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# Aviation Data and Analysis Seminar

## Presentation of key trends in Asia/Pacific

Bangkok, December 2023





# Chicago Convention

## Preamble

.....

THEREFORE, the undersigned governments having agreed on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically;



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# STATE OF AIR TRANSPORT

## OVERVIEW OF GLOBAL AND ASIA / PACIFIC REGION



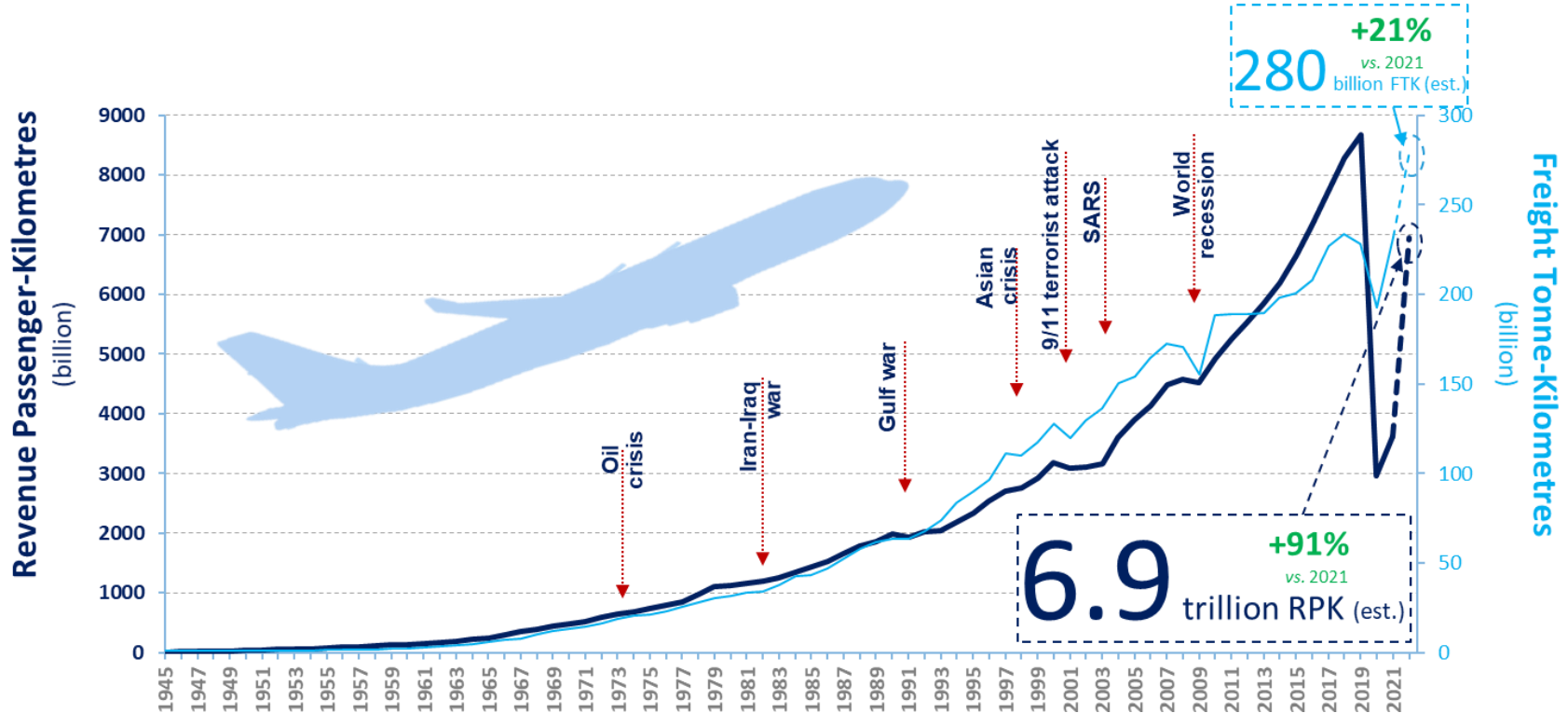


## The Size of the Industry in 2021

- **2.3 billion passengers**
- **24 million aircraft departures**
- **57 million freight tonnes carried**
- **Over 1 400 scheduled airlines**
- **More than 15 000 active aircraft**
- **More than 3 900 airports**
- **173 air navigation centres**
- **360,000 pilots\* and 86,000 air traffic controllers**



## Global traffic: A recovery from the pandemic shock



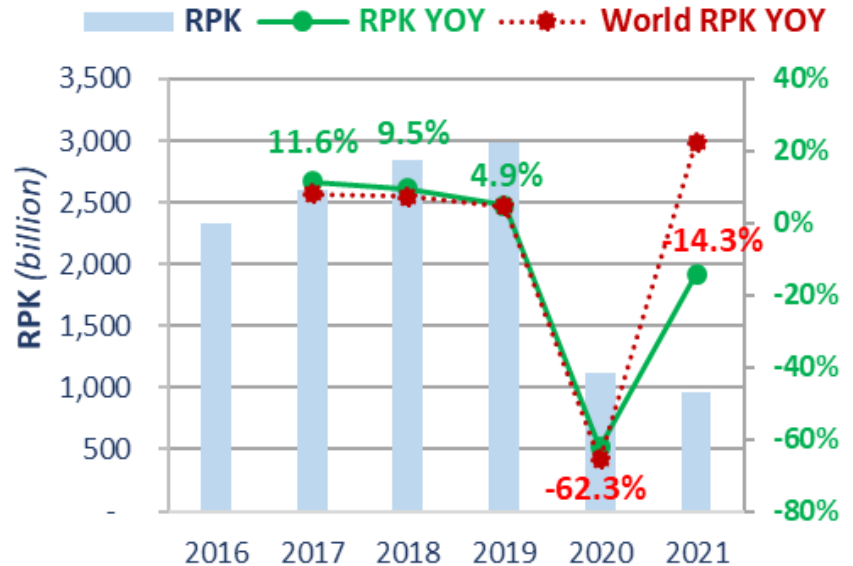




## Passenger Traffic in 2021 – Asia and Pacific

### Revenue Passenger Kilometres (RPKs)

- Passenger traffic in RPKs showed merely 32.3% in 2021 compared to the 2019 level.
- Passenger traffic was severely impacted than the world average.



*International and domestic scheduled services*



## Passenger Traffic in 2021 – Asia and Pacific

### Available Seat Kilometres (ASKs)

- Seat capacity in ASKs was merely 41.8% in 2021 compared to the 2019 level by the COVID-19 pandemic.
- Seat capacity was severely impacted than the world average.



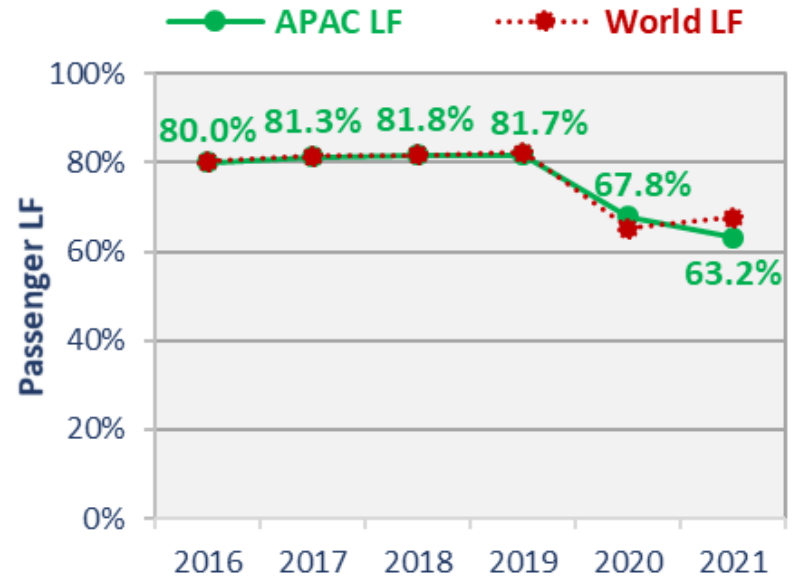
*International and domestic scheduled services*



## Passenger Traffic in 2021 – Asia and Pacific

### Load Factor

- Passenger load factor declined to 63.2% in 2021 due to the pandemic (-4.6 percentage points).
- Passenger load factor underperformed the world average.



