International Civil Aviation Organization

ATConf/7-WP/37[1]
23/9/26

WORKING PAPER

SEVENTH WORLDWIDE AIR TRANSPORT CONFERENCE (ATCONF/7)

Montréal, HQ, 16 to 20 November 2026

Agenda Item 2: Fostering aviation growth and air connectivity through investments in infrastructure, human capital and partnerships
2.2: Investment for the development and modernization of civil aviation infrastructure

EXPERIENCE IN DEVELOPING SPECIALIZED CARGO HUBS IN DEVELOPING COUNTRIES: THE PRACTICE OF CHINA'S EZHOU HUAHU AIRPORT

(Presented by China)

EXECUTIVE SUMMARY

This working paper draws on the experience of China's Ezhou Huahu Airport in developing a specialized air cargo hub. It examines coordinated development of facilities and capabilities, covering all-cargo aircraft operations, cargo terminals and regulatory facilities, special cargo handling, digital systems, and multimodal connectivity. The case provides practical lessons for developing countries in planning cargo infrastructure according to market demand and local conditions, with a view to strengthening supply chain resilience, improving trade facilitation, and promoting regional economic development.

Action: The Conference is invited to:

a) invite ICAO, within its existing mandate and resources, to facilitate the voluntary sharing of good practices in specialized air cargo hub development among Member States through existing platforms and information exchange channels, providing references for developing countries in undertaking relevant projects;
b) encourage Member States to strengthen project preparation for specialized air cargo hubs as part of civil aviation infrastructure investment, integrating physical and digital infrastructure, regulatory and operational requirements, multimodal transport, and personnel capacity building;
c) encourage cooperation among Member States with relevant capabilities, regional organizations, and relevant industry stakeholders to support specialized air cargo hub development and capacity building in developing countries; and
d) note China's willingness to share experience in developing specialized air cargo hubs, including Ezhou Huahu Airport, through existing cooperation channels and to engage in related exchanges and cooperation.

Strategic Goals:	This paper relates to the Strategic Goal — *The Economic Development of Air Transport Assures the Delivery of Economic Prosperity and Societal Well-Being for All, No Country Left Behind* and *Every Flight is Safe and Secure.*
Financial implications:	None
References:	Assembly Resolution A39-23: No Country Left Behind (NCLB) Initiative *ICAO Strategic Plan 2026–2050*

[1] English and Chinese versions provided by China.

1. INTRODUCTION

1.1 Agenda Item 2.2 of the Seventh Worldwide Air Transport Conference (ATConf/7) addresses investment in the development and modernization of physical and digital civil aviation infrastructure. The *ICAO Strategic Plan 2026–2050* identifies *No Country Left Behind* (NCLB) as a Strategic Goal. For developing countries, well-planned air cargo infrastructure can help strengthen supply chain resilience, improve trade facilitation, and support regional development. Effective investment requires coordinated planning of aircraft operations, cargo processing, regulatory facilities, digital systems, and ground transport connections.

1.2 China's Ezhou Huahu Airport was incorporated into national and local transport and logistics plans as a specialized cargo hub. In 2025, it handled 1,145,700 tonnes of cargo and mail, ranking fifth among airports in China. Its development provides a practical example of integrating cargo-related infrastructure, operational support, and regulatory arrangements.

2. DISCUSSION: PRACTICES IN THE CONSTRUCTION OF EZHOU HUAHU AIRPORT AS A SPECIALIZED AIR CARGO HUB

2.1 Integrated Planning of All-Cargo Aircraft Operation Support Facilities

2.1.1 Ezhou Huahu Airport has two 4E-rated runways, each 3,600 metres long and 45 metres wide, separated by 1,900 metres, together with four parallel taxiways. The runway-taxiway system has an estimated cargo and mail support capacity of 3.3 million tonnes per year. By 2025, the airport had 135 freighter stands, capable of accommodating large freighters such as the B747-8. Developing countries should determine the scale and layout of runways, taxiways, aprons, and related facilities according to target aircraft types, cargo demand projections, and ground handling requirements.

2.1.2 The airport conducts regular nighttime operations on both runways, with a maximum dual-runway capacity of 60 aircraft movements per hour. Aircraft taxiing generally takes 5–8 minutes, with the shortest arrival-to-stand time at approximately three minutes. Its facilities include an integrated tower system, surveillance radars, multilateration, Automatic Dependent Surveillance–Broadcast (ADS-B), instrument landing systems, and electronic handover between Wuhan approach control and Ezhou tower. Runway, apron, air traffic service, and emergency response capabilities should be planned together to meet nighttime and peak-hour freighter operating requirements.

2.2 Establishment of Cargo Terminals, Port Regulation, and Special Cargo Handling Systems

2.2.1 Ezhou Huahu Airport has 11 cargo terminals in two cargo zones, with a combined floor area of 929,000 square metres and a designed annual handling capacity of 4.05 million tonnes. Two domestic terminals have a combined designed capacity of 2.65 million tonnes, and nine international terminals have a capacity of 1.4 million tonnes. The system supports general cargo, express parcels, international cargo, and transfers. Developing countries may phase in general cargo, express, cold-chain, dangerous goods, and other specialized facilities as market demand develops.

