

National rules bind China to green GSE

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Government policies encourage manufacturers to create green products. *Mainbayar Badarch reports*

Demand for ground support equipment (GSE) is growing fast in China, driven by rising numbers of domestic tourists, as well as new airport construction and upgrades. Airport infrastructure investment and construction will remain high until the end of the 13th Five-Year Plan period in 2020.



*Aero Bus 6300EVA from Xinfra Airport Equipment, on display at inter airport China.
(Mainbayar Badarch)*

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The domestic airport GSE market is worth about CNY20 billion (USD2.9 billion), but most enterprises engaged in the manufacture of airport GSE in China produce products with a relatively limited technical content and lower unit value. Domestic equipment dominates the low-end market as China has very few companies with the production capacity for high-end equipment. Large European and American manufacturers still occupy a considerable share of the market for advanced products with complex processing technology.

Important local players in the Chinese GSE market are Hong Kong-listed CIMC-TianDa Holdings; Zhejiang Goodsense Forklift; Jangsu Jingjiang Forklift Truck; China Civil Aviation

Technology and Equipment; Shanghai Zhonggang Aviation Ground Equipment; Wehai Guangtai Airport Equipment; and HSQ Airport Equipment.

CIMC-TianDa is the largest supplier of airport apron buses in China, with a market share of more than 90%. Its subsidiary Xinfu Airport Equipment has been a leading player in the airport passenger bus market since 1997. The company now manufactures many types of buses such as the Aero Bus 6300EVA (fully electric), Aero Bus 6300S (dual-drive), and Aero Bus 6300S (full aluminum body). The Aero Bus 6300EVA has a lithium iron phosphate (LiFePO₄) battery with a capacity of 180–300 kWh and permanent magnet synchronous motor. Xinfu buses have been exported to more than 30 countries, with international clients including Swissport, Sydney Airport, Korean Air, Jetstar, Kenya Airways, and Royal Brunei Airlines.

Major components of the bus are imported. For instance, the engines are from Deutz or Cummins, Allison provides the transmission, the air conditioning unit comes from Thermo King, the pneumatic suspension is from Continental, Wabco provides the pneumatic valves, and Bosch Rexroth supplies the hydraulics.

Production processes include modern technologies such as computer numerical control (CNC) laser cutting, CNC plasma cutting, semi-auto window installation, all-around sprayer tests, and one-stop frame welding.

CIMC-TianDa has supplied almost 5,900 passenger board bridges (PBBs) to 64 countries worldwide, including about 3,900 conventional apron-drive bridges and more than 1,800 fixed-link bridges. A total of 103 upper-deck bridges for the A380 have also been supplied, as well as 39 nose-loader bridges and 28 T Type bridges.

In the second half of 2017, CIMC launched the world's first unmanned intelligent boarding bridge and visual docking guidance system. If adopted for aircraft docking and turnarounds, the company claims it would lower labour costs and reduce the average aircraft docking time from three minutes to 60 seconds.

In 2018, CIMC merged four of its businesses (among them GSE and PBB) with the Hong Kong Stock Exchange-listed China Fire Safety Enterprise Group Limited (CFE) to provide a better and more independent financing platform for the segment. CIMC increased its equity stake in CFE from 30% to more than 50%. CIMC-TianDa also spent CNY600 million on acquiring a 60% stake in aircraft rescue and firefighting vehicle manufacturer Shenyang Jietong.

In the first half of 2018, the CIMC airport facilities business grew by 48% year on year (y/y), achieving sales of CNY1.75 billion. CIMC-TianDa revenues climbed by 172% y/y to reach CNY991 million.

According to regulations issued by the Civil Aviation Administration of China (CAAC), airport equipment must meet national standards and technical specifications, as well as conform to the principles of safety, application, energy conservation and environmental protection.

Equipment that passes a CAAC inspection is certified and a formal notice issued. Airport equipment that has not undergone this process cannot be deployed at airports in China.

The power of green

In light of energy and environmental concerns raised by the CAAC, Chinese manufacturers are focusing on production of hybrid or fully electric vehicles. Zhejiang Goodsense Forklift is among the top five Chinese GSE suppliers. “Our TB30HV High voltage electric baggage tractor was launched in 2018 and its price is CNY300,000,” said regional manager Hector Chan, who identified China Southern as a potential customer. “Currently, 20–30 airports are using our tractors. We offer affordable prices to our clients.”

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