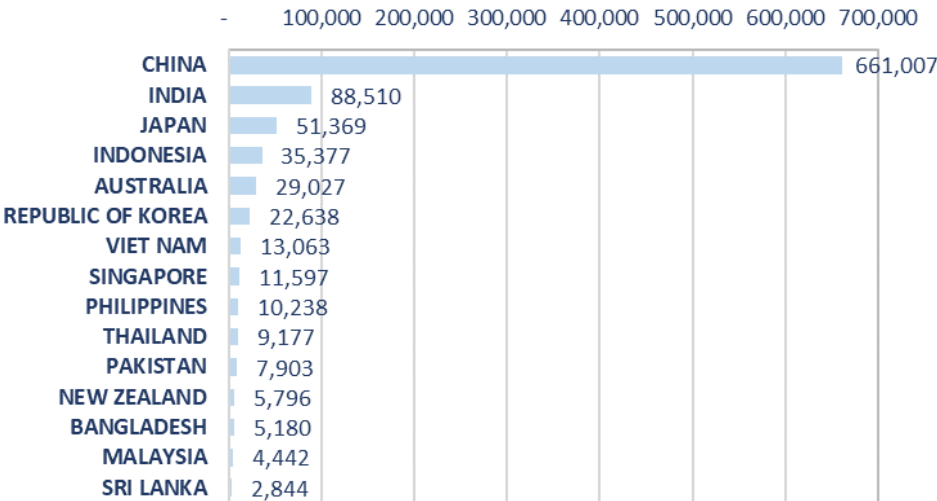
*International and domestic scheduled services*





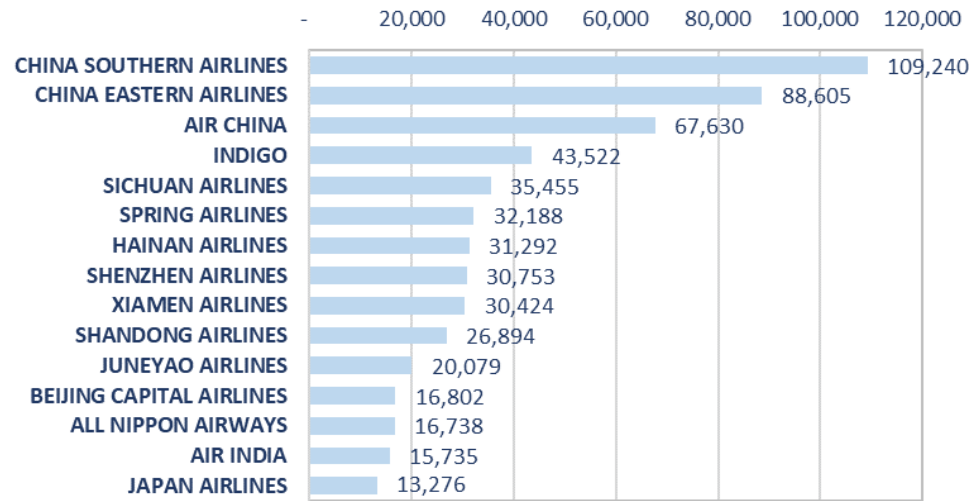
## Top 15 States and Airlines in 2021 – Asia and Pacific

RPK (million)



Top 15 States

RPK (million)

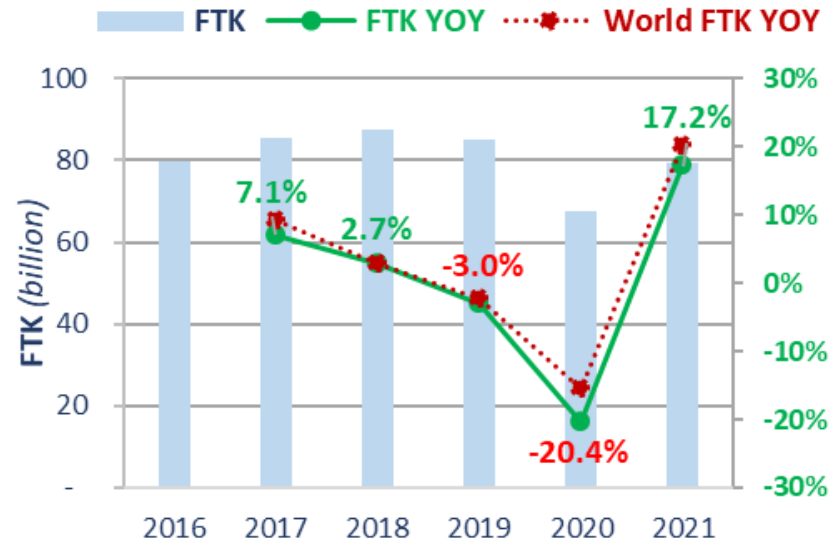


Top 15 Airlines



## Freight Traffic in 2021 – Asia and Pacific

- Cargo traffic measures in Freight Tonnes-Kilometres (FTKs) recovered by 17.2% in 2021.
- FTK YOY rate in 2021 is slightly lower than the world average.
- Cargo traffic in Asia/Pacific is also resilient against the pandemic compared to passenger traffic.

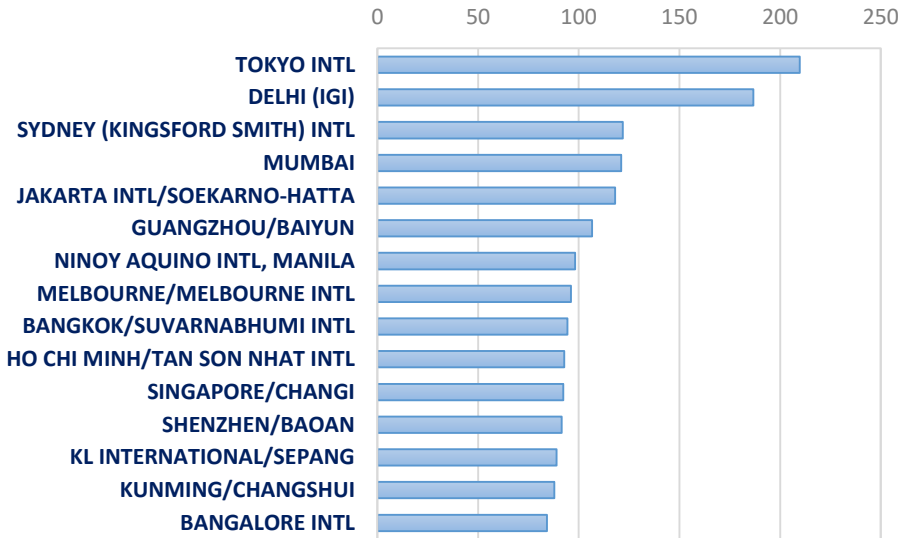


*International and domestic scheduled services*

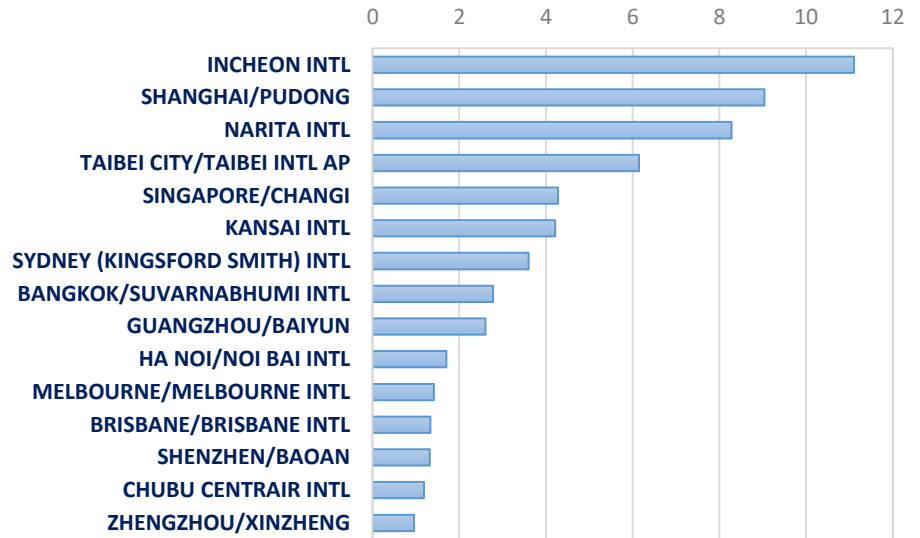


## Top 15 Airports in 2022 – Asia and Pacific

Passenger Departures (thousand)



