AIRPORTS COUNCIL INTERNATIONAL
ASIA-PACIFIC & MIDDLE EAST

Airport Total Connectivity Report in Asia-Pacific & Middle East

Executive Summary
September 2023

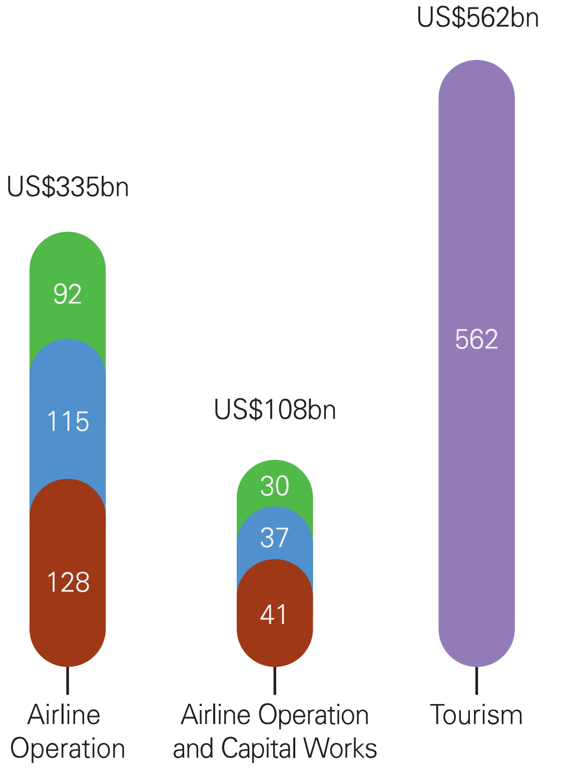
Introduction

During the COVID-19 pandemic, the aviation industry was severely impacted by travel restrictions and border closures. Since late 2021, post-pandemic recovery has been on track, with worldwide passenger volume forecasted to fully recover by 2024. Enhancing airport connectivity is essential for both the aviation sector and the countries it serves.

This study introduces the ACI Asia-Pacific & Middle East Air Connectivity Index, designed to measure an airport's effectiveness in enabling passengers to access the global air transport network through high-quality connections. For the first time, this Index employs a comprehensive and consumer-centric approach to evaluate air connectivity. In addition to providing current insights into airport industry connectivity in Asia-Pacific and the Middle East, the study highlights the critical challenges facing the sector's modernisation in the future.

Economic Impact of the Aviation Sector

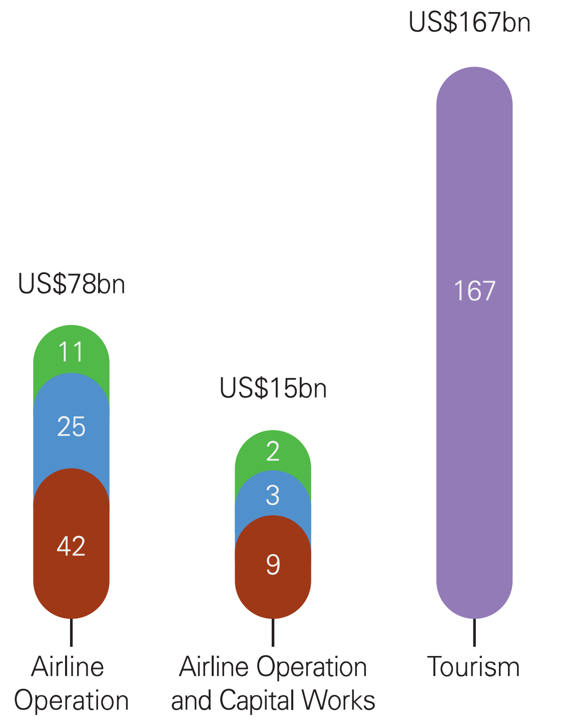
Asia-Pacific



A **10% increase in seat capacity** is linked to a **3-3.8%** increase in GDP of countries in Asia Pacific

The aviation industry contributed US$1tn to the region's GDP in 2019, accounting for 3.3% of total GDP of countries in Asia-Pacific

Middle East



For countries in the **Middle East**, a **10% increase in seat capacity** is linked to a **6.4%** increase in GDP

The aviation industry contributed US$ 260bn to the region's GDP in 2019, accounting for 9.5% of total GDP of countries in the Middle East

Direct Indirect Induced Catalytic

Source: Milanamos, ACI, ATAG, WTTC, PwC Analysis

ACI Asia-Pacific and Middle East Airport Connectivity Index and Top 10 airports in Asia-Pacific & Middle East

The ACI Asia-Pacific and Middle East Air Connectivity Index was developed to analyse network coverage and performance of airports from a passenger-centric perspective. The index represents a rigorous measure to evaluate air connectivity which includes comprehensive quality parameters that are **not covered by existing connectivity indices**.

