

CHINESE MACHINE TOOL MARKET - WEEKLY BULLETIN

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'Made in China' progresses as global industry undergoes transformation

HANOVER, Germany - As the world's leading trade show for industrial technology, the Hanover Industrial Technology Fair is renowned for its showcase of the latest trends in production. This year, the expanded use of Industry 4.0 in the whole production process has been in the spotlight of the exhibition.

With the theme of "Integrated industry -- Connect & Collaborate," Hanover Fair 2018 has attracted over 5,000 exhibitors from 75 countries and regions. It runs until April 27.

Among the world leaders in manufacturing, Chinese companies are catching up with their latest in cutting-edge technology.

MORE INTELLIGENT, CONNECTED PRODUCTION

As the organizer of the fair, Deutsche Messe said this year witnessed the trend of more digitized production, the integration of automation technology, IT platforms and machine learning which would take Industry 4.0 to a higher level.

These include the integration of IT and traditional industry, artificial intelligence, Internet of Things and others.

For example, Europe's largest software company SAP showcased a simulated production line for beverage bottling. Thanks to the AI system in analyzing real-time data on the production line, bottles can be filled with beverages with different colors, an example of efficient customized production.

The latest IT technology makes machines more clever. Germany's leading intelligent sensor maker SICK demonstrated its products that not only know the dimensions of a vehicle, but also could judge whether it is a car, a bus or a truck.

"Traditional sensors transmit only data, which is the result of the third industrial revolution. But smart sensors not only transmit data, they can also process and analyze data into information. That is Industry 4.0," SICK's senior vice president Bernhard Mueller told Xinhua.

"The Industry 4.0 implementation is no longer a showcase or test, instead it is a series of practical implementations," said Wolf-Henning Scheider, CEO of German car parts maker ZF Group.

"With the help of intelligent sensors, cloud computing and the Internet of Things, robots can see and think," said Scheider.

ZF Group demonstrated a fully-automatic electric forklift with AI control modules, which enable humans to teach machines so that the forklift can select solutions by itself under any situations, and hence substantially reduce error rates and improve productivity.

The Hanover Fair is a miniature of the development of industry technology in its 71 years of history. As China has become one of the world's major manufacturers, over 1,000 Chinese companies participated the fair this year, ranking second after Germany.

China's home appliance maker Haier demonstrated its new industry idea: from mass production to mass customization. Taking into customers' preferences into consideration, a model fridge or washing machine was produced within six minutes.

At the booth of China's IT giant Huawei, a robot, empowered by the high-speed 5G technology, can analyze and process data in order to prevent a ball from falling out of a tray by constantly adjusting the position of the tray.

"I had thought Chinese products were simply cheap. But when I saw Haier and Huawei's cool technologies here I was really impressed," said Jorn Ids Heins, a student from the Netherlands.

Similar to Germany's Industry 4.0 concept, China unveiled a 10-year national plan, Made in China 2025, designed to upgrade the country's manufacturing industry. The plan aims to promote development in 10 key sectors, including robotics, aerospace equipment and new materials.

Since the plan was introduced in 2015, steady progress has been made in industrial capability, smart manufacturing, innovation, as well as product quality and branding.

Besides Huawei and Haier, the cloud service of heavy machinery maker SANY displayed the integration of traditional industry with intelligence. With the service, heavy machines and wind turbines can be monitored and their data analyzed so that they can be better maintained.

"China has a large number of high-quality professionals," said Ulrich Spiesshofer, CEO of ABB Group, the Zurich-headquartered industry giant expert in robotics, power and automation technology.

Spiesshofer added that China will continue to play an important role in artificial intelligence, and ABB will deepen its cooperation with Alibaba, Baidu and other Chinese companies.

As the rising tide of isolation and protectionism was perceived as a major threat to the global economy, ideas for free trade and global cooperation were widely embraced at the fair.

Juergen Friedrich, chief executive of Germany Trade and Investment, the country's economic development agency, said that over 4,000 Chinese companies operating in Germany have created more than 60,000 jobs, a solid proof of China's contributions to Germany.