Freighter Departures (thousand)

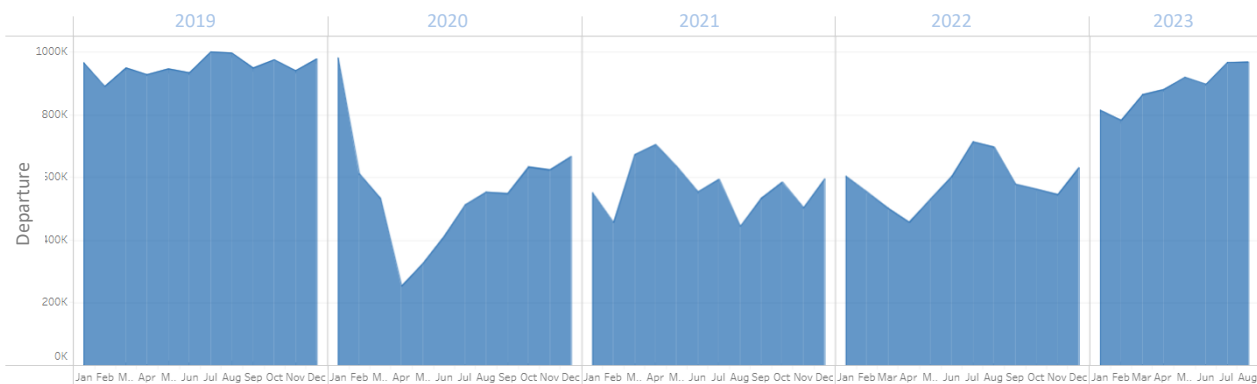


Top 15 airports in term of Passengers flight departures

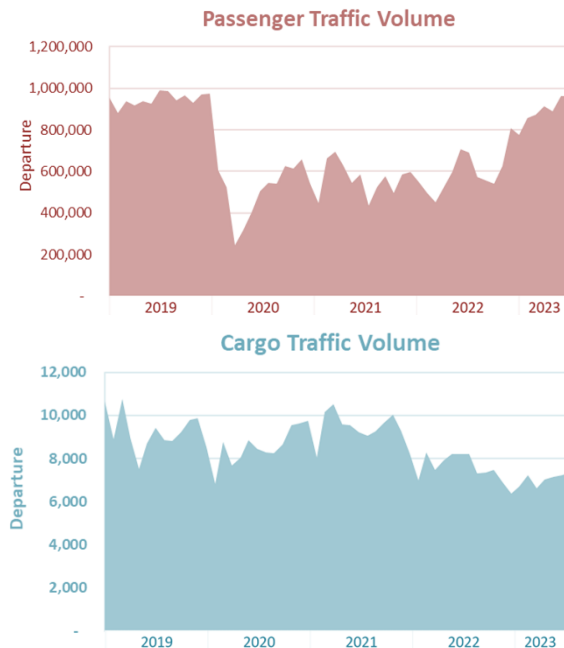
Top 15 airports in term of Freighter flight departures



## Asia/Pacific Evolution of traffic



Total Departure Volume



- Total departures from Asia/Pacific region have shown constant recovery since the pandemic shock.
- Scheduled passenger departure volume in 2023 Jan-Sep recovered by 93% compared with 2019 Jan-Sep.
- Scheduled cargo departure volume, on the other hand, shows a slight decreasing phase after the pandemic.



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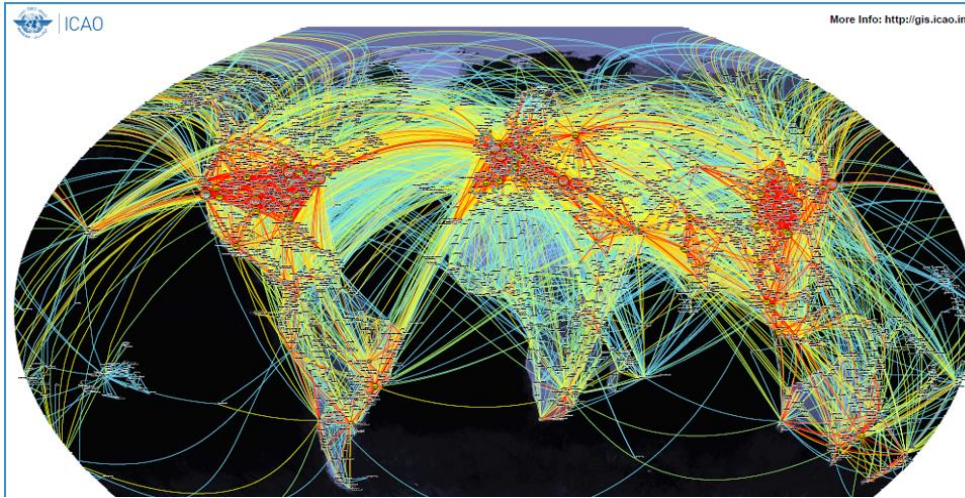
# GLOBAL COMPARISON



