



LOOKING FORWARD TO TOMORROW'S WORLD THE CURRENT CHALLENGES OF PASSENGER-TO-FREIGHTER CONVERSIONS

by Simon Spells & Ethan Tan

Takeaways

- Demand for freight is here to stay
- Feedstock availability does not appear to be an issue currently
- Freight pricing will remain buoyant due to the limited supply and low conversion rate of freighters



Demand in the freighter sector has sparked interest from lessors; airlines; maintenance, repair, and overhaul (MRO) service providers; investors; funds; and other financial institutions. Many are keen to invest to hedge their existing passenger aircraft exposure, create new business lines around it, and/or build out their existing expertise (in the case of MROs/conversion specialists) to increase capacity and the range of conversion programs on offer. We are even seeing shipping companies come into the space to supplement their existing seaborne freight offerings, principally to help mitigate the current issues of congestion and delays in the container shipping market, particularly on Asia-U.S. routes where there are no land-based alternatives.

Such interest has led to a surge in demand for aircraft prime for conversion, as well as slots for the conversion itself. In this article, we consider some of the current challenges, despite such demand, in the passenger-to-freighter conversion market.

Sourcing of feedstock aircraft and conversion slots availability

Feedstock

Boeing's World Air Cargo Forecast (the latest version of which covers the period 2020-2039, released in November 2020) states that "accelerated e-commerce adoption because of COVID-19 looks likely to extend express market growth trends".

Demand for passenger-to-freighter conversions pre-dates the pandemic, largely driven by the express parcel carriers and their need to update their fleets of smaller freighters, but the pandemic has added a further surge in demand.

Boeing predicts the cargo market as a whole will grow at an annual rate of 4 percent over the next 20 years, resulting in the requirement for a freighter fleet 60 percent larger than we have today. Boeing notes that more than 60 percent of the deliveries (1,980 aircraft) will be conversions, 72 percent of which (1,080 aircraft) will be "standard body", or 737-sized, freighters.

[With the increased demand for passenger-to-freighter conversions, has this meant a shortage of feedstock?](#)

There have been reports of aircraft, thought to be long retired, being brought back into service for conversion. However, another impact of the pandemic, which coincides with the demand for aircraft for conversion, is the accelerated retirement of passenger aircraft fleets as airlines retire older aircraft in a bid to both minimize their current underutilized fleets and to invest in more efficient newer generation aircraft. As such, there appears to be a demand/supply equilibrium currently in terms of aircraft available for conversion.

Slot availability issues

The bottleneck in the supply of passenger-to-freighter aircraft comes at the conversion stage, with the availability of slots at most major conversion facilities booked up until 2024, and in some instances until 2026.

Conversion facilities are being extended and new facilities set up, however, these initiatives take time:

- Boeing will expand its conversion business by setting up a passenger-to-freight facility in Costa Rica. The facility is set to come online at some point in 2022.
- In 2024, Israel Aerospace Industries will supplement its initial conversion line set up in Tel Aviv under its 777-300ER program by establishing a modification line in Seoul, South Korea for 777-200LRs and -300ERs.
- Elbe Flugzeugwerke continues to increase its capabilities. By 2024, it will increase its current capacity to the point that it will be able to produce approximately 60 converted aircraft per year – approximately 30 conversions each of the A330 and the new A321 narrow-body – up from the 19 conversions it expects to carry out this year. It also expects to establish production lines in China and the United States for the A330 reconfiguration in 2022.

Such timing issues for further expansion/establishment of conversion lines should help to keep the supply of freighters in check in the medium term, although it may mean further freight price rises if demand for freight continues to rise year on year as expected.

Staffing issues

Sourcing and recruiting qualified personnel is also an issue for the conversion facilities, particularly in current times with restrictions on travel and countries around the world devising their own strategies for living with COVID-19.

Conversion process

Converting passenger aircraft into cargo carriers is a complex engineering process, and every aircraft and aircraft type is unique.

The process takes several months and involves the following processes:

Full strip out of the cabin	Galleys, seats, overhead lockers, toilets, in-flight bars, etc.
New loading door	The door is usually cut at the front of the fuselage, requiring new reinforced frames to be fitted. Completed in stages, this is one of the most technical parts of the process.
New cabin floor	A new, reinforced floor is fitted to the cabin to ensure it is strong enough to bear cargo loads, as well as ensuring that the floor space is maximized.
Testing, testing, testing	A battery of tests and inspections is required throughout the process before certification.

The conversion process is complex, and participants need to be very clear on how best to work with the conversion facility to optimize their aircraft. Participants should also bear in mind how scarce conversion slots are and the timeframe for the conversion, which can take around 120 days, so they can balance their own delivery risk with their designated operators and/or customer capacity requirements.

Conclusion

There are multiple threats to the global economy at the moment, including surging inflation, monetary tightening, and new COVID-19 variants, but absent an unexpected economic downturn, it is likely that the demand for freight, freighters, and passenger-to-freighter conversions will continue to grow in the coming years. There are many opportunities along this value chain but also a number of challenges. Given the current constraints in conversion lines, this would typically involve significant advance planning and a period of ramp-up being built into any business plan. Nevertheless, we expect that air cargo, and the ancillary services relating to it, will increasingly become an integral part of the aviation industry and a complementary piece to the usual passenger services.



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Ethan is an experienced aviation lawyer with deep expertise in aviation finance as well as all varieties of aviation-related work. This runs the gamut from commercial lending, ECA-backed lending, operating leases and finance leases to large OEM purchase orders, portfolio trades, aircraft secured bonds, ABSs, asset-driven M&A, aviation JVs, MRO contracts, restructuring, enforcement/repossession and commercial disputes relating to OEM purchase agreements, lease redelivery conditions and the like. Ethan has advised banks, lessors, airlines and other investors on some of the largest and most ground-breaking aviation transactions in the APAC region over the past decade.