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Time to reclassify Chinese Innovation and Intellectual Property Strategy

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Time to reclassify Chinese Innovation and Intellectual Property Strategy: From Copycats, the Year of the Dog and their implications for the Diagnostics & Medtech field

After a decade of expansion, Chinese manufacturing slowed in 2016, arguably due to rising wages, maturing markets and mediocre global expansion. Premier Li's "Made in China 2025" strategy, together with Internet Plus, is designed to halt this and transform the country into a more innovative, intelligent manufacturing economy with high-end production. This ambitious upgrade program rivals Germany's digital economy "Industrie 4,0" and invests in both state-owned enterprises and small businesses. Reforms are being fuelled not only by government policies, but also by those maturing markets whose advanced consumers have embraced technology significantly quicker and to a greater extent than those in other countries. The rest of the world has been forced to take notice, with Alan Murray, Fortune president, considering "Can China become the world's innovation leader?" For some, such as Kathryn Shih, president of UBS Asia Pacific, it is already clear that Chinese digital technologies are leapfrogging other developed countries. Digital ideas are transferred within 1 week in China compared to 3 weeks in Silicon Valley; US dominance is threatened. Reflected in higher smartphone ownership and a developing cashless society, the newly expanded, loyal and empowered middle class are responsible for an e-commerce greater than that in the USA and Europe together. China is also at the cutting edge of artificial intelligence, with projects such as the technology pioneer Baidu's Apollo, which plans to provide manufacturers with free driverless cars to accelerate uptake and could potentially leapfrog in this area too. The country has the most globally aggressive governmental plans to promote electric cars via production quotas, which will position companies such as BYT as direct competitors to German automobile makers. The pattern is repeated across other modes of transport and industries, including chemicals and renewable energies, where efficiency and climate-friendly advances are boosting production and consumption; Germany's prominence in high tech is threatened.

Blooming Chinese innovation is reflected in rising world rankings across various innovation indices. Importantly, it is increasingly evident in the medtech field, particularly concerning cancer and allergy immunotherapies, which are exemplified by the groundbreaking clinical gene editing trials that are underway. This is driven primarily by the government, which remains the major funding source for research and development, and will be further supported by investment through the 5 year public healthcare program launched last year. Healthcare expenditure is thus increasing annually, reaching almost 6% of GDP in 2016 and predicted to rise 3% per year up to 2020. With compound annual growth rates (CAGR) between 2016-2020 forecast to be around 4%, the global medical device market could be worth US$500 billion by 2020, according to various sources. Over this period, the Chinese medtech market is expected to grow at triple the rate of that in the USA (see Figure 1), which will see it move from third (valued at around US$40 billion in 2016) to second largest worldwide market. The *in vitro* diagnostic (IVD) market will remain the greatest sector (13%), with sales forecast around US$ 67 billion by 2020.

China is also spearheading the developing biosimilars market, with the most companies (3; 3SBio, Beijing SL Pharmaceutical and Shanghai Fosun Pharmaceutical) in the global top 10.

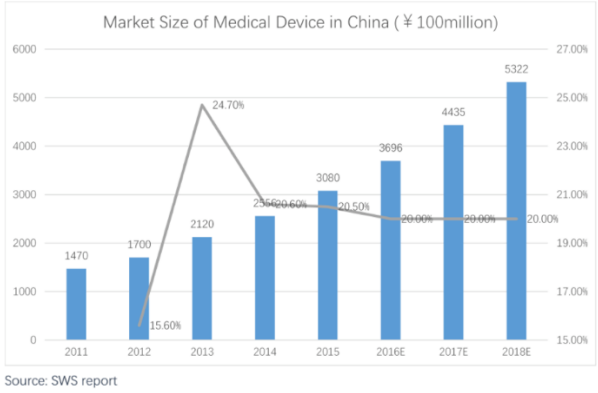

Figure 1: Revenue and CAGR development of Chinese medtech markets since 2011

Our own experiences in the life sciences sector also support these predictions. Since 2016 we have been conducting numerous road-shows around the country, initially aimed at meeting with IVD companies on behalf of European customers seeking distribution partners in China. However, we are seeing more and more innovative products originating from China itself. Small Chinese medical device producers are noting that successful enterprises such as Mindray, Yuwell and Lepu Medical diversified through joint ventures. As a consequence, we are experiencing greater interest from Chinese companies to support their market access strategy in Europe and, in turn, discovering increasing interest from German companies in Chinese products. In our view, Chinese commercialization is being propelled by private companies and university spin-offs.

