# KEY HIGHLIGHTS

## Passenger traffic improved in 3Q22

**In 3Q22, total passenger traffic was 15.6mn, the highest since the start of the pandemic.** Due to the low base effect, passenger traffic grew by 1,434.3% YoY (3Q21: -78.2% YoY). This marks a 55.9% recovery from the same quarter in 2019. This improvement brings the 10M22 passenger traffic number to 42.2mn. The domestic traffic in the 3Q22 was equivalent to 71.3% of pre-pandemic levels whilst international traffic was 38.6% of pre-pandemic levels. The stark increase in the passenger traffic number was mainly supported by the full reopening of the Malaysian borders to international travellers on 1 April 2022.

## 2023 air passenger traffic to grow by between 40% YoY and 52% YoY

With more seats scheduled in the 4Q22, the total air passenger traffic for Malaysia in 2022 is now estimated to slightly outperform MAVCOM's best-case scenario forecast. The 2022 air passenger traffic is expected to reach between 53.0mn and 55.0mn passengers, growing by 380% YoY to 400% YoY. **MAVCOM forecasts Malaysia's air passenger traffic in 2023 to increase by between 40% YoY and 52% YoY, translating to 74.6mn – 80.8mn passengers**. International passenger traffic is expected to experience significant recovery, with routes to key markets gradually being restored beginning 4Q22.

## 2023 cargo traffic to grow by between 3.0% YoY and 4.8% YoY

In 3Q22, Malaysia's cargo traffic recorded a growth of 12.2% YoY (3Q21: 23.6% YoY) to 5.5bn in 3Q22 (3Q21: 4.9bn). In the first three quarters of 2022, air cargo totalled 16.2bn FTK, with an average of 5.4bn FTK per quarter. **For 2023, MAVCOM estimates Malaysia's air cargo traffic to increase by between 3.0% YoY and 4.8% YoY**, translating to 22.4bn – 22.8bn FTK. The expansion will be underpinned by the continued growth of e-commerce and the electrical and electronics (E&E) sector. However, persistent inflationary pressure, rising interest rates, and fear of a recession will be headwinds to watch out for.

## Malaysia is now the sixth-most connected country in ASEAN in 3Q22, while KUL is the fourth-most connected airport in ASEAN

**Based on MAVCOM's Air Connectivity Index, Malaysia's ranking dropped from fourth to fifth since 2020, and is now down to sixth in 3Q22, with a connectivity score of 46.1.** Despite offering more international seats and destinations, Malaysia was ranked lower than Vietnam and the Philippines due to having a higher percentage of international seats scheduled to low-weightage airports. Meanwhile, **KUL was the fourth-most connected airport in ASEAN** behind SIN, BKK, and MNL, recording a connectivity score of 35.8. Malaysia's connectivity score was also adversely affected by China's zero-COVID policy where only a limited number of slots were available to China.

**\*The data and facts in this publication are accurate as of 19 December 2022.**

# TABLE OF ABBREVIATIONS

| Abbreviations | |
|---|---|
| ADB | Asian Development Bank |
| AirAsia | AirAsia Bhd. |
| AirAsia X | AirAsia X Bhd. |
| AOL | Aerodrome Operating Licence |
| ASEAN | Association of Southeast Asian Nations |
| ASK | Available seat kilometre |
| ASL | Air Service Licence |
| Batik Air | Batik Air Malaysia (previously known as Malindo Air) |
| bbl | barrel |
| bn | billion |
| BNM | Bank Negara Malaysia |
| CAPA | Centre for Aviation |
| COVID-19 | Coronavirus Disease 2019 |
| CTK | Cargo Tonne Kilometre |
| DOS | Department of Statistics, Malaysia |
| E&E | Electrical and Electronic |
| EIA | US Energy Information Administration |
| Firefly | FlyFirefly Sdn. Bhd. |
| FSC | Full Service Carrier |
| FTK | Freight Tonne Kilometre |
| GDP | Gross Domestic Product |
| HK | Hong Kong |
| IATA | International Air Transport Association |
| IMF | International Monetary Fund |
| LCC | Low-cost Carrier |
| MAB | Malaysia Airlines Bhd. |
| MAHB | Malaysia Airports Holdings Bhd. |
| MAVCOM | Malaysian Aviation Commission |
| mn | million |
| MOC | Memorandum of Cooperation |
| MOTAC | Ministry of Tourism, Arts and Culture |
| QoQ | Quarter-on-Quarter |
| RM | Ringgit Malaysia |
| RPK | Revenue passenger kilometre |
| SKS Airways | SKS Airways Sdn. Bhd. |
| UK | United Kingdom |
| UNWTO | World Tourism Organization |
| US | United States of America |
| USD | United States Dollar |
| WEO | World Economic Outlook |
| YoY | Year-on-Year |

# AIRPORT CODES

| Airport Codes | Airport Names |
| --- | --- |
| AOR | Sultan Abdul Halim Airport, Alor Setar, Malaysia |
| BKI | Kota Kinabalu International Airport, Malaysia |
| BKK | Suvarnabhumi - New Bangkok International Airport, Thailand |
| CGK | Soekarno-Hatta International Airport, Indonesia |
| DAC | Hazrat Shahjalal International, Bangladesh |
| DMK | Don Muang (Bangkok) International Airport, Thailand |
| DPS | Ngurah Rai (Bali) International Airport, Indonesia |
| DXB | Dubai International, United Arab Emirates |
| HKG | Hong Kong International Airport, Hong Kong |
| ICN | Incheon International Airport, South Korea |
| JED | King Abdulaziz International Airport, Saudi Arabia |
| JHB | Senai International Airport, Johor Bahru, Malaysia |
| KBR | Sultan Ismail Petra Airport, Kota Bharu, Malaysia |
| KCH | Kuching International Airport, Malaysia |
| KNO | Kuala Namu International Airport, Indonesia |
| KTM | Tribhuvan International Airport, Nepal |
| KUL | Kuala Lumpur International Airport, Malaysia |
| LGK | Langkawi International Airport, Malaysia |
| LHR | Heathrow International Airport, United Kingdom |
| MAA | Chennai International Airport, India |
| MED | Medina-Prince Mohammad International Airport, Saudi Arabia |
| MNL | Ninoy Aquino International Airport, Philippines |
| MYY | Miri International Airport, Malaysia |
| PEK | Beijing Capital International Airport, China |
| PEN | Penang International Airport, Malaysia |
| SBW | Sibu Airport, Malaysia |
| SGN | Tan Son Nhat (Ho Chi Minh) International Airport, Vietnam |
| SIN | Changi Airport, Singapore |
| SIN | Changi International Airport, Singapore |
| SUB | Juanda International Airport, Indonesia |
| SZB | Sultan Abdul Aziz Shah Airport, Subang, Malaysia |
| TGG | Sultan Mahmud Airport, Kuala Terengganu, Malaysia |
| TPE | Taoyuan International Airport, Taiwan |
| TRZ | Tiruchchirappalli International Airport, India |
| TWU | Tawau Airport, Malaysia |

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# SECTION 1: MACROECONOMIC OVERVIEW AND OUTLOOK

## Macroeconomic Overview

### Strong GDP Growth Recorded in 3Q22

Malaysia's economy expanded by 14.2% YoY in 3Q22 (3Q21: -4.5% YoY) (see Figure 1). This strong growth was due to the low base effect as the economy contracted in 3Q21. Strong domestic demand, recovery in the labour market, continued growth in external demand, and continued policy support underpinned the growth in this quarter.[1]

**Figure 1: Malaysia's GDP Growth, 2019 – 2022**
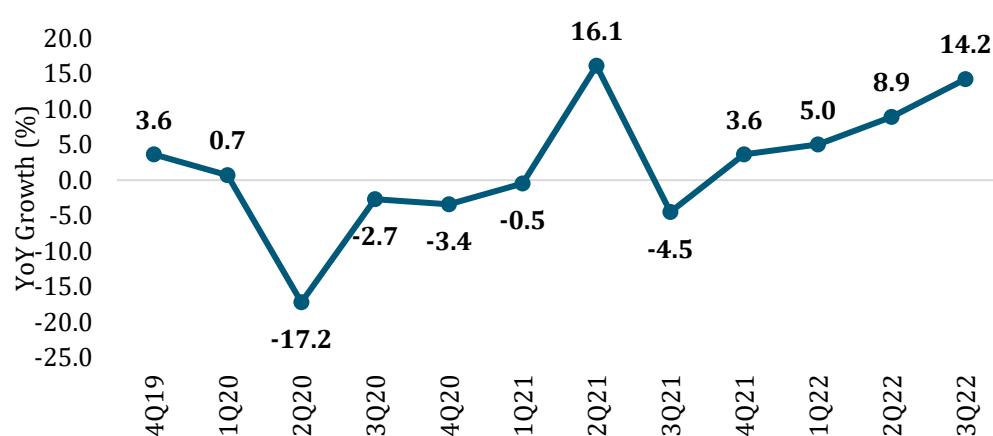


*Source: DOS*

In 3Q22, domestic demand expanded by 13.1% YoY driven by private sector expenditure. Due to the continued recovery in labour market conditions—with better employment and income growth—private consumption grew by 15.1% YoY. Labour market conditions improved with the unemployment rate declining to 3.7% (2Q22: 3.9%).

Key economic sectors continued to expand in 3Q22. The services sector recorded the highest growth of 16.7% YoY (3Q21: -4.9% YoY) (see Table 1). This was due to higher consumer-related activities amidst recovery in tourism, better labour market conditions, as well as continued policy support.

**Table 1: Malaysia's GDP Growth by Sector, 2021 – 2022**

| Sectors | YoY Growth (%) | |
| --- | --- | --- |
| | **2Q22** | **3Q22** |
| Headline GDP | 8.9 | 14.2 |
| *-Services* | *12.0* | *16.7* |
| *-Manufacturing* | *9.2* | *13.2* |
| *-Agriculture* | *-2.4* | *1.2* |
| *-Mining & Quarrying* | *-0.5* | *9.2* |
| *-Construction* | *2.4* | *15.3* |

*Source: DOS*

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[1] BNM, Quarterly Bulletin 3Q22 (November 2022).

Highest Quarterly Value Recorded for Trade, Exports, and Imports

In 3Q22, exports increased by 38.2% YoY to RM419.7bn whilst imports rose by 46.5% YoY to RM355.3bn (see Figure 2). This marks the seventh consecutive quarter of double-digit growth for both exports and imports. Total trade increased by 42.0% YoY, reaching a record high of RM774.9bn.

**Figure 2: Malaysia's External Trade, 2019 – 2022**
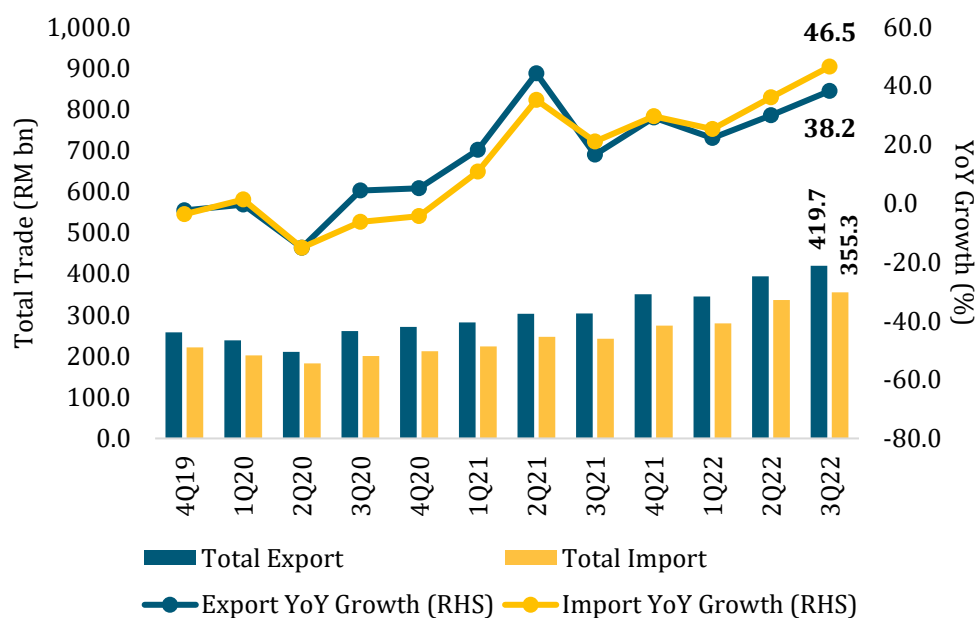


*Source: DOS*

Growth in exports in 3Q22 was contributed by E&E products (RM155.6bn, 41.4% YoY), petroleum products (RM56.4bn, 108.0% YoY), and palm oil & palm oil-based agriculture products (RM24.9bn, 24.5% YoY). Meanwhile, the growth in imports was supported by E&E products (RM102.6bn, 28.4% YoY), petroleum products (RM48.2bn, 123.4% YoY), as well as chemicals & chemical products (RM29.7bn, 23.5% YoY).

Tables 2 and 3 show the breakdown of Malaysia's top five export and import markets in 3Q22. These countries constituted 51.9% of total exports and 54.8% of total imports during that period. Exports to and imports from these major markets recorded double-digit growth, with Singapore and China being the top markets.

**Table 2: Malaysia's Top 5 Export Markets, 3Q22**

| Economy | Exports (RM bn) | Share (%) | YoY Growth (%) |
|---|---|---|---|
| Singapore | 64.0 | 15.2 | 45.9 |
| China | 54.4 | 13.0 | 12.7 |
| US | 44.6 | 10.6 | 30.4 |
| Hong Kong | 28.0 | 6.7 | 41.9 |
| Japan | 26.8 | 6.4 | 48.4 |

*Source: DOS*

**Table 3: Malaysia's Top 5 Import Markets, 3Q22**

| Economy | Imports (RM bn) | Share (%) | YoY Growth (%) |
|---|---|---|---|
| China | 73.8 | 20.8 | 30.8 |
| Singapore | 38.2 | 10.8 | 70.7 |
| Taiwan | 30.7 | 8.6 | 59.1 |
| US | 29.5 | 8.3 | 55.8 |
| Japan | 22.3 | 6.3 | 29.7 |

*Source: DOS*

Oil Prices Subdued, Stronger USD

In 3Q22, Brent crude and jet fuel averaged at USD93/bbl and USD141/bbl, respectively (see Figure 3), with an average crack spread[2] of USD48/bbl.

**Figure 3: Oil, Jet Fuel, and Exchange Rate Trends, 2019 – 2022**
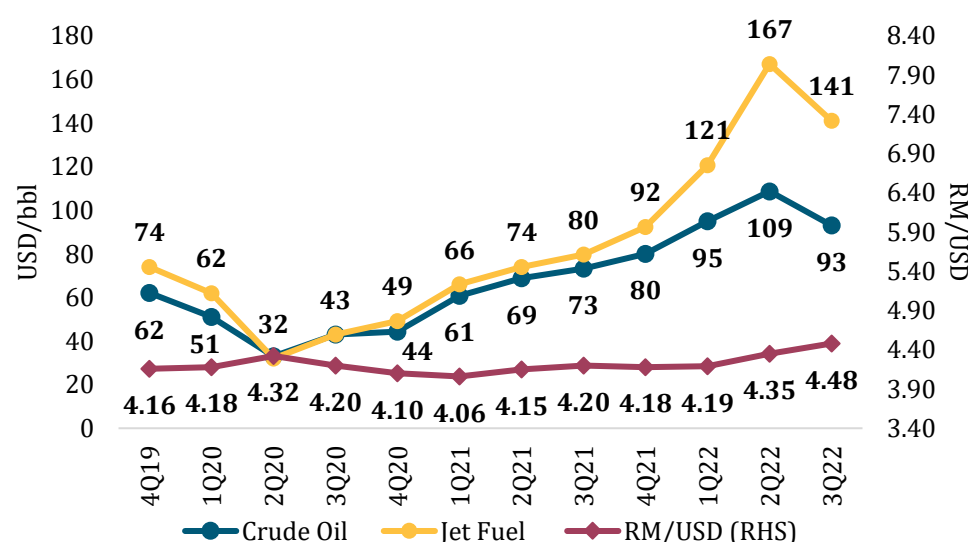


*Source: EIA, BNM*

Starting in 2022, the crack spread had widened significantly. In 3Q22, although the Brent crude oil prices had eased, prices for jet fuel remain elevated. According to IATA, the refining capacity of oil has moved away from producing jet fuel given that the demand for it had reduced significantly in 2020 and 2021. As capacity recovers, the crack spread is expected to narrow significantly.

Prices for crude oil were weakened in 3Q22 by concerns about global economic conditions, reduced expectations of petroleum demand growth, and pressure from the strong USD. Inflation—measured by the US Consumer Price Index—has flattened and slightly decreased for the energy sector. **The EIA had forecasted oil prices to remain near current levels in 2023 with Brent crude oil expected to average at USD95/bbl.**

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[2] The crack spread is the price difference between a barrel of crude oil and jet fuel. It is also known as the refining margin.

Meanwhile, the RM/USD exchange rate appreciated to RM4.48/USD in 3Q22. According to BNM, the aggressive monetary policy tightening in the US has caused almost all currencies in the world, including the RM, to depreciate against the USD. Export-oriented sectors have benefitted from the RM's depreciation accompanied by growth in employment and income. However, for local airlines, a weaker RM against the USD presents a challenging operational outlook given that a significant proportion of operating costs is denominated in USD. With the interest rate hikes in the US expected to continue into 1Q23 to ease its domestic inflationary pressure, the RM will likely depreciate further against the USD, before strengthening later into 2023.

## Macroeconomic Outlook

### Despite Challenges, Malaysia's GDP Expected to Grow in 2023

BNM has forecasted Malaysia's GDP to grow by between 4.0% and 5.0% YoY in 2023 (see Figure 4). The economy is projected to surpass the pre-pandemic GDP level of RM1,424.0 bn in 2022.

