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## Rise of the Dragon 4.0

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- The Chinese leadership has a plan. By 2025, China is expected to become a technologically independent high-tech superpower in all major industrial sectors worldwide. Chinese state-owned and private companies are therefore intensively developing mergers and acquisitions activities in foreign high-tech sectors worldwide.
- But what is the reaction to this plan? Keeping China economically small will not succeed and is neither legitimate nor wise. An economically growing China is advantageous for the global economy if China recognizes the "Rule of Law" (equal rights for all) in its own interest. Until that happens, the West must defend its own interests.

### I. China's master plan

Back in 2015, the Chinese State Council adopted the "Made in China 2025" master plan. Accordingly, China is to become a self-sufficient manufacturing superpower within a decade. China must be technologically independent (self-sufficient) and leading in the entire hi-tech spectrum, among which in the automotive industry, energy-saving vehicles and electromobility, robotics, mechanical engineering, aviation, hi-tech shipbuilding and railway technology, medical devices, healthcare, biotechnology, chemicals and pharmaceuticals.

Since the innovative and leading technologies in these areas were largely developed abroad, China is attempting to achieve technological leadership in these areas through the state-

controlled acquisition of foreign companies. Chinese state-owned and private companies are therefore involved in mergers and acquisition (M&A) activities worldwide at full speed.

Examples of Beijing's direct participation in the acquisition of foreign technology leaders are the acquisition of 79 % of KHD Humboldt Wedag (cement, Germany) and 95 % of Aritex (automotive & aviation, Spain). In addition, Shanghai Electric (power generation and electrical equipment) acquired 100% of Broetje Automation (aerospace, Germany) and almost 20% of Manz (robotics & mechatronics, Germany). Finally, ChemChina (chemicals) acquired 100% of KraussMaffei (machinery & automation, Germany) and Siasun (robotics & automation) 100% of Teutloff (engineering education & training,



Germany). However, takeovers by apparently Chinese private companies are also likely to be guided and promoted by Chinese government authorities.

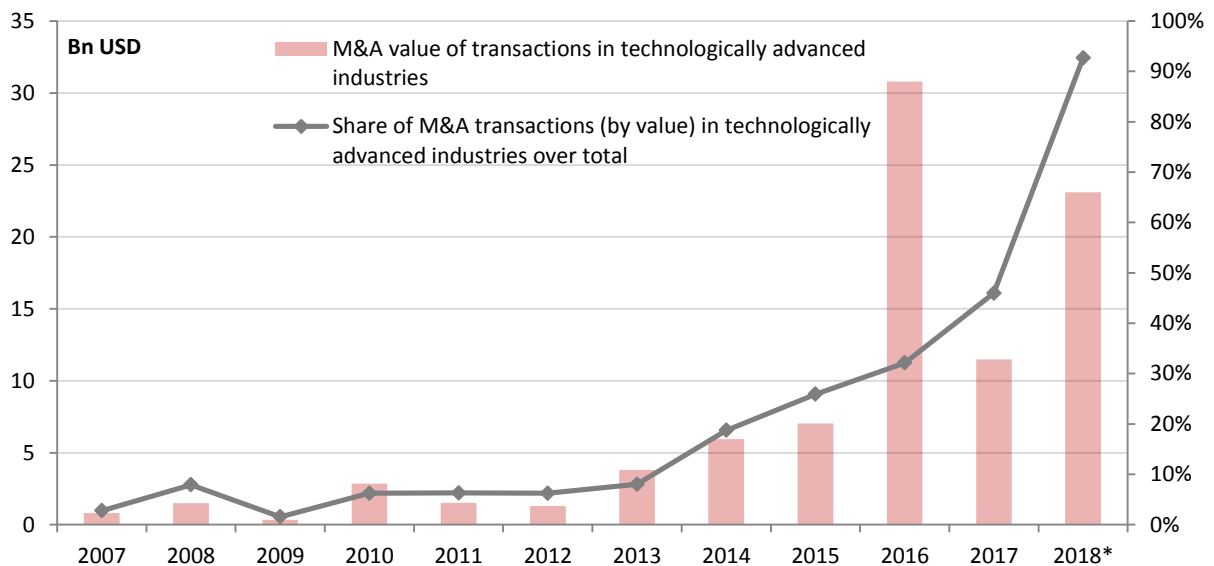
**Figure 1** shows a strong increase in Chinese M&A in foreign high-tech sectors. These activities had been already significant in the years prior to the official adoption of "Made in China 2025", but have gained momentum since 2015. In 2016, the absolute high was reached, followed by a slump in 2017, but this was accompanied by a decline in all high-tech M&As this year, so that the relative share of Chinese high-tech M&As abroad nevertheless increased in 2017. The renewed strong absolute increase set again in the first half of 2018.

