

Aviation Sector in 2024

The paper presents an overview and performance of the Global Aviation Sector in 2022-2023, discussing the key events and trends for future investment prospects in 2024.

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ASCELA



The aviation industry of the future presents a myriad of opportunities for innovation, sustainability, digital transformation, and global connectivity, creating avenues for investment, technological advancements, and new business models that cater to the changing demands and challenges of the evolving aviation landscape.

The aviation industry is global, but select regions stand out as particularly active. For instance, Asia-Pacific countries increasingly invest in aviation infrastructure, aircraft maintenance, and technological advancements. Middle East Airlines are expanding their networks globally, while investing in modern fleets and luxurious facilities. Latin America is also witnessing increased air travel demand and investments in airport infrastructure.

In terms of demand-travel, industry-wide passenger traffic, measured in RPKs, is likely to reach or surpass its 2019 traffic levels in 2023, and global passenger traffic is likely to double by 2040. Cargo traffic measured in CTKs is likely to remain below 2022 levels in 2023, with a forecast of 4.5% growth in 2024 as the sector experiences a slowdown in demand due to macroeconomic headwinds and a slowdown in global trade.

The industry returned to profitability in 2023, only three years after the historic loss of nearly USD 140 billion in 2020. However, the industry profitability is still fragile and could be affected by many factors – including operational impacts of the Ukraine-Russia conflict and the Israel-Hamas war, slow growth in China, and delays in the delivery of aircraft parts and aircraft.

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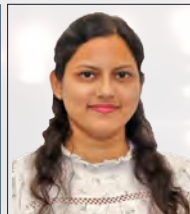
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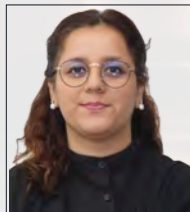
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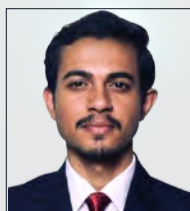
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ASCELA's Viewpoint

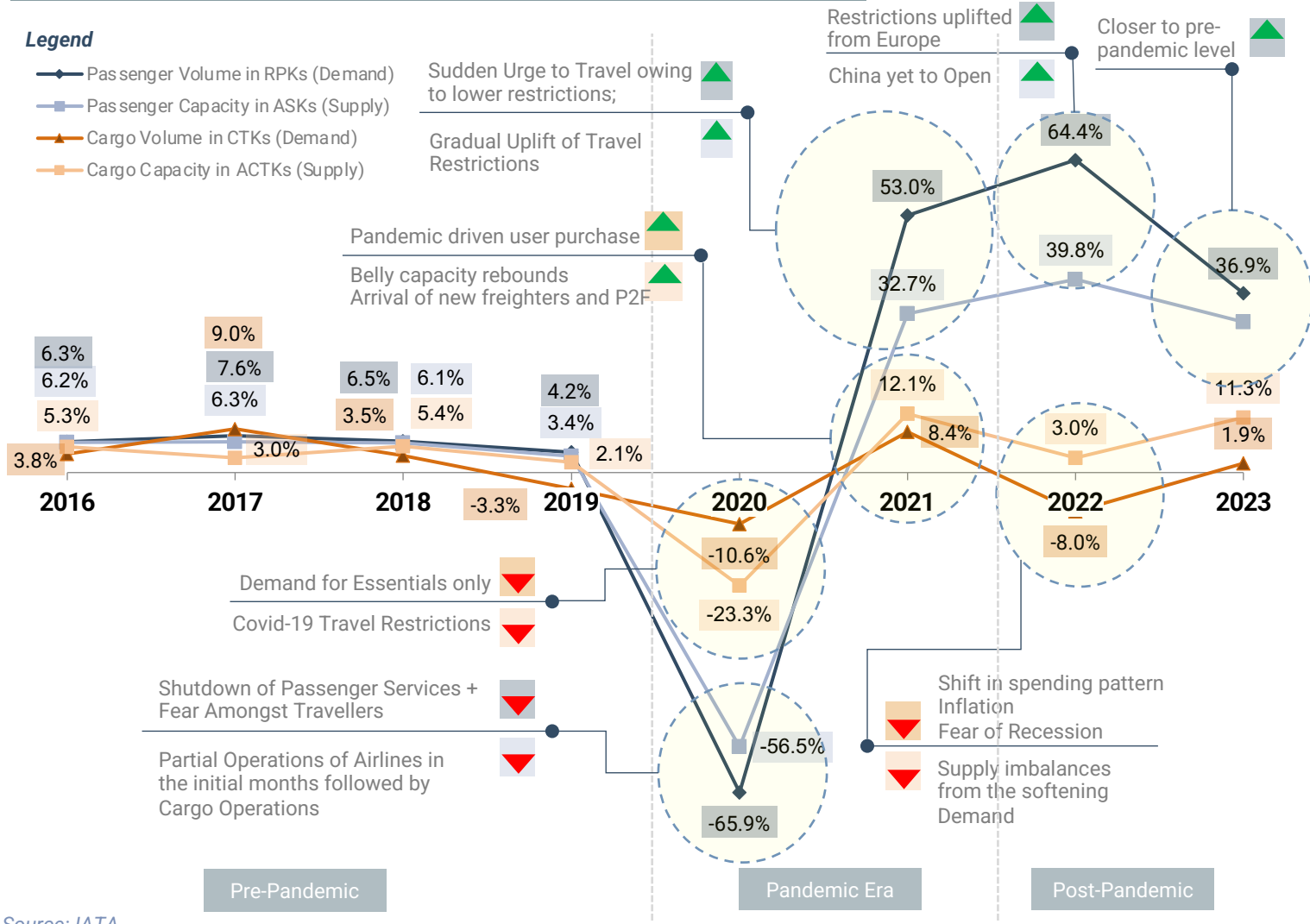
The next few years for the Aviation Sector are likely to be competitive, due to new wave of technological change, use of AI and related innovations



Unveiling Post-Pandemic Trends: Passenger Aviation Flourishes, while Cargo faces challenges

As most countries lifted COVID-19 travel restrictions in 2022, people took advantage of restoring the possibility to travel. The aviation industry observed high growth rates in passenger carrying capacity measured in Available Seat Kilometres (ASKs) and passenger traffic, which were observed as Revenue Passenger Kilometres (RPKs). Contrarily, Air Cargo Demand, measured in Cargo Tonnes Kilometers (CTKs), observed a recovery in 2023 due to stabilisation in global cross-border trade.

Global Volume and Capacity Growth (Y-o-Y)



Source: IATA

Note: * P2F: Passenger to Freighter Converted

What to expect in 2024?

