



THE LOADSTAR

LongRead

**LongRead Vol 18**

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# The capacity crunch



## Inside

Freighter forecast:  
Airbus & Boeing

**Haunted by memories of the frantic scramble for lift that was the 2017 peak season, many forwarders are determined to prevent a repeat and have moved early to secure capacity.**

Nippon Cargo Airlines received requests for peak season capacity in early June, reports Shawn McWhorter, president for the Americas.

Robert van de Weg, vice-president of sales and marketing at Volga-Dnepr, notes that available lift was at peak season levels in June, which raises questions about the coming peak season.

"There is very little slack," he warns.

The scarcity of capacity stretches well beyond the coming peak season.

Baldvin Mar Hermannsson, vice president of sales and marketing at Air Atlanta Icelandic, reckons his firm will continue to see more demand than it is able to meet for some time.

And Dan Morgan-Evans, global cargo director at Air Charter Service, says: "There is a lack of new freighters coming on the market. Airfreight is growing faster than the rate of freighters coming on."

The concerns about freighter capacity reflect the dramatic turn in the market over the past two years, which has morphed freighters from burdens on airline balance sheets to desired assets. Rampant growth in demand outpaced overall capacity, silencing predictions that freighters

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would be increasingly marginalised by the growth in belly lift.

Boeing never bought into that scenario, stressing that freighters roughly maintained their share of global volume through the downturn of 2008-2016, which is north of the 50% mark, although they account for less than 8% of global air transports. Moreover, according to the US plane maker, 66-70% of air cargo moves between industrial sites, but only 30% of the belly capacity on new widebody aircraft introduced between 2011 and 2016 was deployed on the primary air cargo routes.

The freighter shortage is most acute at the top end of the widebody hierarchy. Chapman-Freeborn has had a lot of demand for B747 freighter lift. Group cargo operations director Pierre van der Stichele, describes the 747 as “probably the most important aircraft in the market” today.

The resurgence in air cargo traffic has brought most 747-400 freighters that were retired during the downturn back into action. Even aircraft that require extensive maintenance to be fit again are coming back on stream.

Two 747-400ERFs that had belonged to defunct Jade Air Cargo and were famously sold last December in an online auction, after multiple attempts to find new owners had failed, were put into major overhauls for SF Express. A third ex-Jade 747-400ERF is currently being readied for service for CAL Cargo Airlines.

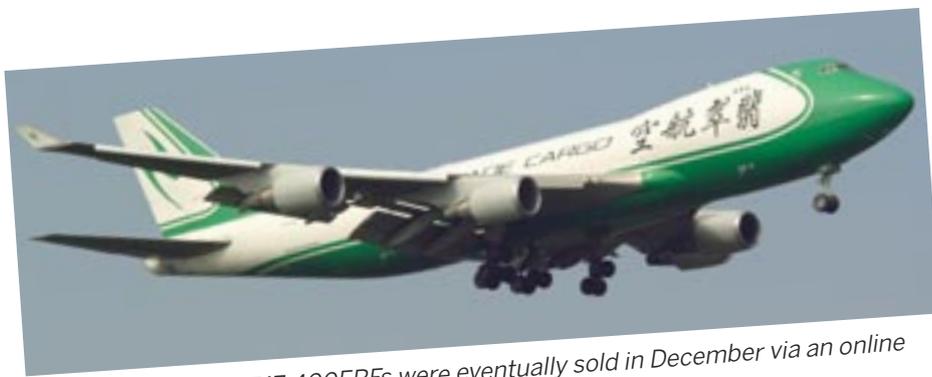
### Not surprised

The scramble for 747-400 freighters extends to converted aircraft. Hermannsson is not surprised by this. Air Atlanta has always seen a role for the 747-400 – both the production freighter and the converted type, he said.

Boeing has turned out 141 production freighters of the type, and 46 were passenger planes converted into all-cargo configuration. It is doubtful if all converted planes will be brought back, but a number of people are now chasing 747-400 passenger aircraft to revive the conversion programme, which has seen scant activity over past years.

With the likes of Delta, United and Qantas moving to retire their 747-400 fleets, feedstock for a fresh round of conversions is beckoning.