For the international division of labor, the order of the world economy and the growth potential

of Western industrialized countries, it is highly relevant that China not only wants to become a member of the club of tech leaders, but to replace the existing technology leaders. It is evident that this has created an enormous challenge for countries with a high technology-intensive value-added share of the manufacturing sector.

Germany's share of manufacturing value-added in high-tech industries is 68 percent, followed by South Korea with 67 percent, Ireland with 66%, Hungary with 63 percent, the Czech Republic with 59 percent, Denmark with 58 percent, Japan and Slovakia with 57 percent each, Austria with 55 percent, the United States, Belgium and Slovenia with 54 percent each, France with 53 percent, Italy with 51 percent and the United Kingdom with 50%. It is striking that 80%

**Figure 1. High-tech foreign mergers and acquisitions (M&A) by China**



\*The value for 2018 is annualized

Note: Technologically advanced industries include Automobiles & components, Machinery, Biotechnology, Petrochemicals, Pharmaceuticals, Computers & peripherals, Electronics, Semiconductors, Internet software, IT consulting, Software, Healthcare

Source: Own elaborations Flossbach von Storch Research Institute/Thomson Reuters Eikon



of the countries with a high proportion of high-tech value added in manufacturing are located in Europe.<sup>1</sup> If the USA is included, it becomes abundantly clear what a challenge China represents for the West.

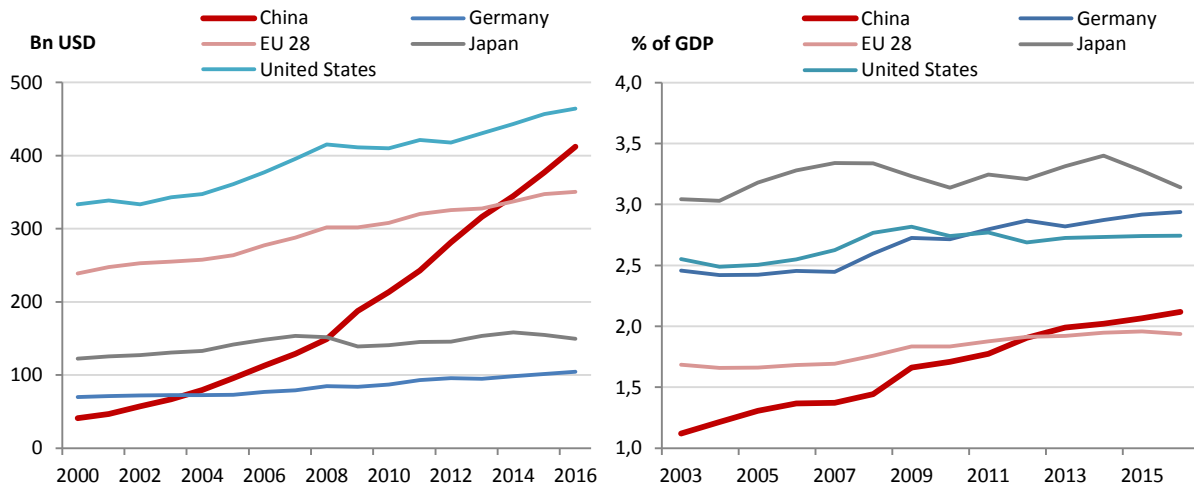
### Progress and limits

China's leadership has not only promoted the acquisition of technological knowledge from abroad through M&A and joint ventures with foreign companies, but has also intensified internal efforts to build a comprehensive technological base. Research and development spending in China has increased faster than in any other advanced economy over the last fifteen years, both in absolute terms and as a percentage of GDP. This trend is expected to continue in the coming years (Figure 2).

