

Global Market Forecast & Vietnam Airlines Fleet Plan

Mr. Nguyen Chien Thang – Executive Vice President

People want and need to travel

Global Market Forecast 2022



Linking families and friends

Enabling tourism

Ensuring connectivity

Supporting economies

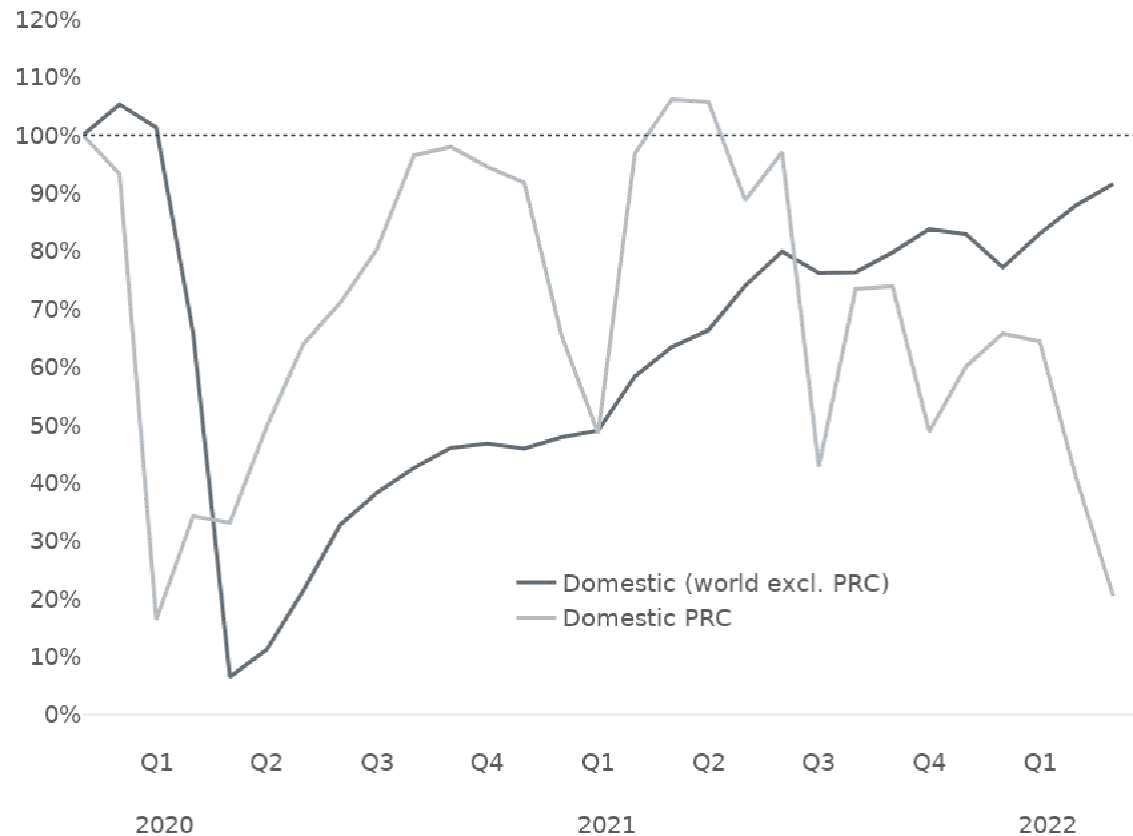
Reconnecting cultures and societies



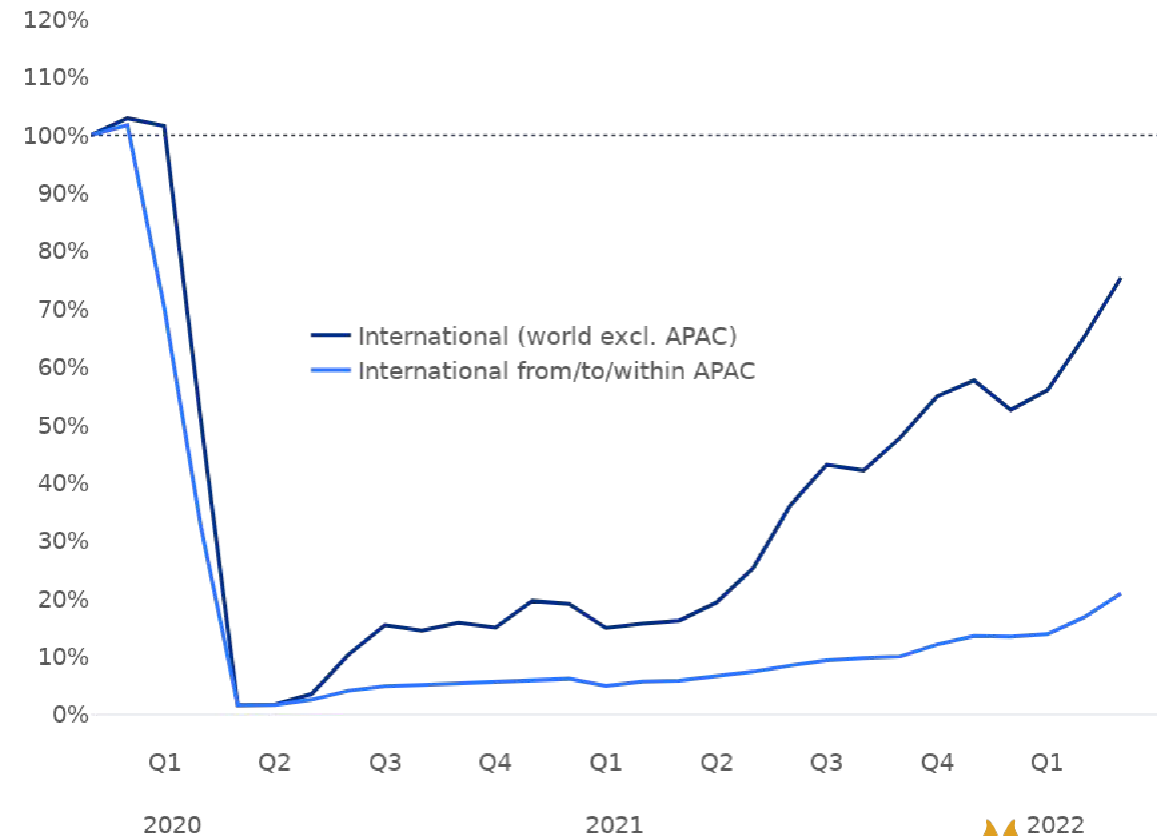
Air traffic is recovering continuously with a few, notable exceptions

Source: OAG, FR24, SABRE, IATA, Airbus GMF

Domestic leg traffic RPK compared to 2019



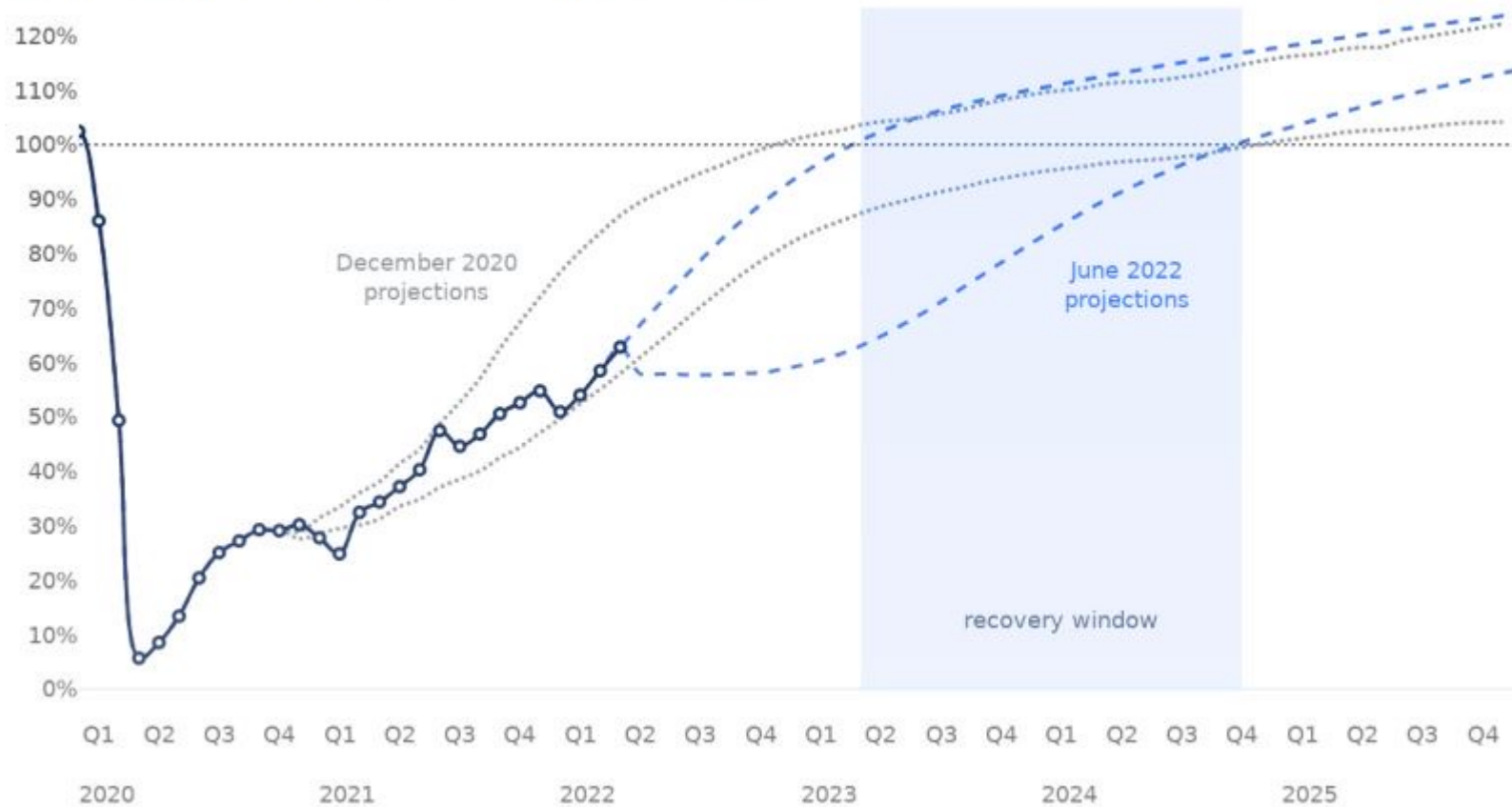
International leg traffic RPK compared to 2019



