

Rise of EVs Drives Chinese Fastener Transformation

社论：中国紧固件转型升级前哨站——电动车崛起

The Chinese EV industry made headlines that shocked the world at the beginning of 2024. BYD's 2023 financial report showed that it sold around 520,000 EVs in Q4, surpassing Tesla's around 480,000 vehicles. This report made BYD the world's largest EV manufacturer. This February, BYD increased the proportion of export to 19%, setting a new high. BYD is currently building production lines in Brazil, Indonesia, Mexico, Thailand and other places to quickly expand export to Europe.

Besides passenger cars, Chinese electric buses also achieved great results, accounting for nearly one-third of the market in Europe. At the beginning of 2024, they snatched a large order worth 43 million euros from Belgium, causing the local long-established bus manufacturer Van Hool to be declared bankruptcy in April. In fact, one-fifth of the electric passenger cars sold in Europe last year came from China, and this year the market share is expected to grow to one-quarter. A similar situation exists in the bus industry, where China has leveraged its market scale and low cost to take down European rivals.

Although BYD's sales of around 300,000 vehicles (down 43%) in Q1 2024 were outrun by Tesla's sales of around 380,000 vehicles, Tesla also fell 8.5%, far lower than market expectations, triggering investors concerns about Tesla's outlook. Even so, **BYD has proven its ability to seize the throne, and it has caused the biggest shock to the global auto industry this year.**



Rise of Chinese EVs, The Key Driver for High-end Transformation of Chinese Fastener Companies

According to the latest data released by a Chinese enterprise database, there are currently 21,048 fastener companies in China, most of which were registered in 2021. The number of registered companies that year was 2,231. The research results of this database show that **the number of fastener companies increased significantly in 2021, mainly because the increased production of new energy vehicles in recent years has boosted the demand for related fastener products and increased the number of entrants.**

China has faced greater challenges in its domestic economy and export in recent years. Therefore, the local government is vigorously supporting EVs, as well as AI and other high-tech industries. The research result of the aforementioned database is enough to confirm that China's new energy vehicles have become a key driver for fastener companies to transition to high-end products. **China has two trump cards that can shake up the rules of the global market. One is extremely low production costs and prices, and the other is the Chinese government's subsidy policy. In addition, China has another hidden trump card. The number of patent applications filed by Chinese companies is increasing sharply, making China the first country to exceed 4 million patents. BYD is also frantically applying for patents, and its number of patents is more than 15 times that of Tesla's, mainly to protect battery technology.**

The R&D and innovation on critical components made by EV manufacturers will drive the R&D of EV fasteners. A clear example is TR Fastenings



demonstrating fastener products and new technologies for EVs at a battery exhibition in UK. Even though China's current fastener R&D technology has not yet caught up with European and American standards, **the Chinese EV leader is spearheading towards technological R&D and accordingly, the growth potential of Chinese automotive fastener technology cannot be underestimated in the long run.**

China in Batting Position; Multiple Countries Now Bracing for Impact

China's vigorous development of new energy vehicles and high technology is stimulating Europe to compete with it in the same field. This can be seen in some of the biggest European exhibitions. Fastener World observed several industry trends at Hannover Messe in Germany. The first is Industry 4.0, smart manufacturing, automation, unmanned operations, robots, and robotic arms. The various metal parts processing technology and precision equipment on display at the exhibition allowed visitors to witness the manufacturers' efforts to continuously pursue excellence in technology. The second is EVs and peripheral charging/storage equipment. The third is the emphasis on new energy development. Many large manufacturers that are already market leaders are looking at deployment in the next 5 to 10 years and are actively introducing CBAM-compliant carbon reduction and environmental protection. Strategic alliances for new energy technologies have emerged in Europe. Coupled with the ESG and CBAM trends that have followed, the development of new energy policies will change future product design and manufacturing. **Facing competition from China, European and American companies must modify their practices as they go, and their pace of transformation cannot stop.**

The U.S. is stepping up competition with China in the same field. **The White House stated on May 14 that the U.S. will impose tariffs on USD 18 billion worth of goods imported from China, targeting strategic industries such as EVs, EV batteries, and steel. Among them, the tariff rate on EVs is expected to quadruple this year going up to 100%.** Besides the U.S., Brazilian President Lula reinstated import tax on EVs this year to protect the development of Brazilian auto industry. Chinese cars account for as much as 40% of the local market share in Brazil. According to Reuters, Brazilian carmakers lobbied for the resumption of import tax on EVs and overcame the opposition from China.

In addition to EVs and technology industries, China's fastener export has

encountered new obstacles. **Mexico has imposed a 35% temporary import tariff on Chinese fasteners, which took effect immediately from April 2.** The Mexican press said the move seemed mainly aimed at China.

With Intense Competition Around, “The Higher Ground” is the Only Option for Chinese Manufacturing Industry

In the past 30 years, China has perfectly manifested its evolution into becoming the world's factory, but in the next decade, China may come out with a completely new role. The rise of China has inevitably brought about high-tech competition between China and advanced countries. From the steel trade war to fuel vehicles, semiconductors, AI, carbon reduction, and now to the EV trade war. **China and advanced countries have entered a competition cycle to see which one can get the high ground first. It means that China and advanced countries will stimulate each other's manufacturing industries to go further high-end at close to the speed of light. Due to the interconnected nature of industries, if China's fastener industry stays content with conventional manufacturing methods, it will be eliminated in the trend of going high-end, and therefore it will eventually head higher.** The rapid growth of China's EV fastener companies is just one example of that. In recent years, there have been many companies in China that focus on developing photovoltaic fasteners, as well as companies such as Finework New Energy Technology that have begun to actively develop aerospace fasteners.

Imagining the Future; What's the Next Turning Point for Chinese Fastener Industry?

Looking to the future, **China has another card yet unveiled, and that is AI technology.** Currently, the one to compete with Chinese AI is GPT. The newly released GPT-4o (where “o” stands for omnipotent) this May has broken through the bottleneck. It can respond to questions within 0.3 seconds, already as fast as the response time in human conversation. It can also detect human emotions and respond quickly. It understands up to 50 languages and can handle text, voice and video input at the same time. There are now customized GPTs on the market. At the end of last year, an automotive manufacturer transformed its entire production line with customized GPTs, reducing downtime by 40%. The results are amazing. This means less time repairing and more time producing and designing more cutting-edge products through AI. The introduction of AI into production lines is now in progress.

Europe and the U.S. will gradually introduce AI into production lines in the long run, and China is bound to follow suit. A representative of China's National People's Congress has suggested that the authorities should launch special projects as soon as possible to focus on the deployment and application of smart manufacturing system software, mass AI models and general bionic robots as a critical industry breakthrough, and support the integration of mass model-driven AI and manufacturing. **In the foreseeable future, when the price of AI becomes more acceptable to enterprises and its introduction becomes easier, it will be simple just like many manufacturers would introduce ERP in the past, and AI will become a standard requirement of factories. By then, Chinese fastener manufacturers will inevitably rush to introduce AI processes, and the speed of technological evolution will be immeasurable, which is expected to write a new chapter for China's fastener industry.** □