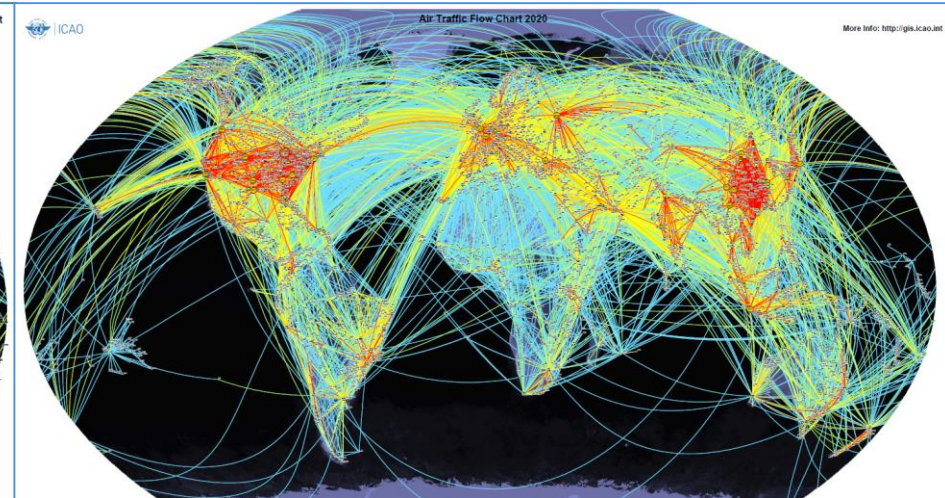




## COVID-19 pandemic impacted air connectivity



2019

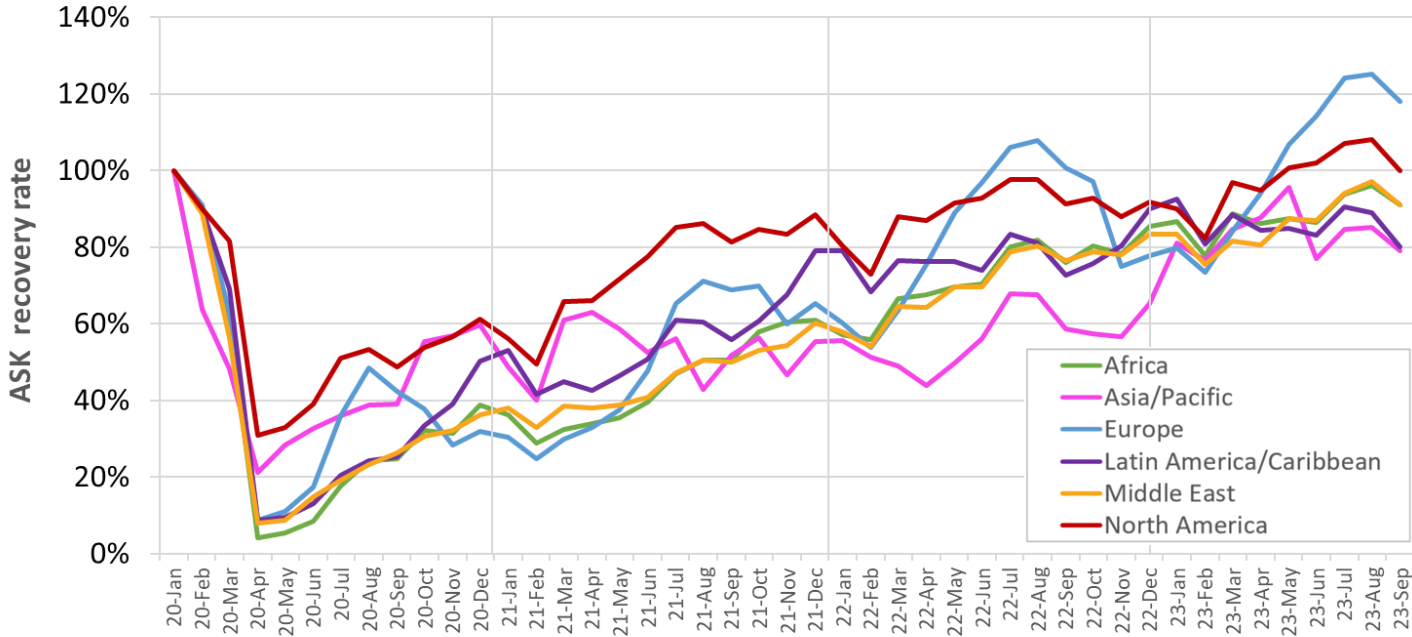


2020





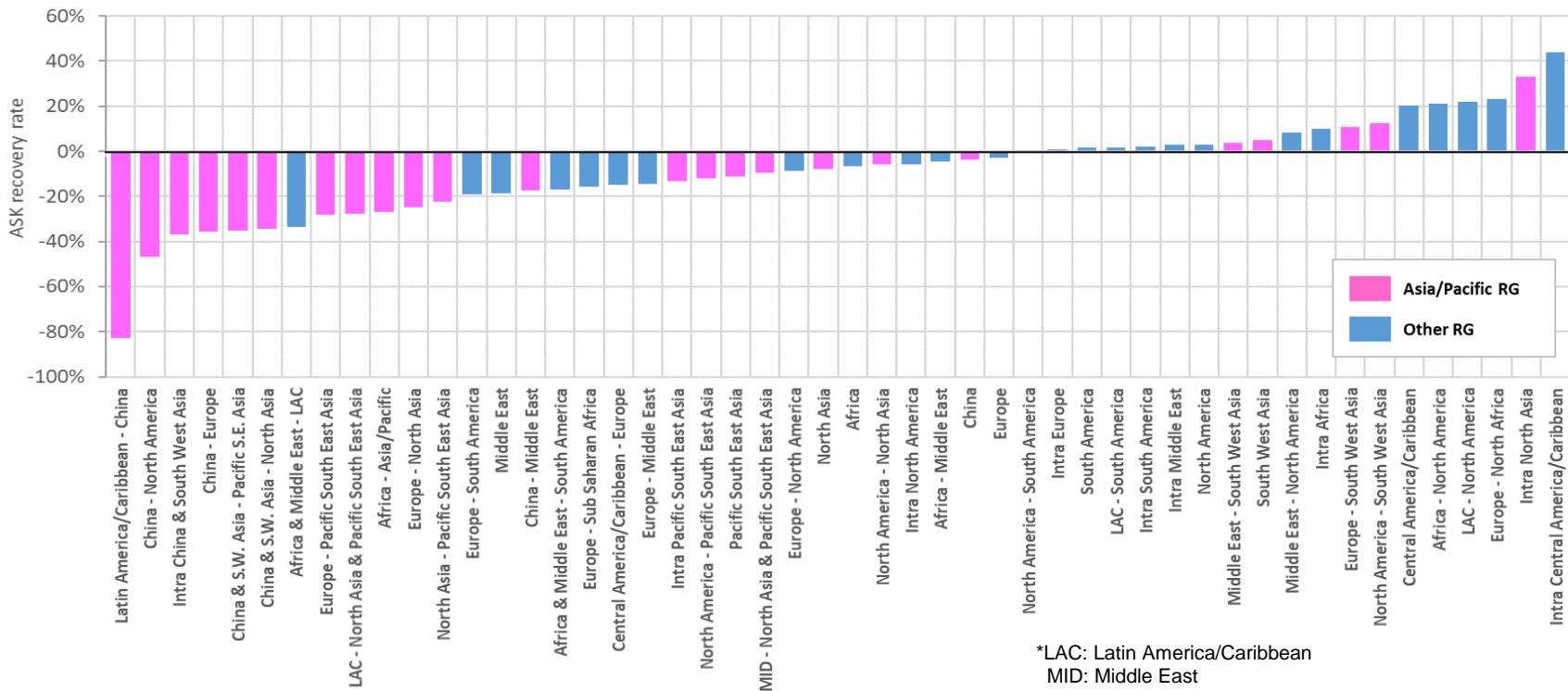
## Regional difference in resilience and speed of recovery



Comparison of ASK by region  
(2020 Jan - before the pandemic – as 100%)