**Figure 4: Malaysia's GDP Growth, 2017 – 2023F**
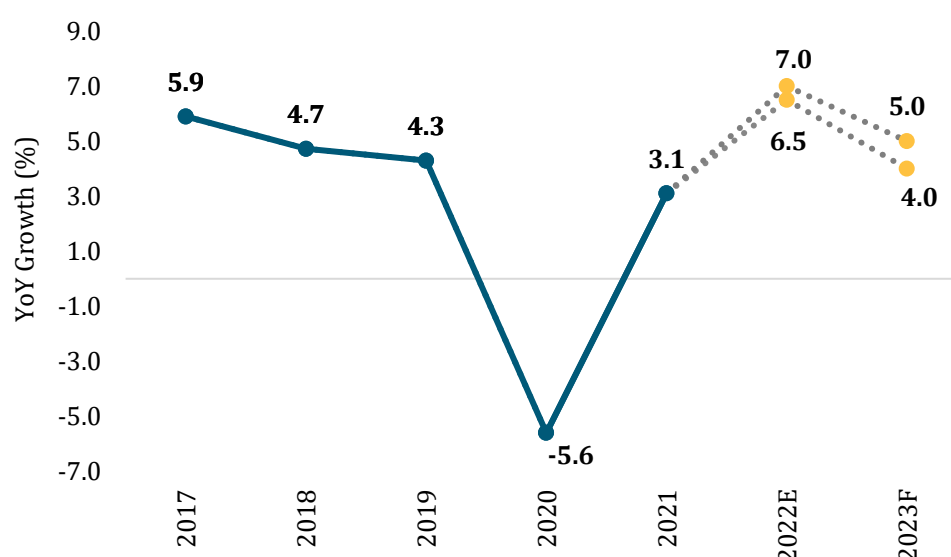


*Source: BNM*

GDP forecasts by the ADB, the IMF, and the World Bank also fall within the range of BNM's forecast (see Table 4).

**Table 4: Malaysia's GDP Forecasts by BNM, ADB, IMF and World Bank, 2023**

| Sources | Month of Forecast | 2023 YoY Malaysia's GDP Growth Forecast (%) |
|---|---|---|
| BNM | November 2023 | 4.0 – 5.0 |
| ADB | September 2023 | 4.7 |
| IMF | October 2023 | 4.4 |
| World Bank | September 2023 | 4.2 |

The growth in 2023 will be supported by domestic demand, which is underpinned by improved labour market conditions, implementation of large infrastructure projects, and higher tourism activity by domestic and international travellers. However, this growth outlook is subject to key risks affecting the global economy, including a global economic slowdown, escalating geopolitical tension, supply chain disruptions, the rapid rise in the cost of living and inflation, greater financial market volatility, as well as political uncertainty.

## Slow Down in Economic Activities Expected in 2023

In its October 2022 World Economic Outlook (WEO), the IMF forecasted that the global economy would grow by 3.2% YoY in 2022 and 2.7% YoY in 2023 (see Table 5).

**Table 5: Global GDP Forecast by IMF, 2021 – 2022**

| Economy | 2022 GDP YoY Growth (%) | 2023 GDP YoY Growth Forecast (%) |
|---|---|---|
| Global | 3.2 | 2.7 |
| *- Advanced Economies* | *2.4* | *1.1* |
| *- Emerging Market Economies* | *3.7* | *3.7* |

*Source: IMF*

The risk to the outlook remains on the downside. According to the IMF, the headwinds include geopolitical tensions arising from the Russia-Ukraine conflict, interest rate increases to contain inflation, and lingering pandemic effects such as China's lockdowns and disruptions in supply chains.

In September 2022, the OECD had projected for global growth to be at 3.0% YoY for 2022 and slowing further to 2.2% YoY in 2023. According to the OECD, the global economy has lost momentum due to the escalating conflict between Russia and Ukraine, which is dragging down growth and putting additional upward pressure on inflation worldwide.

## SECTION 2: INDUSTRY OVERVIEW AND OUTLOOK

### Industry Overview

Tourist Arrivals Improved Substantially in 2Q22

Tourist arrivals have picked up pace steadily since Malaysia reopened its borders on 1 April 2022. Based on the latest data from the Ministry of Tourism, Arts and Culture (MOTAC), **Malaysia recorded 2.03mn tourist arrivals in 2Q22, an increase of 7,921.9% YoY (2Q21: 0.03mn)** (see Figure 5). On a QoQ basis, tourist arrivals in 2Q22 recorded an increase of 1,974.5% QoQ (2Q21: 0.4% QoQ).

**Figure 5: Malaysia's Tourist Arrivals, 2019 – 2022**
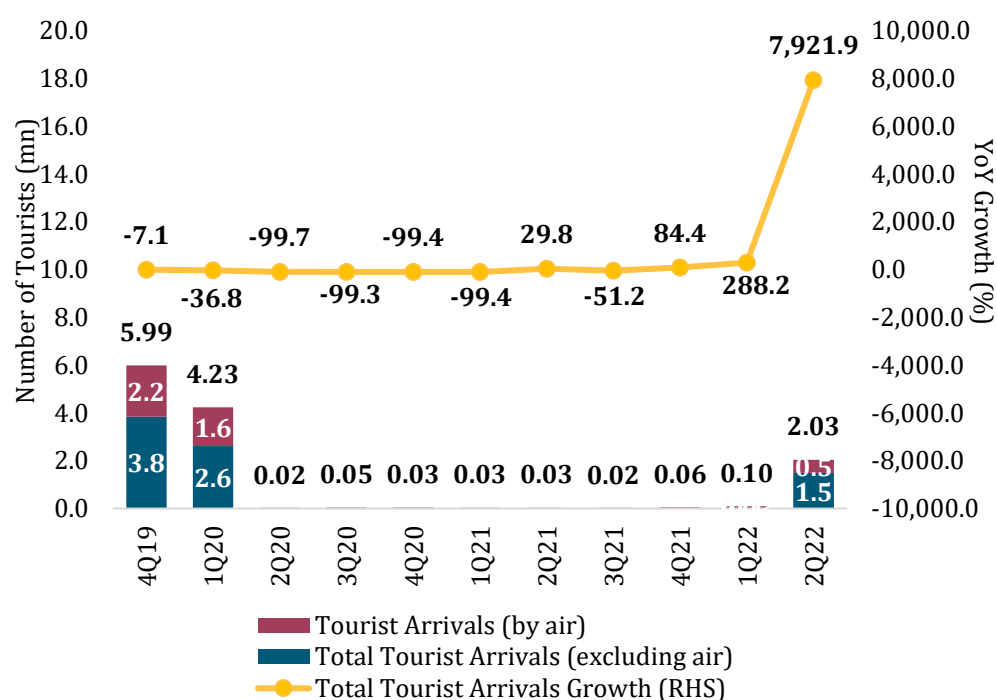


*Source: MAVCOM, Tourism Malaysia*
*Notes: 1) This figure may contain rounding errors*
*        2) Data only available up to 2Q22*

The gradual rise in tourist arrivals from 2Q22 onwards was further driven by initiatives and campaigns by MOTAC. For instance, a Memorandum of Cooperation (MOC) was signed between Tourism Malaysia with Emirates as part of the recovery of traffic to Malaysia from key markets across the airline's network. Furthermore, the relaxation of travel restrictions around the world has boosted tourism, including in Malaysia. MOTAC is also targeting the entry of about 9.2mn inbound tourists in 2022, with an estimated tourism expenditure of RM26.8bn.[3]

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[3] MOF, Economic Outlook 2023, https://budget.mof.gov.my/pdf/2023/economy/economy-2023.pdf (7 October 2022).

Highest Passenger Traffic Recorded in 3Q22 since the Pandemic

**In 3Q22, total passenger traffic was 15.6mn**, the highest since the start of the COVID-19 pandemic (see Figure 6). **Passenger traffic grew by 1,434.3% YoY** (3Q21: -78.2% YoY) due to the low base effect. On a QoQ basis, passenger traffic recorded an increase of 26.1% QoQ in 3Q22 (3Q21: -22.1% QoQ).

**Figure 6: Malaysia's Quarterly Passenger Traffic, 2019 – 2022**
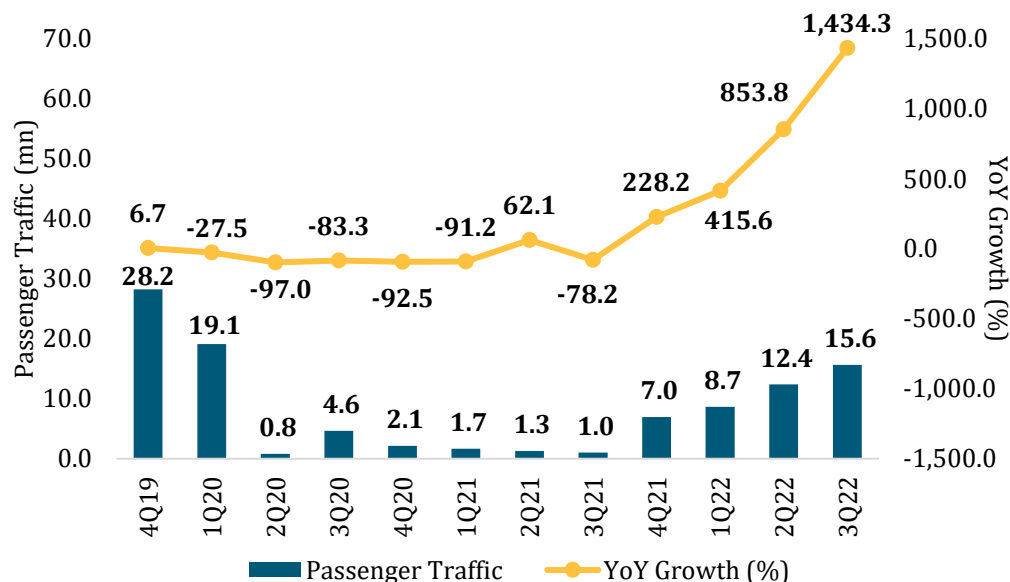


*Source: MAVCOM, AOL Holders*

This improvement brings the 10M22 passenger traffic number to **42.2mn** (see Figure 7). The steady rise in passenger traffic numbers bodes well for further recovery in the aviation industry.

**Figure 7: Malaysia's Annual Passenger Traffic, 2013 – 2022**
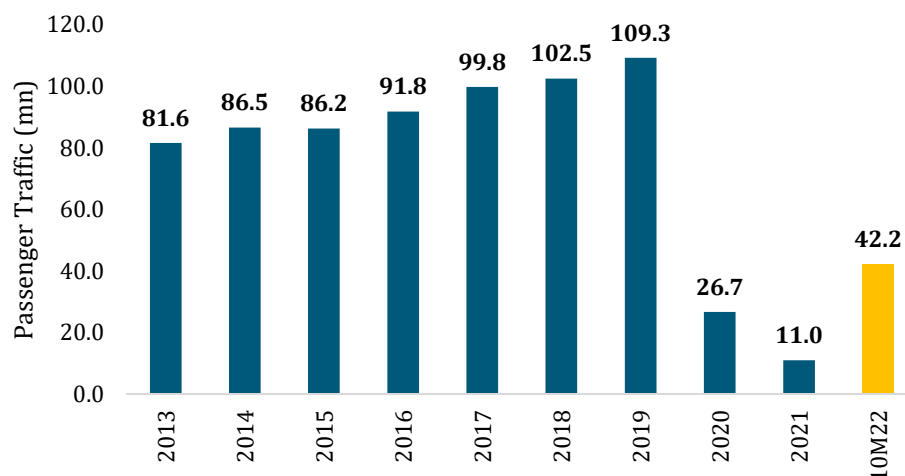


*Source: MAVCOM, AOL Holders*

International Travel Picking Up Pace

As travel restrictions have mostly been lifted globally, airlines are responding by resuming international flights, as well as introducing new routes to meet the pent-up demand. The rebound in international travel is expected to gain further momentum in the coming months, especially with the upcoming year-end festivities.

**The World Tourism Organization (UNWTO) announced that the international tourism sector continued to show robust signs of recovery, with arrivals reaching 57.0% of pre-pandemic levels in 7M22**.[4] According to the UNWTO, the steady recovery reflects strong pent-up demand for international travel, as well as the easing or lifting of travel restrictions.[5]

Passenger Traffic was Significantly Driven by Domestic Passengers

**Figure 8: Malaysia's Passenger Traffic by Region, 2019 – 2022**
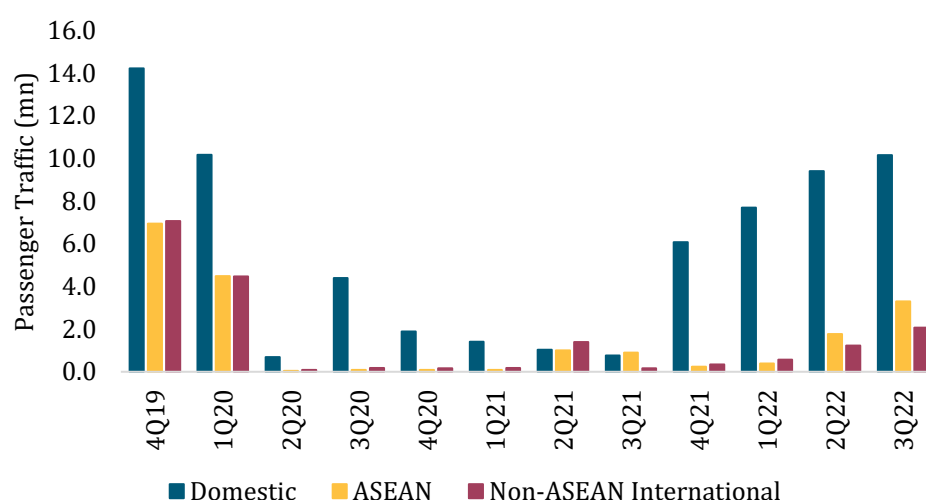


*Source: MAVCOM, AOL Holders*

Figure 8 shows the quarterly trend of Malaysia's passenger traffic by region. The domestic market experienced the highest growth in 3Q22, which is equivalent to 71.3% of pre-pandemic levels. Meanwhile, international passenger traffic, from both ASEAN and non-ASEAN countries had recovered steadily from 2Q22 onwards and recorded an improvement of 79.6% QoQ in 3Q22 (3Q21: -55.8% QoQ).

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[4]    UNWTO, https://www.unwto.org/news/international-tourism-back-to-60-of-pre-pandemic-levels-in-january-july-2022 (26 September 2022).
[5]    As of 19 September 2022, there are 86 countries that had no COVID-19 related restrictions.

Malaysia's Domestic and International Busiest Routes by Passenger Traffic

In 9M22, Malaysia's top five domestic, ASEAN, and international busiest routes accounted for 26.4% of the passenger traffic. Malaysia's top five domestic routes have been the main passenger traffic contributor at 11.8% in 9M22. Within Malaysia, BKI-KUL continues its dominance post-COVID-19, with 1.3mn passengers being flown in 9M22, equivalent to 61.9% of the pre-pandemic levels (see Figure 9). According to MAHB, prior to the pandemic, BKI was the third busiest airport in Malaysia.[6]

**Figure 9: Malaysia's Top Domestic Routes in Terms of Passengers, 2019 and 2022**
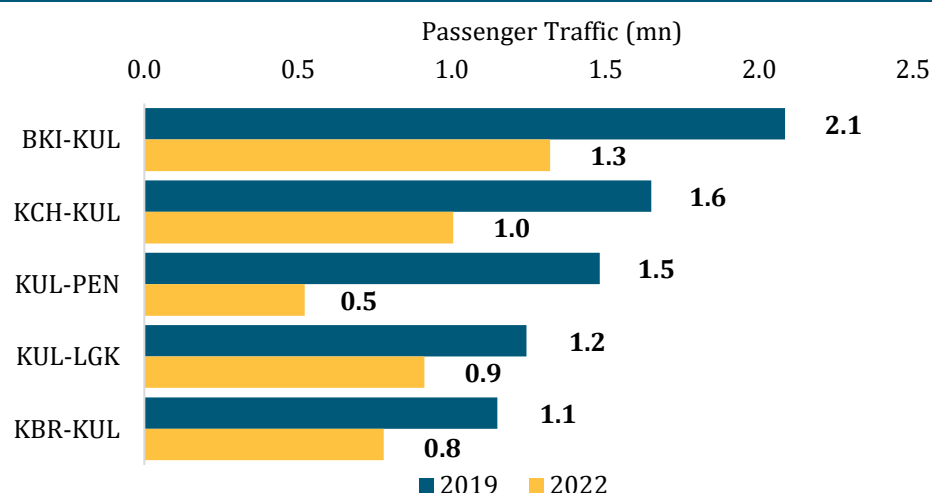


*Source: MAVCOM*

Malaysia's top five ASEAN routes have contributed a combined 10.0% passenger traffic in 9M22. The KUL-SIN route saw 1.0mn passengers in 9M22, which is equivalent to 34.5% of the pre-pandemic levels (see Figure 10). This intra-ASEAN corridor route has consistently been the busiest international route within the region, given that it connects two of the largest air hubs in ASEAN. According to the OAG report, the KUL-SIN route was ranked first in the global top ten busiest international routes in October 2022 based on seat availability.[7]

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[6] FlightGlobal, https://www.flightglobal.com/airlines/mavcom-malaysia-airports-indicate-resurgence-in-air-travel (April 2022).
[7] OAG, https://www.oag.com/busiest-routes-right-now (October 2022).

