



Exploring the Potential of Air-Freight in 2023

Overview of Global and Indian Air Freight Market

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ASCELA



Air cargo business models in India and around the world are evolving and there may be opportunities to take advantage of the changes in the industry which may work to the advantage of certain alternative cargo airports. The industry, in the recent past, observed reduced dwell time of export/import commodities, digitalized and automated supply chain, increased freighter capacities using smaller aircraft, and increased first/last mile delivery of cargo.

The government of India is also taking initiatives to make India a key air cargo hub by utilizing its centralized geographic location in southeast Asia and connecting Tier II and III cities, especially north-eastern states, which have huge potential to export perishable agro-commodities.

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Growing e-commerce demand and manufacturing of smartphones and other electronics for domestic use and export are strengthening the outlook for air cargo development in India.

There is a focus from the government to increase the air cargo to 10 MTPA by 2030 with various infrastructure developments.

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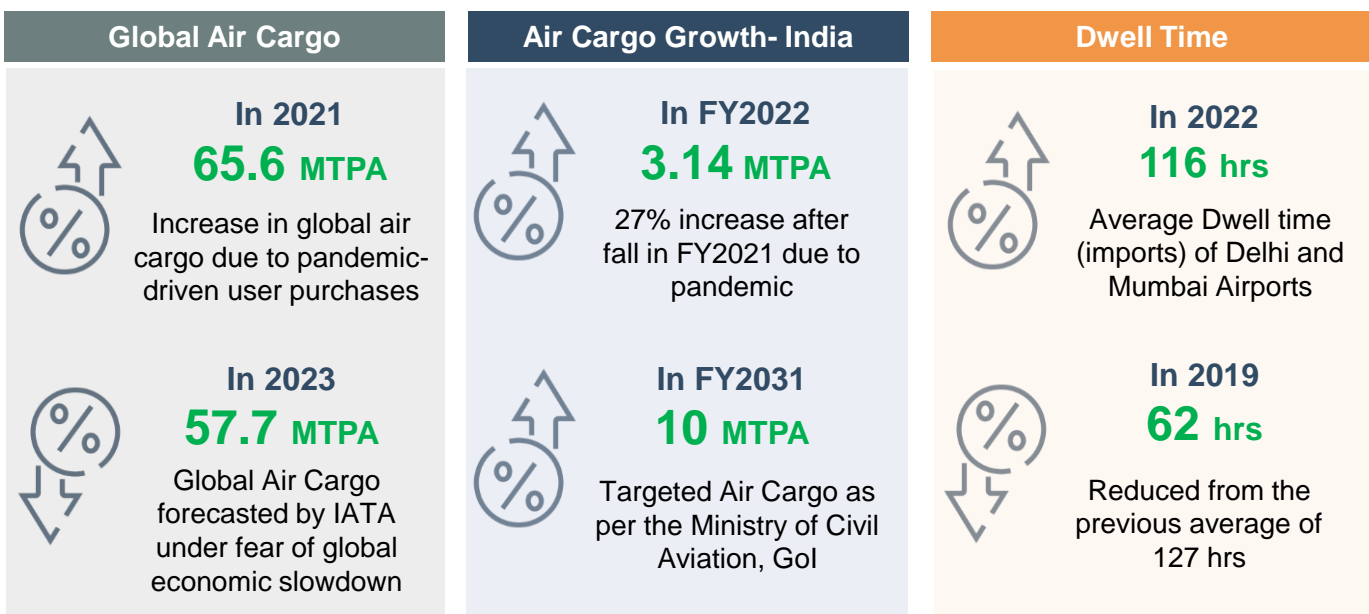


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Indian Air-Cargo Industry

The BIG Picture

Air cargo volumes handled in FY2022 at the six international airports of India summed up at 2.72 MTPA, which was lower than the cargo handled by some of the key global airports like Hong Kong, Incheon, and Memphis individually.



ASCELA's View

GoI is taking appropriate steps to encourage private participation in the air cargo sector through the policy push. The government is focusing on attracting investment in cargo operating infrastructure in tier II and III cities, increasing freighter capacities, and building efficient cold chain supply systems, and first/last mile connectivity networks.