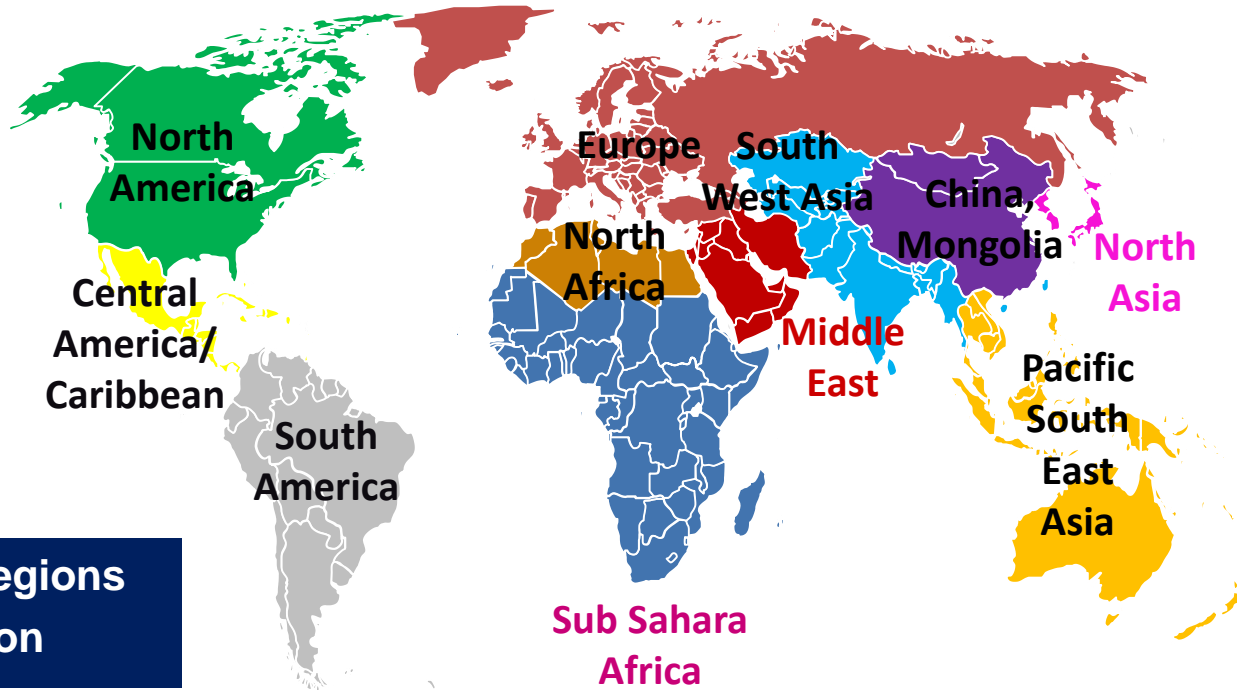


## Passenger capacity Recovery rate 2019 Oct vs. 2023 Oct by route group





## Definition of the region for route group

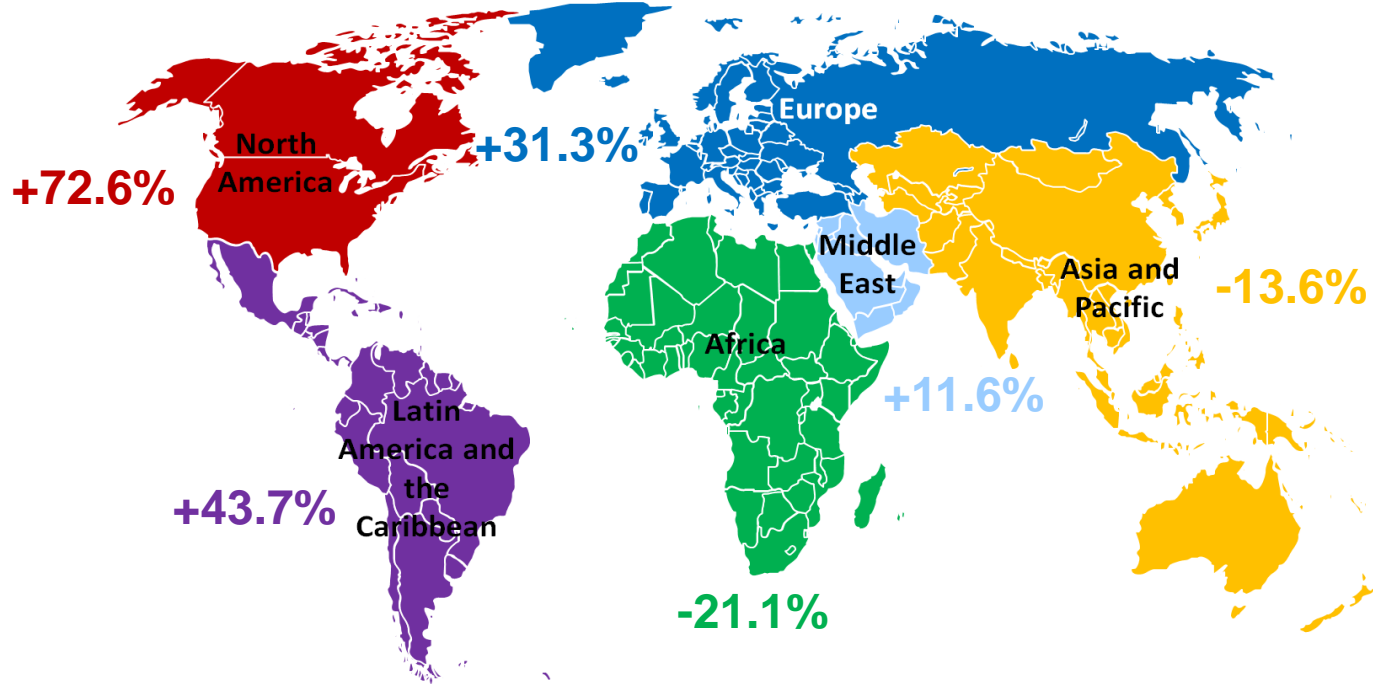


**10 ICAO LTF regions  
- Publication**



# Traffic outlook for 2021 Growth of Revenue Passenger-Kilometres

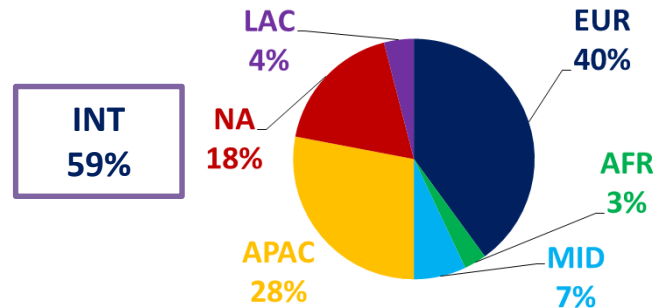
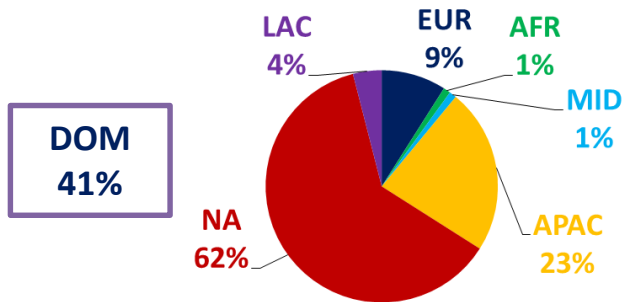
**Global +22.4%**



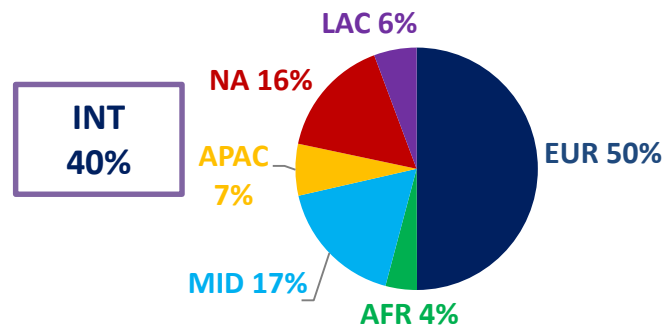
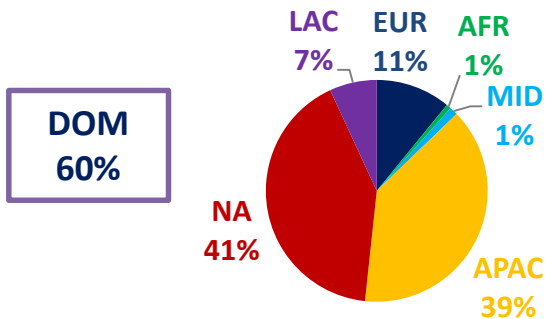