In 2024
9.4 BN PAX
 Potential Loss of 13.9% from Pre-Covid Forecast; However, traffic would reach 102.5% of 2019 Level

Between 2016-2022
-10% and -5%
 Reduced Share of Asia Pacific share of Global Passenger and Cargo Traffic respectively

In 2024
61 MTPA
 Likely Annual Cargo Traffic, compared to 58 MTPA in 2023

Global Air Passenger count is likely to increase at a GAGR Growth of 3.4% between 2019-2040

2,537 Million Passenger Addition by 2040 from Asia-Pacific, 64% of World's total addition

Increase in Demand for movement of specialised goods, and time-sensitive commodities

Region-wise Growth Prospects

While Europe and Middle East showed the highest growth for Passenger Movement Demand; Latin America is pushing high for Cargo

In last couple of years, the demand for passenger transport has increased more rapidly than the expansion of airline services. Conversely, for cargo, the capacity of airlines to transport goods has surpassed actual market demand.

Demand-Supply Y-o-Y Growth for Passenger Movement between 2021 and 2024 and Outlook for 2024

Though Demand observed a quick recovery in 2022, the effects of the war in Ukraine, the economic slowdown, and reduced disposable income projections in the UK impacted it.

China and India account for 36% of the global population share and are two of the fastest-growing economies. India witnessed an annual passenger growth rate of 6% between 2019-2020.

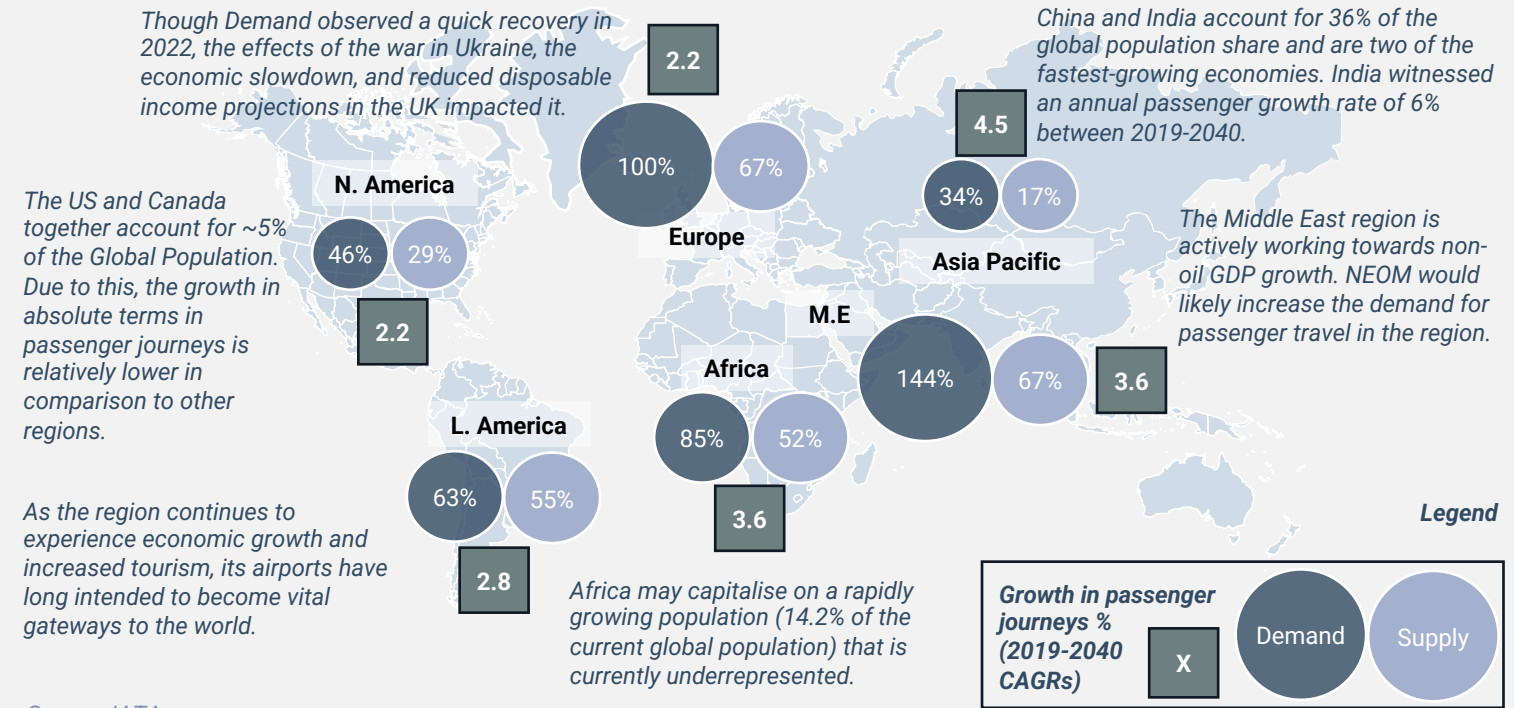
The US and Canada together account for ~5% of the Global Population. Due to this, the growth in absolute terms in passenger journeys is relatively lower in comparison to other regions.

The Middle East region is actively working towards non-oil GDP growth. NEOM would likely increase the demand for passenger travel in the region.

As the region continues to experience economic growth and increased tourism, its airports have long intended to become vital gateways to the world.

Africa may capitalise on a rapidly growing population (14.2% of the current global population) that is currently underrepresented.

Source: IATA



Demand-Supply Y-o-Y Growth for Cargo Movement between 2021 and 2022 and Outlook for 2024

Sticky Inflation and aggressive rate hikes may disrupt supply chain operations.

