FREIGHTER TRENDS

March 2021 Rs. 75/-

AN UPDATED TRENDS IN THE FREIGHTER INDUSTRY, P2F CONVERSIONS, AIR CARGO & MRO

THE EMERGING CARGO INDUSTRY WILL HAVE A BETTER UNDERSTANDING OF THE NARROWBODY CONVERSION

THERE IS AMPLE 737-800 AND A321-200 FEEDSTOCK TO SATISFY CURRENT MARKET DEMAND FOR THE NEXT TEN YEARS

Freighters are an essential part of supply chains. Belly freight is cheaper but vulnerable. Even with rising passenger traffic, it is still expected to be years before it returns to 2019 levels, which will fuel an increase in demand for conversions. Freighter Trends learnt that there appears to be ample feedstock for both A321-200 and B737-800 conversion programs to satisfy current market demand for the next ten years. The limitation for each program is conversion capacity. Each aircraft type is in high demand. The E-commerce, COVID material and express driving more narrow body demand. Here are the details......

What lessons the industry has learnt from the pandemic especially in the P2F conversion?

Robert T. Convey, Senior Vice President - Sales & Marketing | Aeronautical Engineers, Inc. - I would start off by saying that the cargo industry is still learning how to adapt to an ever changing environment brought on by the pandemic and will be for the foreseeable future. Today, we are simply reacting to external imputes in an attempt

to stay one step ahead of certain change we know is coming tomorrow. 2025 should provide enough space between the pandemic and the new normal to provide a full evaluation of lessons learned within our industry.

Refael (Rafi) Matalon, EVP Marketing, IAI Aviation Group: It looks that airlines and operators learned that they should have cargo aircraft in its fleet since we are facing a big demand for narrow body and mid size conversions.

Wolfgang Schmid, Vice President Sales & Marketing, EFW - Elbe Flugzeugwerke GmbH - Freighters are an essential part of supply chains. Belly freight is cheaper but vulnerable. Feedstock is now available in high numbers for very reasonable prices. Much younger aircraft are now becoming conversion candidates.

Continued to Page 3





B737-800SF / B737-400SF / B737-300SF / CRJ200 SF / MD-80SF

aeronautical-engineers.com

Continued from Page 1

Mike Andrews, Director, Conversion Programs - PEMCO Conversions - To be prepared for opportunities. Prior to the pandemic feedstock availability was the biggest hurdle to getting slots filled for Boeing 737 conversions. Many airlines held on to their fleets due to volume requirements and grounding of the 737-800Max aircraft. The ability PEMCO has to ramp up production is supported by our sister company Airborne Maintenance and Engineering Service having the ability to provide the need MRO services when it is needed.

Zachary T. Young, Director of Sales, 321 Precision Conversions/ Precision Aircraft Solutions - There is not enough conversion capacity to fill the current demand.

Chris Stafford, Senior Director of Sales and Marketing, Sine Draco Aviation Technology Ltd.- Flexibility in the operations.

What sort of cargo industry will emerge beyond today's turbulent times?

Robert T. Convey - The cargo industry of tomorrow will from afar resemble the industry we have come accustomed to seeing today only twice its size.

Collectively we introduced 120+ new and converted freighters in 2020 and are forecasted to introduce 150+ new and converted freighters in 2021 and 2022 ushering in a period of hyper asset growth.

Rafi Matalon: The classic Cargo Leasing companies as usual and Pax Leasing companies that are looking for solution for its grounded pax fleet.

Wolfgang Schmid - Definitely the online sales are in need for airfreight and will sustain in higher numbers.

Mike Andrews - I believe the emerging cargo industry will have a better understanding of the narrowbody conversion and how it can absorb changes in volume with efficiency of operation and cube capacity.







Chris Stafford - Good question ... with many potential outcomes it is hard to speculate.

Do you see the increased demand for narrowbodies and medium widebodies conversions as compared to last year? Robert T. Convey - AEI is seeing a 300% increase in demand for our narrowbody freighters when compared to 2020. This demand is being driven by growth in the cargo market brought on by an increase in ecommerce traffic.