**Figure 10: Malaysia's Top ASEAN Routes in Terms of Passengers, 2019 and 2022**

Passenger Traffic (mn)
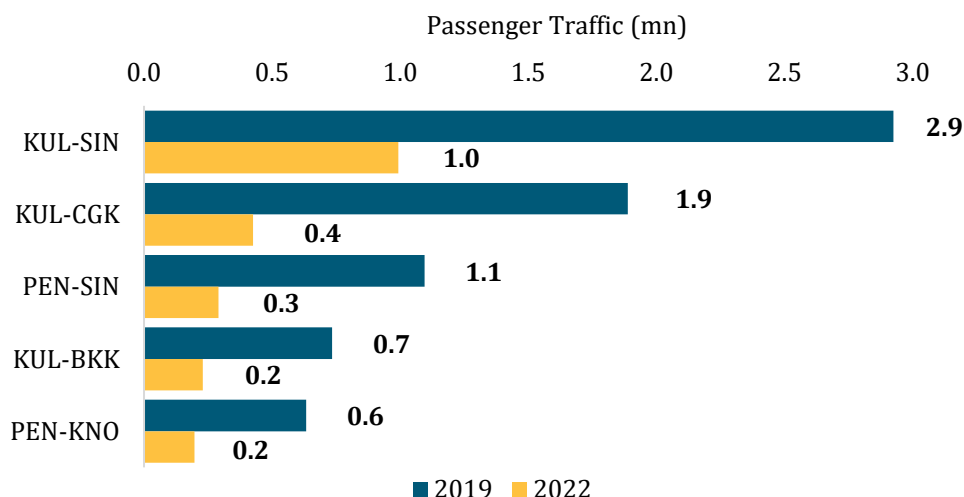


*Source: MAVCOM*

Malaysia's top five international routes have contributed a combined 4.6% of passenger traffic in 9M22. The KUL-DAC route remains the busiest non-ASEAN international route, with 0.3mn passengers being flown in 9M22, equivalent to 50.5% of the pre-pandemic levels (see Figure 11). This compared to 2019 in which Malaysia's top five international routes accounted for 12.6% of the passenger traffic. These were mainly from the North Asian sectors consisting of destinations to Hong Kong, Taipei, Shanghai, and Seoul.

**Figure 11: Malaysia's Top Non-ASEAN International Routes in Terms of Passengers, 2019 and 2022**

Passenger Traffic (mn)
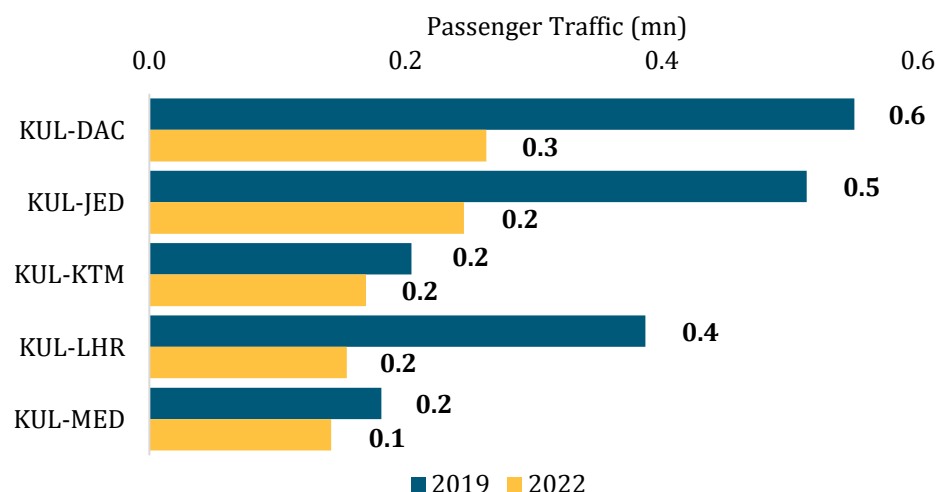


*Source: MAVCOM*

The continuance of China's zero-COVID policy will have repercussions on Malaysia's traffic numbers given the importance of this large market in the aviation industry. However, the resumption of international travel for China may take place by mid-2023.[8] This will lead to a significant improvement in tourists arrivals for Malaysia as flights between Malaysia and China accounted for 9.2% of the passenger traffic in 2019. China has started to unwind its zero-COVID restrictions in its domestic market, reaching 65.0% of its pre-pandemic level in December 2022 (November 2022: 22.0%).[9]

### Malaysia's Cargo Volume Expands by 12.2% YoY to 5.5bn in 3Q22

While consumer spending habits are changing towards air travel over consumer goods—as the world recovers from the pandemic—Malaysia's cargo volume in terms of total FTK recorded a growth of 12.2% YoY (3Q21: 23.6% YoY) to 5,506mn in 3Q22 (3Q21: 4,908mn) (see Figure 12). On a QoQ basis, total FTK recorded a growth of 0.1% QoQ in 3Q22 (3Q21: -0.2% QoQ). The upward trend was being supported by the increasing belly cargo capacity, the continued growth of e-commerce[10], and the temporary easing of lockdown restrictions in China.

**Figure 12: Total FTK in Malaysia, 2019 – 2022**
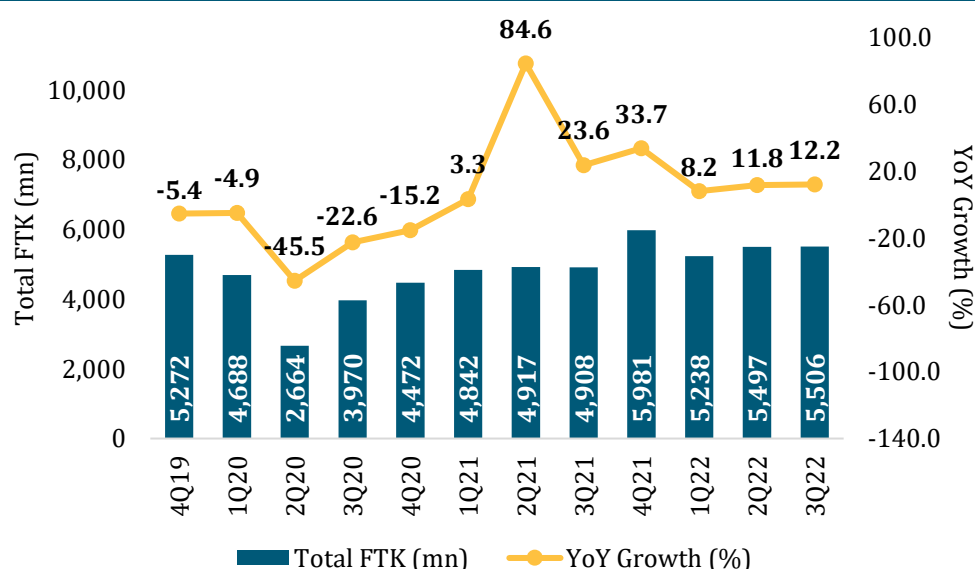


*Source: MAVCOM, CargoIS*

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Malaysia's inbound cargo increased by 24.3% YoY in 3Q22 (3Q21: 30.8% YoY) and by 1.3% QoQ in 3Q22 (3Q21: -3.1% QoQ). Inbound cargo FTK was 3,082mn in 3Q22, lower than the pre-pandemic level at 3,247mn in 3Q19. As for outbound cargo, FTK decreased by 0.3% YoY (3Q21: 17.2% YoY) and declined by 1.1% QoQ (1Q21: 3.0% QoQ). The outbound cargo FTK in 3Q22 was 2,411mn, higher than the pre-pandemic level (3Q19: 1,863mn) (see Figure 13).

**Figure 13: Inbound and Outbound FTK in Malaysia, 2019 – 2022**
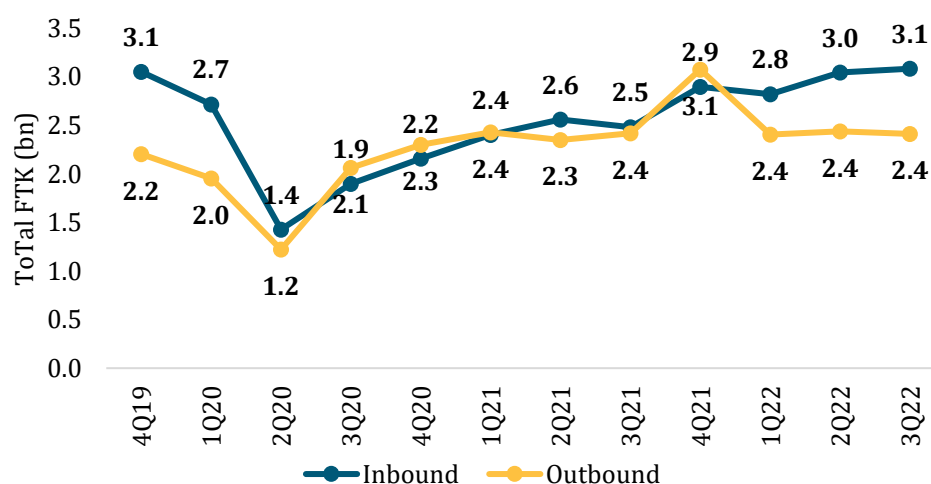


*Source: MAVCOM, CargoIS*
*Note: This figure excludes domestic cargo volume due to small numbers*

Double-digit growth was seen in the inbound FTK from Malaysia's top five origin countries (see Table 6). The inbound FTK from Japan recorded the largest growth of 54.3% YoY (3Q21: 32.0% YoY), followed by the inbound FTK from Germany and the Netherlands at 53.9% YoY (3Q21: 27.7% YoY) and 45.6% YoY (3Q21: 19.0% YoY), respectively.

**Table 6: Malaysia's Top 5 Origin Countries of Malaysia's FTK, 3Q22**

| Economy | Inbound FTK (mn) | Share (%) | YoY Growth (%) |
|---|---|---|---|
| US | 1,263.7 | 40.7 | 26.5 |
| Germany | 520.0 | 15.4 | 53.9 |
| Japan | 233.3 | 6.9 | 54.3 |
| UK | 141.3 | 4.5 | 28.7 |
| Netherlands | 127.5 | 4.1 | 45.6 |

*Source: MAVCOM, CargoIS*

The inbound FTK from the US was contributed by the increase of FTK on the ORD–KUL route by 177.0% YoY, while the LAX–KUL route recorded a decline of 23.6% YoY (see Table 7). The FRA–KUL, LHR–KUL, and AMS–KUL routes—which constitute the largest proportion of inbound FTK in their respective countries—recorded growth of 74.0% YoY, 37.9% YoY, and 45.9% YoY, respectively.

**Table 7: Top 5 O&D Routes of Inbound FTK, 3Q22**

| Route | Inbound FTK (mn) | Share (%) | YoY Growth (%) |
|---|---|---|---|
| FRA–KUL | 403.5 | 13.1 | 74.0 |
| ORD–KUL | 365.0 | 11.8 | 177.0 |
| LAX–KUL | 329.4 | 10.7 | -23.6 |
| LHR–KUL | 127.9 | 4.1 | 37.9 |
| AMS–KUL | 119.9 | 3.9 | 45.9 |

*Source: MAVCOM, CargoIS*

Performance in the outbound FTK was mixed across the top five destination countries (see Table 8). Japan and Hong Kong recorded an increase of 16.8% YoY (3Q21: 51.1% YoY) and 20.3% YoY (3Q21: -5.3% YoY), respectively. The US, Germany, and the Netherlands recorded a decline of 6.5% YoY, 1.6% YoY, and 10.4% YoY, respectively.

**Table 8: Malaysia's Top 5 Destination Countries of Malaysia's FTK, 3Q22**

| Economy | Outbound FTK (mn) | Share (%) | YoY Growth (%) |
|---|---|---|---|
| US | 1,077.9 | 44.7 | -6.5 |
| Germany | 360.4 | 14.9 | -1.6 |
| Japan | 233.6 | 9.7 | 16.8 |
| Netherlands | 160.5 | 6.7 | -10.4 |
| Hong Kong | 73.3 | 3.0 | 20.3 |

*Source: MAVCOM, CargoIS*

The decline of the outbound FTK to Germany was contributed by the decrease of outbound FTK on the KUL–FRA route by 4.8% YoY (see Table 9). The KUL–AMS route registered a similar decline of 4.7% YoY which reduced the outbound FTK to the Netherlands. The top three routes for the outbound FTK to the US—KUL–LAX, PEN–ORD, and KUL–ATL—grew by 12.0% YoY, 16.8% YoY, and 155.8% YoY, respectively in 3Q22. However, the overall outbound FTK to the US declined due to the reduction of outbound FTK in other destination airports in the country.

**Table 9: Top 5 O&D Routes of Outbound FTK, 3Q22**

| Route | Outbound FTK (mn) | Share (%) | YoY Growth (%) |
|---|---|---|---|
| KUL–FRA | 262.5 | 10.9 | -4.8 |
| KUL–LAX | 241.7 | 10.0 | 12.0 |
| PEN–ORD | 163.6 | 6.8 | 16.8 |
| KUL–ATL | 152.1 | 6.3 | 155.8 |
| KUL–AMS | 111.7 | 4.6 | -4.7 |

*Source: MAVCOM, CargoIS*

Cargo Capacity by Malaysian Carriers Remains Below 2019 Level but Improving

The air cargo capacity of Malaysian carriers improved to 42.1% of pre-pandemic levels in 3Q22 (3Q21: 5.9% of pre-pandemic levels) (see Figure 14). This reflects the increase in belly cargo capacity as the number of international passengers continues to recover.

**Figure 14: Recovery of Air Cargo Capacity of Malaysian Carriers as a Percentage of 2019 Levels, 2021 – 2022**
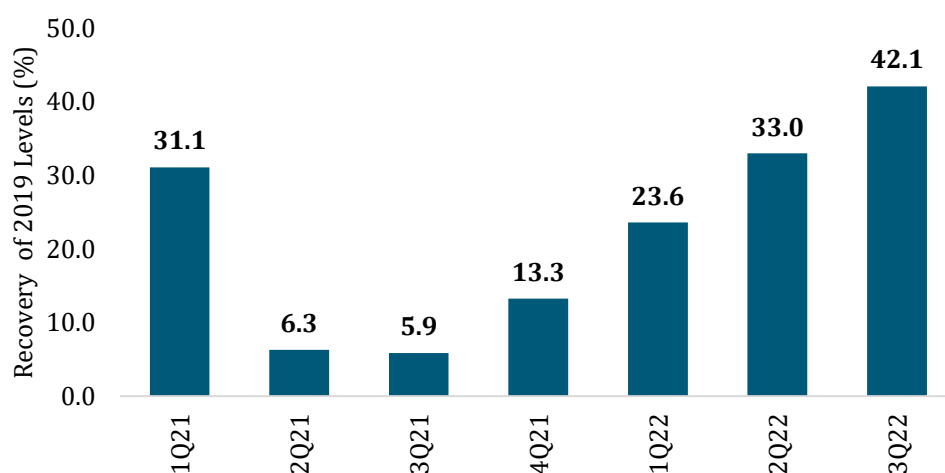


*Source: MAVCOM, CAPA*

The COVID-19 pandemic triggered the emergence of "preighters"—passenger aircraft that are used temporarily for cargo-only operations using the passenger cabin. As international passengers return, many carriers have gradually reduced their preighter operations, returning to passenger aircraft with belly cargo space.

According to the IATA, based on the data from airlines in the Asia Pacific region, the share of CTK handled by preighter flights has reduced to 11.0% in August 2022 from 23.0% of CTK in the same month last year. Meanwhile, the share of CTK handled by passenger aircraft increased to 26.0% in August 2022 from 12.0% of CTK in the same month last year.[11]

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[11] IATA, https://www.iata.org/en/iata-repository/publications/economic-reports/the-preighter-cargo-operations-are-fading-away/ (21 October 2022).

Air Cargo Rates on Major Trade Lanes Climbing Down

The consistent return of air cargo capacity saw decreasing air cargo rates on the major trade lanes approaching towards 2019 levels (see Figure 15). In October 2022, air cargo rates in the HK–North America, HK–Europe, and Frankfurt–North America markets were USD6.7/kg, USD5.8/kg, and USD3.7/kg, respectively. However, these rates are still above the pre-pandemic levels, which were USD3.5/kg, USD2.8/kg, and USD1.8/kg, respectively.

**Figure 15: Air Cargo Rates on Major Trade Lanes, 2019 – 2022**
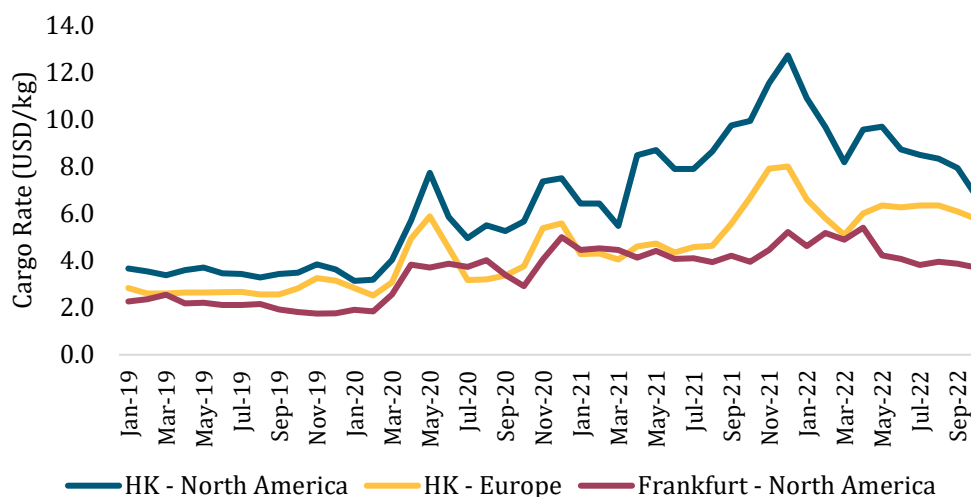


*Source: Baltic Exchange*

Although the air cargo rates remain high, air delivery is now more price competitive than ocean delivery as compared to the pre-pandemic levels. In September 2022, the ratio of the air cargo and sea freight rates per kg was 10.6, lower than the 2019 average of 16.9 (see Figure 16). Looking ahead, increasing belly capacity, down-trending air cargo rates, combined with favourable relative rates of air cargo to sea freight will provide support to the air cargo volumes.