## Regional Distribution of Passenger Traffic in terms of RPK

2005

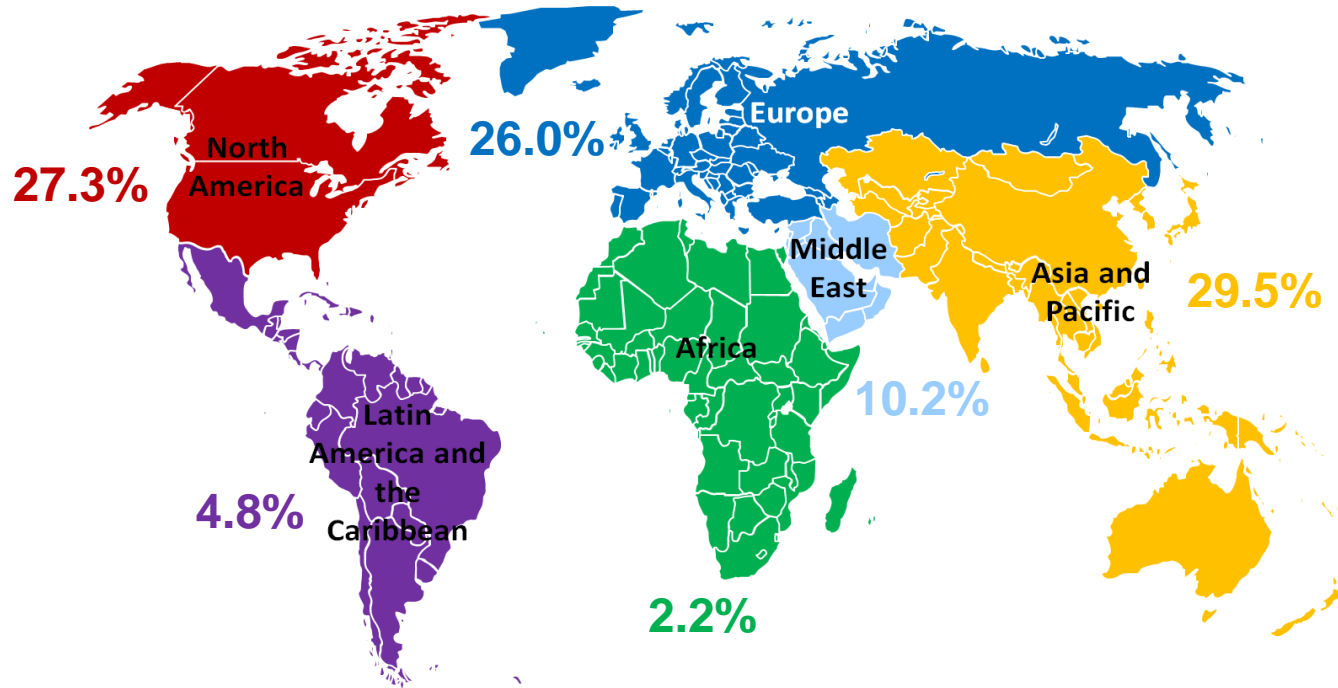


2021





## Share of Total Revenue Tonne-Kilometres by Region in 2021

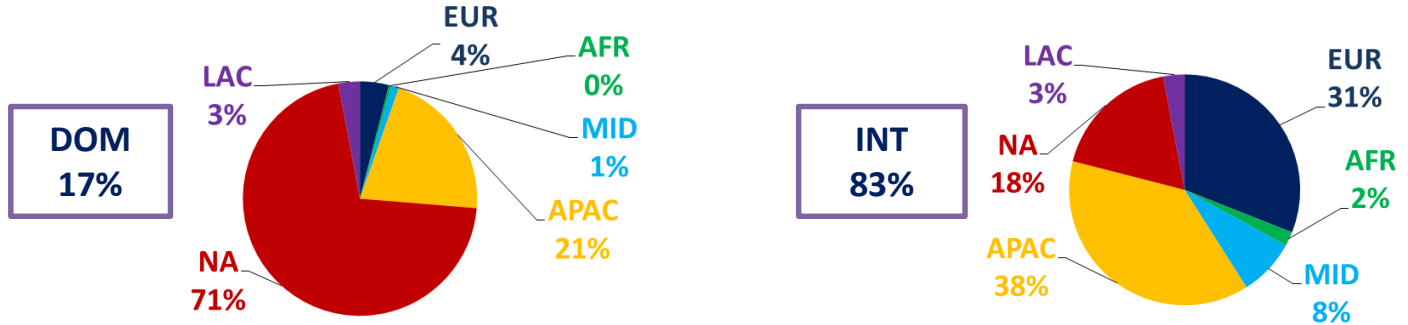




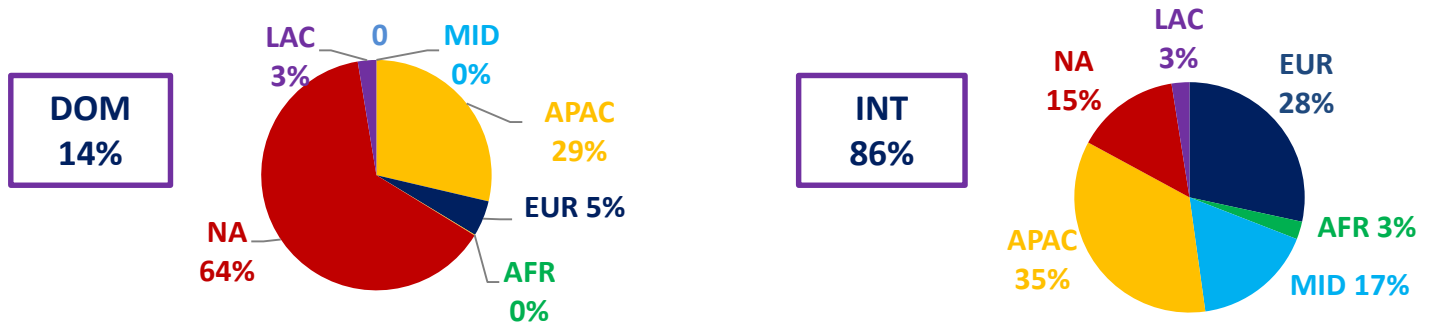


## Regional Distribution of Cargo Traffic in terms of FTK

2005



2021





## Traffic Ranking in 2021 and 2020

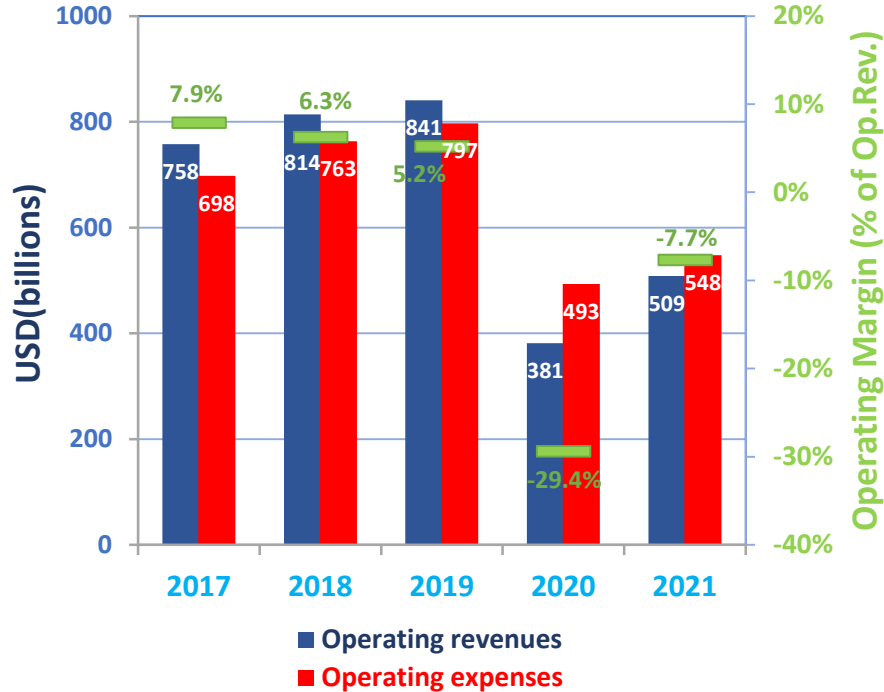
### International Total Revenue Tonne-Kilometres (RTK)

Rank	State of AOC	RTK 2021 (million)	RTK share (%)	Cumulative (%)
1	United States	147 768	25.8%	25.8%
2	<b>China<sup>1</sup></b>	<b>88 841</b>	<b>15.5%</b>	<b>41.3%</b>
3	United Arab Emirates	25 561	4.5%	45.8%
4	Russian Federation	24 507	4.3%	50.0%
5	Qatar	22 569	3.9%	54.0%
6	Turkiye	21 939	3.8%	57.8%
7	Germany	18 567	3.2%	61.0%
8	<b>Republic of Korea</b>	<b>17 697</b>	<b>3.1%</b>	<b>64.1%</b>
9	<b>Japan</b>	<b>16 401</b>	<b>2.9%</b>	<b>67.0%</b>
10	France	12 925	2.3%	69.2%
11	United Kingdom	9 738	1.7%	70.9%
12	Ireland	9 589	1.7%	72.6%
13	Netherlands	9 575	1.7%	74.3%
14	Mexico	8 811	1.5%	75.8%
15	Luxembourg	8 760	1.5%	77.4%
16	<b>India</b>	<b>8 758</b>	<b>1.5%</b>	<b>78.9%</b>
17	Canada	8 432	1.5%	80.4%
18	Spain	7 574	1.3%	81.7%
19	Brazil	7 417	1.3%	83.0%
20	Ethiopia	6 268	1.1%	84.1%