Friedrich called for the Germany-China relationship to be furthered tapped.

"Globalization is an inevitable and irreversible trend and we are the beneficiary of the process. Only through opening up and cooperation can a win-win outcome be achieved," said Wei Yiyin, vice president of the China Aerospace Science & Industry Corporation (CASIC).

After acquiring an electronic engineering company in Luxembourg in 2013, the CASIC's sales volume was doubled five years later.

Qiu Heng, head of global market of Huawei, said the company is making forward-looking plan for core technologies like 5G and a time-sensitive network.

"Corporations must input more in R&D," said Qiu, adding that the company's investment in R&D this year will surpass 100 billion yuan (\$15.86 billion).

Ren Xueliang, senior director of Haier Industrial Engineer, said the company spent 10 years to develop COSMOPlat, an industrial Internet platform introducing users into the whole process of production and mass customization solutions.

R&D needs time, resolution and patience, said Ren, stressing that only persistence can lead to success.

"One of the major differences in industries between China and the developed countries is the accumulation of experience: we have only 30 years of history but Schneider almost two centuries," said Gao Jianguo, president of Changde Tianma Electrical Corporation, which signed a new cooperation agreement with France's electrical giant company Schneider Electric.

"If we want to catch up with the world's most advanced technologies, we need to be open and keep learning," Gao said.

Industrial profit growth steady

China's industrial sector continued to see steady revenue growth in March, with sustained structural improvements and continued economic growth momentum, according to analysts.

Profits of industrial companies reached 1.55 trillion yuan (\$245 billion) in the first three months of the year, up by 11.6 percent from the same period last year, according to data released by the National Bureau of Statistics on April 20th.

The data gauge large-scale companies with annual turnover of more than 20 million yuan.

"The overall industrial sector is on track to see continued improvements, reflected by steady profit growth and lower leverage ratios," wrote NBS statistician He Ping in a note.

However, in March alone, the profit growth of industrial companies was 13 percentage points lower compared to the previous two months, data showed.

He attributed slower growth in March to seasonal factors such as the later Lunar New Year holiday this year.

Weaker producer price inflation and higher financing costs also played a role in driving down the growth pace, He said.

The liability to asset ratio of industrial companies fell slightly in the first three months compared to the same period last year, with some deleveraging achievements found in lower leverage ratios of State-owned enterprises, data showed.

The liability to asset ratio of industrial firms registered 56.4 percent in March, down 0.8 percentage points year-on-year.

"The government effort to curb risks from mounting debt has appeared to bear fruit, especially in the most indebted State-owned companies," said Gao Ming, an analyst with China Merchants Bank.

He said the slightly higher liability to asset ratio of private companies, which went up by 0.5 percentage points in March, is in line with stronger growth of private investment.

Looking ahead, the central government has noticed cyclical factors that may dent future growth, according to Gao.

US exports to China hit record

The US' exports to China grew faster than its export growth to the rest of the world, according to a report from the US-China Business Council released on April 30th.

The US exported nearly \$128 billion of goods to China in 2017, more than ever before and making China the third-largest US goods export market, trailing Canada and Mexico, according to the USCBC's 2018 annual report on state exports. US goods exports to China declined slightly in 2015 and 2016.

For US services exports, China has become a major market and is virtually tied with Canada as the second-largest market, at close to \$53 billion.

"Despite trade barriers that frustrate full market access, US exports to China continue to contribute to US economic growth," said John Frisbie, president of USCBC, which represents more than 200 US companies doing business in China.

"Exports to China support 1 million American jobs annually across a wide range of industries," Frisbie said in a press release.

Forty-nine US states have expanded their goods exports to China over the past decade, with 17 states experiencing triple-digit growth. Every US state has had triple-digit services export growth to China over the past decade, with 31 states experiencing services export growth of more than 300 percent, according to the report.

The report shows that US goods exports to China have grown by 86 percent over the last decade, compared with only 21 percent to the rest of the world.

