



A drone carrying blood takes off for the Shenzhen Traditional Chinese Medicine Hospital from the Shenzhen Blood Center in the city on January 19.



An unmanned food delivery drone is pictured in Shenzhen.



Following the economic booms in real estate, home appliances, online business and new-energy vehicles, one of the most promising industries in China with a market size big enough to support sustained growth in the coming years goes to the low-altitude aviation.

China owns a huge market and dense city clusters. The size of China's low-altitude economy by 2023 was estimated at more than 500 billion yuan, with its scale expected to rise to 2 trillion yuan by 2030, according to the CAAC.

A Porsche Consulting report last year showed China is expected to account for 25-30 percent of the global eVTOL market in 2030.

Vertical mobility, a new quality productive force in transportation, is building up in China thanks to multiple advantages. The homegrown

C919 jetliner provided the local aviation chains with more knowledge about aircraft engineering, safety, and airworthiness. The Beidou navigation and 5G network revolutionized management in low-altitude airspace.

Plus, China's technical capacity accumulated in the hardware and telecom sectors has laid a foundation for the industry's fast growth. The country's prosperous electric-vehicle manufacturing brought about rich know-how in high-density batteries, high-reliability motors, electronic control and autonomous driving.

Farasis Energy, a Chinese battery cell manufacturer, has delivered ternary lithium soft-pack batteries for electric airplane makers. The power batteries have a maximum cruising range of 250km in a single trip and can realize more than 10,000 cycles.

At Auto Shanghai 2023, the battery giant Contemporary Amperex Technology Co (CATL) displayed a high-density condensed matter battery and revealed its plan to develop manned electric aircraft jointly with collaborators.

Chengdu-based Aerofugia Tech, a subsidiary of China's EV giant Geely Auto, has received its first purchase order of 100 eVTOLs from Sino Jet, a Chinese business aviation management firm. In February, US Aviation Week listed the flying-car maker among the top 10 eVTOL developers

in the world.

Vertaxi's five-seater eVTOL Matrix 1, with a maximum load of 500kg, completed its maiden flight in Shanghai last year. According to Vertaxi's CEO Xie Ling, the supply of all three core components — electric system, flight control system and composite material — has been localized.

### Drone logistics

A restaurant in Wuhu, Anhui Province, tested the water of a new business model on this year's Lunar New Year's Eve, which fell on February 9.

Restaurant manager Luo Leilei placed orders for vegetables and meat via an express delivery platform developed by United Aircraft, a Shenzhen-based company specializing in the production of unmanned aerial vehicles (UAVs).

Within half an hour, a multi-rotor drone carrying the food supply descended on the open space in front of the restaurant. The drone can carry a maximum of 10kg cargo and fly more than 50 minutes with a 5kg load.

At a blood station in suburban Shenzhen, drones took flight occasionally, transporting bags of blood to the city's health care facilities to quickly satisfy their first-aid demand.

Those drones, developed by Phoenix-Wings, a cargo-drone maker owned by China's leading courier enterprise SF Express, have completed more



An aerial vehicle of EHang is displayed at the 25th China Hi-Tech Fair in Shenzhen on November 15.

than 2,000 orders since the launch of unmanned aerial delivery in March last year.

Shenzhen is set to build more than 600 takeoff and landing platforms for low-flying aircraft and open over 220 inner-city UAV routes by 2025.

At the end of 2023, China had roughly 2,000 UAV design or manufacturing enterprises and over 1.2 million registered UAVs. According to the CAAC, these drones flew more than 23 million hours last year, up by 11.8 percent compared with 2022.

As unmanned technology and network scale dramatically bring down costs, drones could account for one-third of same-day package deliveries by 2040, suggests a report from L.E.K Consulting.

Han said the CAAC seeks to simplify application and approval procedures for low-altitude flight plans.

The aviation authorities in southwest China's Sichuan Province have streamlined the drone trial flight procedure.

Previously, drone enterprises were required to apply for approval seven working days in advance. Now, they can be greenlighted with notifications one hour before takeoff.

Since Sichuan kicked off a low-altitude pilot project at the end of 2018, more than 630,000 safe flights with roughly 180,000 hours have been recorded in an airspace extending to 7,800 square kilometers across the province.

Han said the CAAC will also support enterprises in carrying out drone logistics distribution pilot projects in provinces including Jiangxi, Guangdong, Shaanxi and Sichuan.

"Following the economic booms in real estate, home appliances, online business and new-energy vehicles, one of the most promising industries in China with a market size big enough to support sustained growth in the coming years goes to the low-altitude aviation," said Li Jian, a former deputy head of the CAAC.

(Xinhua)