2.2.2 The airport provides 24/7 customs clearance, apron-side direct loading and pick-up services, and coordinated customs, border, and security inspection arrangements. Average customs clearance time for cargo at designated regulatory sites was reduced from four to two hours. It also has a bonded logistics centre (Type B) and designated inspection facilities for six categories of imported special commodities, including fruit, chilled aquatic products, live aquatic animals, meat, plant seedlings, and

pharmaceuticals. Regulatory authorities and airport operators should jointly design cargo flows and inspection facilities from the project preparation stage.

2.2.3 The airport can handle dangerous goods, pharmaceuticals, fresh and perishable products, live animals, and oversized cargo. It provides ground services for dangerous goods in Classes 1–9, and the airport has obtained four International Air Transport Association (IATA) Center of Excellence for Independent Validators (CEIV) certifications covering lithium batteries, pharmaceuticals, perishables, and live animals. Storage, testing, inspection, and handling requirements for special cargo should be included in the overall design of cargo terminals.

2.3 Concurrent Development of Digital Cargo Infrastructure

2.3.1 Ezhou Huahu Airport has established air-to-air transit and public cargo information platforms linking the airport, customs, airlines, freight forwarders, and cargo terminals. They support air waybill submission, shipment tracking, transit information exchange, and advance checking of documentation for certain cargo, including dangerous goods and shipments containing lithium batteries. An electronic filing system enables testing reports to be filed once and reused. An airport collaborative decision-making Airport Collaborative Decision Making (A-CDM) system supports coordinated flight and stand management.

2.3.2 Digital operation-support facilities include runway condition monitoring using more than 50,000 sensing points, foreign object debris detection, ADS-B-based aircraft tracking, and vehicle monitoring supported by 5G-AeroMACS. Cargo terminals use paperless inspection and 3D unit load device (ULD) inspection, reducing the time for a single ULD check from 60–120 seconds to approximately 20 seconds. The airport is also promoting the use of unmanned cargo tractors. Digital systems should be planned alongside cargo terminals, regulatory facilities, and airside operations, giving priority to cargo flows, inspection, dispatching, and safety.

2.4 Extending Hub Services through Multimodal Transport and Domestic and International Nodes

2.4.1 To expand its cargo hinterland, Ezhou Huahu Airport uses road links and connections with rail and port facilities to develop multimodal transport. In 2025, truck-flight services handled 332,400 tonnes of cargo. Road-air transport has become an important part of the airport's cargo collection and distribution system.

2.4.2 The airport also extends services through off-airport and overseas facilities. An off-airport cargo terminal in Wuhan's Optics Valley began operating in March 2023; its storage area covers 4,300 square metres, and it handled 1,120 tonnes of cargo and mail in 2025. In cooperation with logistics enterprises, the airport operates four overseas warehouses or cargo terminals in Milan, Abu Dhabi, Hanoi, and Addis Ababa. Such nodes should be developed selectively, according to cargo sources, market demand, and the availability of supporting transport and information links.

3. KEY INSIGHTS FOR DEVELOPING COUNTRIES

3.1 Prepare projects on the basis of demand and phase construction. Assess the size and composition of the cargo market, expected freighter operations, regulatory requirements, and hinterland transport conditions. Phase the construction of stands, terminals, and special cargo facilities according to demand, while reserving space and interfaces for future expansion.

3.2 Integrate physical infrastructure, regulation, and operations. Runway-taxiway systems, cargo aprons, cargo terminals, inspection facilities, communications, navigation and surveillance systems, and ground freight connections should be considered together during project preparation, with clear spatial and operational interfaces to reduce costly modifications after completion.

3.3 Develop digital systems and multimodal connections in parallel. Cargo information systems should connect airport operations, cargo handling, and inspection procedures. Transport planning should address road, rail, and port connections and, where justified by demand, off-airport cargo terminals and overseas service nodes.

3.4 Clarify responsibilities and develop local capabilities. Governments, airport operators, logistics companies, and regulatory authorities should coordinate investment, facility interfaces, data use, and operational responsibilities. Training and operating procedures for freighter handling, special cargo, inspection, and system maintenance should be developed alongside infrastructure investment.

4. CONCLUSION

4.1 The case of Ezhou Huahu Airport demonstrates that specialized air cargo hubs should be developed around the practical needs of all-cargo aircraft operations, cargo distribution and transit, port regulation, special cargo handling, and ground collection and distribution, with related facilities and support capabilities systematically assessed and coordinated throughout the planning, investment, and operational phases. Developing countries should determine project scale, functional configuration, and implementation sequence based on air cargo market development and local conditions, rather than treating cargo facilities merely as ancillary to passenger airports.

4.2 Centered on the Strategic Goal of NCLB, conducting targeted experience sharing and capacity cooperation under Agenda Item 2.2 will help translate the air cargo infrastructure needs of developing countries into implementable and sustainable projects.

— END —