BUSINESS

Data center efforts gaining speed in China

Development of cutting-edge tech will spur demand for computing power

By FAN FEIFEI
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China has taken the lead over global peers in data center construction, with more enterprises looking to scale up their data centers to ensure reliability and stability of data services, as the application of 5G, the internet of things, wearable devices and artificial intelligence spurs a burgeoning demand for computing power, experts said.

The total market size of China's booming data center industry stood at 122.8 billion yuan ($17.8 billion) last year, up 29.8 percent year-on-year, and the size is expected to reach 200 billion yuan by 2020, according to a report released by idcquan.com, a Beijing-based industry information provider and consultancy.

"With the rapid development of 5G, the internet of things, artificial intelligence, virtual reality and the commercial application of these new cutting-edge technologies, the demand for data processing and information interaction is increasing, which will speed up the construction of data centers and lead to explosive growth of the industry," said Wang Ruobing, a senior analyst with idcquan.com.

Wang said he remains bullish on prospects for the data center sector, with the market size reaching 190 billion yuan by 2019. "Internet companies have made the biggest contribution to the sector, followed by traditional financial industry, governments, manufacturing industry and energy industry," Wang said.

In addition, China is boosting its computing power and has become the world's leader in terms of supercomputer volume. The nation continues to dominate the list of the world's fastest supercomputers by the number of computer units, according to a semiannual ranking of the Top 500 list.

China topped the supercomputer list with 219 systems, or 43.8 percent of the total, followed by the US with 116 systems and Japan with 29, followed by France, Britain and Germany, according to the ranking.

Major Chinese supercomputer vendors all improved their share in the past six months. Lenovo has the greatest number of systems on the list — 173 — followed by Inspur with 71 — and Sugon with 63.

The Top 500 list is considered one of the most authoritative rankings of the world's supercomputers. It is compiled on the basis of machine performance on the Linpack benchmark by experts from the United States and Germany.

China's leading supercomputer manufacturer Dawning Information Industry Co Ltd, also known as Sugon, is beefing up efforts to build a national-level advanced computing innovation center in Tianjin, considering the burgeoning demand for computing power. The center is set to be completed in 2021.

Cao Zhennan, vice-president of Sugon, said the company focuses on building data centers across the nation, including Jiangsu, Shanxi and Gansu provinces, and promotes the layout of industries related to the advanced computing, in a bid to boost the development of industrial internet, intelligent manufacturing, intelligent city and artificial intelligence.

"We will promote the integration of advanced computing with industry applications," said Cao. He also noted that green computing, which means the environmentally responsible and eco-friendly use of com-

Workers configure servers at the Tianjin facility of China's Sugon, also known as Dawning Information Industry Co. PROVIDED TO CHINA DAILY

puters and their resources, has become a trend for the construction of IT infrastructure, adding the company has invested a lot in saving energy, improving computing efficiency and integrating advanced technologies.

Sugon is one of China's earliest and largest high-performance computing vendors. Moreover, it is dedicated to developing servers, storage, urban and industrial cloud computing, and big data businesses, and promoting the building of cloud data service net-

works covering hundreds of cities and sectors.

He Baohong, the cloud computing and big data research institute under the China Academy of Information and Communications Technology, said both data centers and computers provide computing resources and services for users, adding the data centers will become more and more open and standardized in the future.

Tech giants like Apple Inc, Tencent Holdings Ltd and Huawei

Technologies Co are stepping up efforts to build data centers in Southwest China's Guizhou province due to its mild climate and ample power resources.

Last year, a data center belonging to Tencent began trial operations in Guizhou. The core data center facilities have been deployed inside tunneled caves drilled inside a hill of about 100 meters high in the Guian New Area.

Pony Ma, chairman and CEO of Tencent, said the Qixing data center will store the company's most

important data in the future. The new mega data center will include more than 30,000 square meters of tunneled caves, while the total data center area covers about 513,000 square meters.

With an investment of $1 billion, Apple's data center, which will cover 67 hectares in Guian New Area, will offer iCloud services on the Chinese mainland. Starting Feb 28, 2018, iCloud services on the Chinese mainland are being operated by a local partner, Guizhou-Cloud Big Data Industry Co Ltd.

AVIATION

Two airlines to use e-tags at Daxing Intl Airport

By ZHU WENQIAN
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China Eastern Airlines and China Southern Airlines are planning to introduce battery-free electronic baggage-checking tags, that allow passengers to track the luggage status on their mobile phones, at the Beijing Daxing International Airport from next month.

Passengers can apply for e-tags on their cellphone apps. The e-tag is similar in size to an iPhone 8, and is like an ID card for the suitcase. When passengers arrive at the airport, they can self-check-in the luggage with the e-tag and self-service machines, and check luggage status by scanning the bar code, the two State-owned carriers said.

Through the apps, the systems will generate bag tag numbers and transmit the data to the e-tag through Bluetooth. After a few seconds, the electronic ink screen of the bag tag will display information such as the bar code and flight numbers.

Every year, about 250 million paper baggage-checking tags are produced in China, which requires a huge amount of special printers and disposable materials, costing over 100 million yuan ($14.5 million).

Last year, civil aviation passenger volume reached 610 million in China, according to the Civil Aviation Administration of China. Replacing all paper tags with e-tags could help save about 150 metric tons of paper.