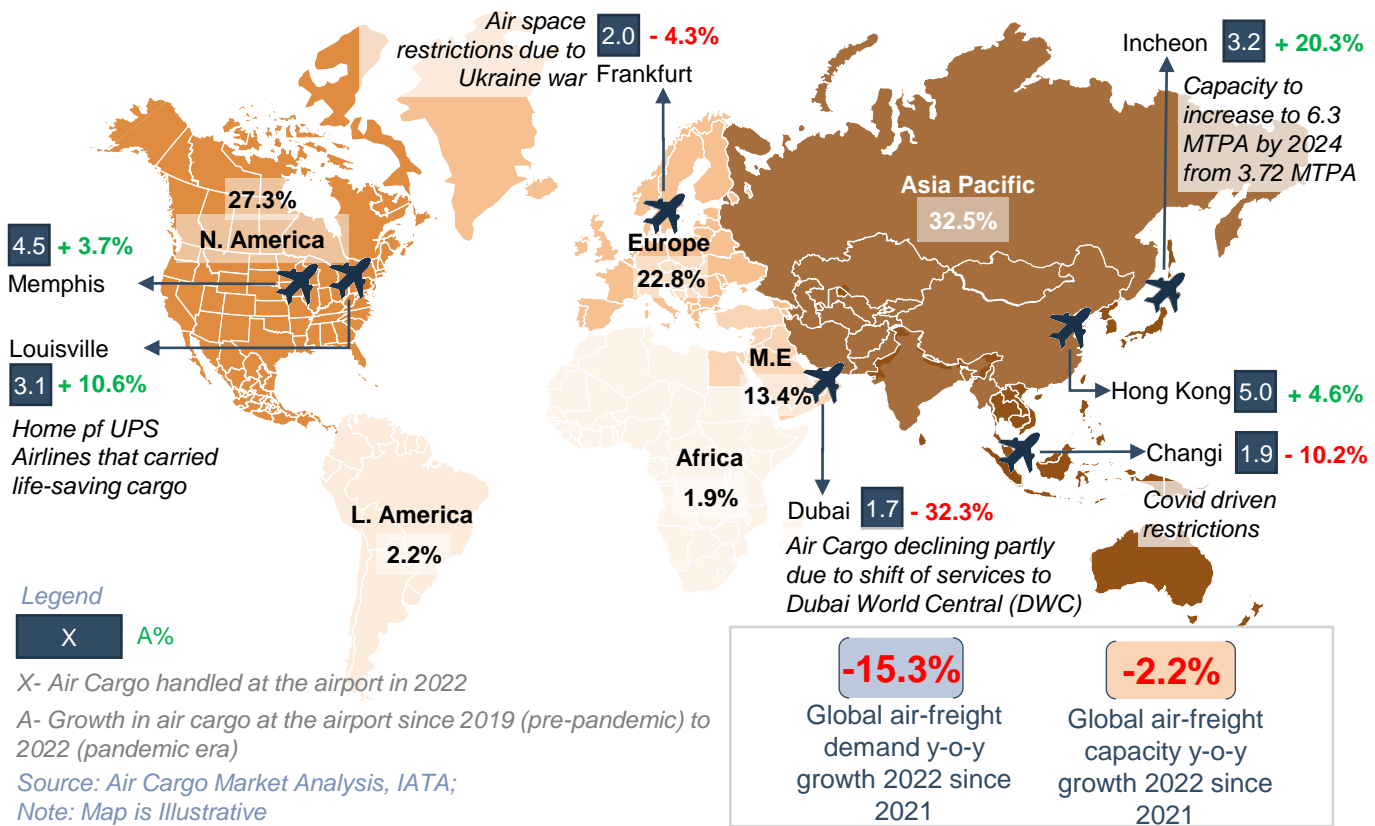
More than ever, the private sector is also keen to invest in the sector, especially e-commerce players. However, the growth of the sector may likely face some challenges in the short term, owing to the economic slowdown in the US and its impact on the global economy.

Air Cargo - Global overview and regional developments

After a stellar performance in the year 2021, air cargo industry struggled in 2022. Asia Pacific, however, continued to dominate in market share.

Inflation and the Russia-Ukraine war have slowed down the global economy and the corresponding demand for goods. Re-opening of China has likely paved the waves for the rapid rebound of the economy. IMF forecasts China together with India to be the major engines of growth in 2023.

Regional traffic share in 2022, and cargo handled at major global airports with changes since the pre-pandemic period



Global Region	GDP Growth in 2023	Opportunities for Air Cargo	Outlook for air cargo in 2023
Asia Pacific	China: 5.2% India: 6.1%	Hub for developing e-commerce and manufacturing industries. China and India are the world's fastest-growing economies.	Positive Outlook
North America and Europe	US: 1.4% Euro Area ¹ : 0.7%	The US and Europe may likely experience slower growth due to recessionary fears and high central bank rates	Negative Outlook
Middle East	KSA: 2.6% Middle East [^] : 3.2%	Lower oil production in line with OPEC+ agreement may likely impact overall cargo demand. However, growth for non-oil cargo will likely be robust due to diversification push	Neutral Outlook
L. America and Africa	L. America: 1.8% S.S. Africa ² : 3.8%	Demand for perishables from L. America may increase demand for air cargo. However, slow infrastructure growth in L. America and Africa may impact air cargo share.	Neutral Outlook

