

CHINESE MACHINE TOOL MARKET - WEEKLY BULLETIN

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Minister: Plan to boost AI research

China will strengthen the use of artificial intelligence to solve security, health, environment and other key public issues, *Mr. Wan Gang*, minister of science and technology, said on March 10.

The country also plans to soon publish a guideline and detailed regulations on AI development and breakthroughs in critical technologies, he said.

Since the 1980s, the central government has considered AI research highly significant and made it a part of the nation's science agenda, Wan said.

AI applications are now used in many industries and in daily lives, ranging from bike-sharing technologies to package deliveries, he said, adding that AI is also entering hospitals, courtrooms, city planning, public transportation and many other public services.

The key to using AI in various fields is to conduct research in core technologies and make AI open-sourced, so that innovators, entrepreneurs and others in all facets of society can add or benefit from the technology, Wan said.

In July, the State Council issued a plan on the next generation of AI. It said the AI industry should be a major growth engine and improve people's lives by 2020. The plan also set a target for China to become a leading center for global AI innovation by 2030.

The value of the country's AI-related industries is expected to reach more than 150 billion yuan (\$23.7 billion) by 2020, 400 billion yuan by 2025 and 1 trillion yuan by 2030, according to goals laid out in the plan.

Wan said China will strengthen its AI research and train a new generation of experts to tackle key and frontier AI-related science issues. The nation will also accelerate the commercialization and application of AI technologies to "solve the public's concerns, such as security, health and environment", he said.

At the same time, he added, China will strengthen research into related laws and regulations in response to possible ethical and social challenges caused by AI technologies, such as privacy, employment and national security.

"AI is an international trend," he said. "We need to strengthen international cooperation and support China's AI companies and institutes to work globally with others and play roles in their key fields."

Private sector plays vital role in economy



CHINA'S private sector has made a key contribution to economic growth, the head of the country's industry and commerce federation said on March 6.

The sector now contributes to over 60 percent of China's GDP growth and brings in over half of China's fiscal revenue, said Mr. Gao Yunlong, head of the All-China Federation of Industry and Commerce.

Meanwhile, more than 60 percent of China's fixed-asset investment and outbound investment has been made by private investors, Gao told a press conference on the sidelines of the first session of the 13th National Committee of the Chinese People's Political Consultative Conference.

The private economy is also playing a stronger role in China's job creation and innovation drive by providing over 80 percent of jobs and contributing more than 70 percent of technological innovation and new products in the country, according to Gao.

He said that last year, more than 90 percent of new jobs were created by private businesses.

At the end of 2017, there were 65.79 million individually owned businesses and 27.26 million private enterprises in China, which employed some 340 million people.

Private investment grew 6 percent year on year, 2.8 percentage points higher than a year earlier, to 38.2 trillion yuan (US\$6 trillion) last year.

Chinese demand keeps Japan's machine builders busy



Japan's equipment manufacturers expect another year of growth in 2018 thanks to robust international demand, particularly in China.

Domestic and overseas shipments of tractors, hydraulic excavators and other machines are likely to reach 2.4 trillion yen (\$22.4 billion) for fiscal 2018, a 5% increase from the fiscal 2017 estimate, the Japan Construction Equipment Manufacturers Association said Tuesday. The figure marks a reversal of a decline that the trade group had anticipated earlier.

Forecasts are now out for all three key machinery fields: construction machinery, robots and machine tools. Demand for machinery is considered an important leading economic indicator.

Construction equipment shipments within Japan are seen falling 4% in the year that begins in April following a pickup in demand before September 2017, when tighter emissions regulations took effect. But this drop will be more than offset by an 11% rise in exports, buoyed by housing construction and infrastructure investments in North America, Asia outside Japan and elsewhere. Total shipments are expected to top the 2.28 trillion yen estimated for the year ending in March, which is on track to be the second-strongest year ever, according to the trade group.

Construction equipment builders are optimistic about the Chinese market, underpinned by spending on public works and infrastructure.

Some 85% of the Japanese association's member companies expect demand in China to rise in 2018, and 71% see the market expanding in 2019 as well. The rest see demand staying flat for both this year and next, with no members predicting demand will fall.

"There is some uncertainty, but member companies are hopeful that the current strength will be maintained," said Kotaro Hirano, the association's chairman and president of Hitachi Construction Machinery.

"It was previously thought that demand could slow down after the National Congress of China's Communist Party in October 2017," an executive at Hitachi Construction said. "But now we see a high level of construction work for the time being."

Komatsu reports, based on its Komtrax remote monitoring system, that its machines' average working times in China soared 46.6% in January. The surge may be due in part to the fact that the Chinese New Year holidays did not begin until February this year, but the figure has been on the rise for more than a year.

Japanese manufacturers of machine tools and robots are also enjoying strong demand.

