

## CASE STUDY

# BAIYUN AIRPORT, GUANGZHOU: FOR TROUBLE-FREE OPERATION

The recently opened Terminal 2 at Guangzhou Baiyun International Airports relies on an end-to-end cabling solution from Datwyler.

Datwyler's industry-leading cabling solutions and engineering services make it a sought-after partner in the equipment of airports. In China many major airports, including the international airports in Shanghai, Guangzhou, Kunming, Xi'an, Shenyang und Tianjin, also rely on Datwyler's integrated IT infrastructure solutions. In order to meet these special challenges Datwyler has for years been developing new products and cutting-edge technologies which combine top quality with the greatest possible safety and high environmental standards.

Guangzhou Baiyun International Airport is one of the three biggest airports in China, with a passenger throughput of 65 million in 2017. These passenger numbers mean that it is the "single-terminal" airport with the highest passenger flow in the world.

In April 2018 a second terminal came into operation at Baiyun Airport. It was equipped with a structured premises cabling system from Datwyler. As at all airports, this cabling system is the key physical platform for all airport communication, and an important component in the "informationization" and construction of intelligent systems. In Terminal 2 it serves not only as the basis for communication, but also for the DCS and the wireless network as well as the baggage, security and other networks. In this sense the reliability of the cabling system determines whether the terminal is operating safely or not.

### End-to-end solution

In addition to the terminal building, the cabling project included the data centre, parking lots and several other functional areas. Extremely high demands on the quality



and performance of the structured cabling system were imposed by the huge area of the airport, the size of the building, the high passenger throughput and, last but not least, the requisite safety and reliability.

Datwyler's solutions are implemented in every area and subsystem, i.e. right from the access area, through the central plant room to the individual workstations. In the sub-distributors there is a mix of copper and fibre optic technology, while the main links consist of single-mode fibre optic trunks which connect it to the massive core. Altogether around 45,000 Category 6 connections were installed in Terminal 2, and 140 kilometres of indoor single- and multimode fibre optic cable were laid.

### Improved fire safety characteristics

By comparison with Datwyler's other Chinese airport projects this one required large amounts of high-performance products and services in a wide range. For example, all the cable types supplied for Terminal 2 had improved fire safety characteristics, thus complying not only with the high requirements of IEC Standard 60332.3c,



but also with those of the relevant national cabling standards and of the Ministry of Public Security (GA 306.1-2007). In the event of fire the fact that the cables are flame retardant can limit the spread of the fire, prevent the release of toxic gases and ensure only minimal smoke, and can make a substantial contribution towards guaranteeing continued operation, maintaining communication and protecting passengers and staff.

### Pre-assembled products

Many pre-assembled and prefabricated products were also used in this project, for example pre-assembled fibre optic cables and high-density distributors in the terminal's data centre. The benefit to the user of products like these is that they are "tailor-made" in the factory and have already been subjected to stringent quality and performance tests prior to delivery. The especially

lightweight trunk cables produced for Terminal 2, the cable management and routing in front of the optical distributors and other custom-built products resulted in savings of 50 to 80 percent in material, space and working hours during on-site installation.

In the long run the safety and reliability of the entire cabling system depend largely on the quality of the products used. Even the design of the cables and components counts as a "hidden" security factor, because their quality has a direct impact on the whole IT infrastructure. The same applies to clean connector assembly: an incorrectly installed jack can lead to fatal errors throughout the system. In this respect Datwyler's engineering services made a significant contribution to the success of this project.