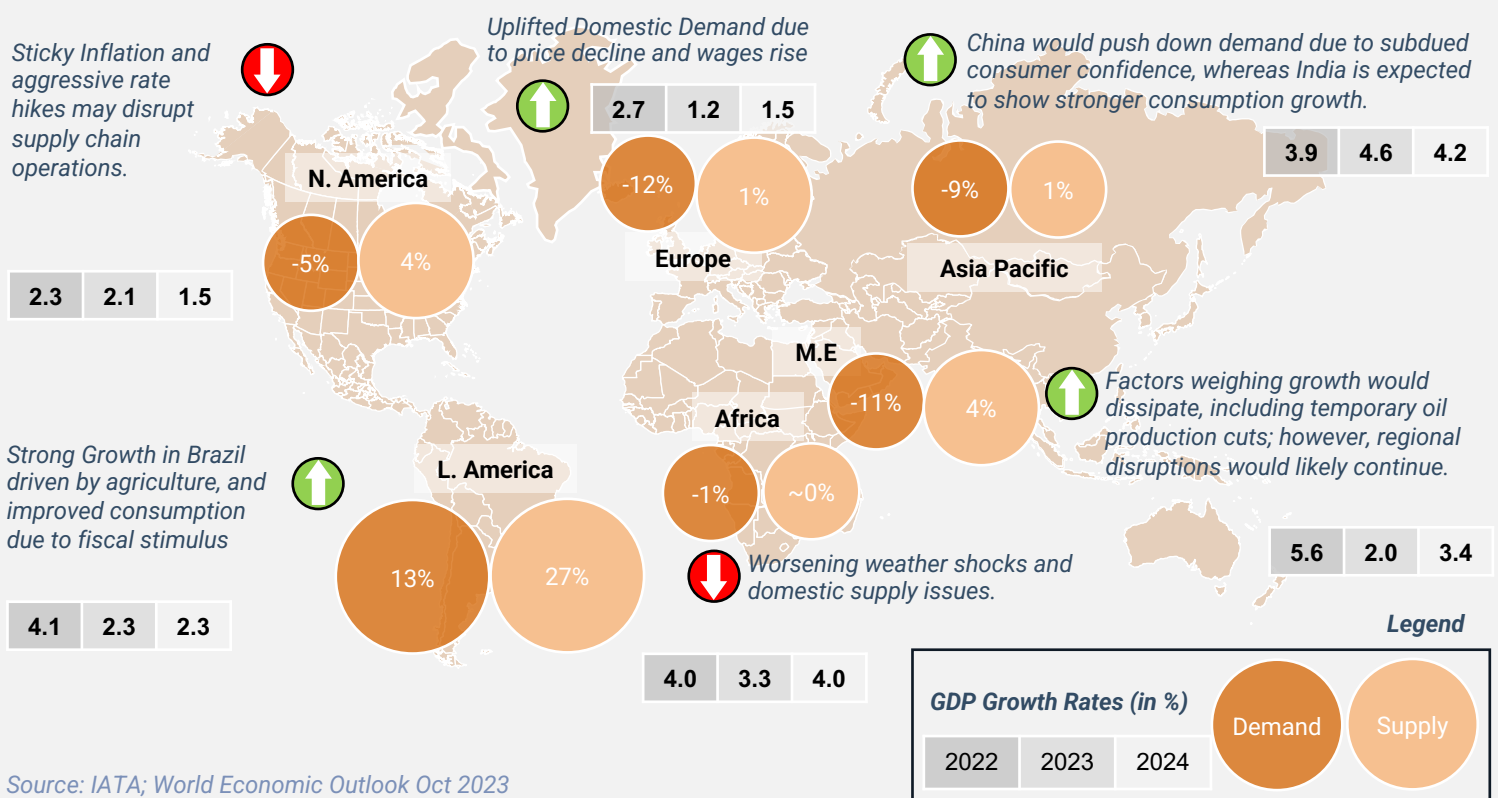
Uplifted Domestic Demand due to price decline and wages rise

China would push down demand due to subdued consumer confidence, whereas India is expected to show stronger consumption growth.

Strong Growth in Brazil driven by agriculture, and improved consumption due to fiscal stimulus

Factors weighing growth would dissipate, including temporary oil production cuts; however, regional disruptions would likely continue.

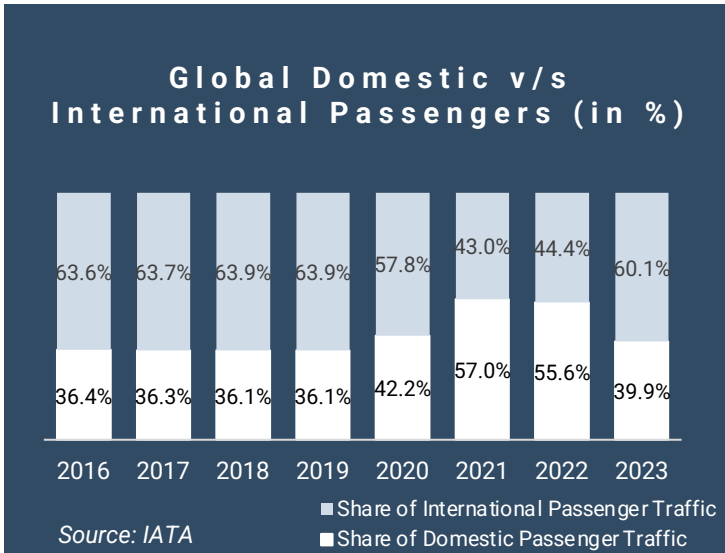
Worsening weather shocks and domestic supply issues.



Source: IATA; World Economic Outlook Oct 2023

Change in Travel Patterns and Industry-wide Reaction

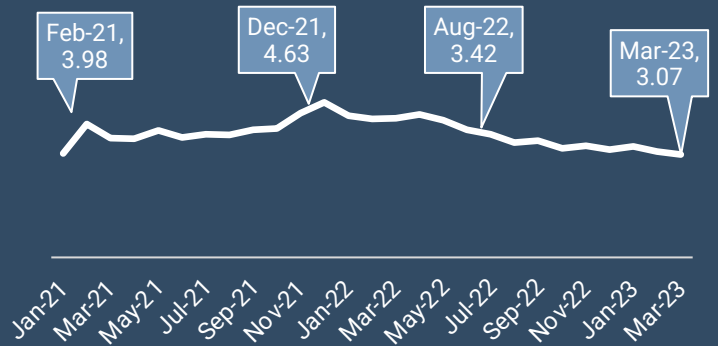
The COVID-19 pandemic significantly altered air travel patterns globally. These changes in air travel behaviour have impacted the aviation industry, leading airlines, airports. This forced travel-related businesses to adapt their strategies, operations, and services to meet passengers' evolving needs and concerns during and after the pandemic. While in the short-term, passengers, airlines, and airports focused on maintaining hygiene, maintaining COVID-related protocols, and ensuring social distancing, airlines made strategic decisions over time, focusing on increasing their revenue.



- > The surge in domestic travel post-COVID-19 as people visited destinations within their countries for vacations or business purposes.
- > The shift to work from home influenced travel patterns, with more individuals choosing to work remotely and meet online.

Travel Trends

Trends in air freight price change (in USD/Kg)



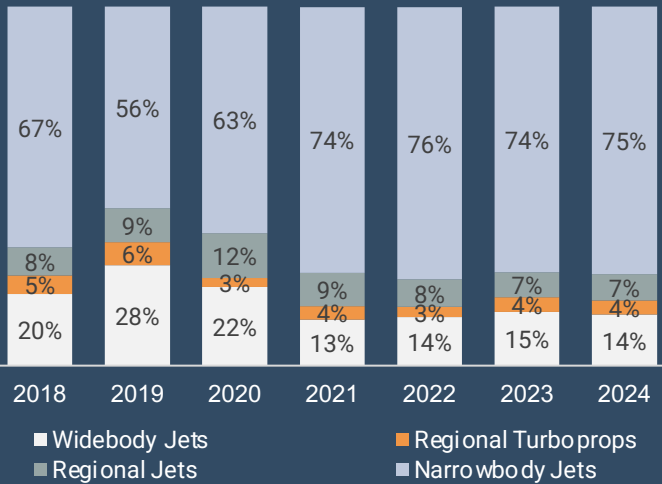
Source: Freightos

- > A decrease in passenger flights, supply chain disruptions, and a surge in demand for medical supplies led to an increase in air freight prices.
- > Limited capacity for handling specialised goods that require temperature-controlled transportation, perishable goods (like food items) or pharmaceuticals.