Air traffic recovery to 2019 levels between 2023 and 2025

Source: Sabre, OAG, FR24, IATA, Airbus GMF

World air traffic (RPK versus equivalent month in 2019)



Recovery trend confirmed despite recent events (Omicron wave, war)

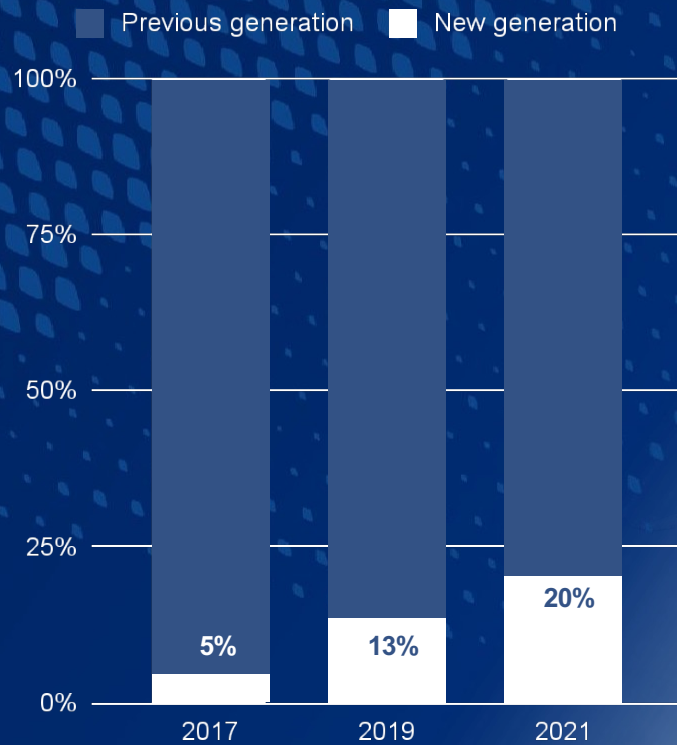
Lower boundary of recovery 'corridor' includes risk of further waves



Airlines require the latest, most efficient and lowest-emission aircraft

Global Market Forecast 2023

% of in-service fleet by aircraft generation



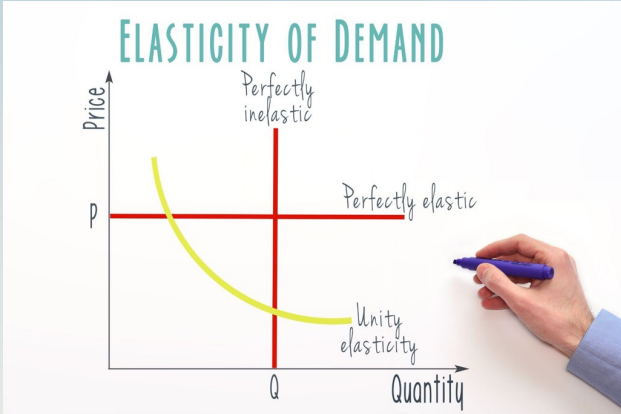
Fleet modernisation:
A strategic hedge against high energy costs
80% of fleet not yet latest generation

~39,500 new passenger & freighter aircraft deliveries over 2022-2041

Source: IHS Markit, Airbus GMF
Note: Passenger aircraft above 100 seats & freighters with a payload above 10t

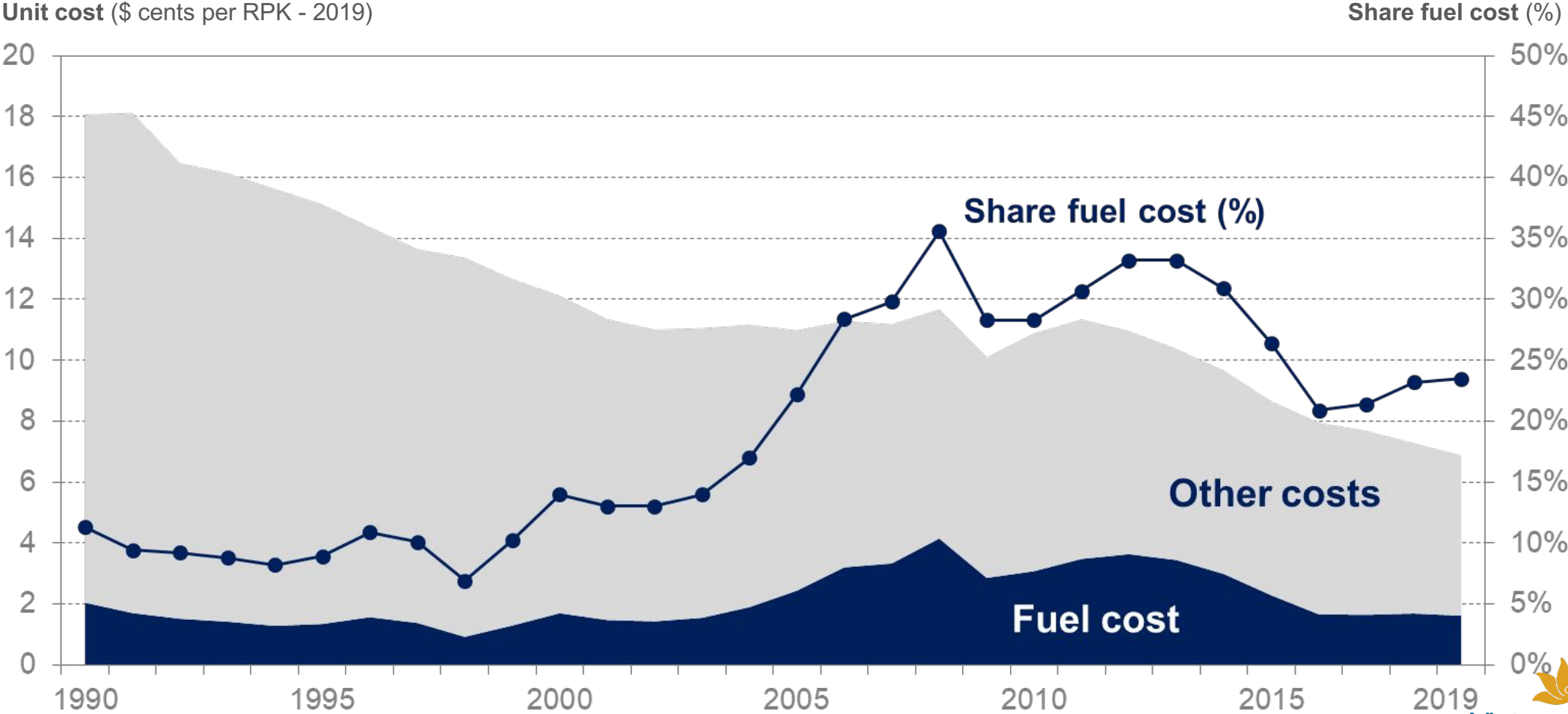
| | |
|---|---------------|
| Gross Domestic Product 2019-2041 CAGR | 2.6% |
| Passenger Traffic 2019-2041 CAGR | 3.6% |
| Freight Traffic 2019-2041 CAGR | 3.2% |
| Beginning 2020 fleet in service (Pre-Covid) | 22,880 |
| 2041 fleet in service | 46,930 |