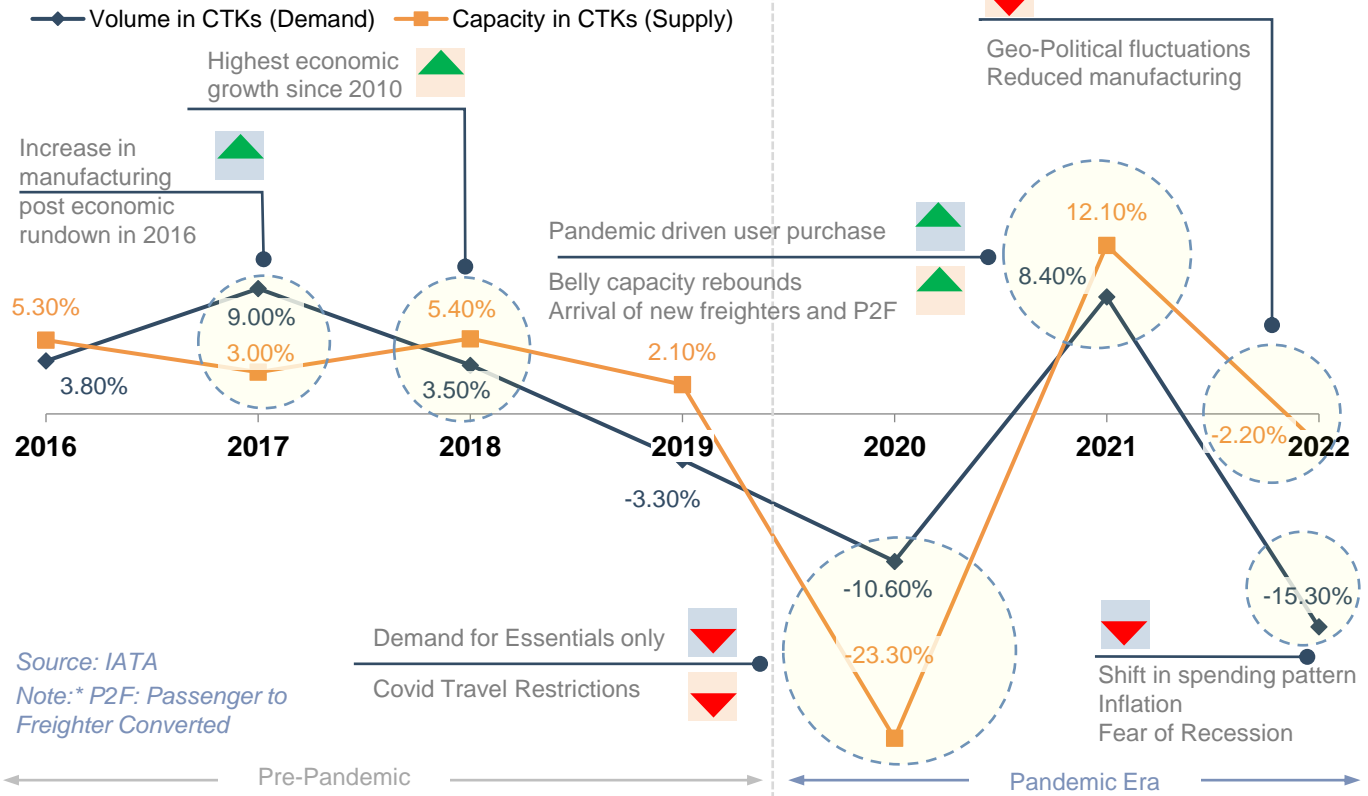
*Source: World Economic Outlook, IMF, January 2023; KSA- Kingdom of Saudi Arabia; 1: ^Includes Central Asia

Trends in global air cargo growth and its impact on cargo capacity supply

What to expect in 2023

- ▶ The industry may face excess freighter supply as the global cargo supply (as per IATA) may reduce to 57.7 MTPA in 2023 from a peak of 65.6 MTPA in 2021
- ▶ Airlines would likely compete against each other by reducing air cargo prices to get an increased share of time-sensitive commodities.