Industry Updates

New Aircraft Deliveries by Class (% Share of Total)



Source: IATA

- › High demand for short-haul and medium-haul flights as a result of increased domestic trips, has led to increased orders of Narrow-Body Jets industry-wide.

Increased Investment in Cold-Chain Storages at Airports

Recognising the increased demand for temperature-controlled logistics, companies and logistics providers had opportunities to invest in and expand their cold chain capabilities to cater to the growing market for such services.

Key examples include –

- Emirates SkyCargo sets up the world's first dedicated airside cargo hub for vaccines in Dubai.
- Etihad doubled the storage capacity at Abu Dhabi Airport's cargo village to satisfy the pharma business.
- Air Canada announced the inauguration of a new cold chain handling facility at Toronto Airport.

Future Opportunities

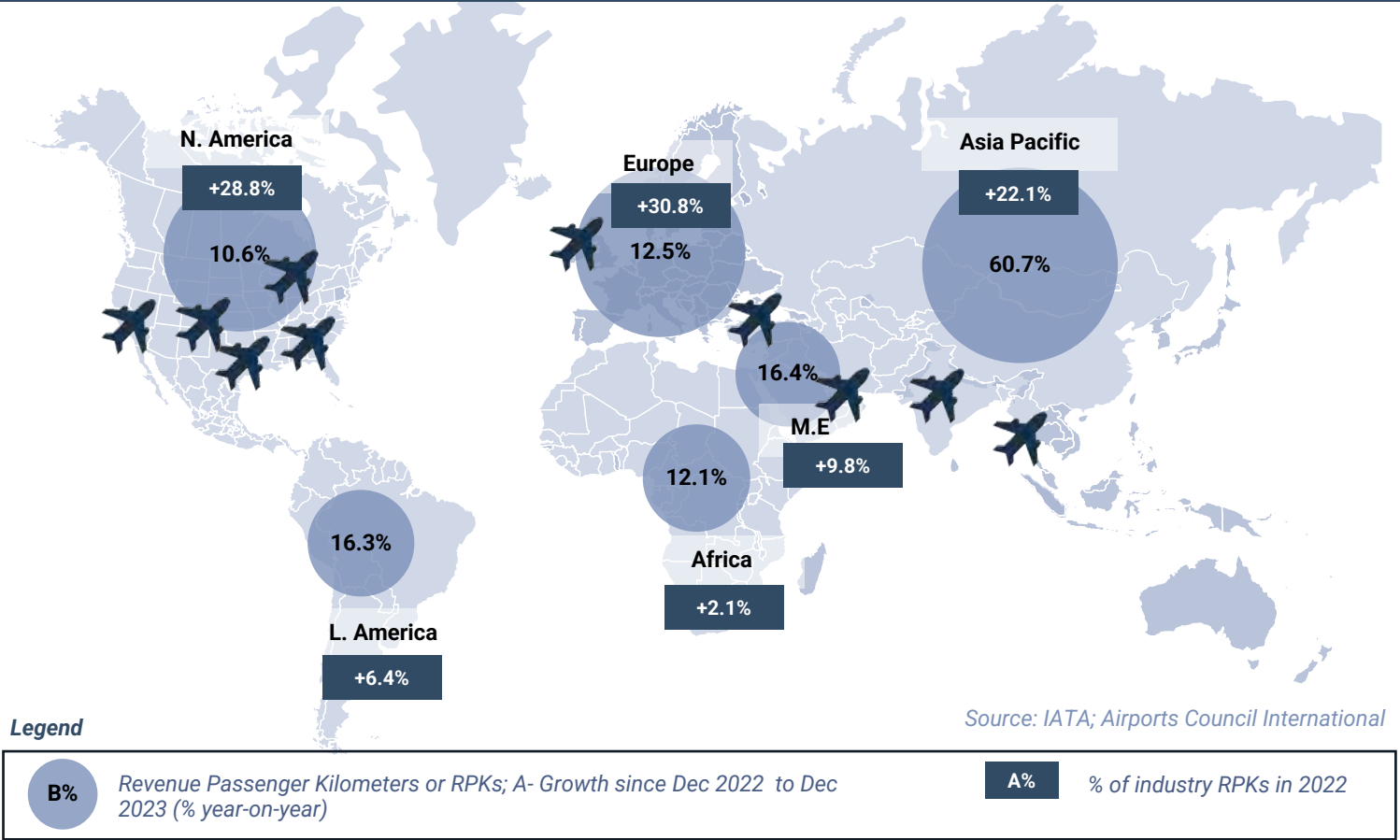
- › Supply Chain for fresh flower distribution
- › Supply for perishable fruits and vegetables from regional hubs