**Figure 16: Ratio of Air Cargo and Sea Freight Rates, 2019 – 2022**
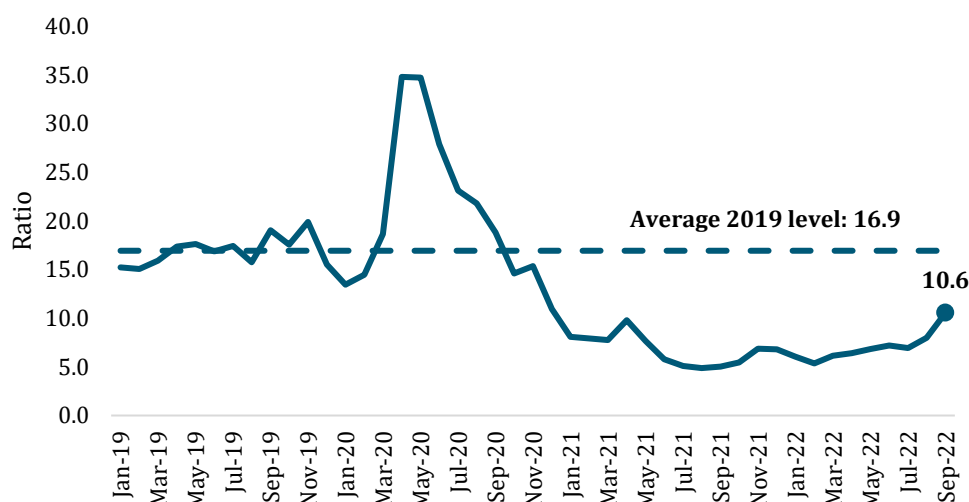


*Source: MAVCOM, Bloomberg*

## Industry Structure and Performance

### Scheduled Passenger Services Market

Malaysian Carriers' Passenger Market Share was 75.4% in 3Q22

**In 3Q22, Malaysian carriers' combined market share was 75.4%** (3Q21: 63.1%; 2Q22: 79.4%) – see Figure 17. Conversely, foreign carriers' passenger market share increased to 24.6% in 3Q22, due to the resumption of international travel. On a QoQ basis, foreign carriers had a 77.1% QoQ increase in passenger growth (3Q21: -12.3% QoQ), while Malaysian carriers experienced a smaller increase of 41.2% QoQ (3Q21: -39.8% QoQ).

**The airline with the largest passenger growth of 252.6% QoQ in 3Q22 was SKS Airways, a new passenger airline in 2022 primarily serving routes between SZB and islands in Malaysia.** However, the passenger market share of SKS Airways remains small at 0.1%. Another local carrier with significant QoQ passenger growth in 3Q22 was AirAsia X, which experienced a 217.2% QoQ increase in passengers (3Q21: 481.8% QoQ). AirAsia X had increased its operations and relaunched several of its international routes in 2Q22, which were then further ramped up in 3Q22, leading to an increase in passenger growth. However, AirAsia X's passenger market share was still comparatively minuscule at 0.5%.

**Figure 17: Malaysia's Passenger Market Share by Airlines, 2019 – 2022**
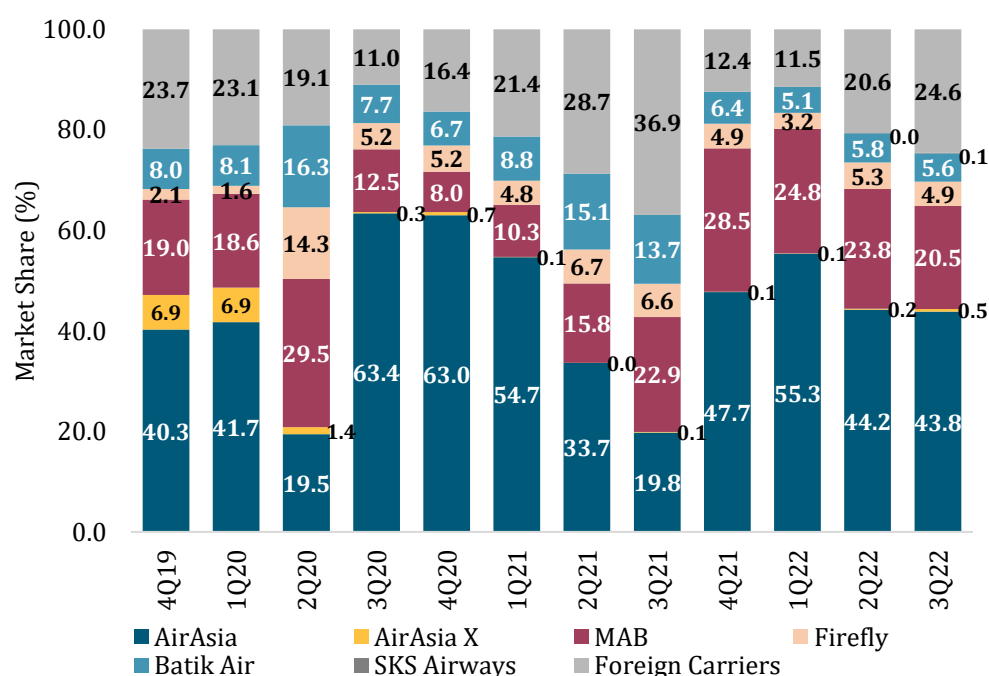


*Source: MAVCOM, AirportIS*

In 3Q22, Malaysia's total passenger traffic increased by 1,313.5% YoY (3Q21: -69.6% YoY) and 48.6% QoQ (3Q21: -31.9% QoQ) (see Figure 18). Malaysia's market size increased considerably in 2022 compared to previous years as the market recovers from the effects of the pandemic. This is shown by the passenger traffic in 3Q22 which is half of the passenger traffic level obtained in 3Q19.

**Figure 18: Malaysia's Quarterly Passenger Traffic by Airlines, 2019 – 2022**
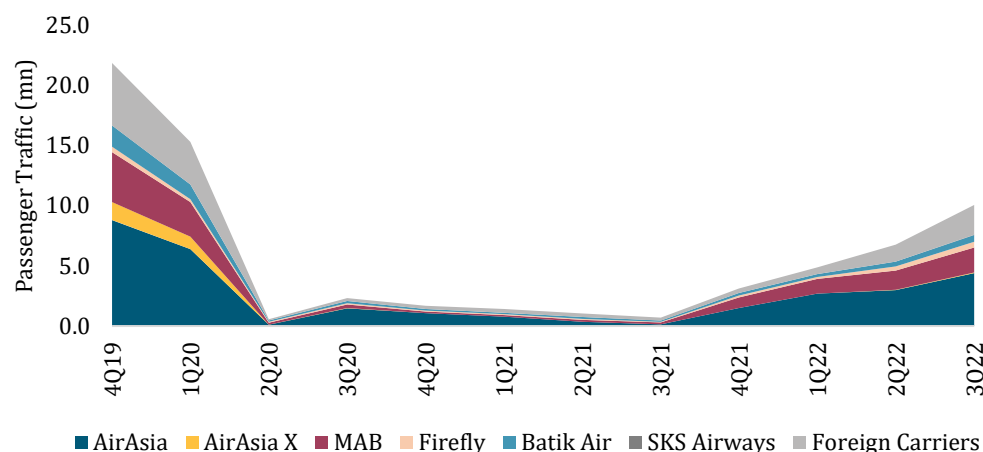


*Source: MAVCOM, AirportIS*

Malaysian Carriers' Average Fares and Average Load Factor Both Increased in 3Q22

**Malaysian carriers' average load factor increased to 72.2% in 3Q22** (3Q21: 28.9%) (see Figure 19). This was due to the larger increase in passenger traffic compared to the expansion of seat capacity. In 3Q22, Malaysian carriers' passenger traffic increased by 1,590.3% YoY (3Q21: -78.4% YoY) and 41.2% QoQ (3Q21: -39.8% QoQ). In comparison, the seat capacity had a slightly smaller increase of 575.8% YoY (3Q21: -68.1% YoY) and 21.1% QoQ (3Q21: -18.8% QoQ).

**Figure 19: Malaysian Carriers' Average Fares and Load Factor, 2019 – 2022**
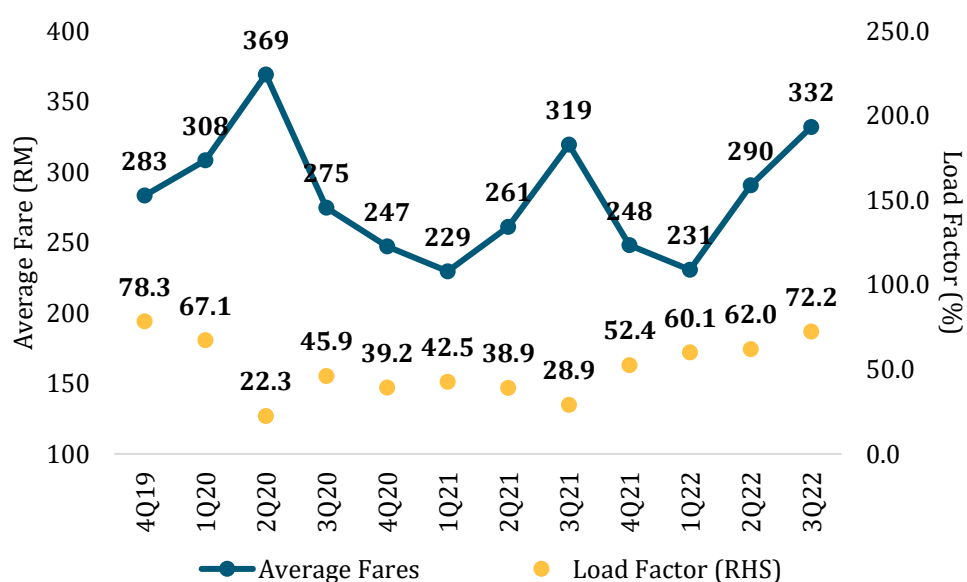


*Source: MAVCOM, AirportIS*

**Additionally, Malaysian carriers' average fares increased by 3.9% YoY** (3Q21: 16.2% YoY) **and 14.2% QoQ in 3Q22** (3Q21: 22.3% QoQ). This came to RM332 in 3Q22 (3Q21: RM319).

**The average international fares significantly decreased by 34.4% YoY** to RM629 in 3Q22 from RM958 in 3Q21 (3Q21: 21.0% YoY) as Malaysian carriers restored capacity on their international flights (see Figure 20). **Meanwhile, the average domestic fares decreased by 13.4% YoY** to RM200 in 3Q22 from RM231 in 3Q21 (3Q21: 2.0% YoY). On a QoQ basis, the average domestic fares increased by 1.2% QoQ (3Q21: 5.5% QoQ) while the average international fares decreased by 3.1% QoQ in 3Q22 (3Q21: 4.9% QoQ).

**Figure 20: Malaysian Carriers' Passenger Traffic and Average Fares, 2019 – 2022**
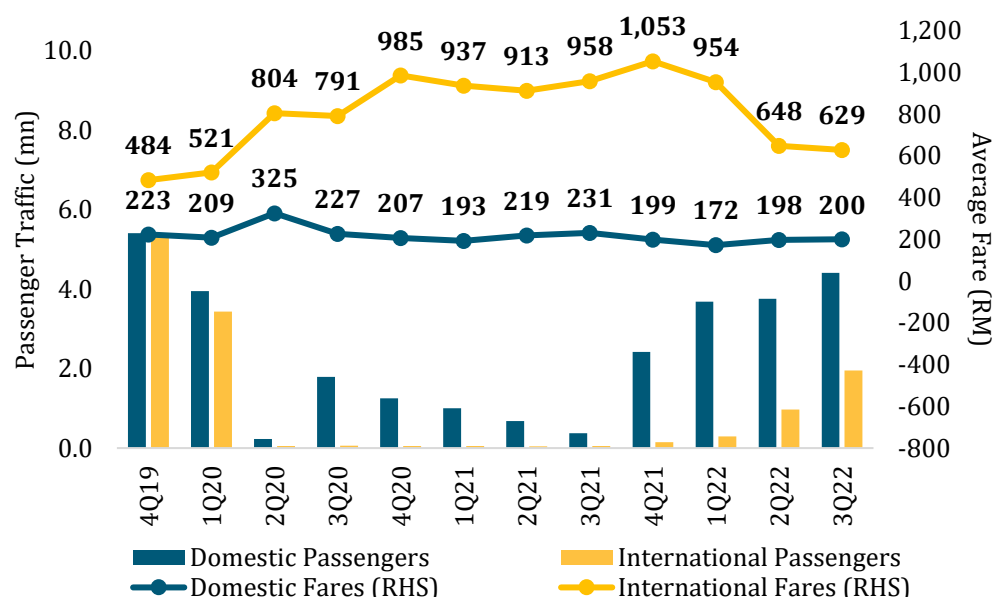


*Source: MAVCOM, AirportIS*

Moving forward, the average domestic fares of Malaysian carriers is expected to stabilise close to RM200. The entry of new airlines into the domestic market, such as the MYAirline, may also exert pressure to ensure fares remain competitive. Meanwhile, the average international fare is expected to decrease closer to the pre-pandemic level. This is in line with the reopening of international borders and the restoration of international flight operations, resulting in the increase in international passengers. Additionally, the expected reduction in jet fuel price may also lower the average fares.

# SECTION 3: INDUSTRY OUTLOOK

## Passenger Traffic

### Global Passenger Traffic on a Steady Recovery Path in 2022

**Global passenger traffic as measured by revenue passenger kilometres (RPKs) has recovered steadily in 2022, rising from 50.4% of the 2019 level in January to 73.8% of the 2019 level in September.**[12] The North American and European markets led the way with quicker removal of border restrictions, allowing long-awaited travel to take place over the northern summer travel season. Seat capacity has also recovered at a similar pace, with industry-wide available seat kilometres (ASKs) at 74.1% of the 2019 level in September.[13]

Greater certainty surrounding border policies, higher vaccination rates, as well as established health and safety measures have facilitated passenger traffic recovery, enabling airlines to reinstate capacity at an appropriate level and enabling passengers to travel with greater confidence. Industry-wide load factors are now consistently trending above 80%, improving the financial performance of airlines in all regions. North American carriers are already expected to return to profitability in 2022.[14]

As large Asia Pacific markets such as Japan, Hong Kong, and Taiwan lift their remaining border and quarantine restrictions in 4Q22, except for mainland China, **the global passenger traffic recovery is expected to sustain its momentum and hover close to 80% of the 2019 level by end-2022.**[15]

### Despite Macroeconomic Headwinds, Recovery is Expected to Sustain into 2023

**In 2023, the global passenger traffic is expected to continue its steady upward trend and reach close to 90% of the 2019 levels, before making a full recovery in 2024.** However, the rate of recovery will continue to differ across regions and markets. While Europe, Latin America, and the Middle East are forecasted to recover to their 2019 levels by 2024, North America is poised to return to its 2019 level earlier in 2023, with Asia Pacific and Africa continuing to trail behind and only recover by 2025.[16]

China's zero-COVID policy had caused serious repercussions on global traffic numbers given the importance of this large market in the aviation industry. The Chinese domestic passenger market accounted for 18.9% of global passengers in 2021.[17] With the resumption of international travel expected in China by mid-2023, this may accelerate the rate of recovery for the Asia Pacific region in 2023 and beyond.

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[12] IATA, Monthly Air Passenger Market Analysis (January to September 2022).
[13] IATA, Air Passenger Market Analysis – September 2022 (7 November 2022).
[14] IATA Economics, Industry outlook (28 September 2022).
[15] IATA, Update on the latest developments in air transport economics (7 September 2022).
[16] IATA Economics, Industry outlook (28 September 2022).
[17] IATA, https://www.iata.org/en/iata-repository/publications/economic-reports/chinas-new-covid-lockdowns-hit-domestic-air-travel/ (29 April 2022).

Despite significant inflationary pressures, rising geopolitical tensions, and expectations of a potential recession in developed economies—willingness to travel remains strong, and passenger traffic growth will likely withstand these macroeconomic headwinds. While growth in 2022 is fuelled by the domestic sector, international travel is set to rise significantly in 2023, with the domestic growth moderating as it approaches the pre-pandemic levels.

Malaysia's Air Passenger Traffic in 2022 is Estimated to Outperform MAVCOM's Best Case Scenario Forecast

In the July 2022 edition of Waypoint, MAVCOM maintained its air passenger traffic forecast made in December 2021 of 32.6mn – 49.0mn passengers, with a base case scenario of 39.3mn – 41.6mn passengers (see Table 10). Based on the current data, Malaysia's air passenger traffic for 10M22 is 42.2mn, reaching a monthly high of 5.6mn passengers in October and an average of 5.0mn passengers per month since May. With more seats scheduled in 4Q22 than any other previous quarters, **the total air passenger traffic for Malaysia in 2022 is now estimated to outperform MAVCOM's best-case scenario forecast and reach between 53.0mn and 55.0mn passengers, growing by between 380% YoY and 400% YoY.**

**Table 10: Malaysia's Air Passenger Traffic Forecast in 2022**[18]

| Scenarios | 2022 Passenger Traffic Forecast (mn) |
| --- | --- |
| Best Case | 47.2 – 49.0 |
| Base Case | 39.3 – 41.6 |
| Worst Case | 32.6 – 33.9 |

*Source: MAVCOM*

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[18] MAVCOM, Waypoint Report (December 2021).

Air Passenger Traffic in 2023 is Expected to Grow by between 40% YoY and 52% YoY

**MAVCOM forecasts Malaysia's air passenger traffic in 2023 to increase by between 40% YoY and 52% YoY, translating to 74.6mn – 80.8mn passengers**, with a base case scenario of 76.7mn – 78.6mn passengers (see Figure 21). While growth prospects remain strong, MAVCOM adopts a conservative forecast of 68% – 74% of 2019 levels, slightly below IATA's forecast of 80% for the Asia Pacific region in 2023.

**Figure 21: Malaysia's Passenger Traffic, 2019 – 2023F**
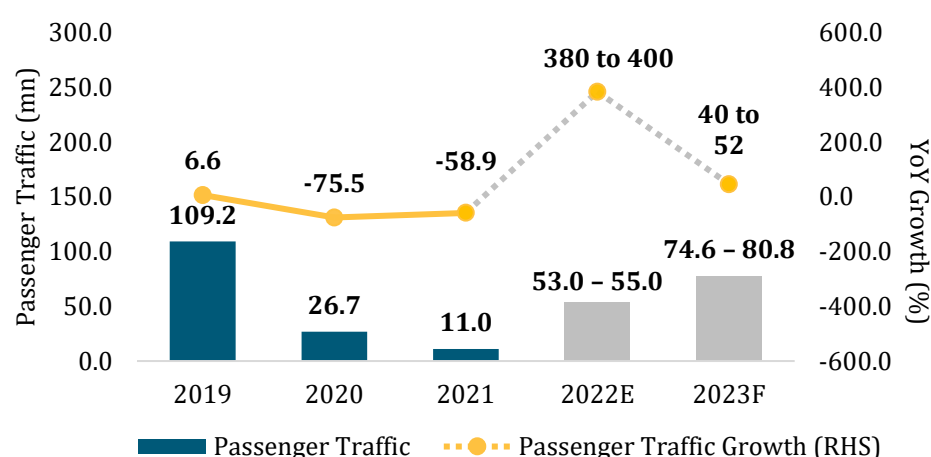


*Source: MAVCOM, AOL Holders*

The forecast scenarios consider reduced uncertainty moving forward from the COVID-19 pandemic, allowing airlines to better match capacity with demand. Thus, all scenarios have factored in lower cancellation rates and higher load factors that are closer to the pre-pandemic levels than in recent years (see Table 11). MAVCOM is able to limit the spread in seat cancellation rates to 5% between the best-case and worst-case forecast scenarios to reflect this development.