Fundamental drivers unchanged, but some becoming more relevant



Share of energy cost in airline operating costs is growing

Source: IATA, Airbus GMF

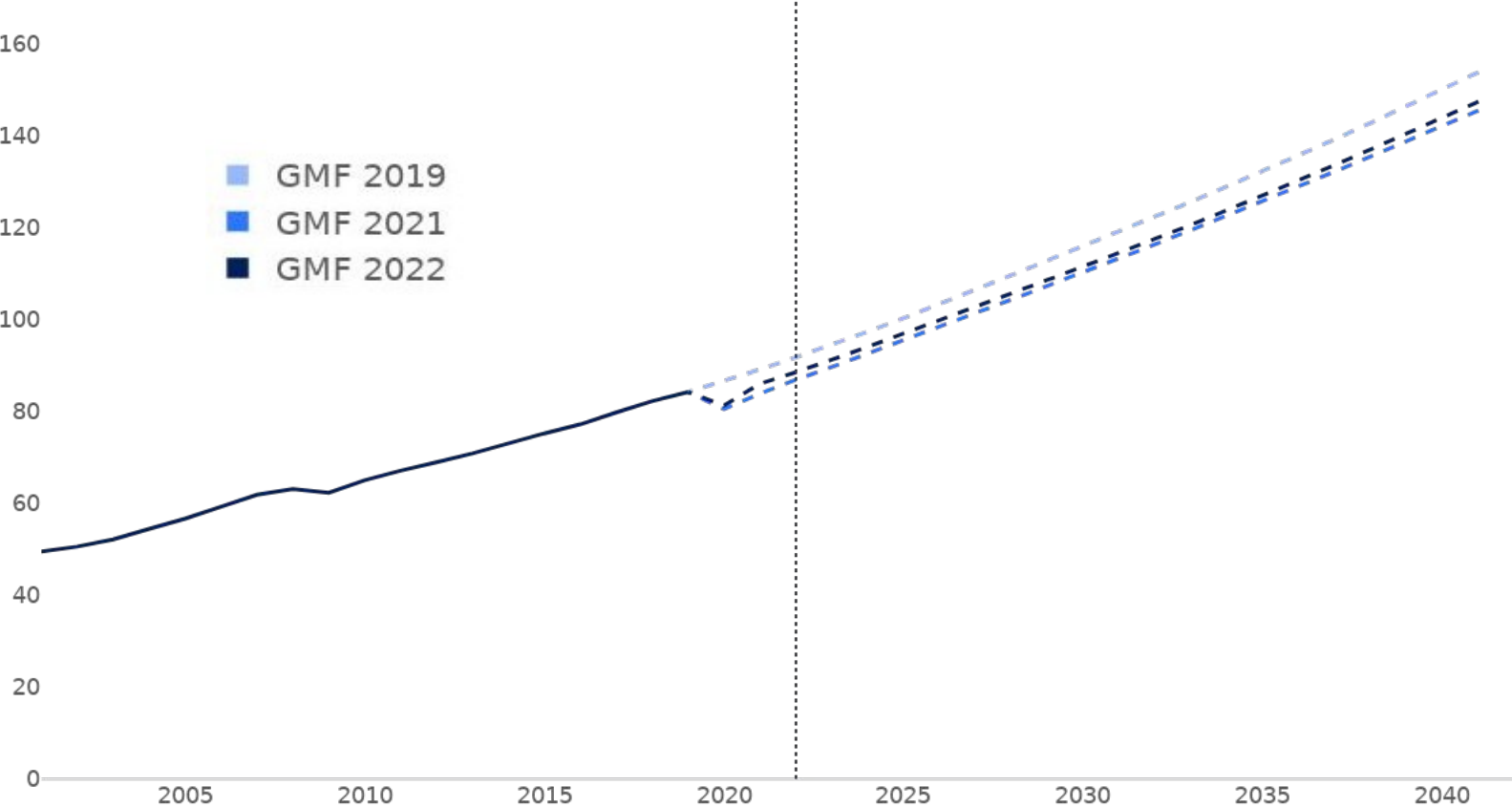


GDP projection has been reviewed upward since GMF 2021

Despite war in Ukraine generating downward pressure

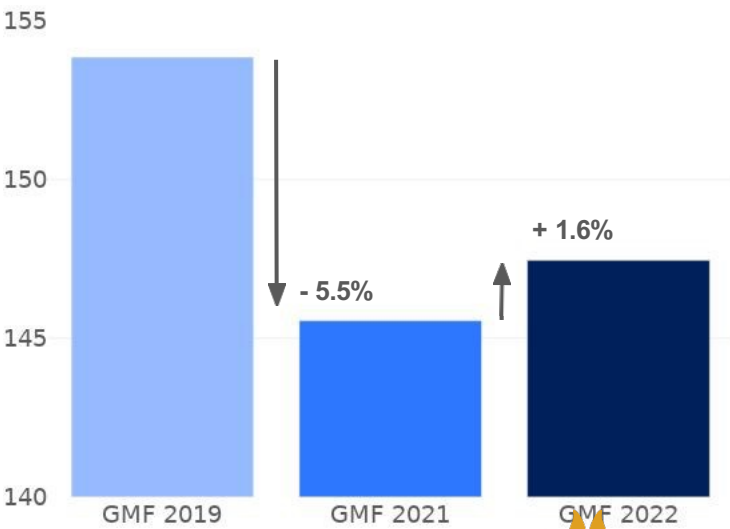
Source: IHS Markit, Airbus GMF

World GDP (\$ trillion - 2015)



CAGR 2019 - 2041: 2.6%

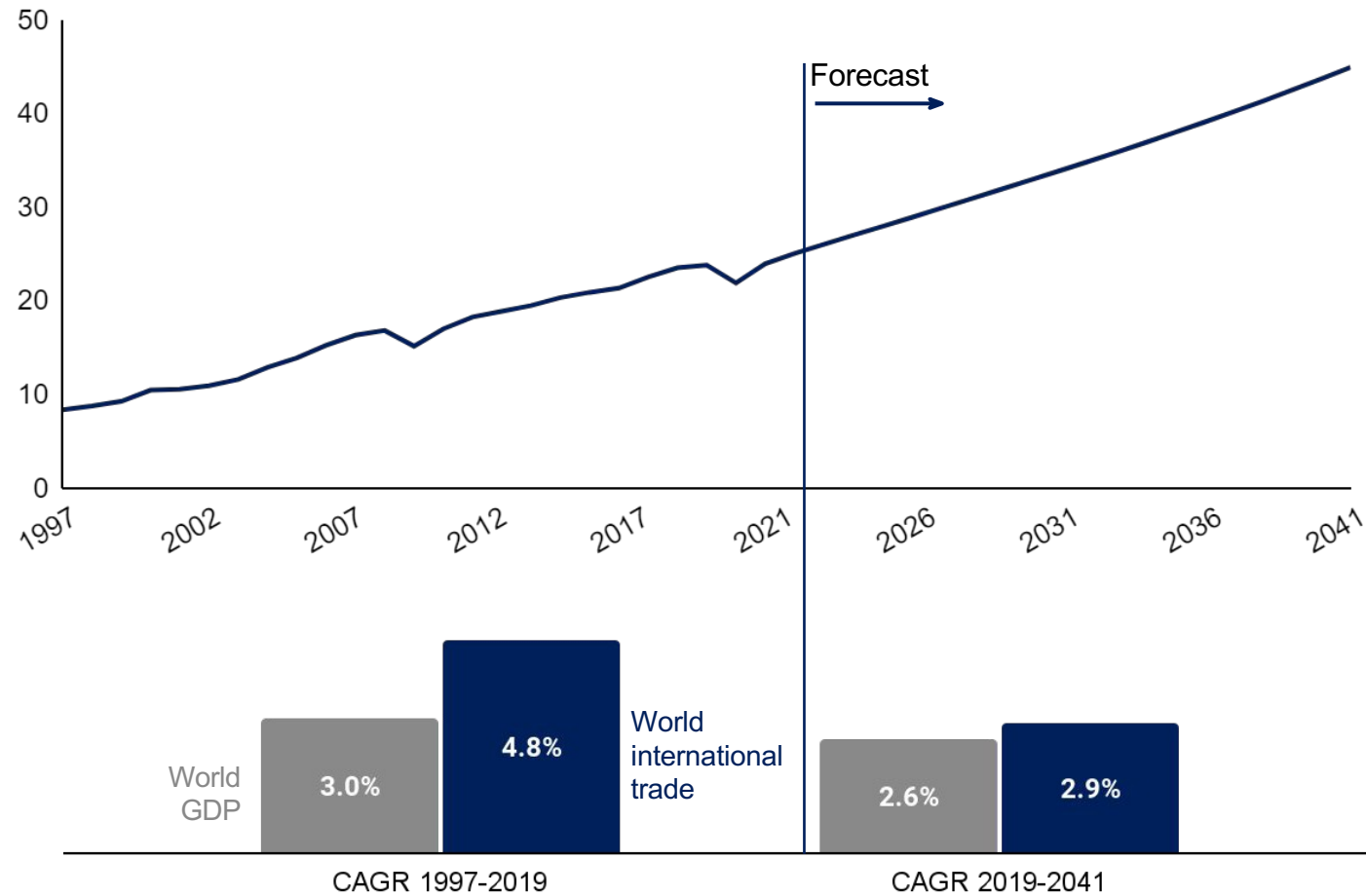
2041 World GDP (\$ trillion - 2015)



World international trade is expected to double in the next 20 years

Source: IHS Markit, Airbus GMF

World international trade (\$ trillion - 2015)