The pool is not as big as it may appear at first glance, though. Air Atlanta is looking to add one or two -400s to its line-up, which includes five



Two Jade Air Cargo 747-400ERFs were eventually sold in December via an online auction

Photo: © Darknightsky | Dreamstime.com

freighters. Discounting older airframes, a few candidates are available, but the market is very competitive, Hermannsson says, adding that this has prompted some unrealistic pricing.

Aviation consultancy CAPA has voiced reservations about a bout of 747-400 conversions, pointing out that the advanced age of the aircraft offers relatively narrow windows for cost amortisation. Airframes may be available at relatively low cost, but the conversion expenditure is significant. According to CAPA, parked 747-400s are at least 16 years old, and their average age is 23 years.

At the current rate of production, B747-8 freighters are not going to move the needle on capacity significantly. Last year Boeing throttled back production to one unit every two months. At this rate, it will be working on the existing backlog of orders until 2022.

**The resurgence in air cargo traffic has brought most 747-400 freighters that were retired during the downturn back into action. Even aircraft that require extensive maintenance to be fit again are coming back on stream**

Despite an order for 14 747-8Fs from UPS in January, which turned options into firm orders, Boeing seems unlikely to pick up the pace on 747-8 output. At this point speculation is rife that the production run of the aircraft may come to an end when the last of the existing orders has been completed.

The tepid demand for the aircraft has prompted speculation that Boeing could do better using its production line for turning out 767s, which are in hot demand. Moreover, there are question marks over the future supply of key components for the 747. Boeing,

for its part, though, has reaffirmed its commitment to the programme.

Carriers like AirBridgeCargo and Cargolux have suggested they are interested in more 747-8s, but the plane's price tag is a deterrent for many carriers. After the experience of the downturn, airline boardrooms are not inclined to entertain spending north of \$300m for an aircraft that could turn into a millstone round their neck at the next slump in demand and yields.

For the near future, top brass at carriers are more inclined to embrace older freighters or leases rather than splash out on a new widebody cargo plane, believes Tom Crabtree, regional director, airline market analysis, marketing and business development at Boeing.

He notes that some carriers, such as All Nippon Airways and Lufthansa, have placed orders for 777-200 freighters this year, which he sees as an indication that confidence is slowly returning.

### Monopolistic

Jonathan McDonald, head analyst at IBA Group, believes the 777-200F has no direct competitor, which puts it almost into a monopolistic position. Still, the acquisition cost is an issue. “It's a high unit price for a 777 freighter,” he adds.

Interest is mounting in a conversion programme for the 777. The aircraft has been optimised for passenger service, so a conversion would be costly, but as passenger airlines are taking out 777-200s, the sticker price for feedstock is coming down to levels where conversion becomes feasible, according to Stan Wraight, president and CEO of Strategic Aviation Solutions International.

If a converted freighter can be obtained for \$50m-\$55m, the programme will take off, he reckons. By his estimate, this is probably one to two years away.

Boeing is studying the market for a converted 777 at this point, mulling over the different options, Crabtree says.

#### MD-11

Like the 747-400F, the MD-11 was also headed for the exits before the market recovered. Carriers like EVA Air got rid of their MD-11Fs and phased out their 747-400Fs as they took delivery of a smaller number of 777-200Fs. However, UPS and FedEx have kept using MD-11 freighters, and so has Lufthansa, and the

combination of soaring demand and low fuel costs has given the type a second life – although Lufthansa does plan to phase them out in favour of a pure 777 freighter fleet.

Western Global Air has made the MD-11F the backbone of a fleet that also includes a smaller number of 747-400Fs. The carrier has 11 MD-11s in its line-up and intends to add two more this year and in 2019. Western Global CEO and founder Jim Neff sees a strong case for

the type for years to come.

“It’s close to the capacity of a 777 but the cost is similar to a 767,” he said.

Under favourable circumstances, the MD-11 could keep going into the early 2030s, Crabtree reckons. However, there is no room for conversions, as all conversion kits have been used up, which rules out the type as the answer to the capacity conundrum.

Like the 747-400, the MD-11 is

## Freighter forecast is fair, say Boeing and Airbus



Being in the business of selling aircraft, Boeing and Airbus are naturally upbeat on the outlook for freighters plying the world’s trade routes, but they do base their projections on solid economic data and multiple sources.

The extensive statistics they use have served to dispel some popular myths, such as the widely adopted belief that freighters were losing market share to belly capacity during the past downturn.