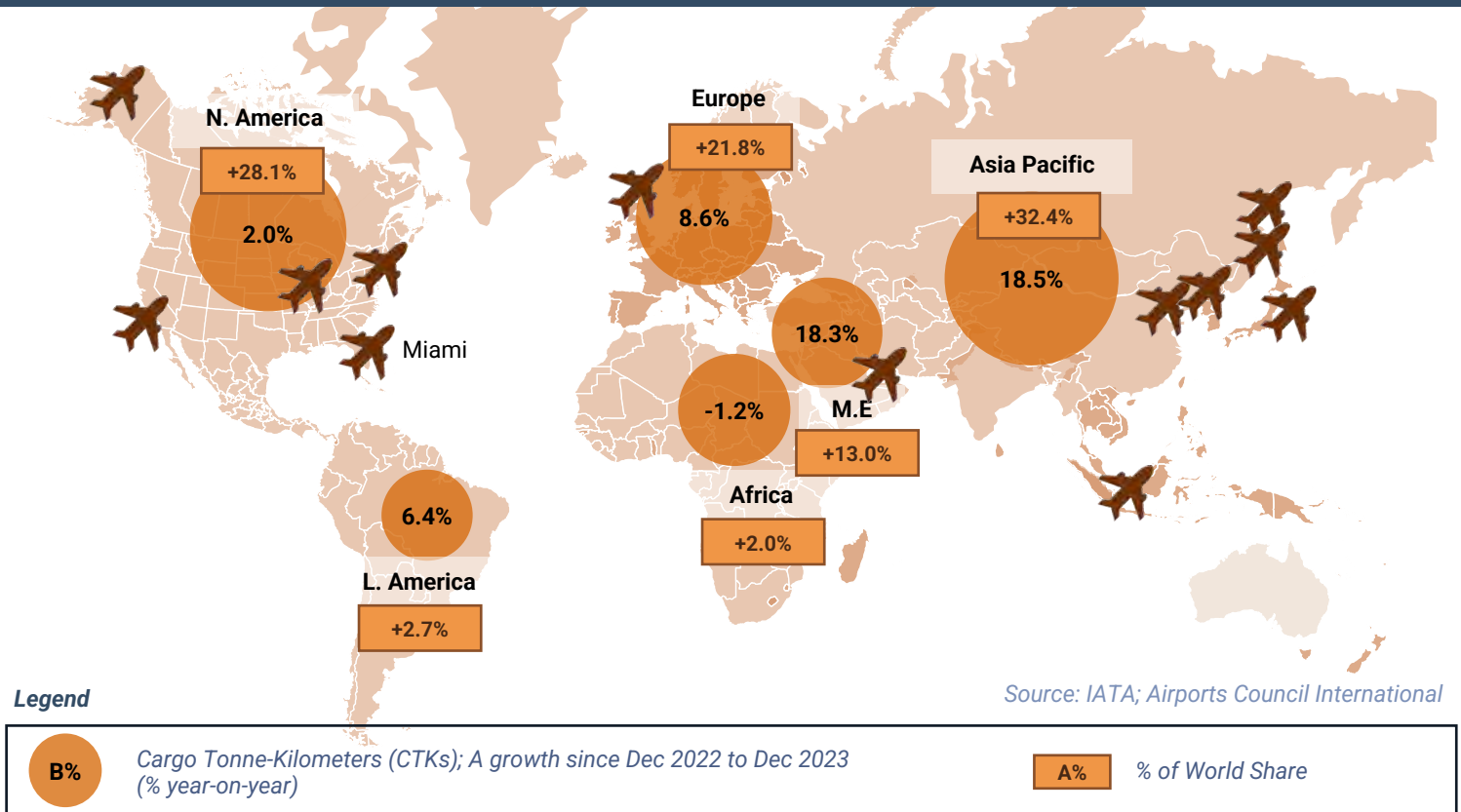
Global Airport Infrastructure

Despite traffic growth hindrances related to COVID-19, the busiest airports globally are readying themselves for future travel needs and demands.

Global Share of Passenger Traffic in Key Airports (Dec 2023)



Global Share of Cargo Traffic in Key Airports (Dec 2023)



Key Trends and Opportunities

Several key trends have emerged in the planning and development of new airports around the world. These trends are shaped by urban development patterns, technological advancements, changing passenger behaviors, sustainability concerns, and evolving industry standards. These trends collectively shape the landscape of modern airports, aiming to create more efficient, sustainable, and passenger and cargo friendly travel hubs. However, the specific emphasis on each trend varies based on regional priorities, and economic considerations.

Some of the key trends observed are listed below -

Cities focusing on building multiple Airports ?

Several cities worldwide have multiple airports serving commercial flights, including London, New York, Tokyo, Los Angeles, Paris, Chicago, Shanghai, Moscow, Istanbul, etc. Presence of multiple airports –

Serve Different Purposes

(including for Domestic/Cargo or Regional Services)

Helps in Distribution of Traffic

(convenience to users due to congestion and distance)

Regional Development

(Attracting Businesses, Tourism and Infrastructure Development)

Upcoming Global Opportunities

Middle East and Asia are forecasted to have strong passenger travel demands in future. The United Arab Emirates focused on non-oil economy growth within the Middle East Region, and Dubai, specifically, focused on attracting tourism and business-related trips. Delhi in India is one of the largest urban agglomerations in the world. With the Government of India's focus on increasing domestic travel with the UDAAN Scheme, passenger traffic is bound to increase in the city. Megacities worldwide are strategically planning additional airports to offload some of the traffic from the existing airports.

City	Dubai		Delhi	
Airport	Existing	New Airport (Opened in 2010)	Existing	Upcoming (Likely 2024 End)
	Dubai International (DXB/OMDB)	Al Maktoum International (DWC)	Delhi Indira Gandhi International Airport (DEL)	Noida International Airport (DXN)
Location	5 Km from Downtown	47 Km South-East from Downtown	22 Km from Central Delhi	82 Km South-East from Central Delhi
	Located on Metro (Red Line)	Red Line Extension (Planned)	DMRC Airport Express Line	RRTS between Ghaziabad and Noida
Capacity	92.5 Million Pax 2.5 MTPA	160 Million Pax 12 MTPA Cargo (current 0.3 MTPA)	~100 Million Pax 1.8 MTPA	~70 Million Pax 3 MTPA
Key Initiatives	<ul style="list-style-type: none"> › DWC is part of multi-sector development, which includes Dubai Logistics City (DLC) › Emirates to build MRO Facility at DWC by 2027 		<ul style="list-style-type: none"> › Indigo (Budget Airlines) signed an MoU with Jewar to improve connectivity in the region › Global tender likely to be invited for MRO Hub 	

The strategic connectivity between the two airports in both cities, can possibly provide the following opportunities -

Retail & Real Estate

(Retail Facilities within the Airport as well as Hospitality Facilities around)

Modal Integration

(Inter-Modal Planning for Future Congestion Free Movement in and around Airport)

Warehouse Facilities

(With Infrastructure Ecosystem, Industries would follow, requiring Logistics Facilities)

Key Trends and Opportunities (contd..)

The Middle East region has been increasingly focusing on diversifying its economy away from oil dependency for several reasons, including oil price volatility, a global shift towards renewable energy, a desire for economic resilience, economic reforms and vision plans, and job creation. Saudi Arabia's Vision 2030 and the United Arab Emirates' UAE Vision 2031 aim to reduce oil dependence by developing other sectors such as tourism, technology, finance, manufacturing, and renewable energy.

Middle East Targets Tourism and Hospitality Industry Development

The region is investing in developing its tourism and hospitality sectors, capitalising on its rich cultural heritage, natural attractions, and luxury tourism offerings. This diversification strategy aims to attract tourists and boost the hospitality industry, reducing the region's dependence on oil revenues.

Saudi Arabia's City of the Future - NEOM

Key Features

- › **Sindalah** – Luxury Island destination in the Red Sea
- › **Trojena** – Mountain destination
- › **Oxagon** – Industrial City
- › **Line** – New Smart City

Existing Aviation Infrastructure

- › **NEOM Bay Airport** – Operational since 2019

Planned Aviation Infrastructure

- › **NEOM International Airport** – With an initial capacity of 25 Million Pax, the aspiration of the airport is to handle 100 Million Pax
- › **Neom Airlines** – focused on enabling travel for tourists, residents and commercial partners to and from Neom – To be Operational by 2024 end.