Mike Andrews - As we continue to see the global e-commerce and express markets grow, we will continue to see demand for both airframe type conversions.

Zachary T. Young - Yos. Last year poledy.

Zachary T. Young - Yes. Last year nobody knew what to expect. Typically a freighter conversion is not a short term solution, but rather a 10-15+ year solution. This year, there are still unknowns- but light at the end of the tunnel with vaccines becoming available (which will require air transport). There are hundreds of parked/stored aircraft, both narrowbody and medium widebody. Even with rising passenger traffic, it is still expected to be years before it returns to 2019 levels, which will fuel an increase in demand for conversions. In parallel to lost belly capacity and future vaccine distributions, e-commerce has continued to grow.

Chris Stafford - Yes ... I think cargo operators are beginning to understand the market better after the initial shock of the collapse in belly-cargo. Long term ecommerce and express habits are becoming better understood and hence the requirements for narrow / medium cargo lift is becoming clearer.

Continued to Page 4

TEA

Sanjay Grover Editor & Publisher

Kartik Grover Manager Business Development

Hrithik Grover
Business Development Associate
Sudhanshu Gandhi

Assistant Manager Jyoti

Jyoti Sr. Editorial Manager

Nirmala Aggarwal Designer

OUR CONTACT DETAILS

FREIGHTER TRENDS

BA-306, Tagore Garden, New Delhi - 110027 India Mailing Address :

J-11/44, 2nd Floor, Rajouri Garden, New Delhi - 110027 India

Tel : 91-11-25164164, Fax: 91-11-42133233 E-mail: freightertrends@gmail.com

Printed, Published and Owned by Sanjay Grover, published at BA-306, Tagore Garden, New Delhi - 110027. Printed at G.S. Graphic Arts, Naraina Industrial Area, Phase I, New Delhi. All information in Freighter Trends is derived from sources, which we consider reliable. Editor: Sanjay Grover

Wolfgang Schmid Surely we see more
demand for it – partially
driven by better

feedstock opportunities.

Rafi Matalon: definitely

ves in the mid size, and

this is the reason that

conversion capabilities

to 8-9 conversion lines.

In the narrow body only

the last months we feel

the beginning of the

we increased our

FREIGHTER TRENDS

Continued from Page 3

Is there enough feedstock for A321 and B737-800?

Robert T. Convey - There is ample 737-800 feedstock to satisfy current market demand for the next ten years but acceptable A321 feedstock remains hard to find. The B737-800SF is by a large margin more in demand than the A321. What is the current status of 330s and 767 converted freighters so far? I am not able to provide information on these aircraft types.

Rafi Matalon: The B737-800 feedstock is around 5,000 which secure many conversion for the coming years. Still the Boeing platform approved for the last years as reliable converted aircraft and accumulated a huge experience. Airbus platform as a converted is young and not mature.

And this is the reason for low orders. The B767 is the "king" of the converted mid size and has a huge demand. We at IAI are running 8 conversion lines and very soon the ninth will be operated. 2021 is fully booked and in 2022 still have a few slots.

Wolfgang Schmid - Feedstock is available more than enough. Two of the brand new A321P2F are already serving most satisfactory. EFW has extended the production lines to 6 in total. There are lines in Singapore, Guangzhou and Mobile, AL.

We do not compare the A321 with the much smaller 737-800. A320P2F will be its strong competition. The A321P2F will be an upgrade from the 757 having more containerized volume than the 757.

On A330P2F the 10th converted freighter is about to be delivered these days, seven more to come this year. The next-gen A330P2F will be an upgrade for 767 and A300-600s.



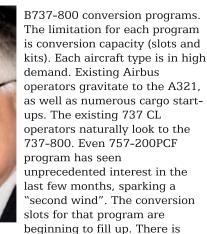
Pretty soon it will be the only midsize wide-body aircraft to be converted into freighters.

Mike Andrews - We do not see feedstock as the barrier to getting a conversion complete but the availability of conversion slots. With the demand we are currently seeing and the opportunity for new narrow bodies

such as the A321 the current slots are going to be more in demand than ever.