Strong demand for air cargo supported by world trade growth

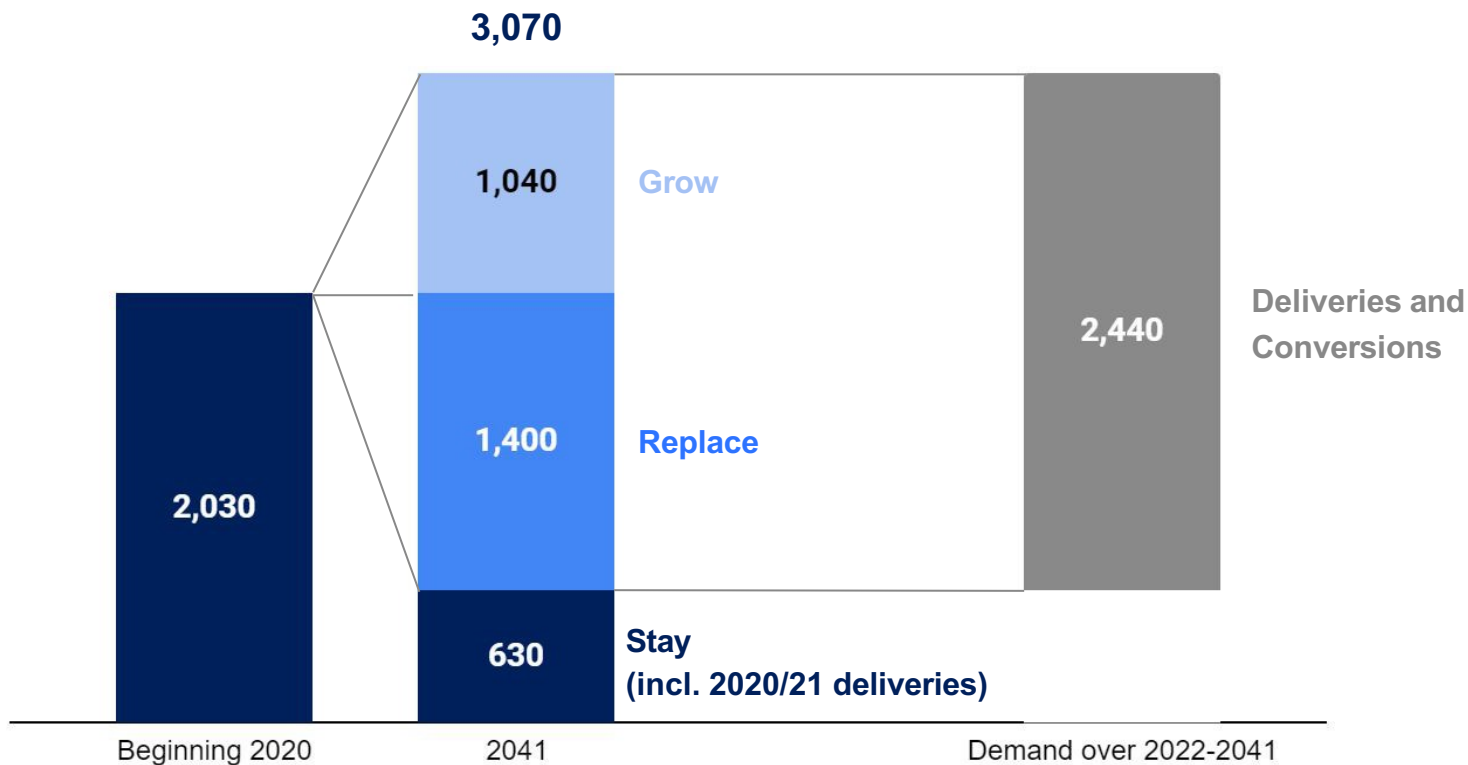


World freighter fleet in service will reach 3,070 aircraft by 2041

Source: Airbus GMF

Note: Freighters with a payload above 10t

Number of aircraft

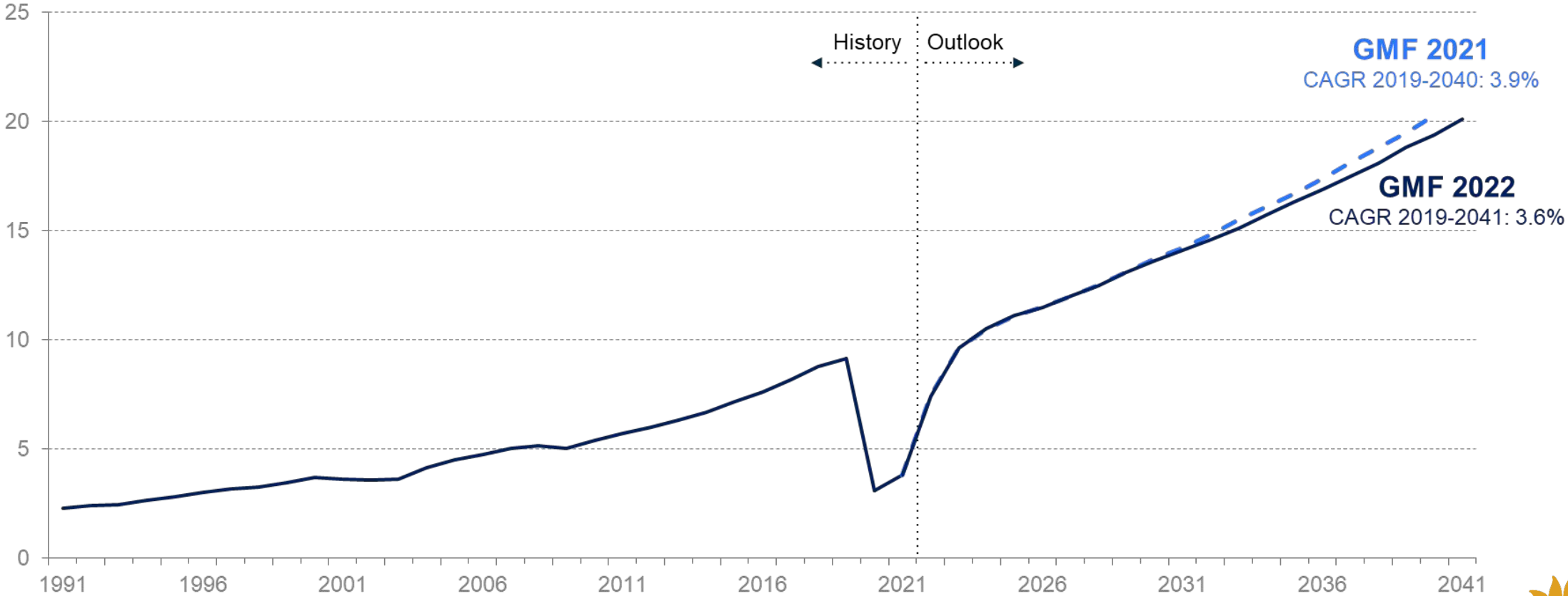


- **2,030 aircraft in-service beginning of 2020:**
 - 31% will stay in-service (including 2020 & 2021 deliveries)
 - 69% will be replaced
- **Demand for 2,440 new-build or converted freighters over 2022-2041**

Passenger traffic expected to grow at 3.6% from 2019 to 2041

Source: ICAO, Airbus GMF

World annual traffic (RPK trillion)

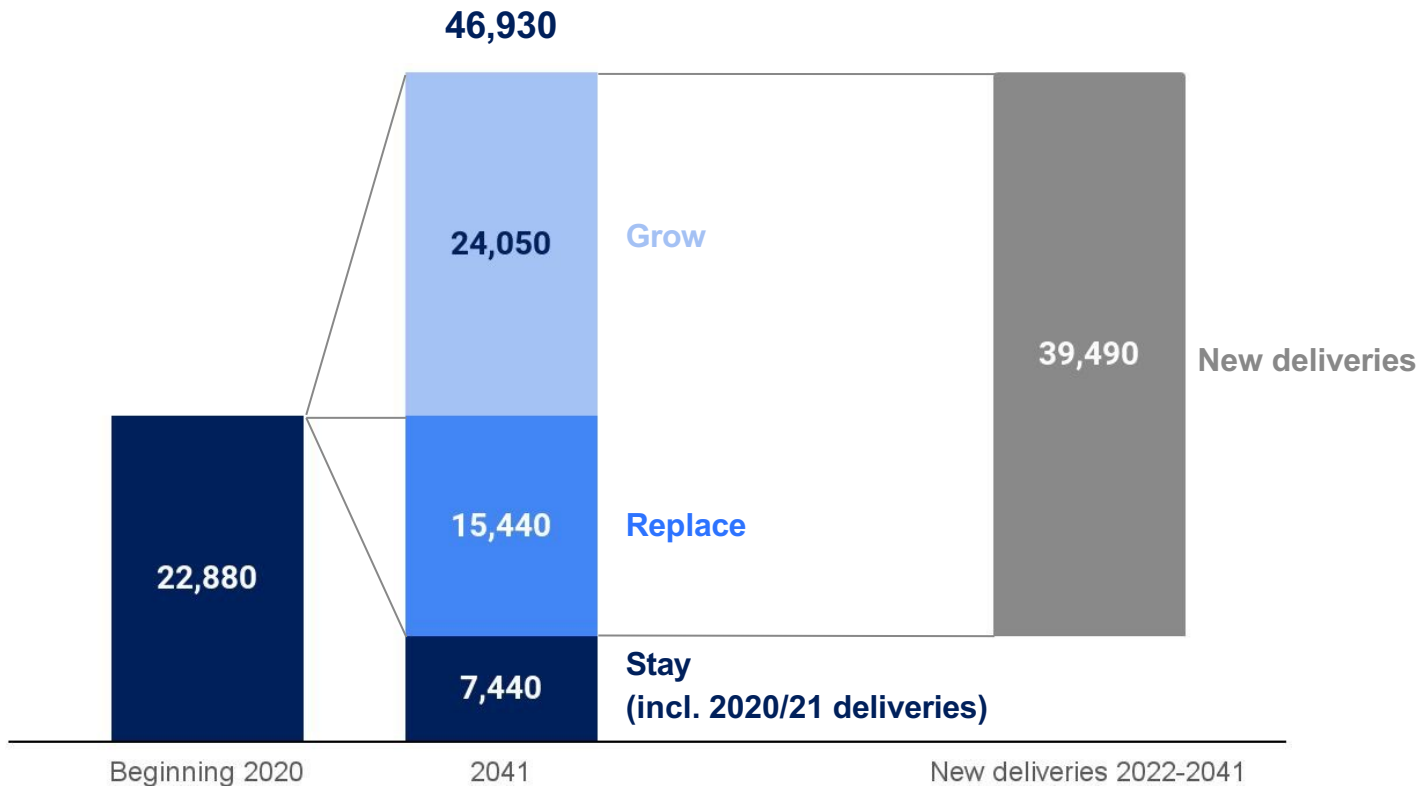


Demand for ~39,500 new passenger & freighter aircraft

Source: Airbus GMF

Notes: Passenger aircraft above 100 seats & freighters with a payload above 10t

Number of aircraft



- **22,880 aircraft in-service beginning of 2020:**
 - 33% will stay in-service (including 2020 & 2021 deliveries)
 - 67% will be replaced
- **39,490 new deliveries 2022-2041:**
 - 60% for growth
 - 40% for replacement

Global demand for ~39,500 new passenger & freighter aircraft

Source: Airbus GMF

Note: Demand for passenger aircraft above 100 seats & freighters with a payload above 10t

Typically Single-Aisle

31,620 aircraft

80% share of total new del.

Typically Widebody

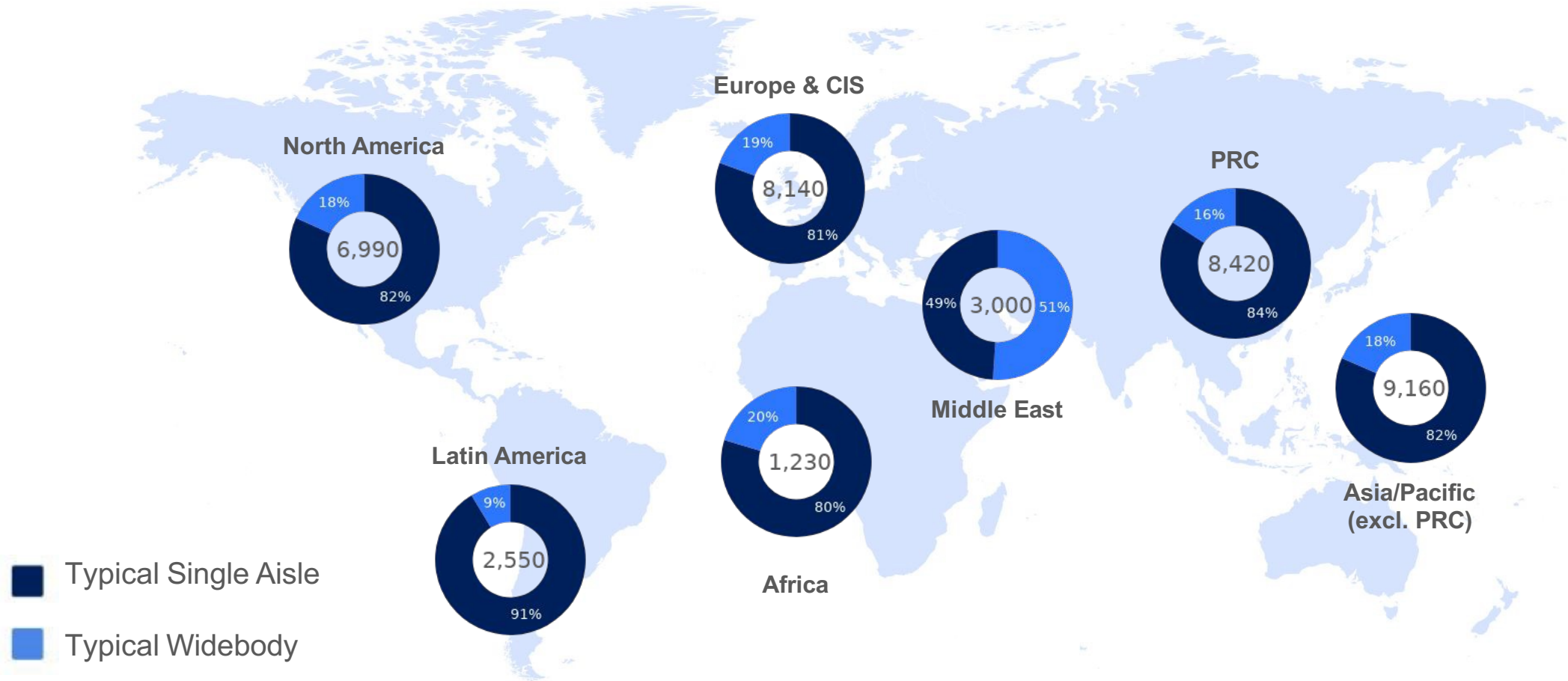
7,870 aircraft

20% share of total new del.

