capture the productivity benefits of the new technologies that 5G makes possible.

There is an analogy to American railroads in the 19th century, none of which made money for their original investors (in fact, every rail line at some point went bankrupt), but which made possible the great revolution in agricultural productivity and American heavy industry.

Sadly, the US government still thinks of 5G as a souped-up version of 4G, and thinks (or claims it thinks) that China's interest in the technology centers on data theft. China's ambitions are far grander: it wants to lead the Fourth Industrial Revolution and assimilate the world's industry into a Sino-centric nexus of high-tech investment.

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