The report comes just days before US Treasury Secretary Steven Mnuchin will lead a delegation to China for trade talks to ease the escalating tensions triggered by US unilateral tariff measures. The US has announced and threatened tariffs on \$150 billion worth of imports from China following a Section 301 investigation into China's intellectual property policies and practices. China has proposed retaliatory tariffs and vowed to fight to the end.

US President Donald Trump announced last week that he is sending a US delegation to Beijing, a trip he described as having "a very good chance of making a deal."

China has welcomed the visit by the US delegation. Foreign Ministry spokeswoman Hua Chunying said last Friday that "we are willing to hold negotiations with the US on the basis of mutual respect and equality".

China's power use picks up as economy firms



China's electricity consumption grew 9.8 percent in the first quarter of the year, the fastest quarterly growth since 2012.

The pace of increase accelerated from 5.7 percent in the previous quarter and 6.9 percent during the same period last year, according to data released by the National Energy Administration (NEA) on April 24th.

NEA official Li Fulong attributed the faster growth to sound economic development and low temperatures during the first two months.

Growth of power use in industries such as information transmission, software and auto manufacturing all exceeded 16 percent, meaning emerging industries surpassed broad power use rise for the 35th month.

Electricity consumption in high energy-consuming industries such as chemicals, steel and nonferrous metals grew at a slower pace.

Apparent consumption of natural gas rose 9.8 percent to 71.2 billion cubic meters in the first quarter. Apparent consumption of oil was up 5.5 percent to 154 million tons while refined oil consumption climbed 2.2 percent to 76.8 million tons.

Boeing plans to open new facility in China by year-end



The world's biggest plane maker Boeing Co plans to open a new facility in China by the end of this year, to complete some of its 737 jets, financial news website MarketWatch reported on April 25th.

Boeing CEO Dennis Muilenburg said construction is under way on the new delivery and completion center in Zhoushan, Zhejiang province, and site preparation has been initiated.

"We're still driving toward a goal of beginning to have operational capability toward the end of this year," Muilenburg added.

Muilenburg made these remarks at an earning conference call after the company reported strong 2018 first-quarter results. Boeing reported a 57 percent rise for the first quarter, while also raising its full-year forecast for earning per share and operating cash flow.

The center, which consist of a completion center under a joint venture between Boeing and COMAC, and a delivery center owned by Boeing, will be capable of tasks including cabin installation, painting, flight testing and aircraft maintenance.

Boeing will continue assembling 737s at its plant near Seattle, but send some planes to China for completion at the new plant, the report said.

In September, aircraft manufacturer Airbus Group also inaugurated the Tianjin center of its first wide-body completion and delivery center outside Europe, and delivered the first European and Chinese made A330 aircraft to Tianjin Airlines.

Currently, Airbus assembles four A320 aircraft every month in Tianjin. By early 2019, the assembly line will produce five aircraft a month, and by early 2020, it will produce six A320s a month, according to an agreement signed in January.

Sany Group moves into heavy truck production

Changsha-based manufacturer investing billions in construction

Sany Group Co Ltd, China's leading machinery equipment maker, will invest billions of yuan in the construction of five heavy truck production bases by 2019, and will road test autonomous trucks this year, executives said.

The company's massive expansion plan, which could see its annual output rise almost twentyfold, is underpinned by solid demand from the domestic market.

After more than a year of research and design, Sany's trucks began the first online presale in late March and were heavily marketed, said Zhou Junfeng, research and development engineer and project manager of the company's heavy truck arm.

"Within just 53 seconds on that day, the first batch of 500 heavy trucks was pre-sold, with the total sales exceeding 135 million yuan," Zhou told China Daily. "As of 8 pm on April 23, we received a total of more than 11,000 online orders."

To meet the huge demand, the Changsha-based company plans to construct five sites, which will considerably increase its annual output capacity from the current 5,000 units, according to Zhou.

"Sany is constructing one production base, with annual output capacity of 2,000 units, in Changsha, Hunan province, which will start operation this May." Zhou said.