The latter are accumulating in centers of excellence in newly created life science parks, which foster innovation and attract investment. This hypothesis is supported by the number of startups attaining unicorn status ($1 billion value) this year, being just short of world leader USA and triple that in Europe (Figure 2).

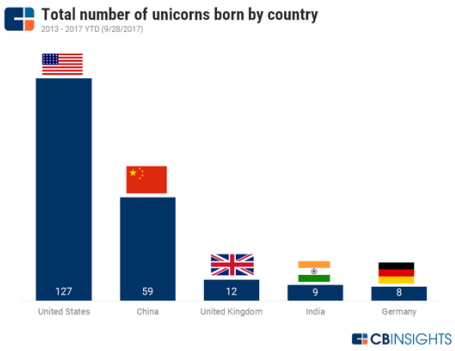

Figure 2: Total number of unicorns born by country

We are meeting Chinese CEOs, who are ambitious, young and charismatic entrepreneurs. They are often Western educated, culturally aware and possess a social conscience, aiming to protect the environment and improve healthcare. Although President Trump recently launched an investigation into China's violations of US intellectual property, we believe that the concept of a stagnated state-dominated economy dependent on plagiarizing western technology, with little room for original ideas, is outdated. New Chinese developments will match the quality and performance of German products, and continue, as before, to be highly competitive on price. Chinese entrepreneurs understand that economic viability is dependent on adoption of international standards, such as IP protection.





So, despite a poor record for Intellectual Property in the past, the desire to protect their new innovative products could now become a priority. This is reflected by a 45% leap in Chinese international patents in 2016 (World Intellectual Property Organisation), prompting director-general Francis Gurry to suggest "Made in China" has evolved to "Created in China". At this rate, the country will overtake world leaders Japan this year and the USA in 2 years. Chinese companies topped the rankings for corporate patenting. Although these were telecoms and electronics firms, this could change as the Medtech sector still has the highest patent ranking in Europe. In China, patent applications are concentrated around Beijing, Shanghai and Shenzhen, and new research institutes (under the umbrella of the Chinese Academy of Sciences) are providing patent and business support. Tax breaks and other incentives also serve to promote patent applications and are potentially contributing to the all-time high domestic filing, which has reached 1 million annually, and comes principally from telecoms and medtech applications. We believe the Chinese are strengthening this area to facilitate more global business and that such increased product protection is reassuring for potential German associations.

With regard to medtech and diagnostics innovations, as for other fields, where there is a lack of homegrown ideas, Chinese companies seek skills abroad and principally focus on German firms because of their excellent reputation. As the Chinese possess the capacity to buy target companies but still retain close ties to the ruling communist party, German authorities are understandably cautious and have recently announced tighter regulation on takeovers. However, we suggest that joint venture opportunities with this principal trade partner should not be underestimated. Author Edward Tse sees an emerging more confident and relaxed China with which to conduct business. We seek to help German medtech and diagnostics companies understand China's new strategies, recognize changes, and adapt to benefit from new strengths.

Here at SilverSky LifeSciences, we have been facilitating German-Chinese collaborations over many years. Aided by frequent visits to China and colleagues fluent in both languages, we can find suitable German partners for Chinese companies and ensure a smooth transition to a successful and long-term partnership. As we see it, with the start of 2018, the Chinese Year of the Dog has finally chased away the days of the copycat.

SilverSky
Unternehmensberatung GmbH

Brunnenstraße 23
40223 Düsseldorf
Deutschland

Phone: +49 211 302708-12
E-Mail: info@silversky-lifesciences.com
Web: www.silversky-lifesciences.com

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