Due to the strategic geographical location and the level of economic activity in NEOM, we may expect a global aviation hub, with the following opportunities -

Infrastructure Mobilisation (Attract FDI)

Free Trade Zone Contracts between countries, development of MROs, Logistics Hubs

Sustainable Aviation Initiatives

Focus on Green Aviation practices, renewable energy integration, carbon-neutral operations

Air Charter and Private Aviation

Potential for luxury and high-end tourism may foster demand for private services

Several countries around the world are focusing on air cargo as a strategic priority, aiming to foster growth, enhance trade, improve logistics, and position themselves as key players in the global economy. Select countries with ambitious targets include Saudi Arabia and India.

Air Cargo Targets in Countries

Saudi Arabia

Existing Air Cargo Traffic – 0.8 MTPA

Target Air Cargo Traffic – 4.5 MTPA

Key Strategies

The Saudi Aviation Strategy


- › Focus on increasing warehouse capacity to 6 MTPA
- › Launch of Free Zones to bring leading Logistics Providers – like Special Integrated Logistics Zone at Riyadh

India

Existing Air Cargo Traffic – 3.16 MTPA

Target Air Cargo Traffic – 10 MTPA

- › 33 New Domestic Cargo Terminals by 2025; Existing 21 International and 35 Domestic
- › 25 Airports to be Privatized in 2nd phase by 2025. Use of cash flow to build more infrastructure in Tier II-III cities
- › Leverage India's geographical location as a transit hub between Europe & Southeast Asia



Other future trends that are likely to be observed in the planning of Airports would include -

Achieving Net-Zero

- › Transition to renewable energy like solar, wind, or geothermal power for airport operations
- › Energy efficiency measures like upgrading lighting systems, HVAC systems, and using smart building management systems
- › Transitioning from diesel-powered to electric-powered ground support vehicles, baggage tugs, and other equipment

Technological Innovation

- › Biometric Identification Systems (such as facial recognition or iris scanning) and contactless solutions (e.g., touchless check-in kiosks, self-service bag drops, and security checkpoints)
- › Utilising Internet of Things (IoT) devices and sensors to create smart airports

Intermodal Connectivity

- › Seamlessly connect air travel with other modes of transportation like trains, buses, and taxis
- › Collaborate with local transportation authorities
- › Partnering with ride-sharing services, carpooling platforms, or bike-sharing programs

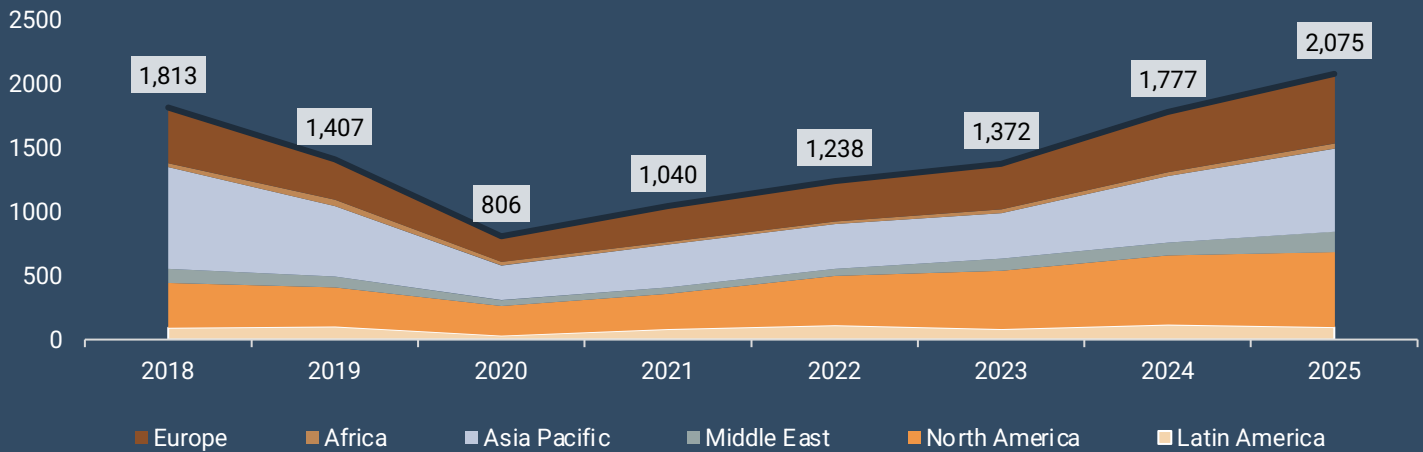
The Passenger Experience Revolution

- › User-Friendly Wayfinding and Navigation Systems
- › Utilising data analytics and artificial intelligence to understand passenger behaviour and preferences
- › Smart Retail Facilities

Globally, airlines are purchasing new airplanes to optimise costs, improve environmental performance, enhance safety and reliability, elevate passenger experience, expand route networks, and ensure competitiveness in a dynamic and evolving aviation industry. These investments are essential for maintaining operational efficiency, meeting evolving customer expectations, and adapting to changing market demands.

Which region is adding the most aircrafts?

New aircraft deliveries by airline region of registration, 2018-2025 (scheduled and delivered)



- › Asia-Pacific, Europe, and North America are predominantly adding aircrafts
- › Limited addition was observed in the Middle East, Africa, and Latin America.
- › Middle East and Southeast Asia can utilise their strategic geographical location for the development of support infrastructure facilities.

As the number of aircraft in service increases, there would be a growing need for Maintenance, Repair, and Overhaul (MRO) services to ensure safety, reliability, and compliance, and a heightened emphasis on sustainability, aligning with the industry's increasing focus on Environmental, Social, and Governance (ESG) considerations.