Trends in Global Volume and Capacity Growth of Air Cargo

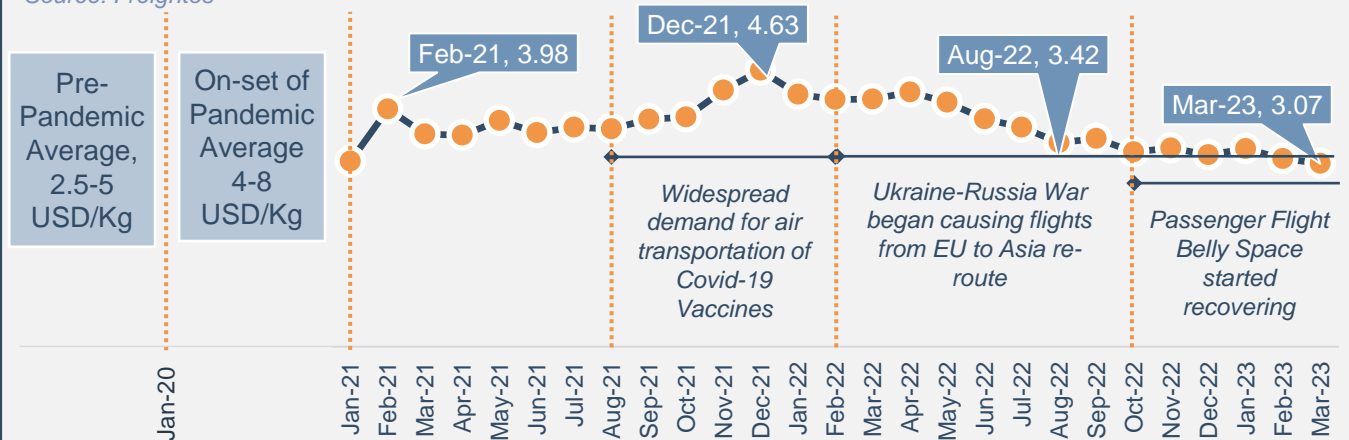


Freightos Air Freight Index (FAX) – Influence of volume and capacity on air transportation prices

FAX measures weekly spot price movements of air cargo in 191 airports. It is expressed as an average price per Kg for two shipment sizes: 100-300 Kg and 300-1000 kg

Trends in air freight price change over the years

Source: Freightos



Air Freight Rates in 2023:

Likely to reach pre-pandemic levels in the short-term as

- ▶ Re-opening of China would add to the already increased freighter capacity
- ▶ Air cargo demand is likely to reduce in the US because of economic slowdown

Indian Air Cargo Industry compared to Global

Cargo handled by Indian Airports, compared to leading global counterparts in 2022 (in MTPA)

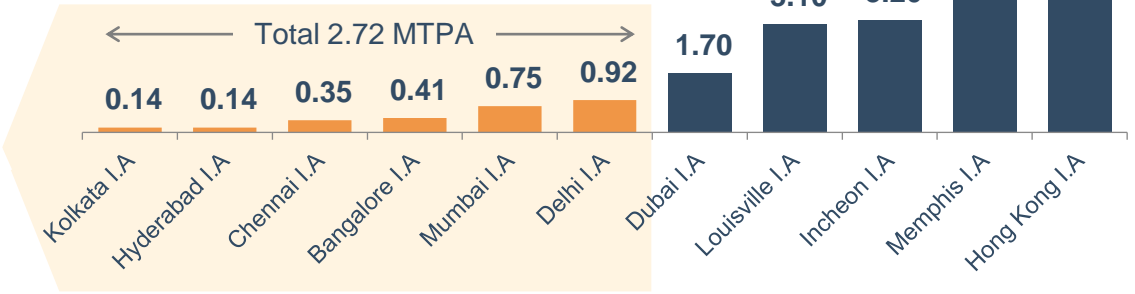
Source: Airports Authority of India (AAI), Respective Airport Websites

Note: I.A – International Airport

Indian Airports Non-Indian Airports



Share of national total in 2022



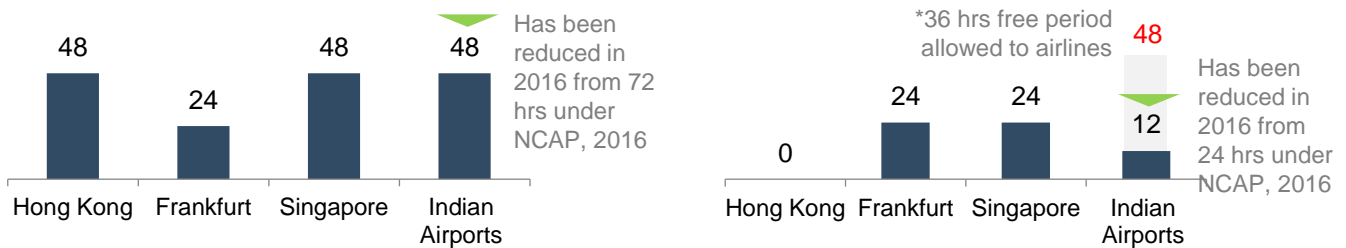
Positioning of Indian Airports

There is a significant untapped potential for air-cargo in India

- India may utilize its geographic position to transship cargo from neighboring countries like Nepal, Bangladesh and Bhutan under trade agreements.