Airbus, which tabled its latest long-term forecast in early July this year, sees the global jet freighter fleet expanding from 1,650 units this year to 2,722 in 2037, which constitutes an increase of 65%.

Of the current fleet, 336 aircraft will still be in service at the end of the forecast period, which translates into a need for 2,476 freighters over the period. Airbus predicts that 826 of these will be new production freighters and 1,560 will be converted passenger planes.

Nearly 60% of the new production freighters will be in the large freighter segment, while the narrowbody sector (covered entirely by reconfigured units) will account for almost 88% of all conversions, Airbus predicts.

Over the 20-year span, the overall global aircraft fleet will more than double from 21,453 to 47,987 units. Freighters’ share of the total fleet will shrink from the current 7.7% to 5.6%.

Based on an average annual growth rate of 4.2% in traffic, Boeing’s most recent projections, published last summer,

forecast demand for new aircraft between 2017 and 2036 to climb to 41,030 units, of which 920 will be freighters.

Altogether the US plane manufacturer anticipates demand for 2,480 cargo aircraft, of which 1,560 will be conversions.

Boeing sees demand for 920 production widebody freighters, with 490 in the large bracket over 80 tonnes. The remaining 430 production units will populate the medium size freighter segment between 40 and 80 tonnes, while the narrowbody market will be covered entirely by converted planes, as before.

Boeing’s analysts see North America leading the market for new freighters, with 390 deliveries, followed by airlines based in the Asia-Pacific region, with 320.

Airbus also sees North America in the lead, ahead of the Asia-Pacific area. However, the former will register growth of 31.2% in cargo aircraft, whereas the fleet in the Asia-Pacific is expected to more than double over the period, from 318 freighters in 2018 to 802 20 years down the runway.

In some markets, there are age restrictions for importing aircraft, which may hamper some deployment. This should not be a big problem, according to Gregoire Lebigot, president and CEO of Vallair, who points to increasing aerospace activity in Asia.

“In my view, Chinese planes will be converted in China and remain in China. The same will happen for Europe and the Americas,” he says.

A bigger headache may be finding crews to man all these new freighters.



vulnerable to a rise in fuel costs. If the oil price keeps climbing, the aircraft will not be viable, warns Lucas Kuehner, global head of airfreight at Panalpina.

Fuel has indeed climbed up steadily, but Boeing does not expect this momentum to continue. Higher oil prices will prompt increased production, which will in turn bring the price down again, the manufacturer predicts. Crabtree says that the oil price is forecast to remain in the \$60-70 range for the next eight or nine years, notwithstanding some temporary fluctuations.

And the advanced age of the older models is a concern in terms of maintenance requirements, says Kuehner.

In the payload bracket up to 60 tons, capacity is similarly scarce. The focus of major e-commerce players like Amazon and the Chinese players on B767 and 757 freighters to operate regional networks has impelled Boeing to decide a few months back to ramp up 767 freighter production from 2.5 to three units per month.

B767 conversion activity is brisk. Cargo Aircraft Management delivered its third completed 767-300F this year in early June and is due to finish seven more before the end of the year.

Precision Aircraft Solutions, which turns 757s into freighters, is operating at capacity, which translates into 20-22 conversions in a year. The company has completed just over 100 757 reconfigurations and Brian McCarthy, vice-president of aircraft trading, expects to do 55-60 more over the coming years.

#### **Narrowbodies**

In the narrowbody segment – also hotly contested by operators chasing parcel traffic – new aircraft types are entering the market. The first converted 737-800 was delivered in April, while the A321 conversion programme is due to complete the first unit in 2020. However, residual values of both types are still high, so conversions are not expected to reach significant volume for some time.

At this point, conversion specialists like Aeronautical Engineers are primarily working on 737-400s. Bob Convey, vice-president of sales and marketing, thinks the price tag for a converted 737-800 has to sink from the currently \$20m to about \$15m for the programme to take off. He reckons this will happen by 2020 or 2021.

These developments on the supply side are unlikely to meet the escalating need for lift. Peter Pasman, COO airfreight Europe at Rhenus Logistics, points out that IATA statistics show a

*UPS and FedEx have kept using MD-11 freighters, and so has Lufthansa, and the combination of soaring demand and low fuel costs has given the type a second life*

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rise of 9% in demand last year, while capacity increased by 3%.