Wolfgang Schmid

Zachary T. Young - There appears to be ample feedstock for both A321-200 and



ample feedstock for that program, many of which are around 20 years old and 20-25,000 flight cycles. With a competitive onramp price and performance when compared to the A321 and 737-800, it is

Continued to Page 5



FREIGHTER TRENDS

P2F CONVERSION : SPECIAL FEATURE

Continued from Page 4

worth mentioning. It is also a common type rating with the 767, which has proved to be attractive to operations that fly both.

Chris Stafford - With respect to feedstock, data from Cirium indicates that approx. ninety (90) A321-200 airplanes over 18 years of age are currently in storage. However, it is difficult to determine how many of these airplanes are awaiting return to service or are feedstock candidates. With that said, there should be a significant number of feedstock candidates from these

and airplanes potentially being considered for removal from service as fleet plans solidify with lower levels of demand.

Is e-commerce and express driving more narrowbody than the widebody freighters?

Robert T. Convey - As a result of the e-commerce boom over the past four years many more medium wide body freighters were added to the global fleet when compared to narrowbody freighters. This is slowly changing and we are expecting



to see the narrowbody freighter, specifically the B737-800SF become the dominate freighter starting in 2021 with 70+ deliveries.

Rafi Matalon: The E-commerce, COVID material and express driving more narrow body.

Zachary T. Young Wolfgang Schmid - We

don't really know how to rank it: Both programs are seeing a hype.

Mike Andrews - The e-commerce and express markets continue to drive both narrowbody and medium wide body aircraft which I believe will continue as this market continues to reach higher percentage overall global retail sales. The 2021 projection for the first-time e-commerce sales in China reaches 50% of their overall retail sales this trend will continue to fuel growth in the global e-commerce numbers and consumer demand for time sensitive delivery will grow.

Continued to Page 6

WEIGHT FOR IT!

3,086 lbs/1400 kgs (est) Lower Empty Weight



Only 321-200PCF delivers:

- · Lowest Operating Empty Weight (OEW)
- · Highest operating flexibility
- · Lowest fuel burn per payload pound

Only 321-200PCF delivers best solution for:

- · Crews that fly it and load it
- · Airlines that operate it
- · Investors that own it
- · Mechanics that maintain it
- . Mod Centers that install it

FEATURES	Precision	EFW
Operating Empty Weight	44,500 kgs	46,000 kgs
A-Code Positions	14	14
Available Ton Miles*	61,071	57,604
Occupant Capacity	6	4
Flight Deck Crew Baggage	YES	NO
Crew Service Area	YES	NO
Crew Access	Full size L1/R1 door retained	Half size (48") manufactured hatc
Highest Standard Payload	27,000 kgs	25,500 kgs
Permanent Ballast *Assumes weight variant 00/No ACTs	NO	YES



Contact us today for details and delivery schedules:
Brian McCarthy brian.mccarthy@precisionaircraft.com
Zach Young zachary.young@precisionaircraft.com

USA (336) 540-0400 ET www.precisionaircraft.com Continued from Page 5

WE ARE FAMILY!



The Airbus Freighter Conversion



www.efw.aero



Zachary T. Young - There are several points to consider. 1) The capacity crunch due to lost belly capacity. 2) Increased work-from-

home schedules has led to increased purchasing of online goods. 3) Legions of parked aircraft with no return to service dates in sight, which has put unprecedented stress on aircraft owners. It should be a fair statement to assume there is less availability of widebody conversion programs than the narrowbody programs. Regardless of widebody vs narrowbody, there is more demand than conversion capacity and not everyone will be accommodated.

Chris Stafford - E-commerce demand is here to stay and will continue to boom. Some analysts believe that the peak demand for available capacity to support e-commerce is still several years away. Crossborder e-commerce, B2B, B2C, and C2C continue to drive retail and commercial sales and will have a positive effect (higher capacity requirements) for air freight.

Which market will be the first to bounce back after a pandemic? How many converted freighters will be required this year looking at the demand?