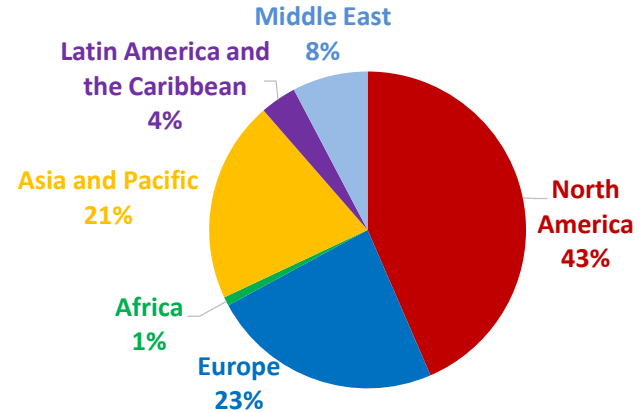
Rank	State of AOC	RTK 2020 (million)	RTK share (%)	Cumulative (%)
1	United States	97 187	20.5%	20.5%
2	<b>China<sup>1</sup></b>	<b>86 878</b>	<b>18.3%</b>	<b>38.8%</b>
3	United Arab Emirates	23 054	4.9%	43.6%
4	Qatar	18 876	4.0%	47.6%
5	<b>Republic of Korea</b>	<b>16 602</b>	<b>3.5%</b>	<b>51.1%</b>
6	Russian Federation	16 324	3.4%	54.5%
7	<b>Japan</b>	<b>14 765</b>	<b>3.1%</b>	<b>57.6%</b>
8	Germany	14 594	3.1%	60.7%
9	Turkiye	14 421	3.0%	63.7%
10	United Kingdom	10 818	2.3%	66.0%
11	France	9 523	2.0%	68.0%
12	Canada	8 669	1.8%	69.8%
13	<b>India</b>	<b>8 545</b>	<b>1.8%</b>	<b>71.6%</b>
14	Netherlands	8 364	1.8%	73.4%
15	Ireland	7 675	1.6%	75.0%
16	Luxembourg	7 446	1.6%	76.6%
17	Brazil	6 123	1.3%	77.9%
18	<b>Singapore</b>	<b>6 038</b>	<b>1.3%</b>	<b>79.1%</b>
19	Mexico	5 826	1.2%	80.4%
20	Australia	5 342	1.1%	81.5%



## Airlines Financial Results 2021



Distribution of airlines net profit by region of registration

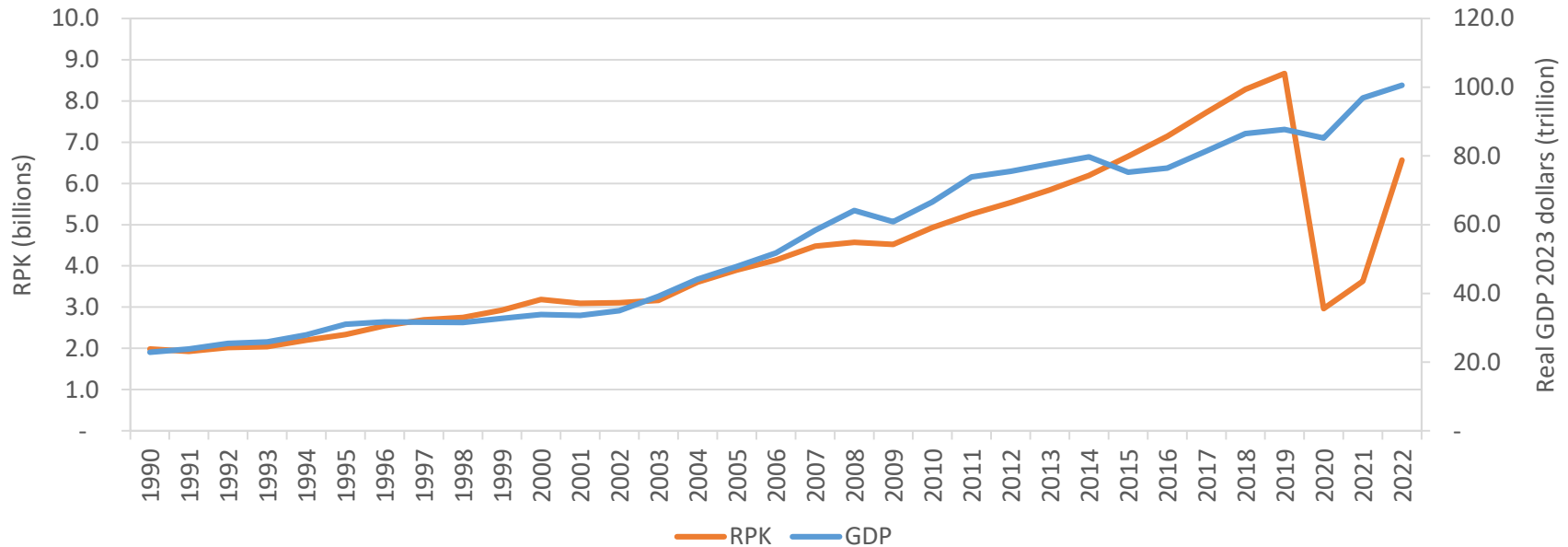


Mixed results at the regional level, with North American airlines concentrating 45% of the profits of the airline industry