On July 25, China Southern became the first domestic carrier to use e-tags on its flights from Guangzhou, Guangdong province. On July 30, China Eastern started to use e-tags on flights between Shanghai and Beijing. In the next few years, China Eastern said it will use e-tags at more major

A China Eastern Airlines employee scans a battery-free electronic baggage-checking tag at Shanghai Hongqiao International Airport. CHINA NEWS SERVICE

routes and hub airports, and will also provide individual tailored e-tags.

"We have been devoted to developing and launching more services and facilities that would make travel more convenient," said Yao Yun, deputy general manager of the global baggage control center at China Eastern Airlines.

"Besides, China Eastern has been in touch with the Daxing airport, and remote luggage drop and affiliated services would be introduced at a later stage, backed by advanced technologies and sound regulatory measures," he said.

This year, China Eastern is expected to transport 50 million units of luggage. The cost of paper tags and disposable chips for luggage tracking would be around 20 million yuan to 30 million yuan. Replacing paper tags by e-tags would lead to huge cost savings, the company said.

Such reusable e-tags are waterproof, and the images can be saved permanently or changed easily. The e-tags show images by reflecting natural light, and produce elec-

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50 million units
expected luggage shipments of China Eastern Airlines in 2019

usage yet.

British Airways cooperated with ViewTag, a digital luggage tag company, and its tag can be used repetitively for more than 3,000 times. From October, the price of such tags will increase to 80 pounds ($90) from 64 pounds during the promotional period.

"The preferred solution would be electronic ink bag tags as it requires no power to maintain its content and only requires power when the content needs to be changed," a guideline from the International Air Transport Association said.

IATA also said during the four key points of luggage transportation, which are luggage delivery, loading, transit, and arrival, carriers should be able to track the luggage and reduce the chances of lost baggage and wrong transfers.

tricity through a near-field communication sensor. The technology is in accordance with the baggage check-in requirements of the Civil Aviation Administration of China.

When it comes to the overseas markets, Lufthansa, Austrian Airlines, British Airways and all major US carriers have started trying out e-tags for some years, and they have not popularized the

Carriers set to boost local hires amid pilot shortage

By ZHU WENQIAN

Chinese carriers are exploring ways to recruit and train more talent locally to cope with the acute shortage of pilots and training facilities, amid surging demand for air travel in the country.

Currently, only a few major domestic airlines have well-established pilot training systems. Many small and budget carriers are yet to build their own pilot training mechanisms and lack training facilities like flight simulators.

Foreign companies, however, are looking to make inroads into China's civil aviation market by setting up more pilot training facilities. Avia Solutions Group, a Lithuania-based aviation services company, plans to establish a pilot training center in Zhengzhou, Henan province. The center is set to open in 2020, and will provide training services for Chinese airlines, it said.

In late July, the company signed a joint venture agreement with Henan Civil Aviation Development and Investment Co, marking the establishment of a new entity named BAA Training China. The center will be located in the economic zone of the Zhengzhou airport and is in close vicinity of the Zhengzhou Xinzheng International Airport.

"On average, it costs about $250 to $350 per hour to train a pilot with a simulator, depending on whether the training is carried out during daytime or nighttime," said Gediminas Ziemelis, chairman of the board of Avia Solutions Group.

"Currently, about 1,500 pilots who work for Chinese carriers are being trained abroad every year, and we are looking to fulfill the demand for pilot training in the country," he said.

With planned investment of more than $60 million, the center will be equipped with six flight simulators, including simulators for the A320neo, B737 NG and the B737 MAX. They will provide pilot, cabin crew and ground handling training, the company said.

The first flight simulator will be ready for use in the second half of 2020. Ultimately, the training center is

set to offer 40,000 hours of training a year for 4,000 current and new pilots.

"There are more than 20 pilot training schools in China now, and the number of airports, airspace and route resources are quite tight. The training of pilots involves finishing multiple tasks listed in the syllabus, which calls for frequent use of related aviation resources," said Guan Lixin, principal of the Civil Aviation Flight University of China.

Facing the shortage of pilots, many domestic carriers have loosened their requirements on vision and height when recruiting new talent. Those who have taken operations to correct visions are also allowed to sign up for the hiring. Air China said the height of potential pilots should be between 168 cm and 188 cm, and the range has been expanded than before.

Virgin Australia, a leading global carrier, is in talks with a Chinese conglomerate, which is one of its shareholders, to open a pilot training school in Tamworth, New South Wales, to train Australian and Chinese pilots, the Daily Telegraph reported.

Over the next 20 years, US aircraft manufacturer Boeing Co predicted that worldwide, 804,000 new civil aviation pilots will be needed. The strong demand will come from a mix of fleet growth, retirements, and attrition, Boeing said in its latest pilot and technician outlook report.

In the next two decades, the Asia-Pacific region will lead the global growth in demand for pilots, with a requirement for 266,000 new pilots, including pilots for commercial flights, business aviation and helicopters, the report said.

Usually, it costs about 800,000 yuan ($114,300) to train an aspiring pilot for four years at a pilot training academy, and pilots need to take training for specific aircraft models for about a year after they graduate.

Besides, the Civil Aviation Administration of China requires that after one becomes a co-pilot, one needs to take additional training twice a year, which can cost about 120,000 yuan a year. After five years, pilots may become a captain, said industry reports.