Mike Andrews



Rafi Matalon

Robert T. Convey - I believe we will see the manufacturing sector start to recover in mid 2021 followed quickly by the consumer electronics market. This recovery will be fueled by consumer confidence brought on by large scale vaccinations.

As an industry we are on track to deliver 100 narrowbody and regional freighters making up 2/3 of the expected

150 new and converted aircraft being added to global fleets.

Rafi Matalon: The Chinese and North America.

Wolfgang Schmid - We are not expecting a bounce back. These programs are not for the pandemic! They are long term investments.

Definitely many more than we would be able to deliver at present.

Mike Andrews - I can't even take a guess on where the sustained recovery will grow faster. We are seeing flashes in the pacific and the US but availability of vaccine and its delivery around the globe is the foundation for recovery in all regions.

Chris Stafford - Local and regional market demand requiring narrow / medium body freighter aircraft. As almost all narrowbody freighter types are from converted passenger airplanes, there will be a strong demand for feedstock in the future.

How long will the gap between large widebody and narrowbody supply and demand persist?

Continued to Page 7

Continued from Page 6



Robert T. Convey - There will always be a large gap between the number of narrowbody and widebody freighters produced.

Rafi Matalon: For the B777-300ER slots will be available during 2024. In the nerrobody I do not see at this point and gap. For the B767 as I mentioned above we have few slots available on 2022.



Wolfgang Schmid - Is there a gap?

Mike Andrews - I think that depends on the continued growth of e-commerce and the availability of belly freight. As the passenger market continues to rebound after the pandemic movement of freight on those aircraft will resume. The time sensitive deliveries with regional airlines will continue to grow with the main drivers from the e-commerce business so I see demand for the narrowbody to continue to grow.

Is there enough demand for converted 777s looking at the current scenario? What is the current demand and supply of 777s vs new 777F. What is the current

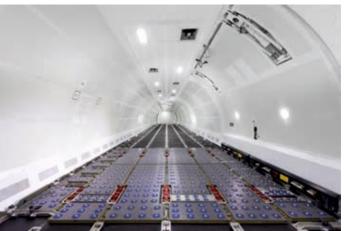
status of 747-8 converted freighters?



Rafi Matalon: Our B777-300ER P2F program is follow our schedule and on June 2021 our prototype aircraft will be inducted for the conversion. We are facing a lot of interest in our program and have progress discussions. The converted B777-300ER has a better performances comparing the B777F in 1/3 of the price. IAI still keep the conversion line for B747-400 and handle an advance negation with a few potential customers.

AEI TO PROVIDE MACQUARIE AIRFINANCE WITH FOUR B737-800SF FREIGHTER CONVERSIONS

Aeronautical Engineers, Inc. (AEI) has announced that the company has entered into an agreement to provide Macquarie AirFinance with four B737-800SF freighter conversions to help meet the growing demand in e-commerce and express cargo.



The aircraft will be converted to freighters by the authorized AEI Conversion Center, Commercial Jet in Miami, Florida. Passenger-to-freighter conversions form a natural progression of Macquarie AirFinance's portfolio strategy, enabling the useful life of aircraft to be extended up to 40 years.

"We welcome Macquarie AirFinance to the AEI family of satisfied customers and are glad they have chosen the AEI B737-800SF freighter conversion," remarked Robert T. Convey, AEI Senior Vice President of Sales & Marketing. "Beyond the benefits of lower fuel consumption and operating costs compared to older 737 Classic freighters, the AEI B737-800SF freighter was designed for operational dependability in real-world environments, which is especially beneficial in the fast-paced segment of express cargo."

John Willingham, Chief Executive Officer of Macquarie AirFinance, said: "We are pleased to partner with AEI to offer our customers in the air cargo sector a proven and efficient way to expand their operations and replace less efficient aircraft. We are seeing particularly strong demand in the express freight sector as the e-commerce industry continues to grow. As one of the largest lessor owners of mature 737-800 aircraft, it makes business sense to extend their life and continue to evolve our offering."