A | Maintenance, Repair and Overhaul (MRO)

MRO services in the aviation industry encompass various types of maintenance activities performed on aircraft, engines, components, and systems to ensure airworthiness, safety, and operational reliability. Here are the primary types of MRO and their key features -

Segments	Line Maintenance	Component Maintenance	Airframe Heavy Maintenance and Modification	Engine maintenance
Periodicity	During Turnarounds	3 Months (500-600 Hrs)	As mandated (Downtime upto 30 Days)	12-18 Months (5000 Hrs)
Infrastructure	Ground Support Equipment	Specialist Shop	Hangar with Specialised Tools	
Cost Breakup*	8% (Additional 10% for Base)	22%	60%	
Labour Cost*		45%	80%	20%
Spares Cost*		55%	20%	80%
Market Value in 2033 (CAGR 2023-2033)	20 USD Bn (3.0%)	30 USD Bn (2.4%)	20 USD Bn (2.6%)	69 USD Bn (1.7%)

Source: *Niti Aayog; Facts represent India

Because of their strategic geographic location, South-East Asia and Middle East would offer key opportunities for the development of MRO Facilities. Comparison of Infrastructure and other incentives provision in select established and emerging MRO Markets is mapped below -

Markets	Established Markets		Emerging Markets		
	UAE (Dubai)	Singapore	Malaysia	Thailand	Philippines
Support Infrastructure	High	High	High	Medium	Medium
Locational Advantage	High	High	High	Medium	Medium
Competition Advantage	High	High	High	Medium	Medium
Presence of OEM Players	High	High	High	Medium	Medium
Local MRO Players	High	High	High	Medium	Medium
Tax Incentives	High	High	High	High	Medium
Import Duty Exemption	High	Medium	Medium	Medium	High
Free Trade Zones	High	Medium	Medium	Medium	Medium
Labour	Medium	High	High	High	High
Challenges	Labour	Space	Spare Parts	R&D	Competition

Source: Consultant's Assessment



B | Environment, Sustainability, and Governance (ESG)

Integrating ESG considerations into the aviation industry is crucial for addressing environmental challenges, meeting regulatory requirements, fulfilling stakeholder expectations, fostering innovation, ensuring sustainable growth, and managing risks.

Overview of Key Development in ESG in Aviation Sector

Carbon Offsetting and Reduction Scheme for International Aviation (CORSA)

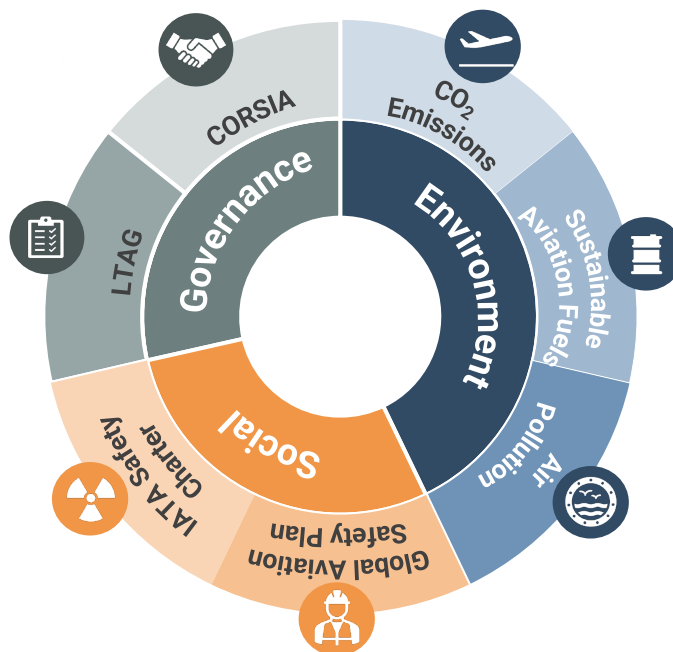
Countries agreed on a new baseline at 85% of the 2019 emissions level of International Aviation, which may only be possible by using SAFs

Long Term Aspirational Goal (LTAG)

Aims to reduce emissions in the aviation sector (i.e., directly from Aviation activity, as opposed to via offsetting emissions through the purchase of credits)

IATA Safety Leadership Charter

Strengthens organisational safety culture as a driver for continuous improvement in safety performance.



CO2 Emissions - Science-based targets

Long-term global Aspirational Goal (LTAG) to achieve net zero carbon emissions from Aviation by 2050

Sustainable Aviation Fuels (SAFs)

The aviation industry expects SAF to play a key role in decarbonising the sector; however, its supply remains limited and expensive.

Air Quality

200% increment in the number of announced offtake agreements for SAFs, from 21 in 2021 to 42 in 2022.

Global Aviation Safety Plan

Reduction in global accident rate along with improvement in air navigation and aerodrome facilities that meet ICAO Standards.

As per market trends, globally 1.5 Trillion USD is likely to be spent on Airports Infrastructure between 2024-2040, 27% lower than required.

Global Infrastructure Outlook has forecasted the investment that would be made against the investment that should be made in Airports—fixed infrastructure such as terminals, runways, aprons, etc. The forecast is made for 50 countries across 5 countries, which account for 85% of the World's GDP.

The airport infrastructure development would further ripple effect on the surrounding economy, creating diverse investment opportunities across various sectors that benefit from increased connectivity, economic growth, and enhanced transportation networks. Impact of select developments in the Aviation Industry and ASCELA's views on Investment prospects within the sector are discussed ahead -

Key Development		ASCELA's Views	
Entry of Shipping Lines into Air Freight Operations	Dedicated Services Launch <ul style="list-style-type: none"> › MSC debuted with a dedicated freighter service, MSC Air Cargo, operated by Atlas Air, in December 2022. MSC also acquired AlisCargo Airlines in August 2023. › CMA CGM launched a dedicated air freight division. By 2026, the fleet will include 12 freighters, including 4 B777 in Mar 2021 	Entry Barriers Key Shipping Lines may likely start controlling the supply chain completely by providing one step solution for multi-modal connectivity 	Integration of Smaller Airlines Smaller Airlines can aggregate with shipping giants to gain on assured client/ cargo. 
	Acquisition of exiting Operators <ul style="list-style-type: none"> › Maersk acquired Senator International (freight forwarder), associated with well-developed airfreight network in June 2022 <ul style="list-style-type: none"> • Explores routes using Boeing 767-300 medium widebody freighter in 2023 		
Neutral Outlook			
Entry of E-Commerce Players	Air Services for an un-interrupted supply <ul style="list-style-type: none"> › Amazon added 10 Airbus planes to replace aging Boeing ones in 2023 and plans to add another 9 Airbus A330-300s in 18 months 	Induced Demand Faster services will likely induce demand in the public 	Drones for Last Mile Deliveries Delivery Hubs at Cargo Airports itself to ensure fast deliveries 
	Use of Drones for Commercial Deliveries Drones come under the US's Federal Aviation Administration and are used by Amazon for short deliveries under the brand Prime Air Drone.		
Positive Outlook			
Sustainability	Carbon Neutral Airports <ul style="list-style-type: none"> › Dallas International Airport has adopted sustainable practices throughout its operations – from water use to energy consumption and waste management. 	Infrastructure and Operation Efficiencies 3% possible share in reducing Aviation Carbon Emissions by 2050 	Infrastructure Bunkering Infrastructure Development in other regions 
	Alternative Fuel Infrastructure <ul style="list-style-type: none"> › Airbus and Ariane Group announced to build first liquid hydrogen refuelling facility for ZEROe aircraft at Blagnac Airport in France. 		
	Alternative Fuel Commitments <ul style="list-style-type: none"> › Oneworld Alliance members announced the yearly purchase of up to 200 million gallons of Sustainable Aviation Fuel from Gevo. 		
Positive Outlook		Alternative Fuel Increased capacity of SAF production and other fuels 	