The country has also seen a strong increase in patent applications from Chinese residents and institutions over the last decade (Figure 3).

Despite this progress, the implementation of "Made in China 2025" is reaching its limits. Notably, the CCP's 19th Party Congress last autumn not only decided that general prosperity in China should be achieved by 2025. Furthermore, the "Xi-Jinping ideas" were included in the CCP party statutes, which was celebrated as a turning point in the history of the Communist Party. This means that the process of "reform and openness" and the "four modernizations" initiated by Deng Xiaoping at the end of 1978, which made China's economic growth and prosperity possible<sup>2</sup>, is now facing its historic end.<sup>3</sup>

Figure 2. R&D expenditures in billions USD (left) and as a percentage of GDP (right)



Source: OECD data

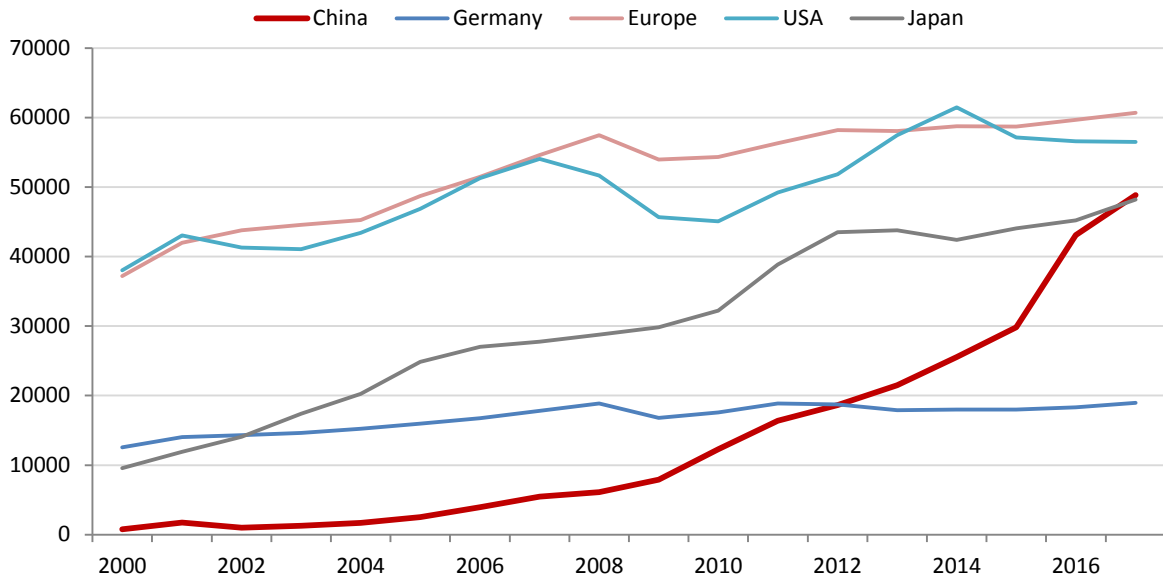
<sup>1</sup> JOST WÜBBEKE, MIRIAM MEISSNER, MAX J. ZENGLEIN, JAQUELIN IVES and BJÖRN CONRAD: *Made in China 2025. The making of high-tech superpower and consequences for industrial countries*, Mercator Institute for China Studies, Papers on China No 2, 2016.