~39,500 new deliveries between 2022 and 2041

80% typically Single Aisle - 20% typically Widebody

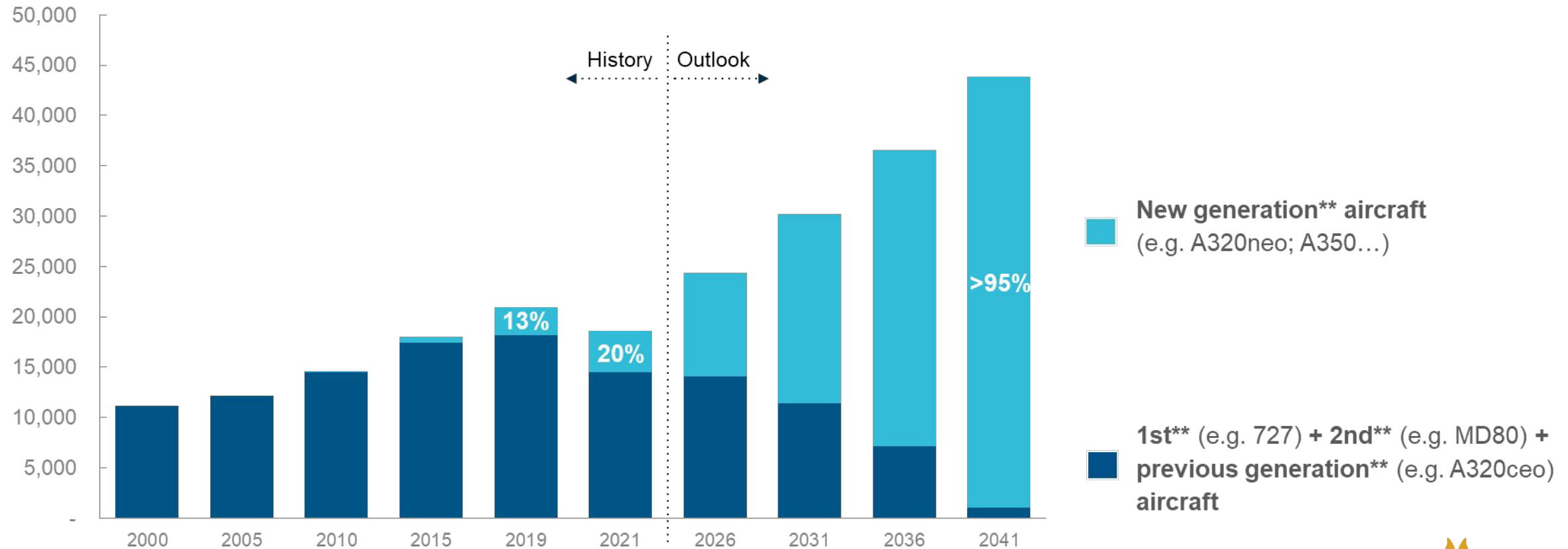
Source: Airbus GMF
Notes: Passenger aircraft above 100 seats & freighters with a payload above 10t



By 2041, new generation passenger aircraft will represent >95% of the fleet

Source: Cirium, Airbus GMF

Number of passenger aircraft in service*

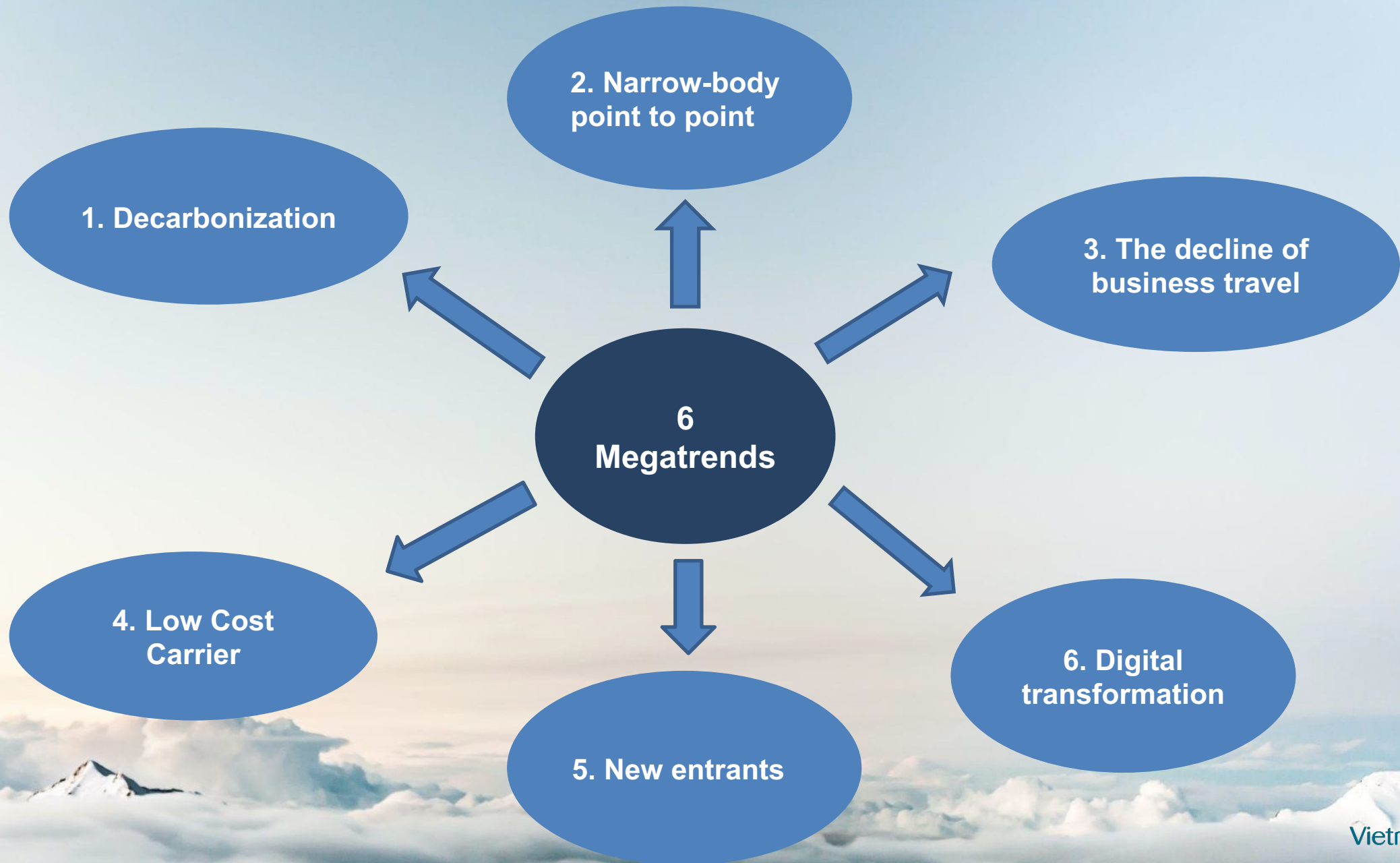


* Western built passenger aircraft above 100 seats – pax aircraft only / **1st generation: A300, DC 9, DC10, 707, 727, 737, 747 / 2nd generation: A310, MD11, MD80, MD90, 737, 747, 757, 767, F100
 Previous generation: A320 Fam., A330, A340, 717, 737NG, 747, 777 / New generation: A220, A320neo Fam., A330neo, A350, A380, 737Max, 777X, 787 & new programs

Global Market Forecast 2022-2041

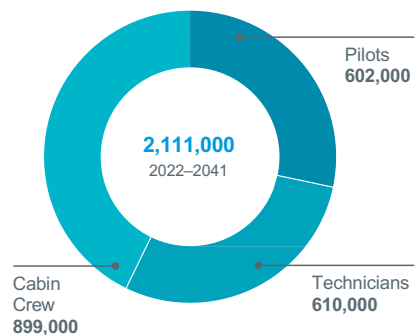
- Air traffic demand is coming back strongly as the world adapts to Covid. Traffic will recover to 2019 levels between 2023 and 2025
- GMF 2022 integrates effects of rising energy costs and stated policies
- Passenger traffic growth 3.6% CAGR
Freight traffic growth 3.2% CAGR
- ~39,500 new aircraft deliveries will be needed, of which >2,400 new and converted freighters
- ~80% will typically be Single-Aisle aircraft and ~20% will be Widebodies
- Only 20% of today's fleet are latest generation