Comparison of other performance parameters

Free period allowed at various airports (in hours) across the globe, as in 2022



Import cargo

Export cargo

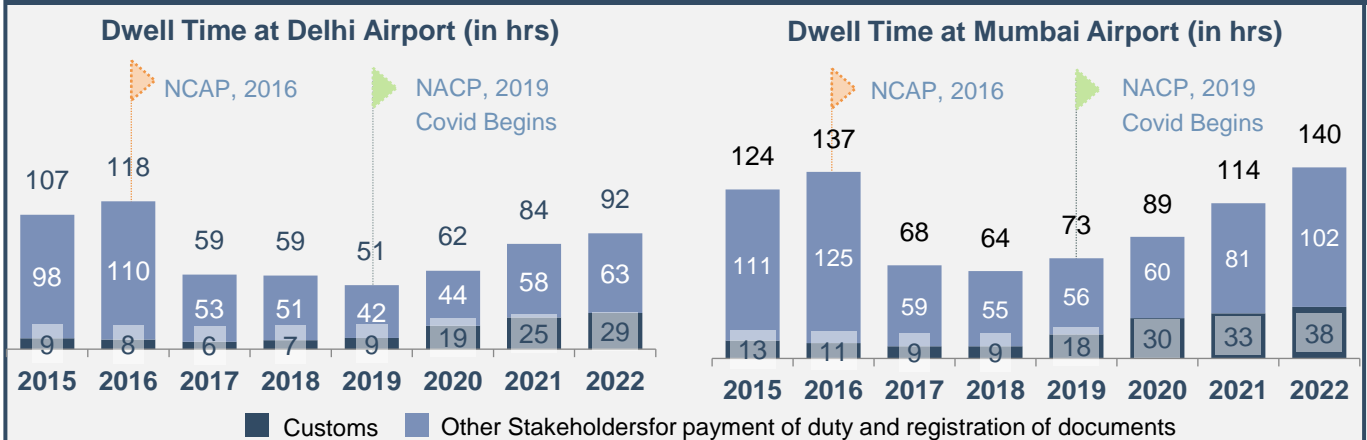
Source: Respective Airport Websites; * Ministry of Civil Aviation Order

High Dwell time at Indian Airports



- Reduction in free period at airports in 2016 had a direct impact on dwell time
- However, some of the Indian airports are inefficient compared to airports like Singapore, Dubai and Hong Kong which have dwell time lesser than 6 hrs
- 80% of the dwell time consists of payments processes and filling registration forms
- An efficient digitized system is likely to help in the reduction of dwell times

Trends in Dwell Time Growth at key Indian airports



Source: Directorate General of Civil Aviation, GoI

1 Lower Automation

Airports like Dubai and Singapore offer automatic cargo storage and retrieval systems, specialised systems for cargo handling (load in freight aircraft), and cargo sorting, which is lacking at Indian Airports

2

Absence of Free Trade Zones (FTZs)

Global Airports are seeing rapid investments in Free Trade Zones around Airports along with Value-added services for transshipment cargo, which is also required at Indian Airports for becoming an Air Cargo Hub.

3 Inefficient Airport Access Infrastructure

Lack of separate Import/Export truck dock systems, vehicle waiting area, and dedicated first/last mile trucking corridors

4

Insufficient Warehousing Spaces

Causes congestion at the terminal
 › Lack of automation also delays sorting and stuffing of cargo

5 Inefficient Cold Chain Infrastructure

Cold chain infrastructure is limited to warehouses; should include on-tarmac chiller system for transshipment cargo, reefer trucks

6

Lack of Integrated Infrastructure

Air Cargo Terminals lack sufficient dedicated freighter parking, and airside operational spaces