<sup>2</sup> AGNIESZKA GEHRINGER and NORBERT F. TOFALL: *Modernisierung in der Volksrepublik China. Strukturwandel und Wirtschaftswachstum ohne politisch-gesellschaftlichen Fortschritt?*, Makroanalyse des FLOSSBACH VON STORCH RESEARCH INSTITUTE, September 15, 2016.

<sup>3</sup> NORBERT F. TOFALL and AGNIESZKA GEHRINGER: *Xi Jinping auf einer Stufe mit Mao. Machtzentralisierung als Sozialismus chinesischer Prägung?*, Kommentar zu Wirtschaft und Politik des FLOSSBACH VON STORCH RESEARCH INSTITUTE, October 27, 2017.



Figure 3. Triadic patent applications by country of residence of the inventor



Note: A triadic patent family is defined as a set of patents filed at three major patent offices, the European Patent Office (EPO), the Japan Patent Office (JPO) and the United States Patent and Trademark Office (USPTO).

Source: OECD data

Xi Jinping has disciplined and purged the party since the 18th CCP Party Congress in 2012. He has also led the economy more and more under CCP control. The resolutions of the 19th CCP Party Congress show that Xi Jinping is not prepared to allow the necessary structural change in China without leadership and control by the Communist Party. The opposite is the case, although the Chinese party and state leadership has officially recognized since spring 2011 that the Chinese economy suffers from considerable structural problems that hinder future growth. Therefore, firstly, the shift of growth away from investment and exports towards increased domestic consumption, secondly, the increase in the share of services and the reduction of overcapacities in industry and thirdly, the increase in the share of alternative energy sources are necessary. On this background, the 13th Five-Year Plan of the CCP for the years 2016 to 2020 stipulated that the structural change to a post-industrial service society must be implemented through technical progress. This explains the

importance of the new arrow in state-controlled industrial policy under the label "Made in China 2025", with which China intends to bring about the desired structural change.

However, this also reveals the main limitations of this plan. China's enormous economic success since 1978 was based on the advantages of backwardness and on decentralization, while its structural problems were due to pronounced state interventionism.<sup>4</sup> The advantages of backwardness are increasingly coming to an end due to exhaustion. Also the other remaining success factor, decentralization, is being cut by the Chinese leadership under Xi. At the same time, the "failure factor" of interventionism is being remarkably expanded. This has never been good anywhere in the world and will not last in China either.

<sup>4</sup> AGNIESZKA GEHRINGER and NORBERT F. TOFALL: *Modernisierung in der Volksrepublik China...* loc.cit., pp. 12 – 20.