6 Megatrends shaping the future aviation industry

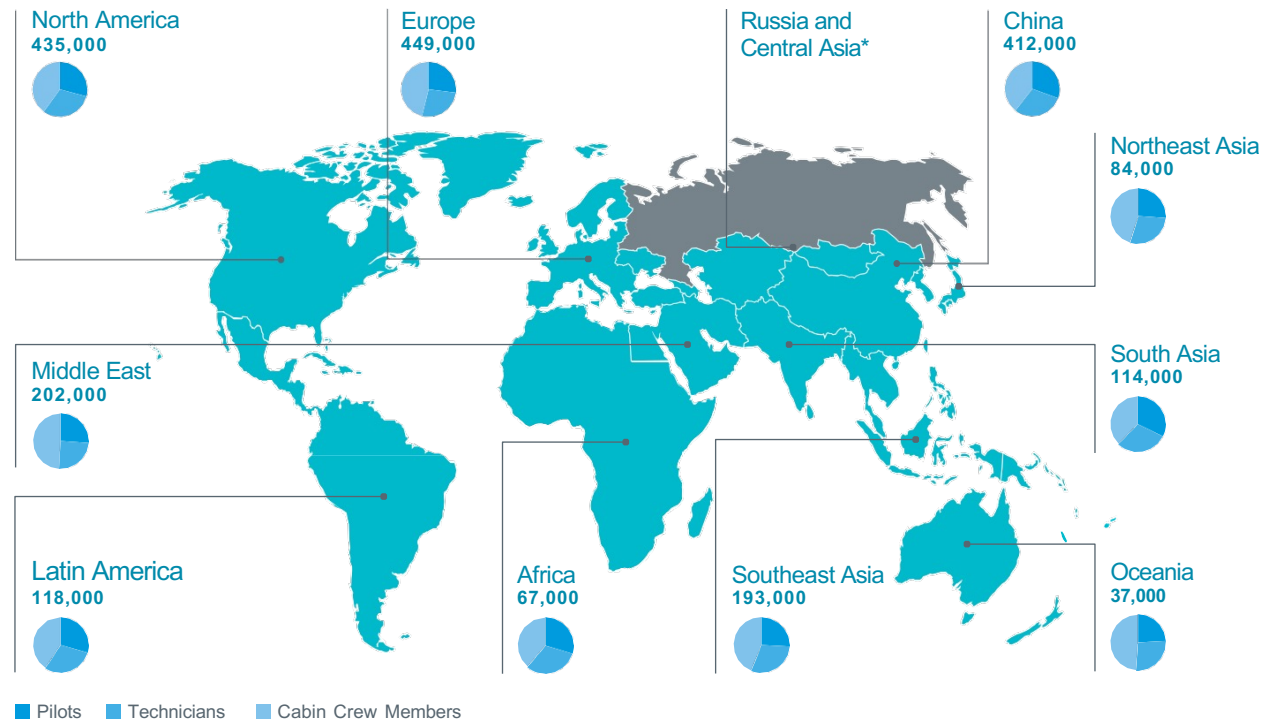


Pilot and Technician Outlook by Region

New Personnel Demand



Market Outlook Summary



*PTO 2022 does not include a forecast for new personnel in Russia due to sanctions against aircraft exports.

Outlook on a Page

| Region | Africa | China | Europe | Latin America | Middle East | North America | Northeast Asia | Oceania | South Asia | Southeast Asia | World |
|---------------------|--------|---------|---------|---------------|-------------|---------------|----------------|---------|------------|----------------|-----------|
| Total New Personnel | 67,000 | 412,000 | 449,000 | 118,000 | 202,000 | 435,000 | 84,000 | 37,000 | 114,000 | 193,000 | 2,111,000 |
| Pilots | 20,000 | 126,000 | 122,000 | 35,000 | 53,000 | 128,000 | 22,000 | 9,000 | 37,000 | 50,000 | 602,000 |
| Technicians | 21,000 | 124,000 | 120,000 | 35,000 | 50,000 | 134,000 | 24,000 | 10,000 | 34,000 | 58,000 | 610,000 |
| Cabin Crew | 26,000 | 162,000 | 207,000 | 48,000 | 99,000 | 173,000 | 38,000 | 18,000 | 43,000 | 85,000 | 899,000 |

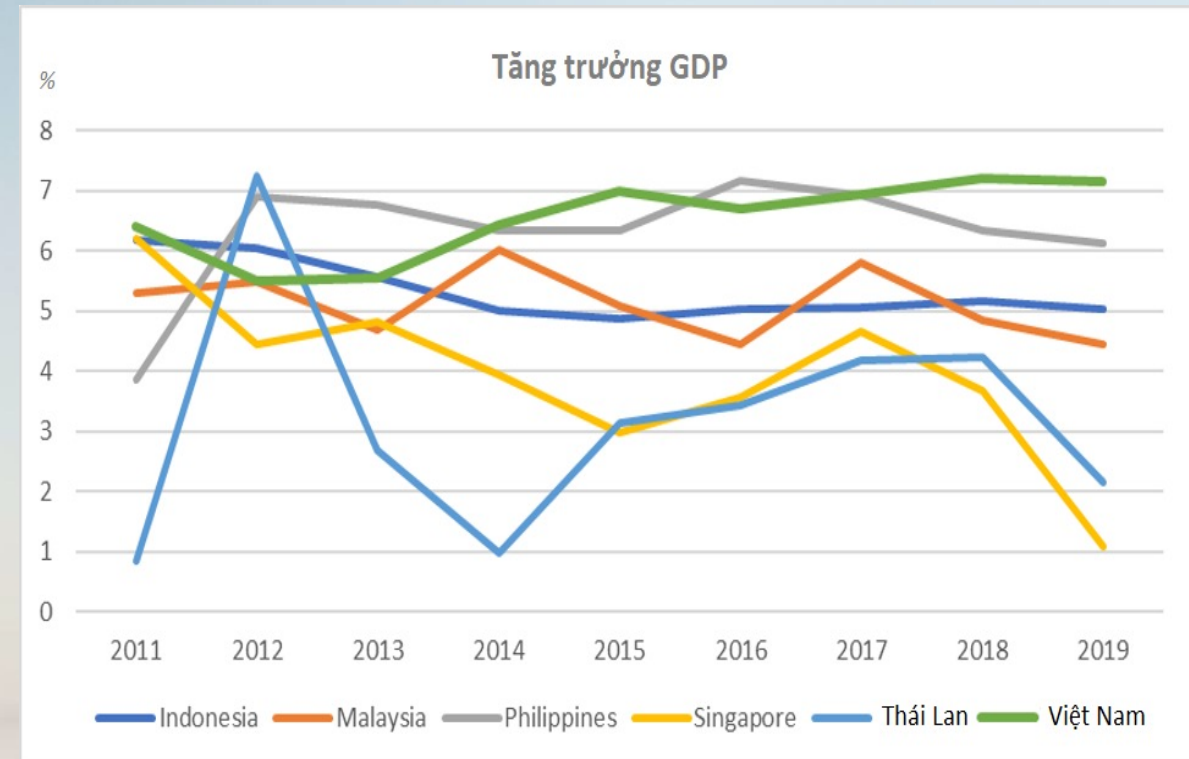
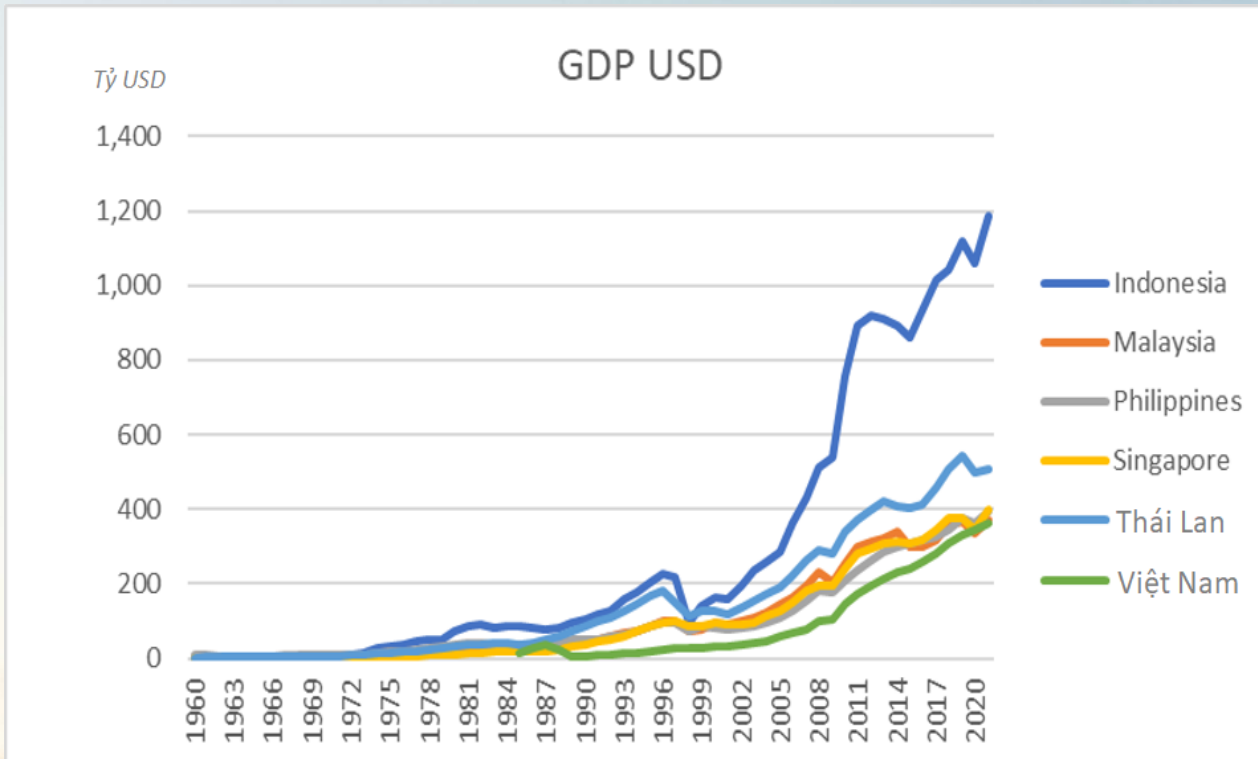