Comparative assessment of Indian airports with key global airport

Airport	Dubai Int.	Changi	Frankfurt	Delhi	Mumbai	Hyderabad
Cargo Terminal Capacity (MTPA)	3.3	3	~3	1.8	0.54	0.15
Free Trade Zones	DAFZ	CAC	N/A	No	No	GIFTZ
Customs	DAFZ	CAC	N/A	Terminal	Terminal	Terminal
Warehouse Spaces	Airport + DAFZ	CAC	N/A	On-Airport	On-Airport	Cargo Satellite Building, GIFTZ
Value Added Services	Dubai Industrial Park	Loyang District	N/A	No	No	GIFTZ
Freighter Parking (Nos)	N/A	27 Widebody	N/A	9	5	N/A
Dedicated Facilities	Emirates SkyCargo, Dnata, Fedex, DHL	Singapore Airlines, DHL, UPS FedEX,	Lufthansa Cargo, DHL	No	No	Spice Jet's Dedicated Operations to UAE
Cold Chain Facilities	Warehouse at DAFZ, Dedicated for Emirates	On-Tarmac Chiller, CEIV Pharma	Pharma unit next to Apron	0.15 MTPA Terminal	0.52 MTPA Terminal	Dedicated Pharma Zone
Automation in Handling	T-System Handling	Automated sortation	Highly Automated	Minimal Automation	Minimal Automation	Minimal Automation
Nearest Port (Km)	Jebel Ali (55)	PSA Port (30)	Manikpur (24)	JNPT (1,430)	JNPT (50)	Kakinada (500)

 **Dubai is building its 2nd Airport**

- › Dubai is developing a second airport – Dubai World Central (DWC) with handling capacity 12 MTPA with dedicated Logistics City, a commercial city and 5 runways
- › Dedicated Emirates Cargo Operations will likely shift to DWC, near Jebel Ali Port

Policy push for air cargo growth in India

Indian/Foreign Airlines can operate cargo operation from any Indian Airport where customs are located

Open Sky Policy

1990



Policy Outcome

90% of the cargo operations were conducted by foreign carriers and domestic airlines were getting less opportunities

Position India among top 5 air freight markets of world; Create shipment hubs at all major airports

National Air Cargo Policy

2019



Agreements between national & foreign carriers to access international hubs; Tier II-III cities connectivity from international airports, first/last mile connectivity

Restrict operations of foreign and ad-hoc and pure non-scheduled freighter service to 6 major airports only

Revised Open Sky Policy

2020



Domestic Airline's focus on signing MoUs with foreign airlines and major airports to transfer goods to Tier II-III as transshipment goods

Increase transportation of perishables from NE hilly and tribal areas by waiving airport related charges at 58 Airports

Krishi UDAN 2.0

2021



Airports focus on building an efficient cold supply chain (Warehouses, reefer trucks) with transporters for end-to-end movement of perishable commodities

Growing focus on air cargo industry in India

Hub-and-Spoke Air Connectivity to Tier-II and III

Ministry of Civil Aviation

- › Tap the potential of Air Cargo in India, especially from domestic cargo
- › Privatize airports and use the cash flow to build more infrastructure in Tier II-III cities
- › Leverage India's geographical location as a transit hub between Europe and Southeast Asia and a gateway to the South Asian Region.