**Table 11: Assumptions Underlying Traffic Forecast Scenarios**

| Scenario | Passenger Traffic (mn) | YoY Growth (%) | Assumptions | |
| --- | --- | --- | --- | --- |
| | | | Seat Cancellations[19] (%) | Passenger Load Factor (%) |
| Best Case | 78.8 – 80.8 | 48.4 – 52.1 | 10.0 | 78 – 85 |
| **Base Case** | **76.7 – 78.6** | **44.3 – 48.0** | 12.5 | 78 – 85 |
| Worst Case | 74.6 – 76.4 | 40.3 – 43.9 | 15.0 | 78 – 85 |

*Source: MAVCOM*

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[19] Seat cancellations compared to seats originally scheduled by airlines.

Passenger Traffic in 2023 Will Be Driven by Several Key Routes

**The international passenger traffic is expected to experience significant recovery in 2023, with routes to key markets gradually being restored beginning in 4Q22.** Based on the schedule data as of October 2022, planned capacity for domestic routes makes up 41.5% of total planned capacity for 2023, followed by 33.3% for the ASEAN routes, and 25.2% for the non-ASEAN international routes.

The domestic and ASEAN passenger traffic will remain resilient and are expected to increase gradually in 2023. The launch of a new low-cost carrier (LCC) in December 2022, the MYAirline, is expected to push the domestic traffic close to 4.0mn per month. In total, all forecast scenarios have estimated for the monthly passenger traffic to rise above 6.0mn. Table 12 shows the key routes that are expected to drive passenger traffic in 2023 based on the seat capacity schedule as of October 2022.

**Table 12: Key Routes based on Seat Capacity Schedule in 2023**

| Domestic | ASEAN | International |
|----------|-------|--------------|
| KUL–BKI | KUL–SIN | KUL–HKG |
| KUL–KCH | KUL–CGK | KUL–DOH |
| KUL–PEN | KUL–DPS | KUL–TPE |
| KUL–LGK | PEN–SIN | KUL–SYD |
| KUL–JHB | KUL–SGN | KUL–MEL |

*Source: MAVCOM, AirportIS*
*Note: Data as at 12 October 2022*

Risks for the Passenger Traffic Outlook Remains on the Upside

International tourism is set to rebound in 2023 for Malaysia with the easing of the remaining travel restrictions around the world. Local carriers including Malaysia Airlines, AirAsia, AirAsia X and Batik Air, have made plans to restore their capacity and increase frequencies on popular destinations such as Hong Kong, Japan, Taiwan, Australia, and the Middle East. This is expected to rapidly improve the international passenger traffic. With 3.1mn tourist arrivals from China in 2019, the expected return of Chinese travellers by 2Q23 will also provide a significant boost for the international passenger traffic.

Additionally, the reinstatement of Malaysia's US FAA Category 1 rating will enable the expansion of codeshare agreements and services to the US market, providing opportunities for carriers to expand their services into North America. This could double the non-ASEAN international traffic to an average of 1.2mn passengers per month in 2023.

Several challenges could still present downside risks that will hamper air passenger traffic growth in 2023. These include higher cost of living and expectations of a global economic slowdown, which could reduce consumer spending on tourism, as well as the lack of manpower and worker retention issues that are still affecting the aviation industry. Rising geopolitical tensions in Europe and East Asia and the emergence of new COVID-19 variants could also constrain air passenger traffic recovery.

Table 13 summarises the key drivers and challenges for the air passenger traffic growth in Malaysia.

**Table 13: Key Drivers and Challenges of Air Passenger Traffic Growth**

| Key Drivers | Key Challenges |
|---|---|
| ➢ Pent-up demand | ➢ Higher cost of living |
| ➢ Ease of travel restrictions | ➢ Lack of manpower |
| ➢ Restoration of routes to popular destinations | ➢ Expectations of global economic slowdown |
| ➢ Relaxation of international borders in China | ➢ Emergence of new COVID-19 variants |
| ➢ Reinstatement of Malaysia's US FAA Category 1 rating | ➢ Rising geopolitical tensions |
| ➢ Increased capacity by new airlines | |
| ➢ Lower jet fuel prices | |

*Source: MAVCOM*

## Cargo Traffic

Global Cargo Traffic is Expected to Grow 4.4% YoY in 2022, 11.8% Above Pre-pandemic Levels

The IATA forecasts the air cargo traffic[20] in 2022 to grow by 4.4% YoY to 284.0bn CTK (see Table 14). Cargo revenue is expected to record USD191.0bn in 2022, which is lower than the USD204.0bn reached last year. Nevertheless, this figure is nearly double the cargo revenue in 2019, which was USD100.0bn. According to the IATA's survey in July 2022, the respondents which consist of airlines' heads of cargo, were fairly optimistic about the outlook for air cargo over the coming 12 months with a reading of 56.3 (50.0 indicates no change).[21]

**Table 14: IATA's Global Cargo Traffic Forecasts, 2021 – 2022F**

| Key Figure | 2021 | 2022F |
|---|---|---|
| Global Cargo Traffic (bn) | 272.0 | 284.0 |
| Global Cargo Traffic YoY Growth (%) | 18.8 | 4.4 |
| Global Cargo Traffic Growth vs. 2019 (%) | 7.1 | 11.8 |

*Source: IATA*

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[20] Growth forecasts in terms of Cargo Tonne Kilometre (CTK) (freight and mail).
[21] IATA, https://www.iata.org/en/iata-repository/publications/economic-reports/quarterly-air-transport-chartbook-q3-2022/ (5 October 2022).

Air Cargo Traffic in 2023 is Forecasted to Grow by between 3.0% YoY and 4.8% YoY

**MAVCOM forecasts the 2023 air cargo traffic to grow by between 3.0% YoY and 4.8% YoY, translating to 22.4bn – 22.8bn FTK** (see Figure 22). This growth is consistent with the forecast of the World Semiconductor Trade Statistics' that the semiconductor market in the Asia Pacific will grow by 4.5% YoY in 2023 (2022E: 10.5% YoY). [22] Similarly, e-commerce in Malaysia is expected to grow 10.0% YoY until 2025, according to the 2022 e-Conomy report by Google, Temasek, and Bain.[23] However, persistent inflationary pressure, rising interest rates, and the possibility of a global recession pose downside risks to the outlook. The air cargo demand performance over the coming quarters will be a key indicator for next year's performance. For 2023, the WTO foresees a growth of 1.1% YoY (2022E: 2.9% YoY) for merchandise exports and 2.2% for merchandise imports in 2023 (2022E: 0.9% YoY) for the Asia region.[24]

**Figure 22: Malaysia's Air Cargo Traffic, 2019 – 2023F**
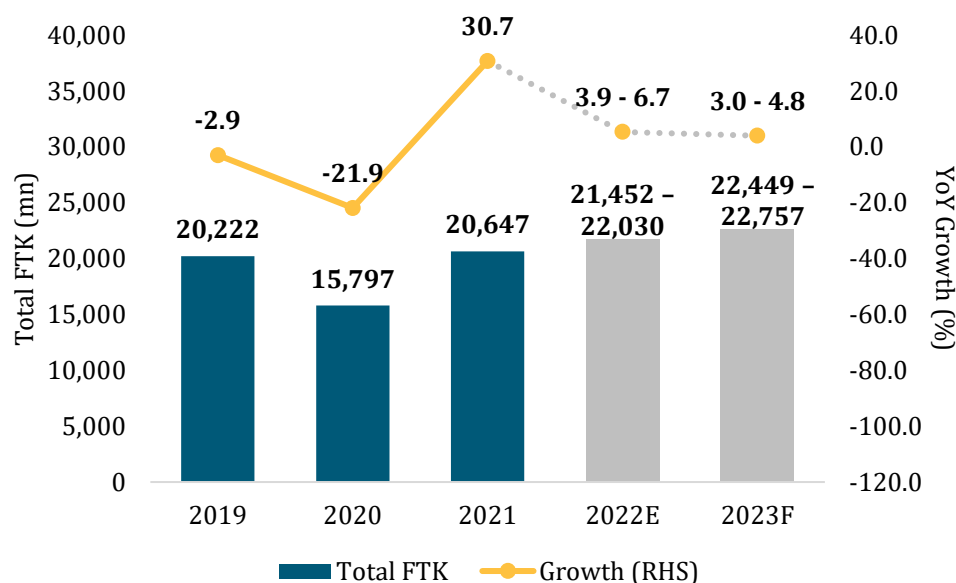


*Source: MAVCOM, CargoIS*

In the July 2022 edition of Waypoint, MAVCOM maintained its air cargo traffic growth forecast made in the December 2021 edition of 3.9% YoY and 6.7% YoY, which translated to 21.5bn – 22.0bn FTK. Based on the current data, Malaysia's air cargo traffic for the first three quarters of 2022 was 16.2bn FTK, with an average of 5.4bn FTK recorded per quarter. **The total air cargo traffic is expected to end the year close to MAVCOM's forecast**, with 5.3bn – 6.0bn FTK required in 4Q22. Despite the renewed restrictions in China, the demand arising from the year-end festivities will continue to sustain the air cargo traffic in 4Q22.

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[22] World Semiconductor Trade Statistics, https://www.wsts.org/76/103/The-World-Semiconductor-Trade-Statistics-WSTS-has-released-its-new-semiconductor-market-forecast-generated-in-August-2022 (22 August 2022).
[23] Google, https://economysea.withgoogle.com/ (27 October 2022).
[24] WTO, https://www.wto.org/english/news_e/pres22_e/pr909_e.htm (5 October 2022).

# SECTION 4: MALAYSIA'S AIR CONNECTIVITY UPDATE 3Q22

## Introduction

One of MAVCOM's regulatory functions as stated in sub-paragraph 17(1)(a)(i) of the Malaysian Aviation Commission Act 2015 [Act 771] is "to improve Malaysia's connectivity, both globally and locally, as well as to promote economic ties, integration and growth, trade, investment, and tourism." In line with this function, MAVCOM first developed an air connectivity index in 2018 to measure and monitor the status of Malaysia's country-level and airport-level connectivity. To this end, MAVCOM published a technical paper in 2018 and an update in 2020. This section discusses MAVCOM's latest update on air connectivity.

### MAVCOM's Air Connectivity Indicator is Adapted from the IATA's Air Connectivity Indicator

While there are several methodologies available to measure air connectivity, MAVCOM chose to construct its air connectivity indicator by adapting the methodology developed by the IATA as it is able to measure the quality of connectivity at both the country and airport levels, and focuses on the passenger flow.

The IATA air connectivity indicator considers the number of available seats to a destination in the first week of July each year, and weighs the number of available seats by the size of the destination airports (in terms of the number of annual passengers).[25] The ranking of ASEAN countries in IATA's latest Air Connectivity Index[26] published in 2019 is reproduced below in Table 15:

**Table 15: ASEAN Country Rankings in IATA's Air Connectivity Index, 2019**

| ASEAN Rank | Global Rank | Country |
|:---:|:---:|:---:|
| 1 | 7 | Indonesia |
| 2 | 9 | Thailand |
| 3 | 18 | Malaysia |
| 4 | 21 | Vietnam |
| 5 | 23 | Singapore |
| 6 | 24 | Philippines |
| 7 | 53 | Cambodia |
| 8 | 67 | Myanmar |
| 9 | 93 | Lao DPR |
| 10 | 97 | Brunei |

*Source: IATA*

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[25] MAVCOM's Technical Paper on Defining and Measuring Air Connectivity (May 2018).
[26] The IATA's Air Connectivity Index is published every 5 years.

MAVCOM computes its Air Connectivity Index at two different levels, namely the country and airport levels, by adapting the IATA's methodology to meet MAVCOM's study objective, that is, **to measure and compare the international connectivity of Malaysia and Kuala Lumpur International Airport (KUL) against other ASEAN countries and their busiest airport respectively.**

The first adjustment done was to measure the number of available seats in the busiest month of the year instead of the first week of July (usually associated with European travel patterns). The second adjustment made was for the airport weightage calculation. Instead of using the largest airport in the world as a weight measure, MAVCOM used the airport with the largest number of international passengers.[27] MAVCOM's findings up to 3Q22 are elaborated below.

## Country-level Connectivity

### Malaysia is the Sixth-most Connected Country in ASEAN

**Based on MAVCOM's Air Connectivity Index, Malaysia ranked sixth among the ASEAN countries** in 3Q22, with a connectivity score of 46.1 (see Figure 23). This development marks an improvement from 2021 when Malaysia only scored 16.5. As of 3Q22, Malaysia has yet to recover more than half of its pre-pandemic air connectivity, which came to 96.3 in 2019. Thailand has regained its top ranking in ASEAN with a connectivity score of 70.1, overtaking Singapore.

**Figure 23: Air Connectivity Scores of Selected ASEAN Countries, 2018 – 3Q22**
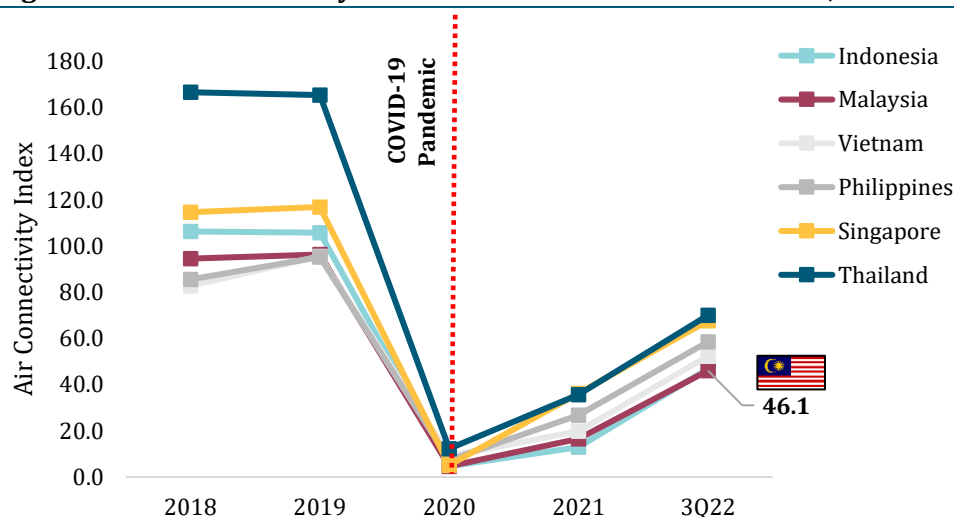


*Source: MAVCOM*

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[27] Detailed discussion on MAVCOM's Air Connectivity Indicator can be found in MAVCOM's Technical Paper: Measuring and Defining Air Connectivity (May 2018).

Table 16 shows the change in MAVCOM's Air Connectivity Index rankings for the ASEAN countries between 2018 and 3Q22. Malaysia's ranking dropped from fourth to fifth since 2020, and is now down to sixth in 3Q22. During the height of the COVID-19 pandemic in 2020, Malaysia lost its connection to 94 out of 138 international destinations[28] as a result of international border closures. This led to a 96.0% reduction in the international seat capacity.

**Table 16: ASEAN Rankings on MAVCOM's Country-Level ACI, 2018 – 3Q22**

| Rank | 2018 | 2019 | 2020 | 2021 | 3Q22 |
|------|------|------|------|------|------|
| 1 | Thailand | Thailand | Thailand | Singapore | Singapore |
| 2 | Singapore | Singapore | Vietnam | Thailand | Thailand |
| 3 | Indonesia | Indonesia | Philippines | Philippines | Philippines |
| 4 | **Malaysia** | **Malaysia** | Singapore | Vietnam | Vietnam |
| 5 | Philippines | Vietnam | **Malaysia** | **Malaysia** | Indonesia |
| 6 | Vietnam | Philippines | Indonesia | Indonesia | **Malaysia** |
| 7 | Cambodia | Cambodia | Cambodia | Cambodia | Cambodia |
| 8 | Myanmar | Myanmar | Myanmar | Myanmar | Myanmar |
| 9 | Lao DPR | Lao DPR | Lao DPR | Lao DPR | Brunei |
| 10 | Brunei | Brunei | Brunei | Brunei | Lao DPR |

*Source: MAVCOM, AirportIS*

**In 3Q22, most countries in ASEAN—including Malaysia—have reopened their international borders, allowing airlines to reinstate their international flights.** While not yet at pre-pandemic levels, the international seat capacity deployed by airlines for all ASEAN countries has recorded improvements since 2020 (see Figure 24).

**Figure 24: Total Scheduled Seats from ASEAN Countries, 2018 – 3Q22**
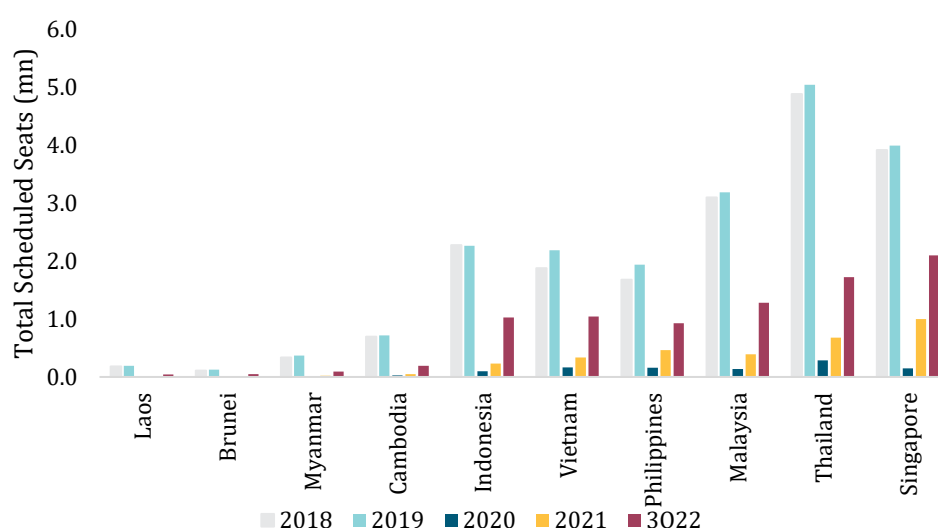


*Source: AirportIS*

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[28] In January 2020, Malaysia had connections to 138 international destinations. In May 2020, 94 of these connections were lost while 5 new destinations were flown by chartered flights, bringing to a total of 49 international destinations.