Sany, best known for its machinery equipment, began to move into the faster-growing industry about one year ago.

Last year, China saw the sales volume of heavy trucks surge 52 percent year-on-year to more than 1.11 million units, a new record since 2010, according to the China Association of Automobile Manufacturers.

In 2018, the sector is forecast to remain strong, partly due to the upturn in the global economy, solid domestic demand and the replacement of older truck models, said Gao Deng, an analyst at Changjiang Securities, in a research note.

Zhou attributed the hot sales of Sany's heavy trucks to high quality — including intelligent functions—and a lower price than the market average.

Sany is planning to develop this type of heavy truck in autonomous ones, and is partnering with the country's telecom carrier China Mobile in this area, according to Zhou.

Leading automation company eyes partnership with China

Last September, Switzerland-based ABB Group demonstrated its hi-tech robot YuMi, which conducted an orchestra in Italy.

Ulrich Spiesshofer, chief executive officer of ABB, said YuMi, based on artificial intelligence (AI), learned to conduct in only 17 hours, showing a high level of learning ability.

Spiesshofer, whose company focuses on robotics, power, heavy electrical equipment as well as automation technologies, gave Xinhua an exclusive interview while attending the Hanover Fair that kicked off Monday.

Self-learning AI can be a good complement to human expertise in the industry, he said, adding that it can be used in all kinds of fields as "a real productivity booster".

Regarding the development of AI in China, he said "China is already playing and will play a major role in AI" and it's natural for companies like ABB to work with Chinese partners.

He mentioned Chinese companies with strong technology, such as Alibaba and Baidu, saying ABB wants to build partnerships with them.

Spiesshofer called China's efforts in developing AI impressive, especially in the education sector, where the technology has been widely adopted.

For him, Industry 4.0 has moved from "pure ambition to reality" since the concept was first proposed at the Hanover Fair 2011.

Industry 4.0, also known as the Fourth Industrial Revolution, is the current trend of combining advanced manufacturing with the Internet of Things. A connected industry, open data architecture, sensor-enabled devices, cloud-based data storage and AI-supported manufacturing are the new normal in industrial production.

In Spiesshofer's vision, future factories will be much smaller, closer to demand, and smarter with the help of self-learning AI.

Besides AI, ABB also sees great opportunity in the electric mobility market in China as half of the world's total sale of electric vehicles was made in China last year.

At the Hanover Fair, ABB unveiled its 350-kilowatt electric vehicle charging technology which enables electric cars to run 200 km after eight minutes of charging.

China's top air-conditioner maker posts brisk profit growth



Gree Electric Appliances, a leading air conditioner maker in China, on April 26th reported a 44.87 percent net profit growth in 2017.

Net profit attributable to shareholders hit 22.4 billion yuan (\$3.5 billion) last year, the Guangdong-based firm said in its annual report filed with the Shenzhen Stock Exchange.

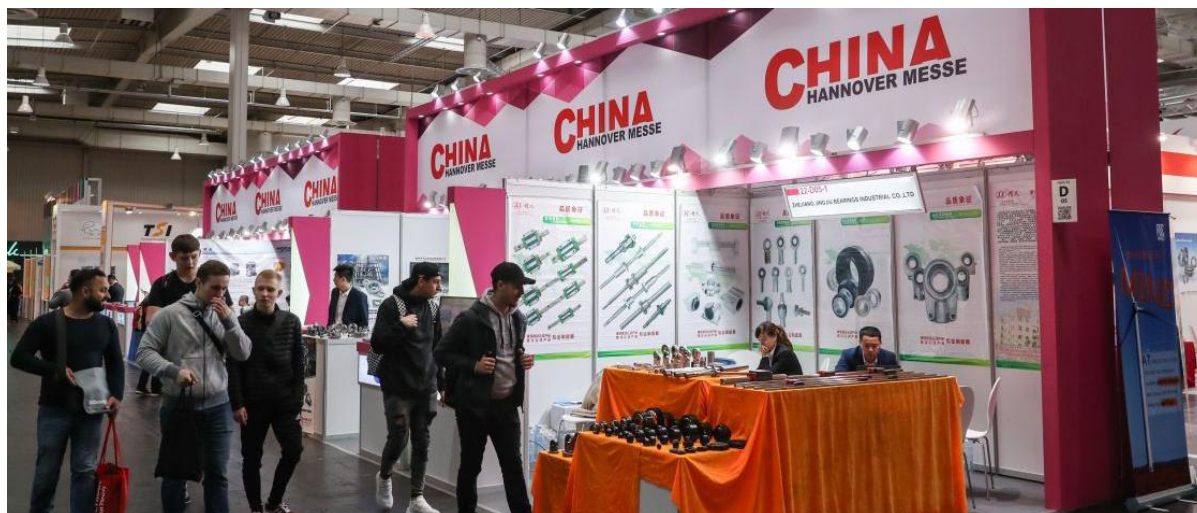
Its business revenue increased 36.92 percent to 148.29 billion yuan, while total assets rose 17.87 percent year-on-year to about 215 billion yuan.