9 Pilot and Technician Outlook 2022-2041



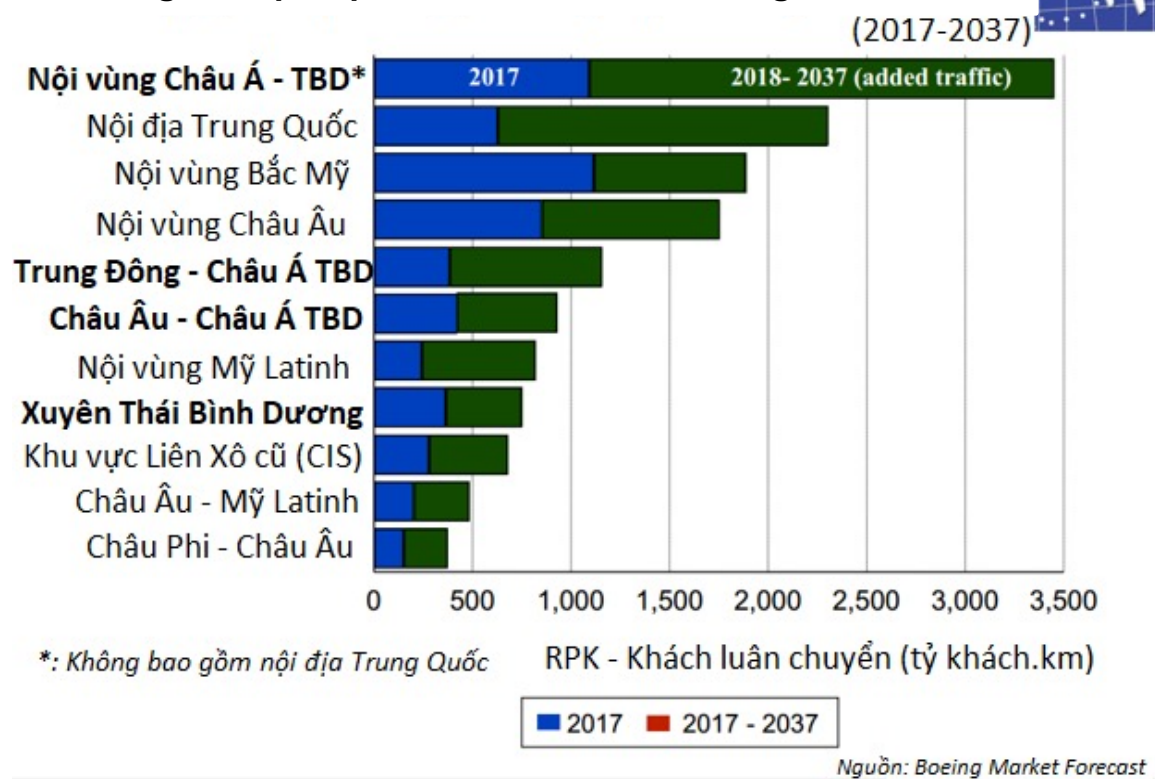
VNA's fleet development plan

The stable and sustainable development of the Vietnamese economy is the foundation for the development of the aviation market

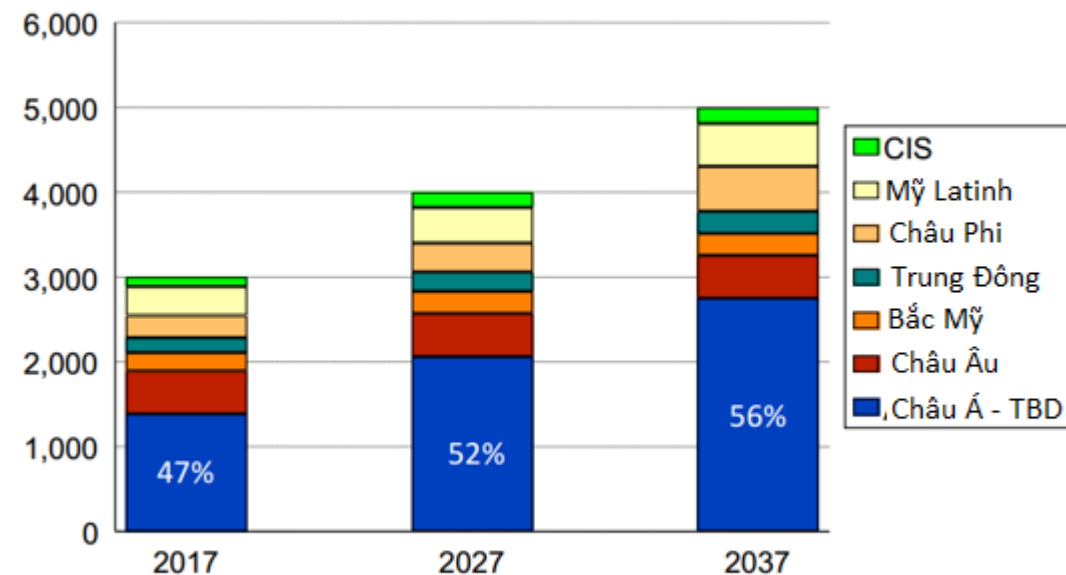


Asia is the region with the largest potential for aviation development in the world, driven by the middle class

Long-term prospects for aviation market growth (2017-2037)



Growth of middle-class customers in Asia



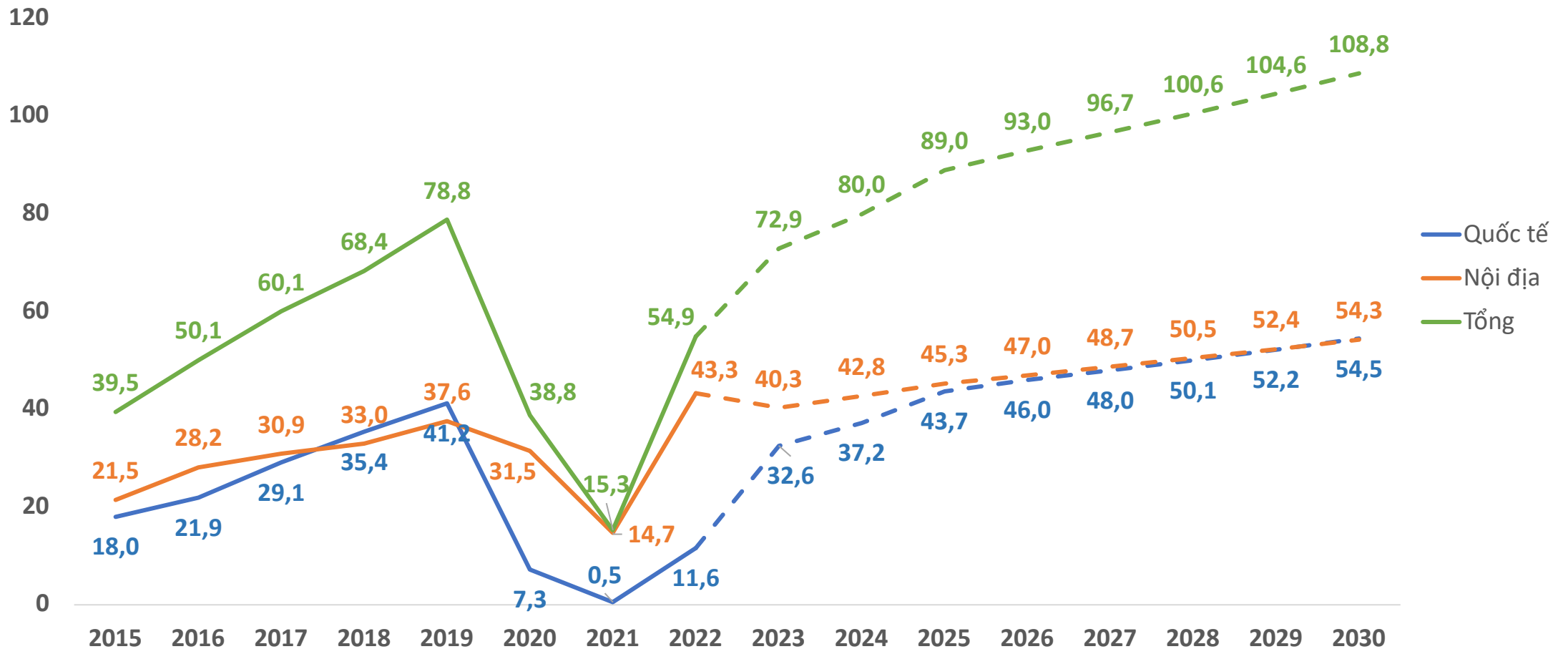
Hộ gia đình với thu nhập hàng năm từ 20.000 đến 150.000 USD theo PPP giá cố định 2017

The growth of the middle-class market in the Asia-Pacific region is driven by growth in China and India. It is estimated that by 2020, China's per capita GDP will increase by 1.5 times compared to 2014, while India will increase by about 1.8 times

The Vietnamese aviation market is forecasted to recover to the level of 2019 by 2024, while international market recovery is expected by 2025. The domestic market has already surpassed 2019 by 2022