2022 Rank Total Connectivity		2023 Rank Preliminary ranking: Direct Connectivity	
1st	DXB	1st	DXB
2nd	DOH	2nd	DOH
3rd	HND	3rd	ICN
4th	SIN	4th	HND
5th	CGK	5th	SIN
6th	CAN	6th	PVG
7th	DEL	7th	PEK
8th	PVG	8th	HKG
9th	JED	9th	CAN
10th	BKK	10th	BKK

Source: OAG, Milanamos, Cirium, World Bank, IMF, PwC Analysis

Methodology of the ACI Asia-Pacific & Middle East Air Connectivity Index

Formula for the Connectivity Index

Total Airport Connectivity = **Direct Connectivity** + **Indirect Connectivity**

$$\sum_{\text{All destinations served}} \frac{\text{Number of available seats} \times \text{Destination size weightage} \times \text{Quality Index}}{\text{scalar factor of } 10{,}000}$$

Quality Index Parameters for Direct & Indirect Connections

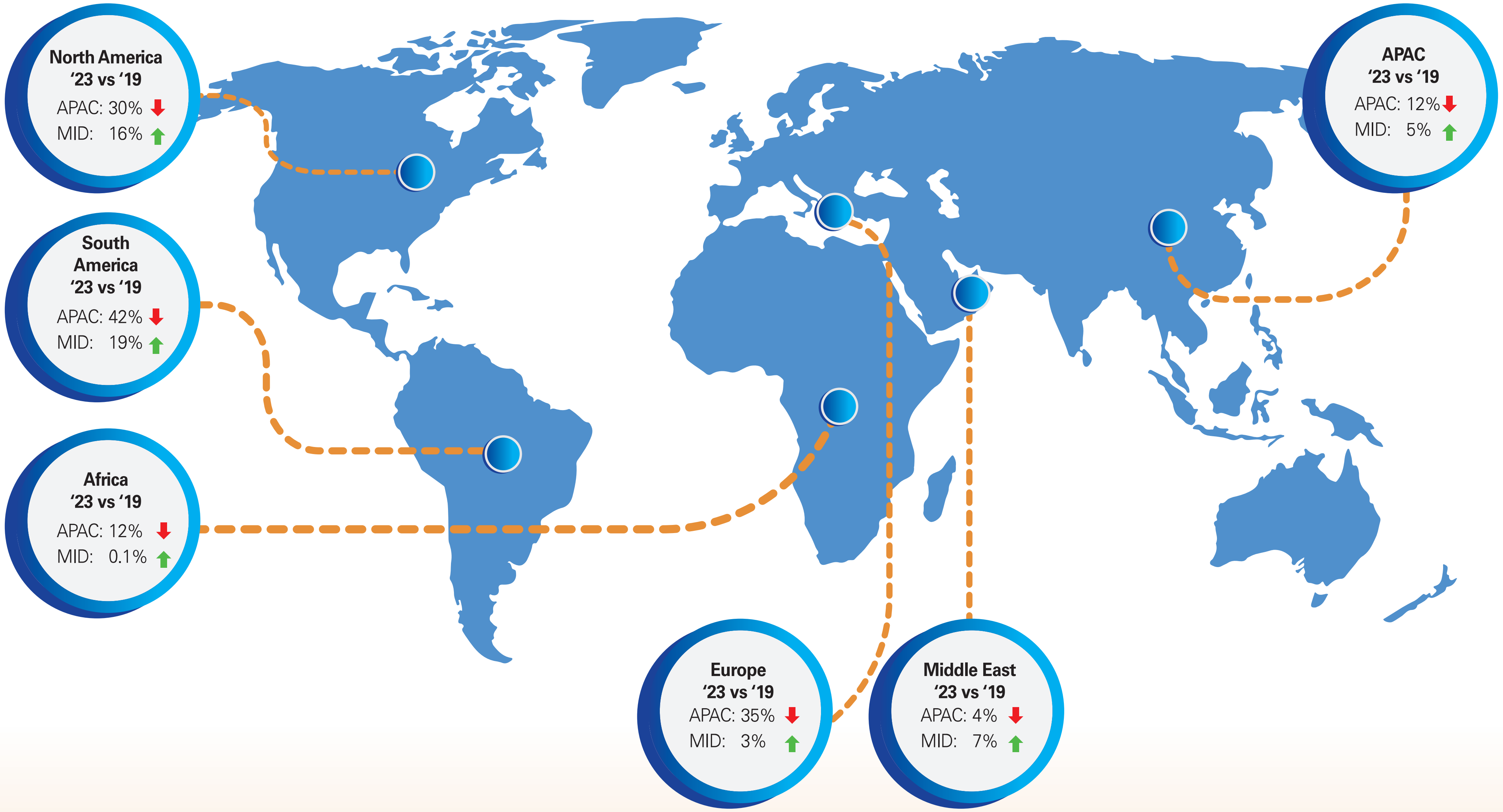
Passenger-centric Approach

- Type of Flight
- Type of aircraft
- Carrier Category
- Alliance Member
- Number of stops
- Connection Time

All direct and indirect connections available on an airport-pair were identified, weighing in each connection by economic impact and quality of connections. FFor this purpose, the **size and economic importance of the destination served and a passenger-centric quality index** are used respectively. Therefore, the index is not simply a measure of flights or routes provided, but also how well an airport is able to serve its passengers.

Source Data	OAG, Milanamos, Cirium, World Bank, IMF
Sample Size	100 Airports in APAC & MID
Reference Period	August 2019 vs August 2022 vs August 2023

Seat Capacity Recovery From Asia-Pacific & Middle East to Other Regions ('23 vs '19)



Air Transport Liberalisation

Air transport liberalisation has shifted how aviation markets are connected through promoting economic freedom and improving air connectivity.

The **ASEAN-EU CATA** reflects the latest policy thinking in air transport regulation and will help bolster the recovery of air connectivity between the two regions following the COVID-19 pandemic.

- Emergencies of Hub Airports
- Hub-and-spoke Travel Pattern
- New Air Services
- Lower Fares Due to Competition