**Malaysia was connected to 71 international destinations in 3Q22, the third-most connections among ASEAN countries** (see Figure 25). Singapore was the most connected ASEAN country with 115 international destinations while Thailand came in second with 88 international destinations.

**Figure 25: Number of International Destinations for ASEAN Countries, 2018 – 3Q22**
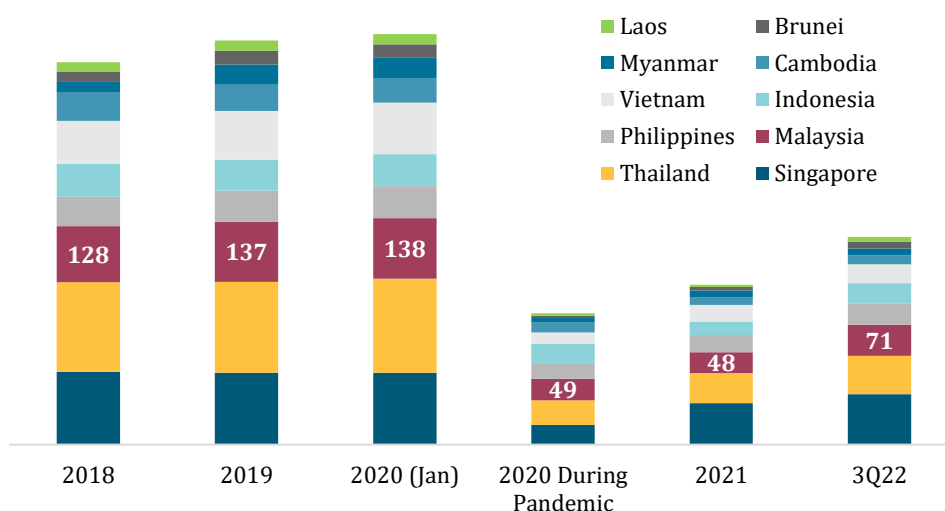


*Source: AirportIS*

Air Connectivity is Heavily Determined by the Quality of Connections

Despite offering more international seats and destinations, Malaysia was ranked lower than Vietnam and the Philippines on MAVCOM's Air Connectivity Index since the onset of the COVID-19 pandemic (see Table 17).

**Table 17: Breakdown of Country-Level Connectivity Scores by ASEAN Countries, 3Q22**

| Rank | Country | Connectivity Score (During Pandemic 2020) | Connectivity Score | Total Seats | Total Destinations |
|---|---|---|---|---|---|
| 1 | Thailand | 12.3 | 70.1 | 1,717,890 | 88 |
| 2 | Singapore | 5.1 | 67.7 | 2,096,857 | 115 |
| 3 | Philippines | 7.4 | 58.5 | 924,995 | 49 |
| 4 | Vietnam | 9.1 | 52.3 | 1,039,425 | 43 |
| 5 | Indonesia | 4.7 | 46.8 | 1,026,753 | 46 |
| **6** | **Malaysia** | **4.7** | **46.1** | **1,277,921** | **71** |
| 7 | Cambodia | 1.0 | 10.2 | 193,637 | 20 |
| 8 | Myanmar | 0.7 | 5.3 | 92,155 | 16 |
| 9 | Brunei | 0.4 | 2.5 | 48,342 | 15 |
| 10 | Lao DPR | 0.7 | 1.7 | 44,477 | 11 |

*Source: MAVCOM, AirportIS*

**Malaysia's lower ranking is due to having a higher percentage of its international seats (28.9%) scheduled to low weightage airports.** [29] In comparison, only 6.4% and 6.8% of international seats from Vietnam and the Philippines respectively were scheduled to low weightage airports. Table 18 shows the top 10 international destinations (airports) in terms of seat capacity and their weightages for Malaysia, Vietnam, and the Philippines. These destinations represent between 55% – 75% of each country's total international capacity in 3Q22.

**Table 18: Top Connections from Malaysia, Thailand, Singapore, Vietnam, the Philippines, and Indonesia, 3Q22**

| MY | TH | SG | PH | VN | ID |
|----|----|----|----|----|----|
| SIN | SIN | KUL | SIN | ICN | SIN |
| CGK | KUL | BKK | ICN | SIN | KUL |
| DMK | SGN | MNL | HKG | BKK | MED |
| BKK | ICN | CGK | DXB | TPE | JED |
| DPS | PNH | SYD | DOH | NRT | DXB |
| KNO | TPE | DPS | BKK | KUL | MEL |
| SGN | DXB | SGN | TPE | PUS | PEN |
| KTM | DEL | ICN | NRT | DMK | SYD |
| DAC | HKG | MEL | KUL | HKG | DOH |
| TPE | NRT | LHR | RUH | DXB | DMK |

**Airport Weightages**

| | | |
|---|---|---|
| Above 0.5 | 0.1 to 0.5 | Below 0.1 |

*Source: MAVCOM, AirportIS*

A large percentage of Malaysia's seat capacity was deployed to airports with relatively low weightages, such as KNO (Medan), DAC (Dhaka), and DPS (Bali). In contrast, most of the seats deployed from Vietnam and the Philippines were connected to high-weightage airports that offer better onward connections. For the Philippines, 50% of its seat capacity was connected to high-weightage airports such as SIN, ICN, DXB, HKG, DOH, and BKK.

Vietnam has experienced huge improvement in its air connectivity since 2018, which was overseen by significant government policy reforms. Air traffic has grown tremendously (see Figure 26), driven by the increase in demand for air transport from the rising middle class and their increasing propensity to travel abroad. According to the IATA, less than 50% of the Vietnamese population has taken at least one flight, reflecting huge growth potential for the Vietnamese air transport market.[30]

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[29] Airports with a weightage smaller than 0.1.
[30] IATA, Air Connectivity; Measuring the Connections that Drive Economic Growth, https://www.iata.org/en/iata-repository/publications/economic-reports (November 2020)

**Figure 26: Total Passengers Carried by Airlines from Malaysia and Vietnam, 2015 – 9M22**
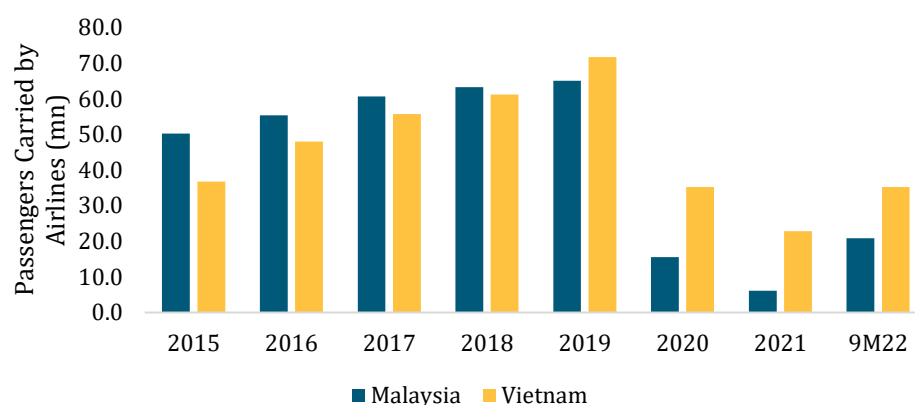
## Airport-level Connectivity

### KUL is the Fourth-most Connected Airport in ASEAN

**In 3Q22, KUL was the fourth-most connected airport in ASEAN** behind SIN, BKK, and MNL, recording a connectivity score of 35.8. It was connected to 68 destinations whilst serving 1,072,924 international seats (see Table 19).

**Table 19: Airport-level Air Connectivity Index, 3Q22**

| Rank | Airport | Connectivity Score (3Q22) | Total Seats (mn) | Total Destinations |
|------|---------|---------------------------|------------------|--------------------|
| 1 | SIN | 67.7 | 2.09 | 113 |
| 2 | BKK | 55.9 | 1.32 | 82 |
| 3 | MNL | 41.8 | 0.78 | 48 |
| **4** | **KUL** | **35.8** | **1.07** | **68** |
| 5 | SGN | 29.1 | 0.54 | 38 |
| 6 | CGK | 23.8 | 0.49 | 36 |
| 7 | PNH | 9.2 | 0.17 | 19 |
| 8 | RGN | 5.0 | 0.09 | 15 |
| 9 | BWN | 2.5 | 0.05 | 15 |
| 10 | VTE | 1.6 | 0.04 | 10 |

Although Malaysia's connectivity ranking at the country level was below Vietnam, KUL ranked higher than Vietnam's main international airport, SGN. The country-level connectivity is influenced by the number of access points (airports) and the connectivity concentration of each airport. This shows that Malaysia's connectivity is concentrated mostly at KUL, while Vietnam's connectivity is spread out across its three international airports, namely SGN, HAN, and DAD.

KUL-T1 Recorded Better Connectivity in KUL Compared to klia2

KUL recorded a connectivity score of 35.8 in 3Q22 (see Figure 27). **At the terminal level, KUL T-1 recorded a higher connectivity score of 24.2 compared to klia2 which scored only 11.6**. Figure 27 shows the connectivity contribution of the top 15 destinations from KUL-T1 and klia2, respectively.

**Figure 27: Connectivity contribution by KUL-T1 and klia2, 3Q22**
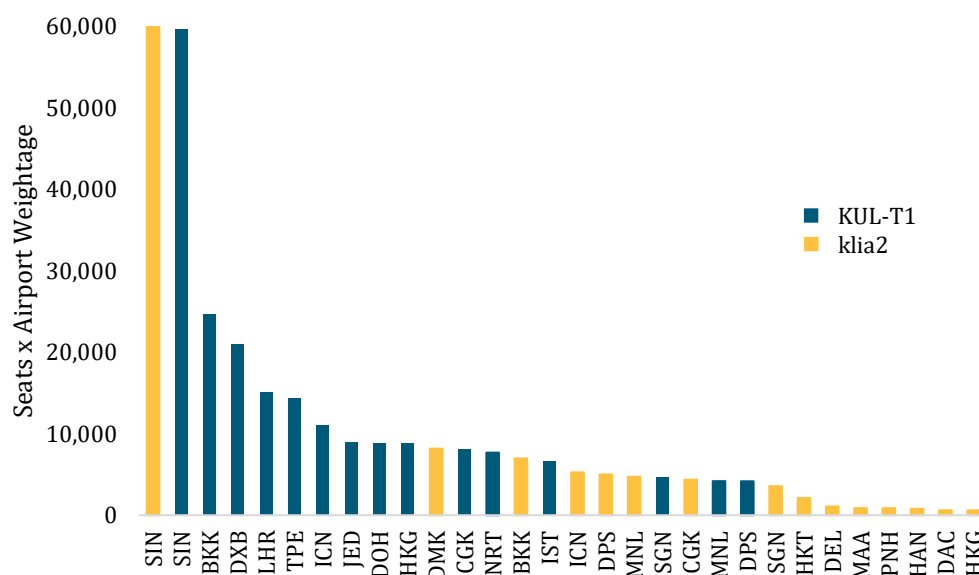


*Source: MAVCOM, AirportIS*

KUL-T1 was connected to airports with higher weightages such as DXB, LHR, BKK, and TPE, while klia2 was mainly connected to secondary airports that have lower weightages. This is due to the difference in business models of the airlines operating in KUL-T1 and klia2. KUL-T1 mainly services full-service carriers (FSCs) which operate based on a hub-and-spoke model. In contrast, klia2 is mainly serviced by low-cost carriers (LCCs), which operate based on a point-to-point model. The business models for FSCs and LCCs have very different characteristics in terms of the airline cost structure, services offered to customers, type of airports served, and route network configurations. As such, the FSCs operating from KUL-T1 connect passengers in KUL to more international hubs, thus, contributing to a higher connectivity score.

## Air Connectivity as a Driver for Economic Growth

**Vital air connectivity links have facilitated global economic growth by enabling international trade, job creation, tourism, investments, and other economic flows.**[31] Air connectivity has also facilitated the global movement of high-value, perishable goods. Accounting for only approximately 0.5% of global goods in terms of volume, air cargo makes up an astounding 34.6% of the value of global goods and services.

Figure 28 shows the relationship between air connectivity and economic growth. As air connectivity improves in the region, this will encourage further expansion in aviation demand, creating a virtuous cycle of positive effects for economic growth.

**Figure 28: Air Connectivity and Economic Growth**



*Source: IATA*

Malaysia's aviation industry directly contributed to 0.57% of Malaysia's GDP in 2019.[32] However, due to the COVID-19 pandemic, it fell to 0.18% in 2021 as connectivity levels were disrupted significantly due to the international border closures. Despite the closures, domestic connectivity has been the silver lining in the recovery of the aviation industry, with the gradual lifting of domestic travel restrictions.

As shown in Figure 29 below, Malaysia's GDP growth is positively correlated with the country-level air connectivity. As Malaysia's aviation industry recovers towards its pre-pandemic level, enhanced air connectivity will provide vital economic and social benefits, which include better business prospects, new investment opportunities, human capital, as well as better facilitation of tourism and trade.

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[31] IATA, https://www.iata.org/en/iata-repository/publications/economic-reports/air-connectivity-measuring-the-connections-that-drive-economic-growth/ (25 November 2020).
[32] Based on latest available data provided by DOS.

**Figure 29: Malaysia's GDP Growth vs. Change in Air Connectivity Score, 2011 – 2021**
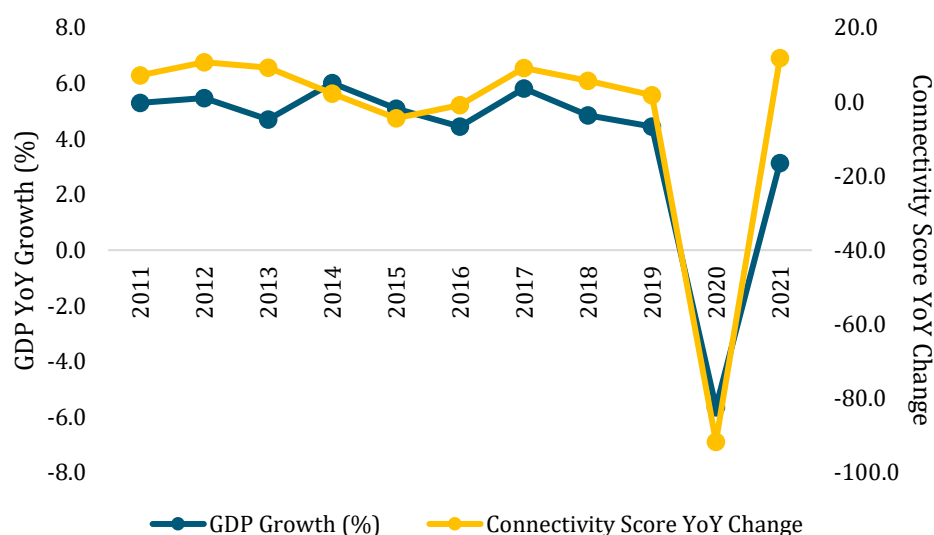


*Source: MAVCOM, AirportIS, DOS*

### Better Air Connectivity Boosts Malaysia's Tourism Sector

Improvement in air connectivity affects various sectors of the economy, especially tourism. The connectivity brought by air transport is vital for tourism development, providing substantial economic benefits for the tourism value chain. According to the ICAO, air transport helps generate economic growth and alleviate poverty. In 2019, approximately 1.4bn tourists were crossing borders every year, with 54.0% of tourists travelling to their destinations by air[33]. Tourism Malaysia recorded that in 2019, 36.8% of the tourists arrived in Malaysia by air.

Prior to the pandemic, tourism accounted for 10.3% of global GDP in 2019.[34] For Malaysia, tourism contributed 6.7% of GDP in 2019. Hence, improving Malaysia's air connectivity is essential to expand its markets and to boost the benefits arising from tourism such as tourism receipts.

Table 20 shows China's impact on Malaysia's tourism receipts during the pandemic.

**Table 20: China's Impact on Malaysia's Tourism Receipts, 2019 – 2020**

| Market | Tourism Receipts (RM bn) | | YoY Growth (%) |
|---|---|---|---|
| | 2019 | 2020 | |
| China | 15.3 | 1.8 | -88.8% |

*Source: Tourism Malaysia*

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[33] UNWTO, http://marketintelligence.unwto.org/barometer/january-2019-volume-17 (May 2019).
[34] World Travel & Tourism Council, https://wttc.org/news-article/travel-and-tourism-sector-expected-to-create-nearly-126-million-new-jobs-within-the-next-decade (21 April 2022).

Currently, the lack of air connectivity to China due to its zero-COVID policy will continue to impact the global and regional economies, including for Malaysia. However, it is expected that the Asia Pacific region will regain its dominant position after China eases its travel restrictions possibly in 2Q23. Tourism-related industries in the region may recover earlier than expected to their pre-pandemic levels.[35] China provided the third most tourist arrivals to Malaysia since 2012 behind Singapore and Indonesia, translating to 17.5% of the total tourism receipts for Malaysia in 2019.[36] Figure 30 shows the total number of tourists in Malaysia against the YoY change in air connectivity score.