Triệu lượt khách

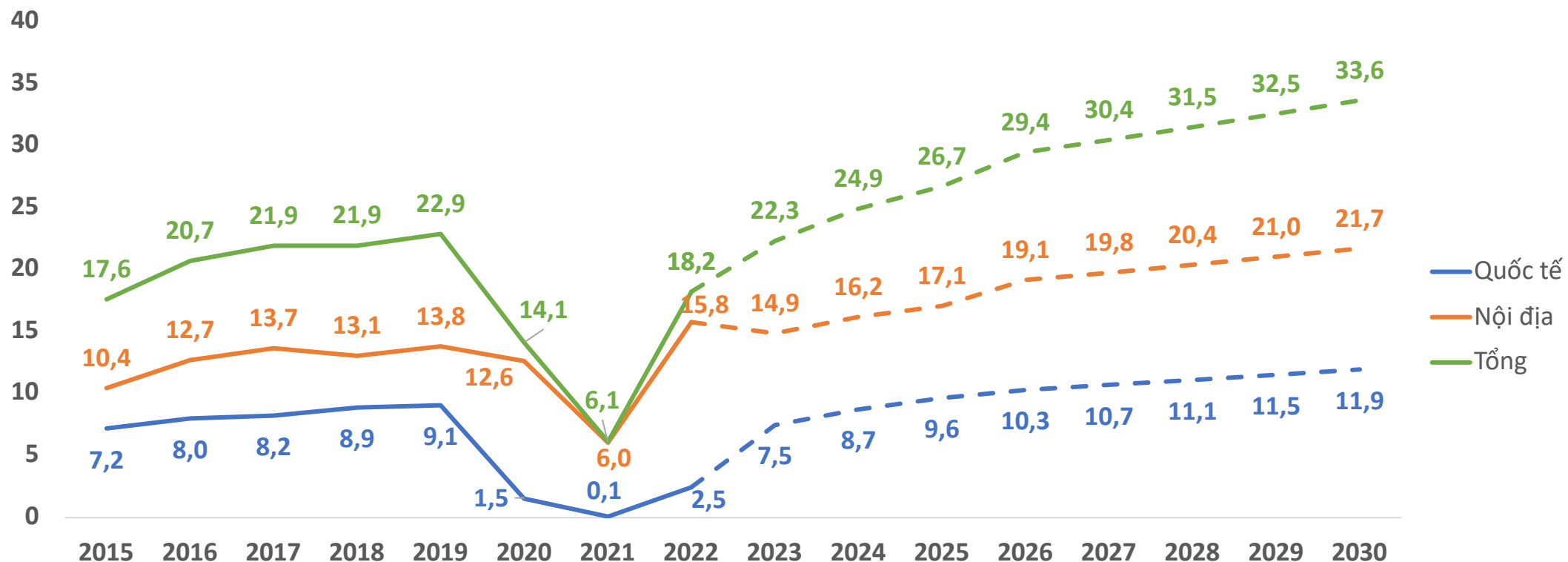
Vietnam Aviation Market 2015-2030



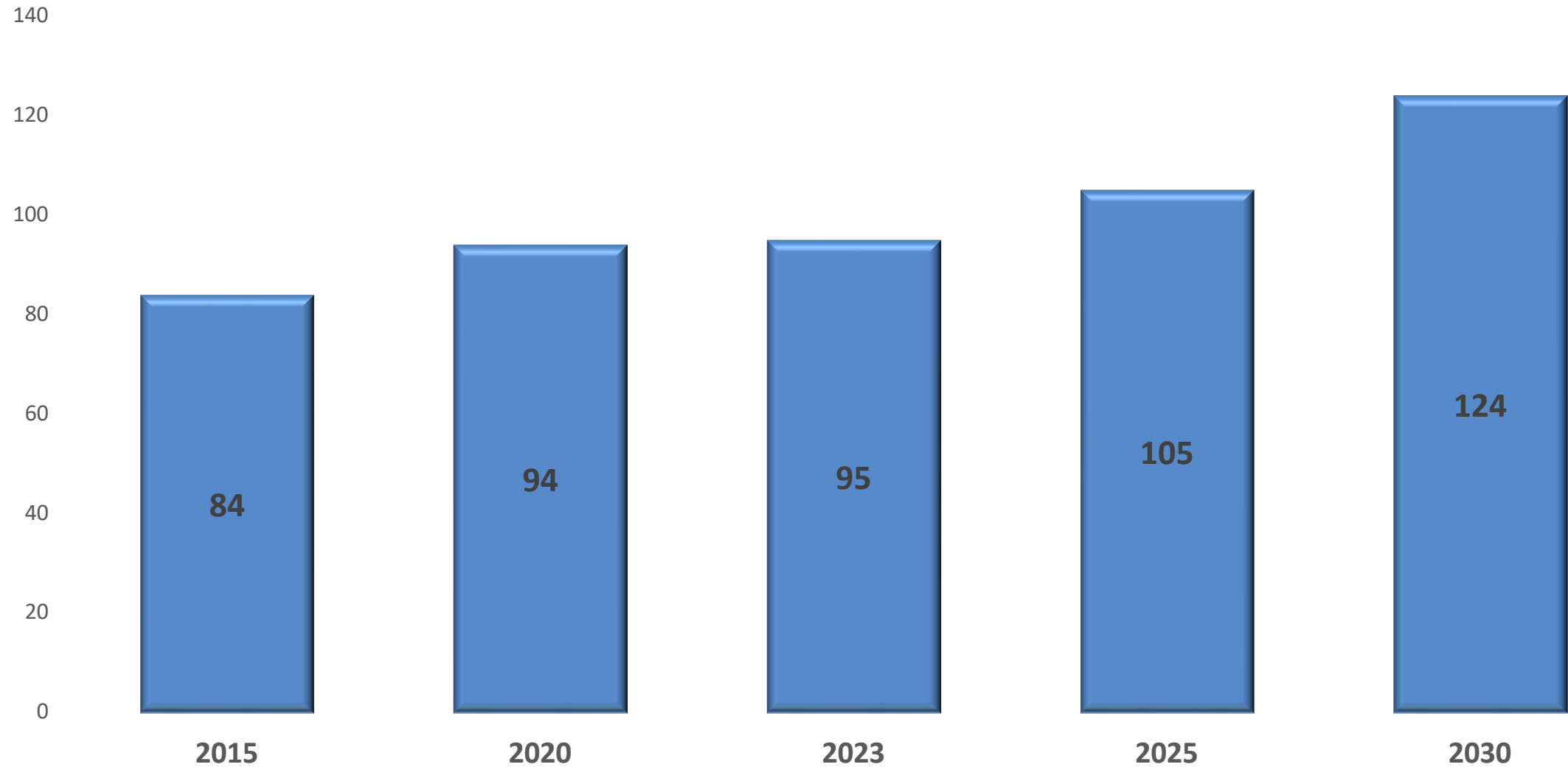
Vietnam Airlines' passenger traffic is expected to recover from 2024 for domestic flights, and from 2025 for international flights, with the domestic market surpassing the 2019 level in 2022. From 2026 to 2030, the growth rate is expected to be a minimum of 3-4% per year

Triệu lượt khách

Vietnam Airlines' Passenger Transport from 2015 to 2030

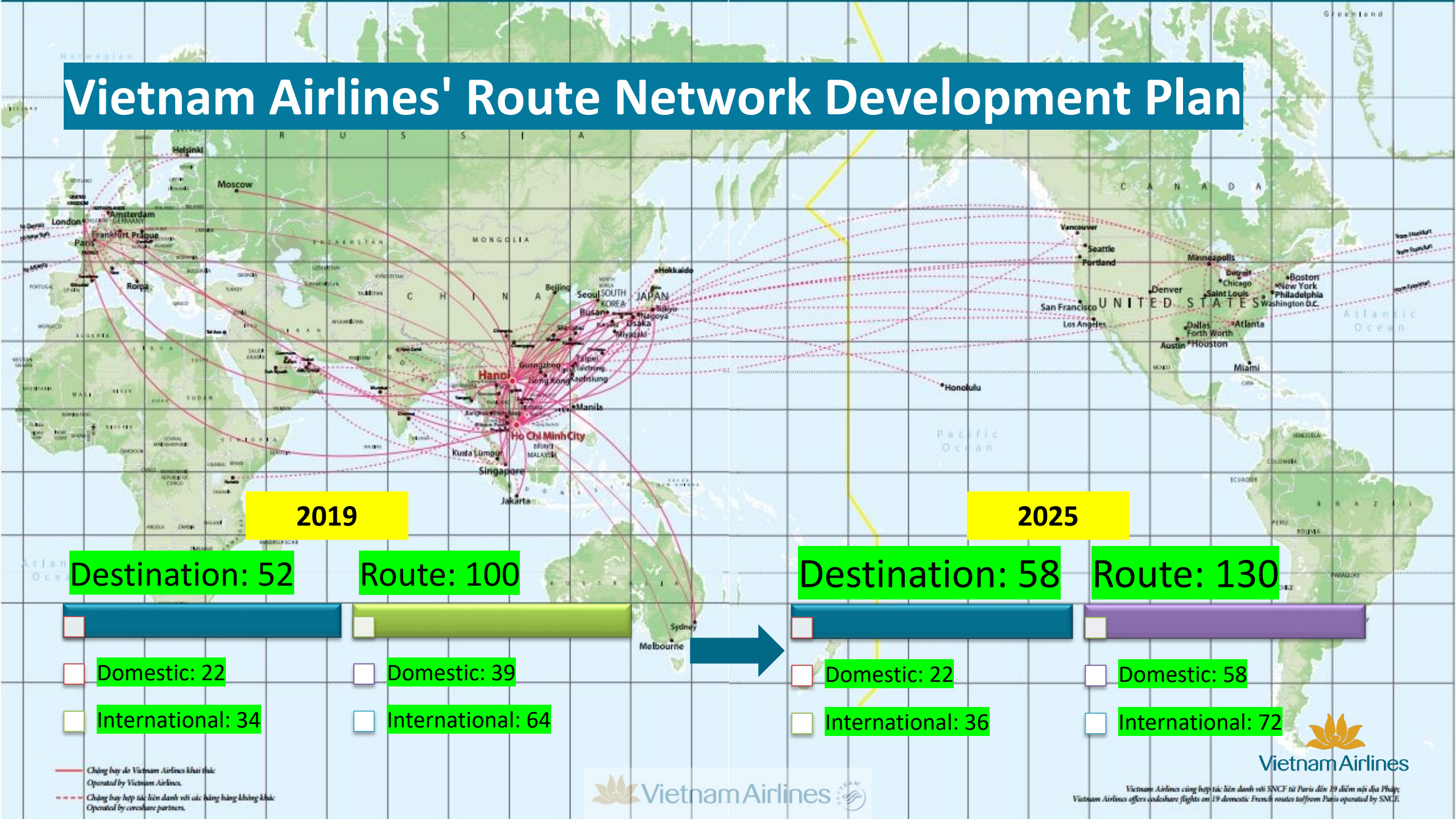


Vietnam Airlines' Fleet Plan through 2030



■ Fleet size in operation

Vietnam Airlines' Route Network Development Plan



2019

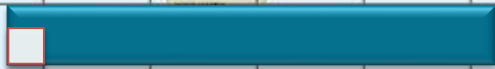
Destination: 52

Route: 100

2025

Destination: 58

Route: 130



Domestic: 22

Domestic: 39

Domestic: 22

Domestic: 58

International: 34

International: 64

International: 36

International: 72

— Chặng bay do Vietnam Airlines khai thác
Operated by Vietnam Airlines.

- - - Chặng bay hợp tác liên danh với các hãng hàng không khác
Operated by codeshare partners.



Vietnam Airlines cũng hợp tác liên danh với SNCF từ Paris đến 19 điểm nội địa Pháp.
Vietnam Airlines offers codeshare flights on 19 domestic French routes to/from Paris operated by SNCF.



Merci Beaucoup