Orders for machine tools surged 31.6% to 1.64 trillion yen last year, hitting an all-time high for the first time in 10 years, according to the Japan Machine Tool Builders' Association. The 2018 figure is expected to be even higher.

And the Japan Robot Association reported that its member companies received a record 759.4 billion yen worth of orders in 2017, up 34.1%.

Combined output at members and nonmember companies apparently reached 900 billion yen, with this number expected to surpass 1 trillion yen this year.

Machine-tool orders from China more than doubled last year, while robot exports to that market soared 57.9% to 227.5 billion yen, or 40% of all overseas shipments. The automobile and electronic devices segments are strong, and facilities and equipment are drawing investments for automation.

Rising demand could bring about challenges for machine manufacturers.

It has been taking longer for machine tool builders to deliver products. Construction machinery companies are concerned that, if demand continues to grow, parts supplies for hydraulic excavators and other machines may reach their limits, Harry Kobrak of Caterpillar Japan said. Having been hurt by sudden declines in demand when public works spending shrank, construction machine builders are reluctant to make big capital investments.

BMW to develop electric Mini in China

Development of the next electric Mini will take place in China, BMW board member Peter Schwarzenbauer said, as the British brand awaits a new alliance with Chinese car-maker Great Wall Motor Co.

BMW announced last month that it had signed a letter of intent with Great Wall, potentially giving the Chinese company its first foreign manufacturing partner and the German group's first Mini assembly site outside Europe.

"It will be developed in China and it will be produced in China, but we don't know where yet," Schwarzenbauer told reporters this week at the Geneva auto show. "The car could also be exported."

So far BMW has relied on its r&d operations in Germany to produce the current Mini. More stringent local regulations, however, are forcing a shift of intellectual property to China.

"You have to have certain components localized. In the new energy vehicles regulation, the drive-train and the battery technology needs to be sourced locally," Schwarzenbauer said, adding that BMW Group would rely on its existing sales partnership to sell the vehicle.

BMW's EV, which is built and developed in Germany, is not eligible for local subsidies because it does not have components sourced in China, Schwarzenbauer said.

Battery JV created

GERMAN auto-parts supplier Continental and Chinese battery manufacturer Sichuan Chengfei Integration Technology Co agreed in Shanghai in March to form a joint venture to develop and produce battery systems.

The joint venture, in which Continental holds 60 percent and Sichuan Chengfei Integration Technology Co 40 percent, will develop and produce 48-volt battery systems whose battery cells will be provided by CITC's subsidiary China Aviation Lithium Battery Co while Continental will manage the battery system.

The joint venture expects to begin operations in mid-2018 and launch its first product in 2020.

48-volt technology is a mild hybrid technology offering higher voltage that allows a car's electrical system to engage more with its functions, and promises higher savings in fuel use.

Magneti Marelli builds new plant in Anhui

Italian automotive supplier Magneti Marelli started building a major research and development center and manufacturing plant for powertrain components on March 8 in Hefei, capital of East China's Anhui province.

Magneti Marelli China Powertrain in Hefei, a new company, has been established for the project, which will produce components for injection for gasoline direct injection (GDI) and multipoint injection (MPI) engines, as well as throttle body and intake manifold, according to the company.

Based in the Hefei State High-tech Industrial Development Zone, the project will see an investment of 1 billion yuan (\$158 million) and cover an area of about 4.5 hectares. Construction of the project is expected to be finished by September, according to the development zone's administrators.

"The Hefei project will be our company's 13th plant in China and marks an important milestone in the development of powertrain systems in the country," said Sylvain Dubois, chief executive officer for Magneti Marelli China.

"Further opportunities will come for future development such as GDI injector and electrical components for new energy vehicles," he said.

For more than 99 years, Magneti Marelli has been developing and producing components and systems for the automotive industry across continents, from South and North America to Europe and Asia.

Magneti Marelli China started out 22 years ago with its electronic business in the south of China. It has now established 12 factories all over the country and employs more than 5,000 people, according to Dubois.

Before the new project, Magneti Marelli China has had four R&D centers and employed more than 600 engineers in the country.

"Hefei is not unknown to Magneti Marelli as we started a fruitful collaboration in 2012 with Anhui Jianghuai Automobile (JAC), setting up a joint venture to produce exhaust systems," said Dubois.

"Today JAC Magneti Marelli is a production center but also an R&D center for exhaust which employs 120 people," he said.

Dongfeng to mass-produce self-driving cars by 2020



Chinese car-maker Dongfeng Motor Corp is planning to mass-produce self-driving cars by 2020, which is part of the company's larger goal of ensuring a smart future, said a top executive.

Under the goal, the company will also cash in on driverless cars for specific areas and commercial use, such as driverless buses and trucks, with an ambitious deadline of between late 2019 to early 2020 to put them into operation, according to Tan Minqiang, NPC deputy and director for the technical center at Dongfeng Motor Corp.