10 MTPA

Targeted Cargo Volume by FY2031

Existing 3.14 MTPA in FY2022

33 Domestic Terminals

New Cargo Terminals by FY2025

Existing 21 International and 35 Domestic Terminals

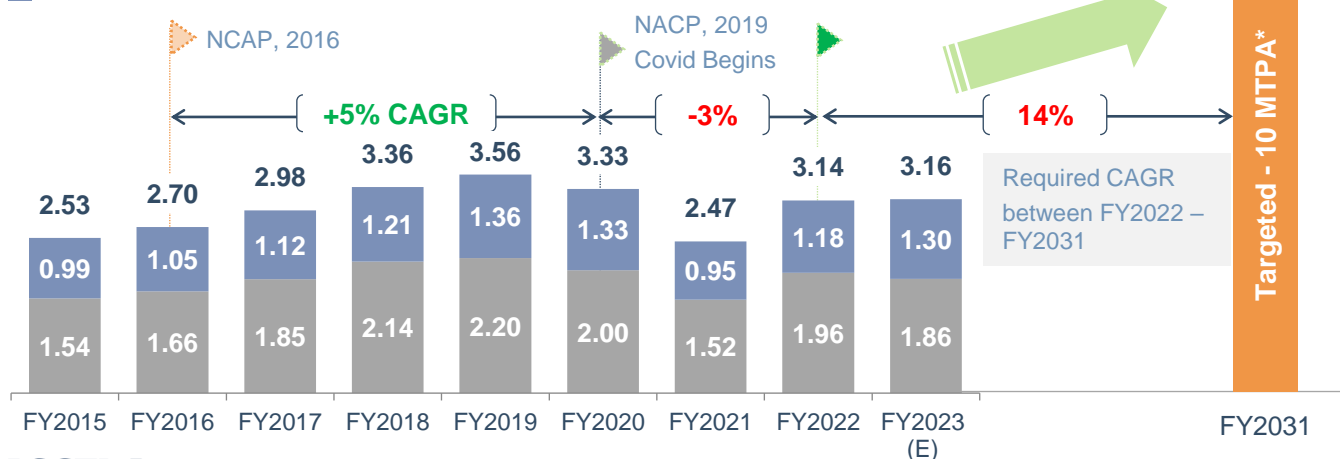
25 Airports

To be Privatized in 2nd phase by FY2025

Existing 13 Airports under PPP

International and Domestic air-cargo handled at India airports over years (in MTPA)

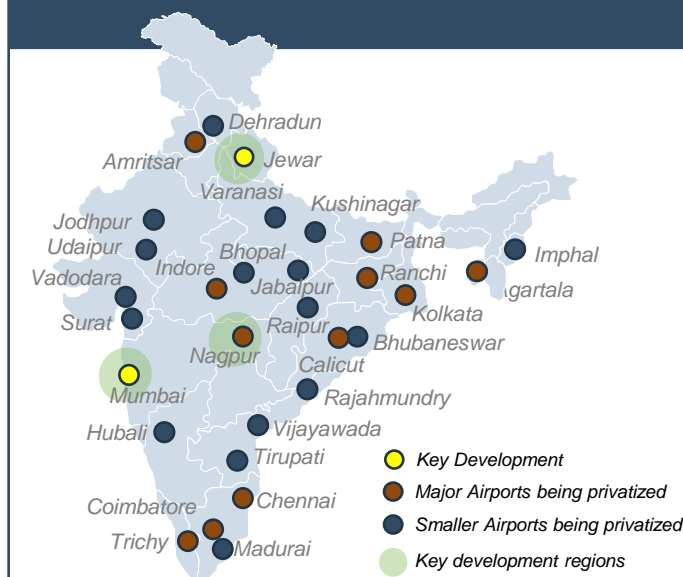
■ Domestic Cargo ■ International Cargo



Recent Developments

Key Development			ASCELA's Views
Entry of Shipping Lines into Air Freight Operations	Dec 2022	MSC debuted with dedicated freighter service, MSC Air Cargo, operated by Atlas Air, in December itself, sooner than indicated.	Entry Barriers Key Shipping Lines may likely start controlling the supply chain completely by providing one step solution for multi-modal connectivity
	Jun 2022	Maersk acquired Senator International (freight forwarder), associated with well-developed airfreight network	
	Mar 2021	CMA CGM launched dedicated air freight division. By 2026, fleet will include 12 freighters including 4 B777	
Expansion of Airlines	Jan 2023	Air India ordered 500 new aircraft in January 2023 for passenger and cargo operations	Domestic Competition With smaller planes, Air India may likely compete with smaller airlines for domestic share
	Sep 2022	Indigo is planning to increase its cargo freighters by adding 4 converted A321 aircraft as it realizes the potential of air cargo	Small Fleet demand Dedicated operations in future to Middle East & China
Entry of New Airlines	Oct 2022	Pradhan Air introduced an All-cargo airline after Blue Dart in Oct 2022 Operates world's first P2F Airbus A-320 freighter	Rise in Domestic Operations Likely target: Tier-II and III cities with small aircrafts
Entry of e-commerce players	Jan 2023	Amazon Air partnered with Quikjet to become first e-commerce company in India to launch a dedicated air cargo service	E-Commerce Growth Faster services will likely induce demand in the public
De-merger of Airlines from PAX Operations	Aug 2022	Demerged cargo operations to Spice Express; Reported revenue of INR 20.6 Bn in just 3 months of Operation	Capacity Augmentation Investment Opportunity for more freighters/ warehousing
Focus on Digitization	May 2022	BIAL is working with Amazon to establish Joint Innovation Center (JIC) at KIA Airport in Bengaluru	Investment Opportunities JIC likely to fund startups to bring faster turnaround times

Investment Opportunities in India



1 Air India SATS to build international air cargo terminal at Jewar with integrated warehousing and logistics zone

Opportunity: Industrial Players involved in EXIM should engage to hold industrial and warehouse spaces in the vicinity of the airport

2 Hyderabad – A growing air cargo hub
GMR Aero Technic to establish BCF Line

Opportunity: Increased opportunity for domestic airlines to convert passenger planes to freighters; expand complex aircraft modification capabilities and Maintenance, Repair and Overhaul (MRO) in India

Over the last few years, the potential of air cargo has been realized in India and the government is also taking key initiatives for the development of the sector. There are opportunities to invest in the privatization of airports, building cold chain supply systems, and introducing smaller aircraft for cargo movement.