In Asia-Pacific, by August 2023, recovery of seat capacity of direct connections from APAC to other regions is showing progress but still in the negative side vs 2019, with flights to Middle East leading the way and surpassing the 2019 level

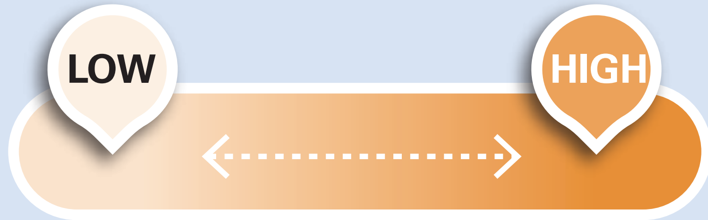
In Middle East, seat capacity from Middle East to other Regions region should have surpassed the 2019 level to all regions except Europe

The Sky Openness Score

The Sky Openness Score measures the actual openness of countries in the region through factors such as visa simplification, market share and seat capacity of foreign airlines, air services agreements, etc.

Asia-Pacific

Middle East



The Sky Openness Score

Existing Challenges for Recovery in Asia-Pacific & Middle East

- **Regulatory Constraints**
  Potential travel restriction measures and other limitations in traffic rights.

- **Supply Side Challenges for Airports and Airlines**
  Challenges for airports and airlines on operational readiness and efforts to rebuild route networks.

- **Workforce Shortage**
  Shortage of skilled labour in ensuring operational readiness.

- **Slot Allocation Inefficiencies and Airport Infrastructure Constraints**
  Slot misuse and lack of competition of airlines on the international routes. Also challenges on financing airport infrastructure.

- **Macro-economic Outlook**
  High inflation rate, rising fuel prices and air fares, reduced disposable income.

Recommendations to Improve Connectivity

- Liberalise traffic rights to enhance connectivity and offer passengers affordable airfares, more choices, and superior service quality.
- Increase airlines' seat capacity, recover and develop routes, and pursue reasonable pricing policies.
- Continue to modernise the slot allocation system to disincentivise slot misuse, increase slot performance and open market to more competition.
- Flexibility to set airport charges to invest in infrastructure and passenger-friendly amenities.
- Reducing visa restrictions to facilitate international travel.
- Taking actions to reduce CO^2 emissions at the airport towards the net zero goal.

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