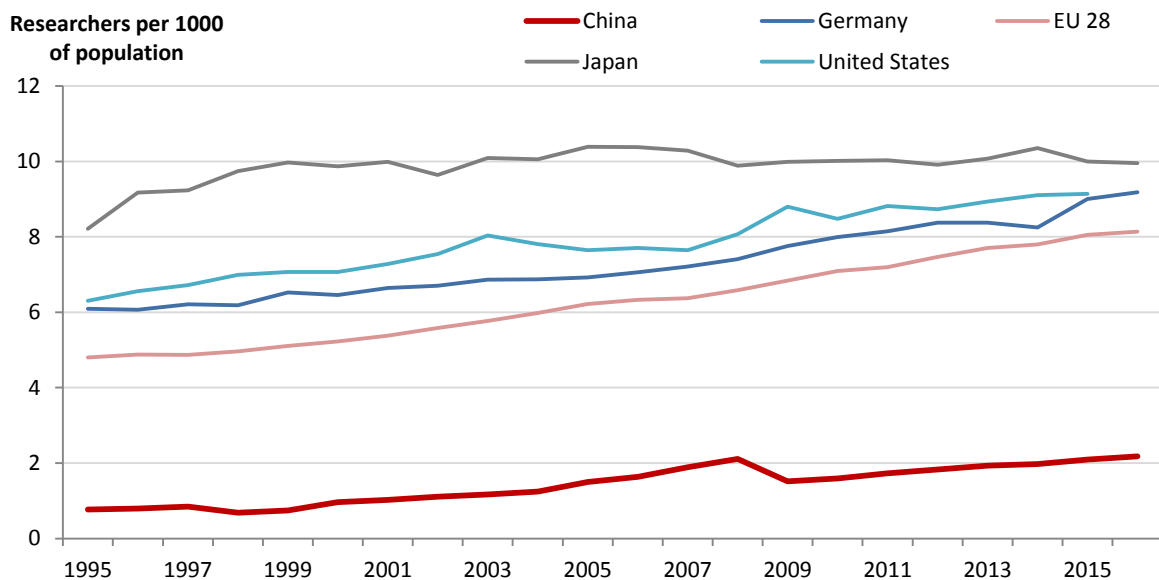


China would have to permit far-reaching structural change on a decentralized basis without leadership and control by the Communist Party. This would permit the country to cope with the economic leap from imitation to innovation. Creativity and innovative ability require a solid entrepreneurial basis – largely spared from state interventionism – and the availability of sufficient human capital.

With regard to the solid entrepreneurial basis, however, the question arises as to how far the majority of Chinese companies are merely "purely automated" and to what extent they are capable of implementing modern technologies. Wübbeke et al. (2016) justifiably doubts the latter and point out considerable deviations from the requirements of artificial intelligence in manufacturing as well as in the company organization.<sup>5</sup>

There is also a double limitation from the Chinese labor market. On the one hand, there is the danger that mass redundancies - as a result of widespread intelligent production - will trigger social dissatisfaction and protests, which is why the Chinese leadership wants to prevent dismissals through interventionism at all levels. On the other hand, there is a large shortage of skilled labor in China and thus a lack of human capital. As shown in **Figure 4**, the human capital base as measured by the proportion of the total population employed in research and development has grown very slowly in China over the last ten years. And this is not due to population growth, which was comparable to the rest of the sample observed. China's human capital base remains significantly below the level in the developed economies and represents a significant limit in the implementation of "Made in China 2025".

Figure 4. Human capital resources



Source: OECD data

<sup>5</sup> JOST WÜBBEKE, MIRIAM MEISSNER, MAX J. ZENGLIN, JAQUELIN IVEs and BJÖRN CONRAD: *Made in China 2025. The making of high-tech superpower and consequences for industrial countries*, Mercator Institute for China Studies, Papers on China No 2, 2016.



A further implementation limit follows from the resistance in other economies. Governments in many countries react increasingly defensive towards China's technological ambitions, often for legitimate reasons. Between 2008 and 2015/2016, Australia, Canada and the USA were among the most important countries for M&A from China (**Figure 5**). The state-controlled purchases of technologically strong foreign competitors face a highly restrictive attitude towards foreign investors in China. This is rightly regarded as a violation of the principles of fair competition on which the global trade order under WTO is based and which China officially recognized in 2001. In particular, the USA, Canada, Australia and of late also Germany have implemented effective measures against Chinese M&A in their countries (**Figure 5**).