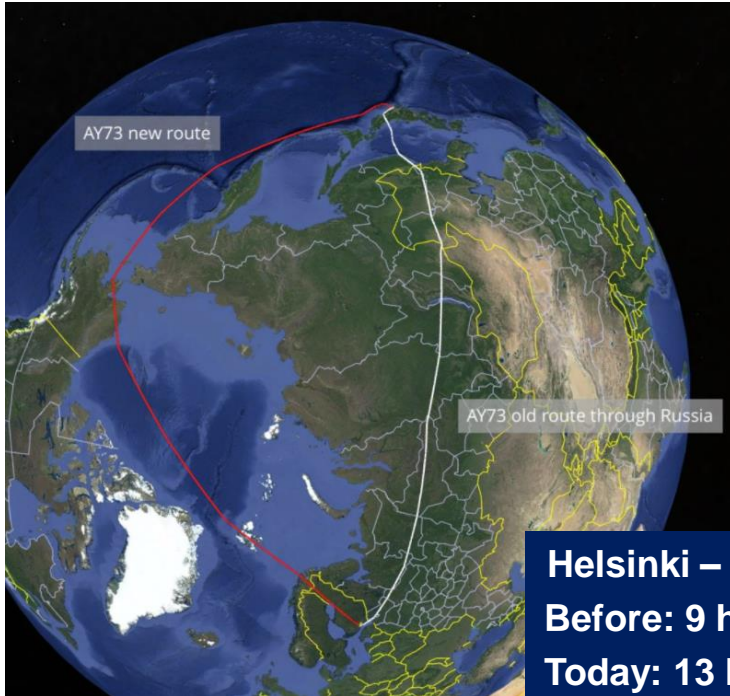
## Air Traffic and GDP Over Time

### Total Revenue Passenger Kilometres and Real GDP



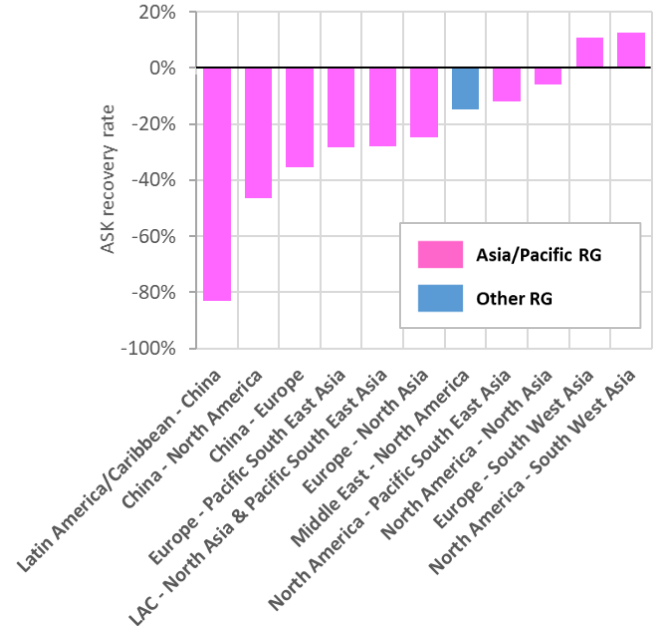


## Impact of Russian airspace detouring routes



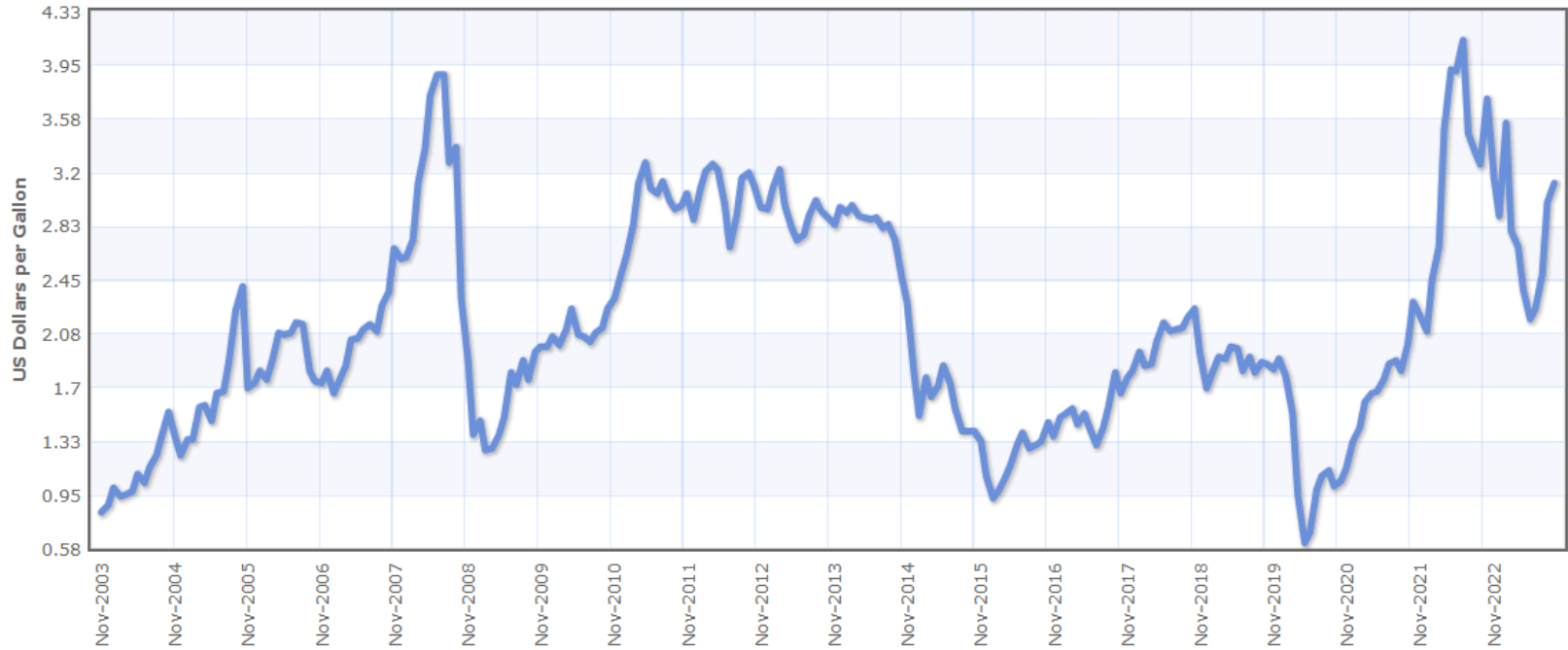
**Helsinki – Tokyo (AY73)**  
**Before: 9 hours**  
**Today: 13 hours (+44%)**

Passenger capacity recovery rate  
 2019 Oct vs. 2023 Oct by route group  
 (detouring route group)





## Resurge of Jet fuel price

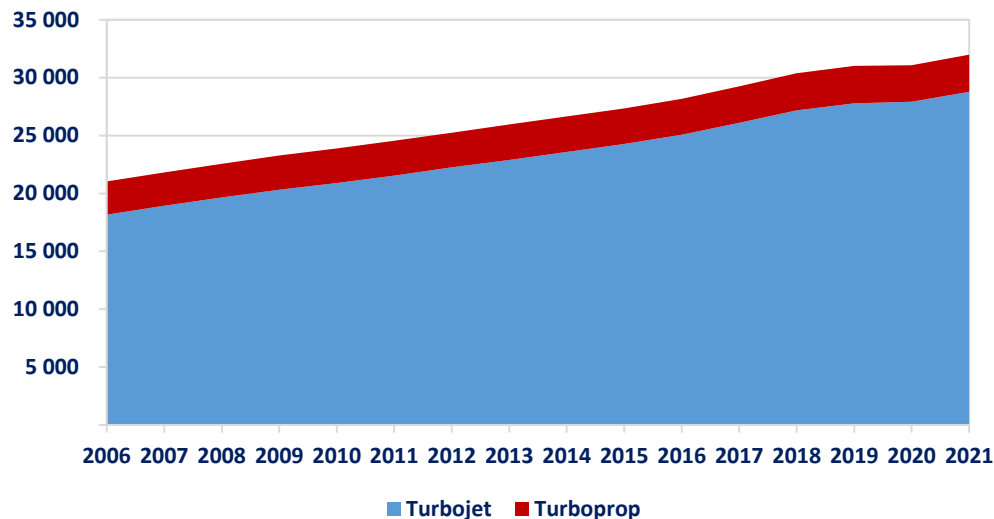






## Airline Fleet

### Commercial fleet evolution



**In 2021:** 28,800 turbojet aircraft  
3,200 turboprop aircraft

For the 2 largest aircraft manufacturers (Airbus and Boeing) in 2022:

- **1141** new aircraft **delivered**
- **Net orders** for **1594** aircraft

Book to bill ratio\* sharply increased from **0.5 : 1** in 2019 to **1.4 : 1** in 2021, reflecting the recoveries from the pandemic and B737 MAX concerns.

\* Book to bill ratio: orders / deliveries



## Working with Data Partners

- **Member States**
  - Australia, Brazil, China, Ethiopia, France (ENAC), India (CAA), Poland, Portugal, United Kingdom (CAA), United States (FAA, US DOT) etc.
- **United Nations Statistical Commission (UNSC)**
  - Aviation Satellite Account to measure the economic benefits of air transport, Global indicator for SDG Target 9.1
- **World Health Organization (WHO)**
  - Provision of traffic flows and intermediate stops of passengers originating from COVID-19 affected regions
- **Universal Postal Union (UPU)**
  - Sharing with ICAO Big Data of e-commerce and mail transport, as well as joint research on e-commerce
- **United Nations Conference on Trade and Development (UNCTAD)**
  - Sharing with ICAO on global trade and other modal transportation, as well as global connectivity
- **World Tourism Organization (UNWTO)**
  - Sharing with ICAO on tourism statistics
- **World Bank**
  - Exchange of economic and aviation indicators
- **International Transport Forum (ITF at OECD)**
  - Traffic forecasts, competition analysis
- **ICM, University of Warsaw**
  - Competition analysis (direct vs indirect flights) by using MIDT, Air Transport Optimizer Tool by using ADS-B
- **Airports Council International (ACI)**
  - Joint collection of airport statistics, airport charge
- **AACO (Arab Air Carriers Organization)**
- **AFRAA (African Airlines Association)**
- **ALTA (Latin American and Caribbean Air Transport Association)**
  - Exchange of regional traffic statistics



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