**Figure 30: Number of Tourist Arrivals vs. Change in Connectivity Score, 2011 – 2021**
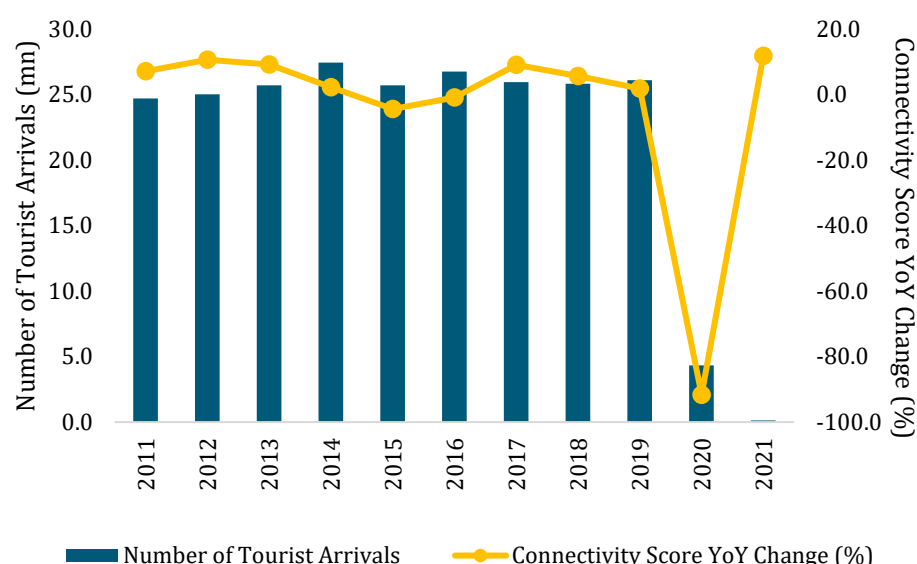


*Source: MAVCOM, Tourism Malaysia*

As the zero-COVID policy in China is expected to ease in 2023, connectivity to China would improve, particularly routes to HKG, TPE, and PEK. This would bring about a major improvement to Malaysia's overall air connectivity as pre-pandemic, routes to China accounted for nearly 10% of Malaysia's passenger traffic in 2019. However, with no official timeline announced for the reopening of China's borders, the risk of rising cases in China may hamper the recovery of international passenger traffic into the country.

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[35] IATA, https://www.iata.org/en/iata-repository/publications/economic-reports/global-outlook-for-air-transport---december-2022/ (6 December 2022).
[36] The Edge Markets, https://www.theedgemarkets.com/article/china-one-malaysias-largest-tourist-source-countries (3 February 2020).

## Improving Malaysia's Air Connectivity

### Air Connectivity is Highly Influenced by Several Factors

In line with MAVCOM's mandate under the Act 771, MAVCOM will continue to make various recommendations to improve Malaysia's air connectivity. Several factors that will highly influence air connectivity are highlighted in Table 21. These factors will be explored further and developed into recommendations in an upcoming Technical Paper, which is expected to be published in 2023.

**Table 21: Factors That Will Improve Air Connectivity**

| Factors | Description |
|---|---|
| Number of destinations served | • Connectivity increases as the range of destinations served by an airport increases<br>• However, as airports have infrastructure capacity limitations, further consideration needs to be taken in allowing the right destinations to be added at the right airport<br>• Destinations with higher weightage should be given priority when considering new routes |
| Number of international seats deployed | • Connectivity will improve as the number of seats deployed by airlines to international destinations increases |
| Flight frequency | • Routes with higher frequencies are perceived to have higher connectivity value, especially if there are no direct links between the O&D pair<br>• An airport with 3 daily flights to a destination is considered more connected than another airport that has only one flight a day to the same destination |
| Number of airports | • The connectivity of an airport can be limited by the supply-side factors such as terminal capacity, passenger terminal gates, check-in counters, and runway turnaround time<br>• When airport capacity is reached, having more airports in the same catchment area can increase connectivity |
| Service quality | • Service quality plays an important role in the mood and comfort of the passengers. This would make an airport more attractive to connect to<br>• Initiatives such as the Quality of Service (QoS) implemented by MAVCOM are important to maintain a world-class airport standard<br>• Besides comfort at the airport, aircraft type is also important to determine the quality of flight for passengers. For two flights on the same route, the trip on a wide-bodied aircraft is given a higher weightage than the flight on a narrow-body aircraft<br>• Wide-bodied aircraft elevate customers' experience, due to their spacious cabins and in-flight entertainment systems |

| Factors | Description |
|---|---|
| | • Premium cabins are also a unique product offering that can only be fulfilled within a wide-bodied aircraft |
| Number of viable connections | • The higher the number of viable connections in a hub airport, the higher the connectivity<br>• A viable connection:<br>    ➢ Pair of arriving and departing flights that allow sufficient time for passengers to change planes<br>    ➢ Fulfils a minimum connection time (MCT) and a maximum connecting time (MACT)<br>• MCT: Shortest time required to transfer passengers and baggage from arriving to departing flight (Example: KUL's MCT is 60 minutes)<br>• MACT: A measure of the maximum time passengers would tolerate waiting at a hub during a stop-over. MACT is subjective and can be influenced by airport amenities and lower fares which compensate for longer transfer times<br>• A larger number of viable connections can be achieved with good timetable coordination |
| Number of airlines | • Connectivity of the airport increases as the number of airlines that fly through it increases<br>• Example:<br><table><tr><td>**Country**</td><td>**No. of Airlines**</td><td>**Connectivity Score 1H22**</td></tr><tr><td>Laos</td><td>8</td><td>0.80</td></tr><tr><td>Myanmar</td><td>15</td><td>3.54</td></tr></table><br>• Airlines will fly into a country when:<br>    ➢ There is a big enough market or high demand for flights<br>    ➢ There are a lot of tourist or business attractions in the country<br>    ➢ Airports provide incentives to airlines to fly into their airport (Airline Incentive Program) |
| Size of destination airport | • The size of the destination airport may act as a proxy for the economic importance of the destination<br>• A larger airport would have access to a larger number of onward connections, especially for business passengers<br>• The larger the size of the destination airport, the higher the connectivity |
| Size of market | • A destination with multiple tourist attractions or a large population will have a higher demand for flights<br>• A market with high demand and strong yields will attract more airlines to fly into its airport<br>• As more airlines fly into an airport, its connectivity also increases |

| Factors | Description |
|---|---|
| | • The size of the market is an indirect influence on connectivity as connectivity increases due to the increase in the number of airlines |
| Airport accessibility | • For multi-airport cities, airport access influences passenger choice<br>• When comparing two airports with the same catchment area, which also serve the same destinations, passengers would prefer:<br>   ➢ the airport that is physically nearer to the city<br>   ➢ the airport with better ground access such as high-speed trains or bus services from the city centre<br>• As connectivity is measured by the number of passengers handled by the airport, better accessibility would increase connectivity |
| The type of airline business model | • Generally, FSCs provide better connectivity than LCCs[37]<br>• LCCs normally fly into secondary airports or regional airports due to lower aeronautical costs<br>• FSCs fly into larger airports which then have more onward connections<br>• FSCs can achieve better connectivity especially when it has connections from other routes operated by alliance partners or via codeshare agreements. |
| Level of air liberalization | • The World Bank identified a strong positive correlation between liberalization as measured by the World Trade Organization's (WTO) Air Liberalization Index (ALI) and connectivity, as measured by the World Bank's Air Connectivity Index (ACI)[38]<br>• The WTO identified seven features of Air Service Agreements (ASA) as relevant indicators of openness for scheduled air passenger services, where each feature is given a score according to its level of liberalization:<br>   ➢ Grants of rights: 5th Freedom, 6th freedom, 7th freedom<br>   ➢ Capacity clause: predetermination, Bermuda I and free determination<br>   ➢ Tariff approval: dual approval, country of origin disapproval dual disapproval, zone pricing and free pricing<br>   ➢ Withholding: substantial ownership and affective control, community of interests and principal place of business<br>   ➢ Designation: single designation, multiple designations |

[37] MAVCOM's Technical Paper on Defining and Measuring Air Connectivity.
[38] World Bank, Global Connectivity and Export Performance, https://documents1.worldbank.org/curated/en/482991468314700230/pdf/ (March 2013).

| Factors | Description |
|---|---|
| | ➢ Statistics: exchange of statistics <br> ➢ Cooperative arrangements: the right for designated airlines to enter into cooperative marketing arrangements |

*Source: MAVCOM*

Malaysia's Air Connectivity is Expected to Recover in 2023

As airlines are planning to add more capacity to the market in 2023, Malaysia's air connectivity is expected to recover closer to the 2019 level. According to the latest schedule data, more seats are expected to be redeployed to destinations that have relatively higher airport weightages, as seen in Table 22.

**Table 22: Capacity Increase in 2023**

| Destination | Airport Weightage | 2022* | 2023* | YoY Growth (%) |
|---|---|---|---|---|
| DXB | 1.00 | 238,287 | 302,894 | 27.1 |
| HKG | 0.83 | 135,772 | 869,498 | 540.4 |
| ICN | 0.82 | 251,029 | 375,510 | 49.6 |
| SIN | 0.79 | 2,485,706 | 3,594,469 | 44.6 |
| BKK | 0.65 | 398,198 | 608,741 | 52.9 |
| TPE | 0.56 | 363,416 | 732,925 | 101.7 |

*Source: AirportIS*
*Note: *One-way seats, Preliminary figures*

## Conclusion

Malaysia's air connectivity post-COVID-19 pandemic has improved in 2022, and is expected to make further progress with the resumption flights to international routes in 2023. While Malaysia continues to offer the third-most international seats and destinations, its air connectivity ranking has slipped to sixth behind the Philippines and Vietnam at the country level, and behind MNL at the airport level post-pandemic. These findings highlighted that increasing the number of destinations does not mean better air connectivity as the quality of these destinations (i.e. high airport weightage, international hubs) matters more. With air connectivity being a vital driver of economic growth, it is important to review the quality of Malaysia's connections.

# APPENDIX A: DATA TABLES

**Table A1: Malaysia's GDP Growth, 2019 – 2022**

| Year | YoY Growth (%) |
|------|----------------|
| 1Q19 | 4.7 |
| 2Q19 | 5.0 |
| 3Q19 | 4.5 |
| 4Q19 | 3.7 |
| 1Q20 | 0.7 |
| 2Q20 | -17.1 |
| 3Q20 | -2.7 |
| 4Q20 | -3.4 |
| 1Q21 | -0.5 |
| 2Q21 | 16.1 |
| 3Q21 | -4.5 |
| 4Q21 | 3.6 |
| 1Q22 | 5.0 |
| 2Q22 | 8.9 |
| 3Q22 | 14.2 |

*Source: DOS*

**Table A2: Malaysia's External Trade, 2019 – 2022**

| Quarter | Total Export (RM bn) | Total Import (RM bn) | Export YoY Growth (%) | Import YoY Growth (%) |
|---------|----------------------|----------------------|-----------------------|-----------------------|
| 1Q19 | 239.7 | 199.2 | 0.9 | -2.5 |
| 2Q19 | 247.7 | 215.1 | 1.1 | -1.2 |
| 3Q19 | 249.5 | 213.7 | -0.6 | -5.3 |
| 4Q19 | 258.2 | 221.4 | -2.4 | -3.7 |
| 1Q20 | 238.7 | 201.7 | -0.4 | 1.3 |
| 2Q20 | 210.3 | 182.7 | -15.1 | -15.1 |
| 3Q20 | 260.6 | 200.3 | 4.4 | -6.3 |
| 4Q20 | 271.4 | 211.6 | 5.1 | -4.4 |
| 1Q21 | 282.2 | 223.5 | 18.2 | 10.8 |
| 2Q21 | 303.4 | 247.0 | 44.3 | 35.2 |
| 3Q21 | 303.7 | 242.5 | 16.5 | 21.1 |
| 4Q21 | 350.5 | 274.3 | 29.1 | 29.6 |
| 1Q22 | 345.0 | 279.9 | 22.3 | 25.2 |
| 2Q22 | 394.2 | 336.1 | 30.0 | 36.1 |
| 3Q22 | 419.7 | 355.3 | 38.2 | 46.5 |

*Source: DOS*

**Table A3: Oil, Jet Fuel, and Exchange Rate Trends, 2019 – 2022**

| Quarter | Crude Oil (USD/bbl) | Jet Fuel (USD/bbl) | RM/USD |
|---------|---------------------|--------------------|--------|
| 1Q19 | 64 | 75 | 4.09 |
| 2Q19 | 68 | 78 | 4.15 |
| 3Q19 | 62 | 75 | 4.16 |
| 4Q19 | 62 | 74 | 4.16 |
| 1Q20 | 51 | 62 | 4.18 |
| 2Q20 | 33 | 32 | 4.32 |

| Quarter | Crude Oil (USD/bbl) | Jet Fuel (USD/bbl) | RM/USD |
|---------|---------------------|--------------------|--------|
| 3Q20 | 43 | 43 | 4.20 |
| 4Q20 | 44 | 49 | 4.10 |
| 1Q21 | 61 | 66 | 4.06 |
| 2Q21 | 69 | 74 | 4.15 |
| 3Q21 | 73 | 80 | 4.20 |
| 4Q21 | 80 | 92 | 4.18 |
| 1Q22 | 95 | 121 | 4.19 |
| 2Q22 | 109 | 167 | 4.35 |
| 3Q22 | 93 | 141 | 4.48 |

*Source: Bloomberg*

**Table A4: Global and Malaysia's GDP Growth, 2015 – 2022F**

| Year | Global YoY Growth (%) | Malaysia YoY Growth (%) |
|------|-----------------------|-------------------------|
| 2015 | 3.5 | 5.1 |
| 2016 | 3.3 | 4.2 |
| 2017 | 3.8 | 5.9 |
| 2018 | 3.5 | 4.7 |
| 2019 | 2.8 | 4.3 |
| 2020 | -3.2 | -5.6 |
| 2021 | 6.0 | 3.1 |
| 2022E | 3.2 | 6.5 – 7.0 |
| 2023F | 2.7 | 4.0 – 5.0 |

*Source: Bloomberg, BNM, IMF, MOF*

**Table A5: Malaysia's Tourist Arrivals, 2019 – 2021**

| Quarter | Tourist Arrivals (by air) (mn) | Total Tourist Arrivals (excluding air) (mn) | Total Tourist Arrivals (mn) | Total Tourist Arrivals YoY Growth (%) |
|---------|------|------|------|--------|
| 1Q19 | 2.5 | 4.2 | 6.7 | 2.7 |
| 2Q19 | 2.3 | 4.3 | 6.7 | 7.2 |
| 3Q19 | 2.7 | 4.1 | 6.8 | 1.6 |
| 4Q19 | 2.1 | 3.8 | 6.0 | -7.1 |
| 1Q20 | 1.6 | 2.6 | 4.2 | -36.8 |
| 2Q20 | 0.0 | 0.0 | 0.02 | -99.7 |
| 3Q20 | 0.0 | 0.0 | 0.05 | -99.3 |
| 4Q20 | 0.0 | 0.0 | 0.03 | -99.4 |
| 1Q21 | 0.0 | 0.0 | 0.03 | -99.4 |
| 2Q21 | 0.0 | 0.0 | 0.03 | 29.8 |
| 3Q21 | 0.0 | 0.0 | 0.02 | -51.2 |
| 4Q21 | 0.0 | 0.0 | 0.06 | 84.4 |
| 1Q22 | 0.1 | 0.0 | 0.10 | 288.2 |
| 2Q22 | 0.5 | 1.5 | 2.03 | 7,921.9 |

*Source: Bloomberg, Tourism Malaysia*

**Table A6: Malaysia's Monthly Passenger Traffic, 2020 – 2022**

| Month | Passenger Traffic (mn) | |
|---|---|---|
| | Domestic | International |
| Jan-20 | 4.6 | 4.7 |
| Feb-20 | 3.5 | 3.0 |
| Mac-20 | 2.1 | 1.3 |
| Apr-20 | 0.1 | 0.0 |
| May-20 | 0.2 | 0.0 |
| Jun-20 | 0.4 | 0.1 |
| Jul-20 | 1.3 | 0.1 |
| Aug-20 | 1.5 | 0.1 |
| Sep-20 | 1.7 | 0.1 |
| Oct-20 | 0.6 | 0.1 |
| Nov-20 | 0.2 | 0.1 |
| Dec-20 | 1.0 | 0.1 |
| Jan-21 | 0.7 | 0.1 |
| Feb-21 | 0.2 | 0.1 |
| Mar-21 | 0.5 | 0.1 |
| Apr-21 | 0.5 | 0.1 |
| May-21 | 0.4 | 0.1 |
| Jun-21 | 2.5 | 0.5 |
| Jul-21 | 2.7 | 0.6 |
| Aug-21 | 2.9 | 0.7 |
| Sep-21 | 0.4 | 0.1 |
| Oct-21 | 4.4 | 0.9 |
| Nov-21 | 6.7 | 1.0 |
| Dec-21 | 9.6 | 1.4 |
| Jan-22 | 2.6 | 0.3 |
| Feb-22 | 2.4 | 0.3 |
| Mar-22 | 2.7 | 0.4 |
| Apr-22 | 2.2 | 0.7 |
| May-22 | 3.7 | 1.0 |
| Jun-22 | 3.4 | 1.3 |
| Jul-22 | 3.3 | 1.7 |
| Aug-22 | 3.2 | 1.8 |
| Sep-22 | 3.6 | 1.9 |

*Source: MAVCOM, AOL Holders*

**Table A7: Malaysia's Quarterly Passenger Traffic, 2019 – 2022**

| Quarter | Passenger Traffic (mn) | YoY Growth (%) |
|---|---|---|
| 1Q19 | 26.4 | 4.4 |
| 2Q19 | 26.7 | 6.3 |
| 3Q19 | 27.9 | 8.7 |
| 4Q19 | 28.2 | 6.7 |
| 1Q20 | 19.1 | -27.5 |
| 2Q20 | 0.8 | -97.0 |
| 3Q20 | 4.7 | -83.3 |
| 4Q20 | 2.1 | -92.5 |
| 1Q21 | 1.7 | -91.2 |

| Quarter | Passenger Traffic (mn) | YoY Growth (%) |
|---|---|---|
| 2Q21 | 1.3 | 62.0 |
| 3Q21 | 1.0 | -78.2 |
| 4Q21 | 7.0 | 228.2 |
| 1Q22 | 8.7 | 415.6 |
| 2Q22 | 12.4 | 853.8 |
| 3Q22 | 15.6 | 1,434.3 |