1

Privatization of tier-II and III airports

25 airports are under approval for getting privatized by FY2025, the majority of which are located in tier-II and III cities. These airports have huge scope for development, especially for the transportation of perishable agricultural commodities from North-Eastern states.

Some of these airports are likely to be covered under the Krishi Udan Scheme 2.0 which incentivizes airlines to transport food products via these airports. This would likely assure cargo traffic at these airports.

2

Purchase of smaller ATR aircrafts for dedicated freight operations

Purchase and renting of small freighter aircraft are likely to be a profitable activity in the short to medium term as demand for transportation of goods from Tier II and III cities would increase.

These aircraft would be more economical than larger-sized aircraft like A-320 and A-321 because of the low quantum of goods to be supplied.

Smaller-sized aircraft would likely encourage daily transportation of goods and faster turn-around, which in turn would positively impact their production.

3

Establishment of cold chain warehousing around airports

The COVID-19 pandemic raised concerns over the inefficient cold chain systems at the time of medical supply distribution.

Investment in cold chain systems including automated cold-chain warehouses and reefer trucks for first-mile/last-mile connectivity is required to increase the transportation of temperature-sensitive cargo via airports. Additionally, on-tarmac facilities should also be proposed to be built to encourage the transshipment of perishable cargo via Indian airports.

4

Fund startups that may encourage digitization of supply chains

E-commerce industries are growing worldwide and competing against each other to serve the consumer fastest. These service industries are investing to digitize supply chains and track their shipment live. Technological companies may likely approach e-commerce players and airports to build digitization road maps for the air cargo industry in India.

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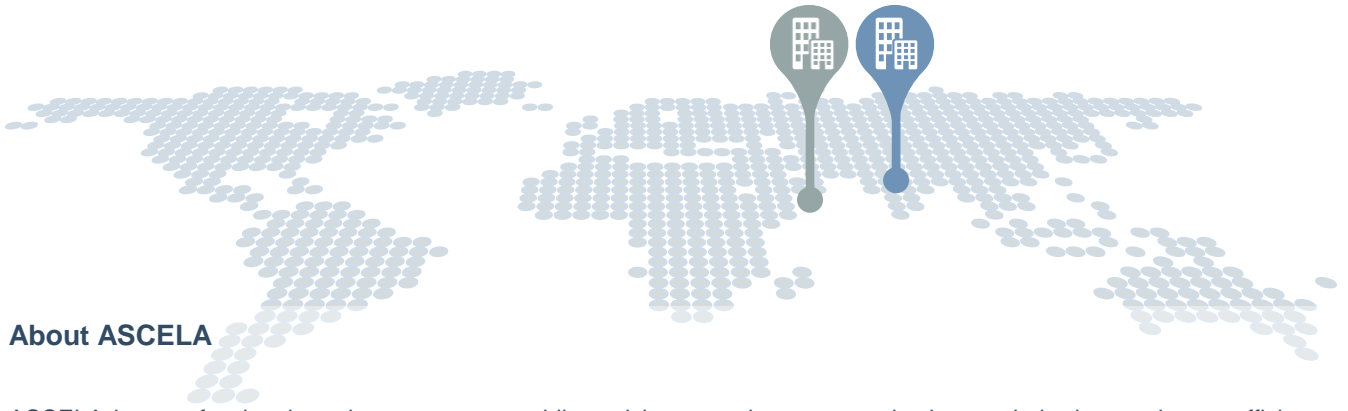
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About ASCELA

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

ASCELA is headquartered in India and has offices at Gurgaon, India and Dubai, United Arab Emirates (UAE). In India, the firm is registered as ASCELA ADVISORS PRIVATE LIMITED (CIN- U74999HR2018PTC072828). ASCELA is recognised by the Department for Promotion of Industry and Internal Trade (erstwhile DIPP), Ministry of Commerce and Industry, Government of India, under the Startup India initiative (Recognition ID - DIPP17959).

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ASCELA's Infrastructure Advisory practice helps clients develop and leverage core competencies to deliver sustainable and tangible returns. We define strategies that help clients gain market share, enter new markets, regions, and products, improve the bottom line and reconfigure organizational/ operational structures. ASCELA is well placed to provide strategic inputs and analysis for assessing potential development opportunities in Infrastructure design and development space. Our in-depth knowledge of our focus transportation sectors, backed by intensive research and analysis of our clients' specific contexts, helps define superior strategies, frameworks, and implementable action plans.

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