"We will roll out L3 autonomous cars by 2020, and currently we are also developing L5 cars," Tan said. "It would be difficult for automakers alone to implement such a tremendous project. The whole society and all the related industries need to work together to boost its future development."

According to him, the company, based in Wuhan, Hubei province, recently launched a new division for automated and connected vehicles. It marks a new step in expanding its research and development in self-driving innovation, attracting more talent and boosting the development of smart driving technologies.

With a team of around 50 core professionals, the company's new division is led by the firm's technical center. Tan said Dongfeng Motor has plans to further expand the new division in the future.

Dongfeng Motor has already cooperated with leading internet, telecommunication and tech companies in the country on automated fleet, including Baidu Inc, Huawei Technologies Co Ltd, JD, ZTE Corp and China Mobile.

"Supercomputing platforms and chips will be key to future development. And we really look forward to seeing more locally-sourced products and services with high-level performance in the market," Tan said.

Currently, the company is working with the Wuhan Economic and Technological Development Zone for an intelligent vehicle pilot zone in the future.

AWE - inspiring robots steal limelight

Robotics, big data and artificial intelligence are making electronics more user-friendly and intelligent, which attracts the eyes of visitors of AWE show opened on March 8 in Shanghai.

"Intelligence is the future of the household appliance industry in China with integration between software and hardware, development of AI and cloud and upgrading to smart manufacturing," said Jiang Feng, president of the China Household Electrical Appliances Association.

Robots are playing a role in the era of smart homes, companies said during AWE 2018 (Appliance & Electronics World Expo 2018), China's top home appliance show held annually in Shanghai. Over 800 exhibitors are attending the show which ends on March 11.

Home appliance giant Haier is teaming up with Japan-based Softbank to show off Pepper robots which can help users book air tickets as well as control air conditioners and air purifiers by voice control.

Advanced AI that are able to integrate with human beings and customized "minds" have become a trend in the market, said Shanghai-based Machinemind, which develops the system for Pepper in the domestic market.

The next stage AI, which requires huge volume of data, will be used both in smart home and various business sectors, said He Jia, founder of Machinemind.

Toppers, a smart device brand under Shanghai-listed Boxin Investing & Holdings Co, showcases an AI speaker able to order food and call taxi, a wireless headset for real-time English-Chinese translation and a smart locker which works by fingerprint recognition.

Shenzhen-listed ASD, which makes crock pots for more than 40 years, has expanded into smart manufacturing by investing in industrial robots.

Asia's largest 3D printing exhibition took place at Shanghai Pudong



TCT Asia exhibition themed upon 3D printing was held at Shanghai New International Expo Centre from March 1 to 3.

The exhibition attracted renowned global enterprises, who displayed the latest technological developments of the industry of 3D printing and the high-tech printing devices.

Previously, the biggest obstacle of 3D printing was the cost of manufacturing. However, now the situation has changed primarily due to the rapid development of new materials and improvement of new printing technologies.

At the event, FabPro1000, which is a printing device orientated for beginners was displayed. The FabPro 1000 is designed as a low-cost entry point for low volume dental laboratories and clinics that require precise, accurate, efficient, and repeatable results.

COMETL3D, a spatial digitizer was also put on show, which can capture three-dimensional data of tiny components, whose size ranges from 10 millimeters to 10 meters.

From the exhibition, visitors can also get a glimpse of the trend of development of the materials for 3D printing, as the materials used for printing devices were showed, including hard material Zytel3D1000FL and the heat-resistant ExolitPA6.

JEC exhibits wire netting, metal machine in global trade shows



At Wire&Tube 2018, JEC will introduce a comprehensive equipment line of metal wire netting machines, as well as supporting equipment. The manufacturer's hexagonal wire netting machine boosts its high speed and precise productivity, with 100spm and width up to 3 m maximum output. The mechanical design of JEC's gabion mesh machine has been polished to achieve incomparable efficiency throughout the production line, with auxiliary equipment to optimize best practice.

Apart from the wire netting machine production line, at EuroBLECH 2018 JEC will promote its new product (under the category of sheet manufacturing product) just released last year – high speed expanded metal machine (JEC-XP350). This is the latest generation, and a lighter version of the company's expanded metal machine – with a focus to process hard-to-machining materials, and produce more precise end-products. JEC-XP350 operates with a speed of 1800 s.p.m.; 350mm working width, produces products with thickness ranging from 0.1-0.8mm. The new product is expected to be facilitated in industries that aim for top precision – such as filtration, construction and advanced manufacturing of vehicles.

“Customers often find themselves overwhelmed by new orders by using JEC's machines at their factory. The results are apparent, particularly because we review and improve our machine capacity every season,” manufacturer emphasized. JEC wishes that the new products could be another innovative approach that accurately solves customers' long-bothered machining issues. “Our equipment is very sensible to the changing environment – including increasing cost of energy, labor and land; the green manufacturing trend, etc. Thus productive, energy efficient, stable machineries are what future factory requires,” said JEC.