*Source: MAVCOM, AOL Holders*

**Table A8: Malaysia's Annual Passenger Traffic, 2019 – 2022**

| Quarter | Passenger Traffic (mn) |
|---|---|
| 2013 | 81,581,742 |
| 2014 | 86,538,622 |
| 2015 | 86,215,426 |
| 2016 | 91,762,074 |
| 2017 | 99,757,021 |
| 2018 | 102,504,065 |
| 2019 | 109,259,505 |
| 2020 | 26,704,318 |
| 2021 | 10,973,195 |
| 10M22 | 42,229,053 |

*Source: MAVCOM, AOL Holders*

**Table A9: Malaysia's Passenger Traffic by Region, 2019 – 2022**

| Quarter | Passenger Traffic (mn) | | |
|---|---|---|---|
| | Domestic | ASEAN | Non-ASEAN International |
| 1Q19 | 13.1 | 6.5 | 6.8 |
| 2Q19 | 13.7 | 6.6 | 6.4 |
| 3Q19 | 14.3 | 6.7 | 6.9 |
| 4Q19 | 14.2 | 6.9 | 7.1 |
| 1Q20 | 10.2 | 4.5 | 4.5 |
| 2Q20 | 0.7 | 0.0 | 0.1 |
| 3Q20 | 4.4 | 0.1 | 0.2 |
| 4Q20 | 1.9 | 0.1 | 0.2 |
| 1Q21 | 1.4 | 0.1 | 0.2 |
| 2Q21 | 1.1 | 0.1 | 0.1 |
| 3Q21 | 0.8 | 0.9 | 0.2 |
| 4Q21 | 6.1 | 0.2 | 0.3 |
| 1Q22 | 7.7 | 0.4 | 0.6 |
| 2Q22 | 9.4 | 1.8 | 1.2 |
| 3Q22 | 10.2 | 3.3 | 2.1 |

*Source: MAVCOM, AOL Holders*

**Table A10: Malaysia's Top 10 Domestic Routes, 2019 and 2022**

| Route | 2019 | | 2022 | |
|---|---|---|---|---|
| | Pax (mn) | % | Pax (mn) | % |
| Kota Kinabalu – Kuala Lumpur | 2.1 | 9.4% | 1.3 | 10.3% |
| Kuching – Kuala Lumpur | 1.6 | 7.4% | 1.0 | 7.9% |

| Route | 2019 | | 2022 | |
|---|---|---|---|---|
| | Pax (mn) | % | Pax (mn) | % |
| Kuala Lumpur – Penang | 1.5 | 6.7% | 0.5 | 4.1% |
| Kuala Lumpur – Langkawi | 1.2 | 5.6% | 0.9 | 7.1% |
| Kota Bharu – Kuala Lumpur | 1.1 | 5.2% | 0.8 | 6.1% |
| Johor Bahru – Kuala Lumpur | 1.1 | 5.1% | 0.3 | 2.6% |
| Penang – Kuala Lumpur | 0.7 | 3.3% | 0.3 | 2.4% |
| Kota Kinabalu – Tawau, Sabah | 0.7 | 3.3% | 0.3 | 2.6% |
| Kuching – Miri, Sarawak | 0.6 | 2.9% | 0.3 | 2.7% |
| Kuala Lumpur – Kuala Terengganu | 0.6 | 2.9% | 0.4 | 3.1% |

*Source: MAVCOM*

**Table A11: Malaysia's Top 10 ASEAN Routes, 2019 and 2022**

| Route | 2019 | | 2022 | |
|---|---|---|---|---|
| | Pax (mn) | % | Pax (mn) | % |
| Kuala Lumpur – Singapore | 2.9 | 13.6% | 1.0 | 20.1% |
| Kuala Lumpur – Jakarta | 1.9 | 8.8% | 0.4 | 8.6% |
| Penang – Singapore | 1.1 | 5.1% | 0.3 | 5.9% |
| Kuala Lumpur – Bangkok | 0.7 | 3.4% | 0.2 | 4.6% |
| Penang – Medan | 0.6 | 3.0% | 0.2 | 4.0% |
| Kuala Lumpur – Denpasar-Bali | 0.9 | 4.2% | 0.2 | 3.9% |
| Kuala Lumpur – Manila | 0.6 | 2.7% | 0.2 | 3.8% |
| Kuala Lumpur – Ho Chi Minh City | 0.7 | 3.4% | 0.2 | 3.8% |
| Kuala Lumpur – Surabaya | 0.6 | 2.6% | 0.2 | 3.4% |
| Kuala Lumpur – Bangkok | 0.7 | 3.3% | 0.1 | 2.9% |

*Source: MAVCOM*

**Table A12: Malaysia's Top 10 Non-ASEAN Routes, 2019 and 2022**

| Route | 2019 | | 2022 | |
|---|---|---|---|---|
| | Pax (mn) | % | Pax (mn) | % |
| Kuala Lumpur – Dhaka | 0.6 | 2.4% | 0.3 | 7.4% |
| Kuala Lumpur – Jeddah | 0.5 | 2.3% | 0.2 | 6.9% |
| Kuala Lumpur – Kathmandu | 0.2 | 0.9% | 0.2 | 4.7% |
| Kuala Lumpur – London-Heathrow | 0.4 | 1.7% | 0.2 | 4.3% |
| Kuala Lumpur – Madinah | 0.2 | 0.8% | 0.1 | 4.0% |
| Kuala Lumpur – Tiruchchirappalli | 0.3 | 1.2% | 0.1 | 3.5% |
| Kuala Lumpur – Chennai | 0.3 | 1.3% | 0.1 | 3.4% |
| Kuala Lumpur – Seoul | 0.8 | 3.6% | 0.1 | 2.6% |
| Kota Kinabalu – Seoul | 0.6 | 2.7% | 0.1 | 2.4% |
| Kuala Lumpur – Dubai | 0.2 | 0.9% | 0.1 | 2.2% |

*Source: MAVCOM*

**Table A13: Total FTK in Malaysia, 2019 – 2022**

| Quarter | Total FTK (mn) | YoY Growth (%) |
|---|---|---|
| 1Q19 | 4,928.5 | 3.8 |
| 2Q19 | 4,891.6 | -0.2 |
| 3Q19 | 5,129.6 | -8.6 |
| 4Q19 | 5,272.4 | -5.4 |
| 1Q20 | 4,687.6 | -4.9 |
| 2Q20 | 2,663.9 | -45.5 |
| 3Q20 | 3,970.4 | -22.6 |
| 4Q20 | 4,472.1 | -15.2 |
| 1Q21 | 4,841.6 | 3.3 |
| 2Q21 | 4,916.5 | 84.6 |
| 3Q21 | 4,908.0 | 23.6 |
| 4Q21 | 5,980.7 | 33.7 |
| 1Q22 | 5,237.8 | 8.2 |
| 2Q22 | 5,497.4 | 11.8 |
| 3Q22 | 5,505.7 | 12.2 |

*Source: MAVCOM*

**Table A14: Inbound and Outbound FTK in Malaysia, 2019 – 2022**

| Quarter | Inbound (mn) | Outbound (mn) | Within (mn) |
|---|---|---|---|
| 1Q19 | 2,993.2 | 1,916.8 | 18.5 |
| 2Q19 | 3,066.7 | 1,806.1 | 18.9 |
| 3Q19 | 3,247.4 | 1,862.6 | 19.6 |
| 4Q19 | 3,050.5 | 2,203.1 | 18.8 |
| 1Q20 | 2,715.8 | 1,954.9 | 16.8 |
| 2Q20 | 1,427.6 | 1,221.0 | 15.3 |
| 3Q20 | 1,896.0 | 2,063.6 | 10.8 |
| 4Q20 | 2,156.6 | 2,300.3 | 15.3 |
| 1Q21 | 2,400.4 | 2,428.1 | 13.1 |
| 2Q21 | 2,558.7 | 2,347.5 | 10.4 |
| 3Q21 | 2,480.2 | 2,417.6 | 10.1 |
| 4Q21 | 2,897.2 | 3,074.4 | 9.1 |
| 1Q22 | 2,820.2 | 2,403.3 | 14.3 |
| 2Q22 | 3,043.3 | 2,439.2 | 15.0 |
| 3Q22 | 3,082.2 | 2,411.2 | 12.3 |

*Source: MAVCOM, CargoIS*

**Table A15: Recovery of Air Cargo Capacity of Malaysian Carriers as a Percentage of 2019 Levels, 2021 – 2022**

| Quarter | Recovery of 2019 Levels (%) |
|---|---|
| 1Q20 | 80.3 |
| 2Q20 | 5.9 |
| 3Q20 | 10.9 |
| 4Q20 | 18.1 |
| 1Q21 | 31.1 |
| 2Q21 | 6.3 |
| 3Q21 | 5.9 |
| 4Q21 | 13.3 |

| Quarter | Recovery of 2019 Levels (%) |
|---------|------------------------------|
| 1Q22 | 23.6 |
| 2Q22 | 33.0 |
| 3Q22 | 42.1 |

*Source: MAVCOM, CAPA*

**Table A16: Air Cargo Rates on Major Trade Lanes, 2019 – 2022**

| Quarter | Cargo Rate (USD/kg) | | |
|---------|----------------------|------------|------------------------------|
| | HK - North America | HK - Europe | Frankfurt - North America |
| 1Q19 | 10.6 | 2.7 | 7.2 |
| 2Q19 | 10.8 | 2.7 | 6.5 |
| 3Q19 | 10.2 | 2.6 | 6.2 |
| 4Q19 | 11.0 | 3.1 | 5.3 |
| 1Q20 | 10.4 | 2.8 | 6.3 |
| 2Q20 | 19.3 | 5.1 | 11.4 |
| 3Q20 | 15.7 | 3.3 | 11.1 |
| 4Q20 | 20.5 | 4.9 | 12.0 |
| 1Q21 | 18.3 | 4.2 | 13.4 |
| 2Q21 | 25.1 | 4.6 | 12.6 |
| 3Q21 | 26.3 | 4.9 | 12.3 |
| 4Q21 | 34.2 | 7.5 | 13.6 |
| 1Q22 | 28.8 | 5.8 | 14.7 |
| 2Q22 | 28.0 | 6.2 | 13.7 |
| 3Q22 | 24.8 | 6.3 | 11.6 |

*Source: Baltic Exchange*

**Table A17: Ratio of Air Cargo and Sea Freight Rates, 2019 – 2022**

| Quarter | Ratio |
|---------|-------|
| 1Q19 | 15.4 |
| 2Q19 | 17.3 |
| 3Q19 | 17.4 |
| 4Q19 | 17.6 |
| 1Q20 | 15.5 |
| 2Q20 | 32.5 |
| 3Q20 | 21.2 |
| 4Q20 | 13.6 |
| 1Q21 | 7.9 |
| 2Q21 | 7.7 |
| 3Q21 | 5.0 |
| 4Q21 | 6.4 |
| 1Q22 | 5.8 |
| 2Q22 | 6.8 |
| 3Q22 | 8.5 |

*Source: MAVCOM*

**Table A18: Malaysia's Passenger Market Share by Airlines, 2019 – 2022**

| Quarter | AirAsia | AirAsia X | Firefly | SKS Airways | MAB | Batik Air | Others |
|---------|---------|-----------|---------|-------------|------|-----------|--------|
| 1Q19 | 41.2 | 7.1 | 1.8 | | 17.4 | 8.8 | 23.6 |

| Quarter | AirAsia | AirAsia X | Firefly | SKS Airways | MAB | Batik Air | Others |
|---|---|---|---|---|---|---|---|
| 2Q19 | 42.2 | 7.2 | 2.1 | | 17.8 | 7.3 | 23.4 |
| 3Q19 | 40.5 | 6.5 | 2.2 | | 18.8 | 7.9 | 24.1 |
| 4Q19 | 40.3 | 6.9 | 2.1 | | 19.0 | 8.0 | 23.7 |
| 1Q20 | 41.7 | 6.9 | 1.6 | | 18.6 | 8.1 | 23.1 |
| 2Q20 | 19.5 | 1.4 | 14.3 | | 29.5 | 16.3 | 19.1 |
| 3Q20 | 63.4 | 0.3 | 5.2 | | 12.5 | 7.7 | 11.0 |
| 4Q20 | 63.0 | 0.7 | 5.2 | | 8.0 | 6.7 | 16.4 |
| 1Q21 | 54.7 | 0.1 | 4.8 | | 10.3 | 8.8 | 21.4 |
| 2Q21 | 33.7 | 0.0 | 6.7 | | 15.8 | 15.1 | 28.7 |
| 3Q21 | 19.8 | 0.1 | 6.6 | | 22.9 | 13.7 | 36.9 |
| 4Q21 | 47.7 | 0.1 | 4.9 | | 28.5 | 6.4 | 12.4 |
| 1Q22 | 55.3 | 0.1 | 3.2 | | 24.8 | 5.1 | 11.5 |
| 2Q22 | 44.2 | 0.2 | 5.3 | 0.0 | 23.8 | 5.8 | 20.6 |
| 3Q22 | 43.8 | 0.5 | 4.9 | 0.1 | 20.5 | 5.6 | 24.6 |

*Source: MAVCOM, AirportIS*

**Table A19: Malaysian Carriers' Average Fares and Load Factor, 2019 – 2022**

| Quarter | Load Factor (%) | Average Fare (RM) | |
|---|---|---|---|
| | | Domestic | International |
| 1Q19 | 81.2 | 192 | 470 |
| 2Q19 | 80.3 | 194 | 469 |
| 3Q19 | 76.4 | 215 | 509 |
| 4Q19 | 78.3 | 223 | 484 |
| 1Q20 | 67.1 | 209 | 521 |
| 2Q20 | 22.3 | 325 | 804 |
| 3Q20 | 45.9 | 227 | 791 |
| 4Q20 | 39.3 | 207 | 985 |
| 1Q21 | 42.7 | 193 | 937 |
| 2Q21 | 38.9 | 219 | 913 |
| 3Q21 | 28.9 | 231 | 958 |
| 4Q21 | 52.4 | 199 | 1,053 |
| 1Q22 | 60.1 | 172 | 954 |
| 2Q22 | 62.0 | 198 | 648 |
| 3Q22 | 72.2 | 200 | 629 |

*Source: MAVCOM, AirportIS*

**Table A20: Malaysia's Passenger Traffic, 2015 – 2023F**

| Year | Passenger Traffic (mn) | YoY Growth (%) |
|---|---|---|
| 2015 | 86.3 | 0.8 |
| 2016 | 91.7 | 6.2 |
| 2017 | 99.8 | 8.8 |
| 2018 | 102.5 | 2.7 |
| 2019 | 109.2 | 6.6 |
| 2020 | 26.7 | -75.6 |
| 2021 | 11.0 | -58.9 |
| 2022E | 53.0 – 55.0 | 380 to 400 |
| 2023F | 74.6 – 80.8 | 40 to 52 |

*Source: MAVCOM, AOL Holders*

**Table A21: Malaysia's Air Cargo Traffic, 2018 – 2023F**

| Year | Total FTK (mn) | YoY Growth (%) |
|------|----------------|----------------|
| 2018 | 20,832 | 9.7 |
| 2019 | 20,222 | -2.9 |
| 2020 | 15,797 | -21.9 |
| 2021 | 20,647 | 30.7 |
| 2022E | 21,452 – 22,030 | 3.9 to 6.7 |
| 2023F | 22,449 – 22,757 | 3.0 to 4.8 |

*Source: MAVCOM, CargoIS*

**Table A22: Air Connectivity Score of Selected ASEAN Countries, 2018 – 2022**

| Country | 2018 | 2019 | 2020 | 2021 | 3Q22 |
|---------|------|------|------|------|------|
| Thailand | 166.5 | 165.4 | 12.3 | 35.7 | 70.1 |
| Singapore | 114.6 | 116.9 | 5.1 | 36.3 | 67.7 |
| Philippines | 85.6 | 95.2 | 7.4 | 26.8 | 52.3 |
| Vietnam | 82.7 | 95.5 | 9.1 | 19.9 | 58.5 |
| Indonesia | 106.3 | 105.7 | 4.7 | 13.0 | 46.9 |
| Malaysia | 94.5 | 96.3 | 4.7 | 16.5 | 46.1 |

*Source: MAVCOM*

**Table A23: Total Scheduled Seats from ASEAN Countries, 2018 – 2022**

| Country | 2018 | 2019 | 2020 | 2021 | 3Q22 |
|---------|------|------|------|------|------|
| Singapore | 3,909,031 | 3,984,817 | 148,305 | 995,627 | 2,096,857 |
| Thailand | 4,874,659 | 5,034,363 | 287,438 | 678,692 | 1,717,890 |
| Malaysia | 3,094,031 | 3,181,657 | 134,130 | 391,343 | 1,277,921 |
| Philippines | 1,678,127 | 1,935,372 | 157,096 | 462,507 | 924,995 |
| Vietnam | 1,874,732 | 2,182,752 | 163,287 | 333,048 | 1,039,425 |
| Indonesia | 2,272,942 | 2,259,295 | 98,490 | 232,867 | 1,026,753 |
| Cambodia | 696,402 | 716,664 | 26,971 | 48,013 | 193,637 |
| Myanmar | 334,395 | 370,633 | 14,266 | 23,615 | 92,155 |
| Brunei | 111,978 | 125,427 | 7,558 | 12,128 | 48,342 |
| Lao DPR | 181,128 | 191,958 | 11,856 | 15,126 | 44,477 |

*Source: AirportIS*

**Table A24: Number of International Destinations for ASEAN Countries, 2018 – 2022**

| Country | 2018 | 2019 | 2020 | 2021 | 3Q22 |
|---------|------|------|------|------|------|
| Singapore | 166 | 164 | 45 | 95 | 115 |
| Thailand | 205 | 208 | 56 | 68 | 88 |
| Malaysia | 128 | 137 | 49 | 48 | 71 |
| Philippines | 67 | 71 | 36 | 39 | 49 |
| Vietnam | 98 | 112 | 26 | 38 | 43 |
| Indonesia | 75 | 70 | 44 | 31 | 46 |
| Cambodia | 66 | 60 | 23 | 17 | 20 |
| Myanmar | 25 | 46 | 10 | 16 | 16 |
| Brunei | 22 | 31 | 5 | 8 | 15 |
| Lao DPR | 21 | 24 | 6 | 5 | 11 |

*Source: AirportIS*

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