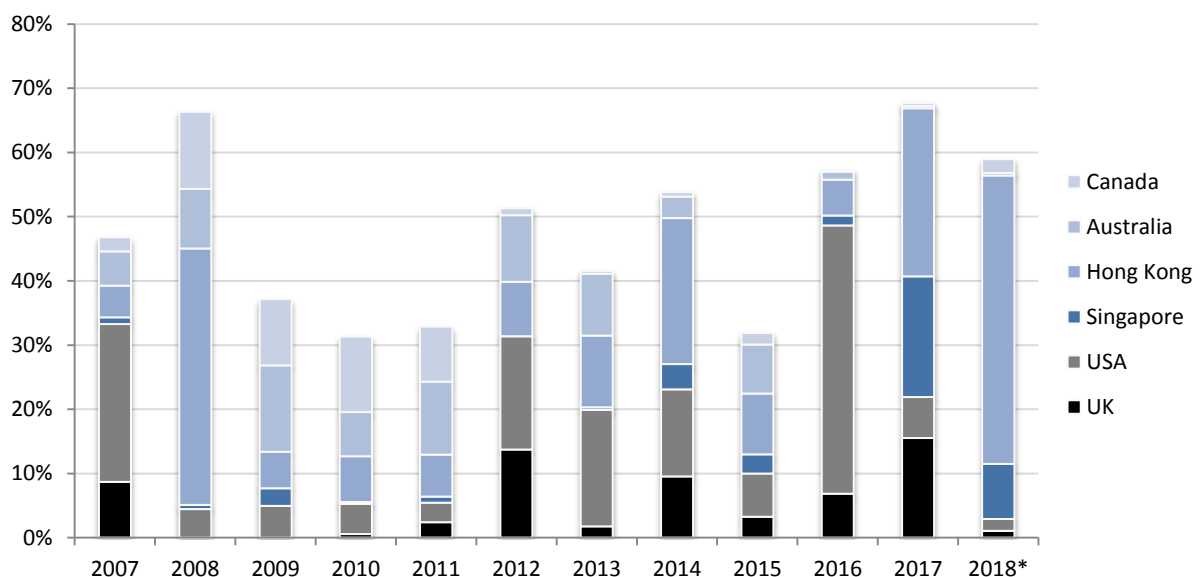
But is it legitimate or wise to obstruct China's economic development?

### III. How to react to "Made in China 2025"?

Keeping China economically small will not succeed and is neither a legitimate nor a wise goal. An economically growing China is beneficial for the global economy provided that China recognizes the "rule of law" in its own interest and thus creates a lasting win-win situation for the global economy. But how does a constellation emerge in which China, out of pure self-interest, recognizes "equal rights for all" at least in international relations?

The answer to this question is made more difficult by the problem that China's domestic political and economic structures are ultimately the cause of the resulting global economic conflict. If China's economy and state were more separate or even effectively differentiated, Chinese investment and M&A in other countries would not be particularly problematic. And if China's economy and state were more strongly sepa-

Figure 5. Geographic composition of Chinese outbound M&A transactions



\*The value for 2018 is annualized

Source: Own elaborations Flossbach von Storch Research Institute/Thomson Reuters Eikon



rated or even effectively differentiated, foreign investment and M&A in China would not be a political issue. In the end, however, China's economy and state are not separated and certainly not effectively differentiated.<sup>6</sup> There is also no independent judiciary which could give effect to such a separation, if it were permitted. By the end of 2017, 93 percent of Chinese state-owned enterprises, 68 percent of Chinese private enterprises and 70 percent of foreign enterprises had party cells of the CCPs. The latter are not tea parties for the cultivation of communist folklore, but serve to control management and exert an influence on company management. This means that even if China follows up its announcement with action and opens its own market to foreign investors, so that a foreign company no longer has to enter into a joint venture with a Chinese company, the Chinese state is always present at the management table. The decisions of the CCP since autumn 2017 and the further centralization of

power in China suggest that the situation will not improve. There has been some intensifying criticism from the party regarding the concentration of power on Xi Jinping reported lately.<sup>7</sup> However, as long as the Chinese masses see no problem here and enthusiastically follow Xi Jinping, this situation is unlikely to change. This situation will probably only change when the Chinese masses suffer tangible welfare losses.

Unless a structural political change in China takes place, all that remains for the West is to defend its own interests, to come to terms with its own economic and political problems and to form a broad coalition for the observance of general and abstract rules in world trade and international relations. A transatlantic and peaceful free trade alliance that persistently calls for reciprocity could in the long run put China in a situation where it has to respect "equal rights for all" out of pure self-interest.

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<sup>6</sup> For more details, see AGNIESZKA GEHRINGER and NORBERT F. TOFALL: *Modernisierung in der Volksrepublik China...* loc. cit., pp. 6 – 10.

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<sup>7</sup> "China's controversies create cracks in Xi's façade", Financial Times on August 3, 2018, available at: <https://www.ft.com/content/bf0227a2-96e4-11e8-b67b-b8205561c3fe>.



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