Photo - Madrid Barajas Adolfo Suárez Airport

Investment Opportunities

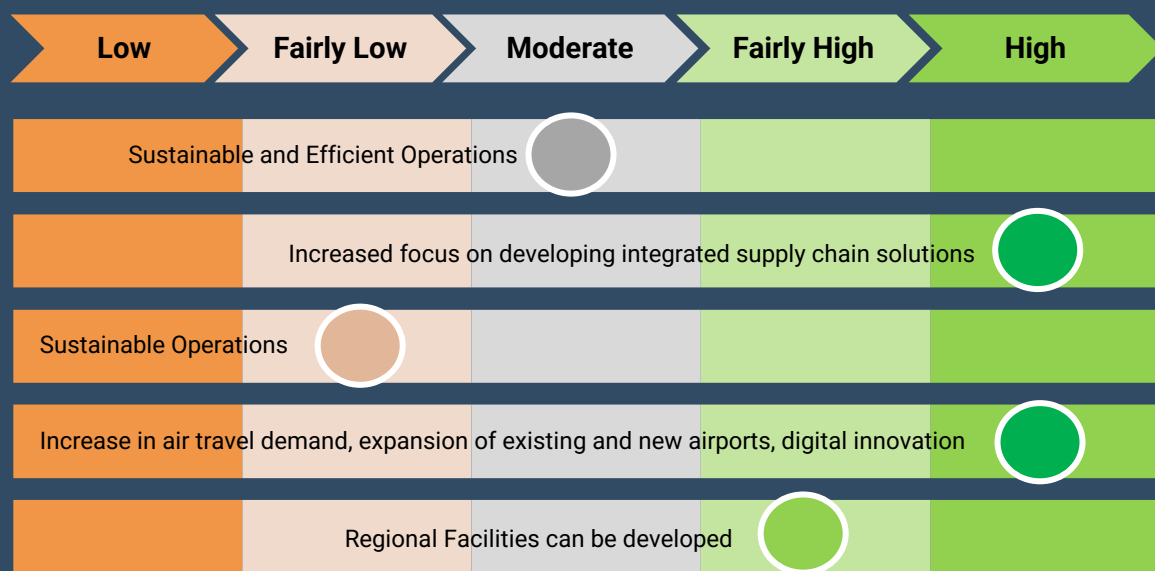
Key Development	
Addition of New Airlines	Launch of Global Airlines › KSA announced the launch of the newest national airline – Riyadh Air, in March 2023. The airline will support King Salman International Airport planned in Riyadh aimed at helping the Kingdom's ambition to become a global hub for trade and tourism
	Airlines focused at short and medium-haul flights › German operator Lufthansa launched City Airlines to fly between major European cities and remote regions
Positive Outlook	

ASCELA's Views
Increased Competition Would result in better service offerings, competitive pricing, and improved overall customer experience 
Demand for narrow-body planes and regional airport Launch of more airlines would likely increase ridership due to competitive pricing, which would demand more facilities 

Focus on Digitisation	Digital Innovation › BIAL is working with Amazon to establish Joint Innovation Center (JIC) at KIA Airport in Bengaluru
	Airlines setting up Innovation Centres › Emirates Group opens new innovation centre featuring AI, VR and 3D products
Positive Outlook	

Efficient Operations and Resource Management 
Data-Driven Decision Making Data analytics, machine learning, and AI-driven technology would help plan routes and personalised services. 

Global Investability Index in Aviation Industry – Year 2024



ASCELA's Viewpoint

Cargo Operations and Retail and Real Estate Development would have a high potential for investments globally in 2024 owing to the greater interest of private players in these sectors. This would likely be followed by investment in the MRO sector as airlines realise the expenditures incurred can be minimised if regional hubs are built. Ground Handling and Terminal Operations can be focused on to be developed more sustainably and efficiently. At ASCELA, we assess fairly high investment potential in the aviation industry.



ASCELA

United Arab Emirates

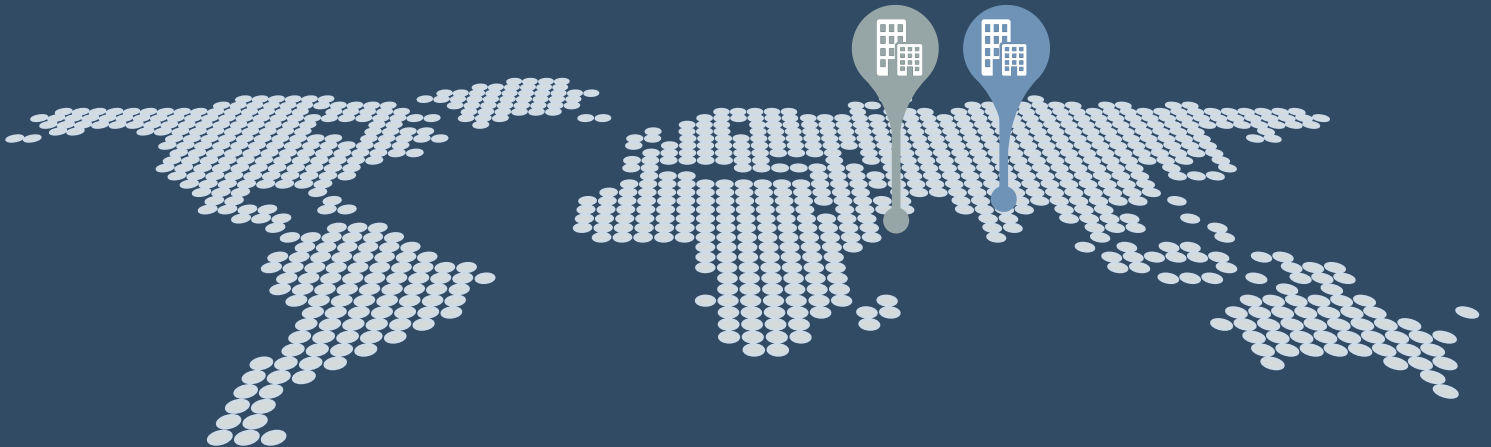
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About ASCELA

ASCELA is a professional service company providing advisory services to organisations to help them enhance efficiency by analysing market potential, competitive landscape, and operational, financial, economic, technical, and strategic challenges. The firm was established in 2018 to provide independent strategic insights into Infrastructure and build environments.

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