The first five months of this year have produced further growth in traffic. Recent airfreight statistics suggest that the restocking cycle that started in 2016 has more or less run its course, but economic expansion is expected to continue, despite mounting concerns over trade conflicts. Above all, cross-border e-commerce looks set to expand further, which requires more airfreight capacity.

Some commodities may be squeezed out.

“For some goods, the cost of shipping by air may be too high. Some will probably move by rail from Asia to Europe instead,” says Panalpina’s Lucas Kuehner.

Faced with the prospect of scarce capacity, forwarders have been trying to secure lift. For their part, airlines have been less willing to commit capacity in order to be able to take advantage of higher ad hoc rates during the peak season. Nevertheless, block space

agreements are still the way to go out of Asia, believes Andre Delarue, COO airfreight Asia of Rhenus Logistics.

“In order to be competitive, bigger commitments with guaranteed uplift have to be made,” he adds.

Increasingly, airlines are trying to leverage their position to maximise network benefits. Two-way and multi-lane agreements with larger clients are on the rise, forwarders have reported.

### Dedicated freighters

A growing number of forwarders have resorted to dedicated freighter flights to control capacity and pricing better.

“Certainly the model makes sense,” says Mr Kuehner, citing cost transparency and the ability to plan over longer periods of time as major benefits. He warns, however, that this approach can be costly if the user does not have enough cargo to cover the round-trip economics.

“We went from two to one aircraft. We replaced one with a lot of part charters with the same provider,” he explains.

Air Atlanta used to place its freighters exclusively with airline clients, but recently it has been dealing increasingly with charter brokers and cargo agents looking for dedicated capacity.

“I think we will see more people moving in that direction,” says Hermannsson.

This view is shared by van der Stichele. Chapman Freeborn upped its stake in Magma Aviation last year and has worked to secure a third aircraft for the carrier.

“We are always looking to have controlled capacity,” he says.

One concern about the rising number of freighters tied up in contracts is the resultant reduction in available planes for ad hoc charters.

“There is no pool of DC-8s or A300s knocking around,” says van der Stichele.

The pool of ad hoc charter carriers shrank during the downturn. Some of the slack was picked up by scheduled freighter operators looking to supplement their core business with ad hoc traffic. However, their willingness to build downtime into their schedules to accommodate charters has been tested by the resurgence in scheduled traffic.

Volga-Dnepr still keeps some slack in the system for urgent charters, but diversions to pick up shipments en route are easier to manage. AirBridgeCargo can manage one or two full charters in a week, compared with 4-6 diversions during the same time, says van de Weg.



Photo: © trealit

*Aircraft availability is only part of the capacity conundrum the industry faces*

Charter availability has not only diminished because of these dynamics, Delarue points out.

“Landing right restrictions and airports operating at almost full capacity have reduced the overall number of charters in recent years,” he says.

Indeed, availability of aircraft – for charters or in general – is only part of the capacity conundrum that the industry and its customers are facing. The debate over landing slots at

“Elements like slot restrictions and warehouse congestion are all adding up,” he says, adding that infrastructure issues and challenges on the trucking side further exacerbate the problems.

These developments, combined with the alarming shortage of pilots, are feeding a rising chorus that predicts the deployment of drones to carry cargo – not on the final mile in urban environments, but on regional as well as intercontinental routes.

Ram Menen, former head of cargo at Emirates Airlines, also anticipates the use of drones on longhaul sectors.

As the current fleet of large widebody freighters ages and replacement through conversions is hampered by a lack of viable candidates (aircraft built since the 1990s are optimised for passenger operations and would be prohibitively expensive to convert, he thinks), a disproportionately large portion of the large freighter fleet would have to be made up of production units, but few airlines are willing to invest the requisite sums in new widebody freighters, he argues.

For forwarders and shippers looking to secure lift for the coming peak, this is of little comfort. They need to work more closely with each other as well as with airlines to navigate through the autumn.

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### **‘Landing right restrictions and airports operating at almost full capacity have reduced the overall number of charters in recent years’**

**Andre Delarue**  
COO airfreight Asia  
Rhenus Logistics

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Amsterdam has cast a glaring light on limitations that even cargo-minded airport authorities are struggling with.

Kuehner recalls the problems that Frankfurt airport experienced during the past peak season and warns of a possible repeat this autumn.