The company's revenue from air conditioners rose 40.1 percent to 123.41 billion yuan, accounting for more than 83 percent of the total.

In 2017, its sales of air conditioners for home use remained the largest in China for a 23rd consecutive year, while sales for commercial air conditioners were the largest for the sixth year running.

While maintaining rapid growth in its main business last year, the company also expanded its smart equipment, smart home appliance and new energy businesses, the report said.

China tops number of foreign visitors and exhibitors in Hannover Fair



China has topped the number of foreign visitors and exhibitors in this year's Hannover Messe, a world-leading industry fair in Germany, said its organizer Friday here at the closing ceremony.

Over 33 percent of some 210,000 visitors came from outside Germany. Among them, China took the lead with 6,500, followed by the Netherlands, Poland and the United States.

Under the theme of "Integrated Industry -- Connect & Collaborate", this year's fair attracted more than 5,000 exhibitors from 75 countries and regions, among which 60 percent was from outside Germany. With over 1,000 exhibitors, China ranked first followed by this year's official partner country Mexico.

The five-day fair has mainly focused on five sectors, including Integrated Automation, Digital Factory, Energy, Industrial Supply and Research & Technology.

Jochen Kockler, chairman of the organizer Deutsche Messe, stressed at the same day the importance of human being in the digital transformation of the industry.

"Technology is not about competing with us humans; it's about assisting us," said Kockler.

"The interaction of humans with machines and IT adds up to a huge competitive gain across manufacturing, logistics and the energy industry," he added.

The next fair will take place from April 1 to 5 in 2019, with Sweden as the official partner country.

BDA to host WRC 2018 in August



The 2018 World Robot Conference (WRC 2018) is set to open in Beijing Economic-Technological Development Area (BDA) in August, according to the News and Information Center of BDA Administrative Commission.

The event will run from Aug 15 to 19 at Beijing Etrong International Conference and Exhibition Center.

Themed around "Creating Intelligent Momentum for a New Era of Openness and Shared Benefits", WRC 2018 will invite world-renowned robotics experts to conduct high-level academic discussions, attract robotics firms, universities and institutes to showcase the latest achievements and applications of robot products, as well as hold robot competitions.

150 well-known domestic and foreign companies like SIASUN Robot & Automation CO, HIT Robot Group, ABB and FANUC will make their appearance at the event.

Industrial robots, service robots, underwater robots, military robots, and space robots will be displayed as well as a "robot production line."

There will be five robot contests in total — BCI brain control, communication robots, industrial robots, youth design and an unmanned boat open competition.

The World Robot Conference has been successfully held in the BDA on two previous occasions. The convergence of the robot competition has driven the rapid development of the robotics industry in the BDA. So far, the development area has established a robotics industrial innovation base which has attracted a number of industry leaders and R&D institutions including HIT Robot Group and Yaskawa Shougang Robot Co. Some 100 companies in the industry have settled in the innovation base. The industry is currently worth some 3 billion yuan (\$475 million).