



Lufthansa Technik staff carry out cabin modification work on an Etihad A340.

Cabin refreshments

Passenger discernment is fuelling airline demand for the renewing of cabin interiors. As Emma Kelly finds out, such projects are in good hands.

Business is booming for companies involved in passenger aircraft cabin modifications. Thanks to growing implementation of inflight connectivity, airlines' continued wish to differentiate their product from competitors and the ongoing desire to fill economy-class cabins with more passengers, cabin modification providers are being kept busy. And they expect it to continue.

Lufthansa Technik (LHT), for example, is nearing completion of a programme that has seen it install premium economy cabins across Lufthansa's long-haul widebody fleet – Airbus A380s, A340-300/600s and A330s, and Boeing 747-8s and 747-400s. The number of premium economy seats in each cabin varies with aircraft type – from 21 in the A330 to 52 in the A380.

LHT expects to finish the installations in October, marking the end of the three-year programme. The project has proved “very challenging within this timeframe”, concedes Niels Dose, consultant product sales aircraft modification at LHT. In particular, the initial certification phase of the lower deck modification of the A340-600 was demanding and delayed the programme slightly, Dose reports.

PROJECT PIPELINE

The initial layovers took four to eight weeks, later reduced to four to six weeks, depending on associated maintenance work required, with each aircraft taking around 40 days on average. The work was carried out throughout LHT's international network, including in Hamburg, Frankfurt, Munich and Malta, as well as by third-party providers.

The maintenance, repair and overhaul (MRO) services provider is looking forward to new modification programmes with Lufthansa. It is a provider of choice for the German carrier, but still has to bid for any new work. While it's not automatic that LHT would win such business from Lufthansa in the future, Dose believes his company can provide the best support to the airline.

LHT is currently engaged in the bidding process for installation of connectivity on Lufthansa's narrowbody fleet, which Dose says will also be a “very challenging programme”. Lufthansa has yet to fully define the programme or confirm a connectivity service provider for this installation, with “advanced negotiations with potential technology partners” ongoing, according to the airline. Panasonic Avionics provides Ku-band



AAR believes its size and structure make it well placed to deliver every aspect of an interior modification, no matter how unique.

connectivity across Lufthansa's long-haul fleet, but air-to-ground and other satellite services have been considered for the narrowbody fleet. An announcement on the programme, which is likely to involve around 300 aircraft, is expected shortly.

LHT has amassed considerable experience in connectivity installations, having been responsible for Lufthansa's original Connexion by Boeing-based FlyNet implementation, then the Panasonic programme, in addition to the installation of Lufthansa Systems' BoardConnect wireless IFE solution. The company is constantly analysing the market and is increasingly providing customers with advice on their installations – in particular, on which systems have a long-term future and which have a short life, says Dose. Inflight internet is definitely becoming more important to airlines and, as a result, LHT is getting a lot of requests for connectivity, he adds.

WIRELESS STREAMING

The other big trend that the "entire world at the moment is looking at" is high-density cabins, adding more seats to increase passenger capacity in economy class, says Dose. Also in demand are IFE systems that support bring-your-own-device (BYOD) and in-seat power systems to keep such devices working throughout the flight.

Other than Lufthansa, recent cabin modification clients for LHT have included UTair, Qatar, Etihad and Eurowings. LHT is also working with a number of leasing

companies, with increased demand from this sector to improve the passenger experience, notes Dose.

The company has numerous ongoing bids and tenders, and expects a busy period in the near future. Dose predicts that connectivity programmes will be a big market for it going forward, particularly for Boeing 737s and Airbus A320s. With its global network and experience, he believes LHT is in a good position to capture some of this business. Its experience in the VIP aircraft sector also helps, Dose stresses, as if the company can solve extremely complex and technically challenging issues for that sector, it can do the same for commercial airline customers.

To cope with demand, LHT is expanding its facilities. It recently opened a new site in Puerto Rico and is looking to grow in the Asia-Pacific region, with hangar expansion already under way at Lufthansa Technik Philippines.

US modification company Global Aerospace Design Corporation is also seeing a lot of activity around wireless inflight entertainment systems. "We have seen an enormous interest in the cabin modification market lately, and a lot of it has been centred on wireless IFE," says Todd Hamblin, vice-president of business development.

"Wireless IFE allows airlines to install a Wi-Fi system on board which provides customers with access to HD movies and television, while also making it easy to upgrade to [full] connectivity once the technology catches up. Wireless IFE does not affect the seats on the aircraft, so it's a very cost-effective

solution for those wanting to provide a service improvement to their customers without mortgaging their future," he explains.

The market is so active at the moment that Global has been bidding on programmes at an average rate of one proposal a day lately, says Hamblin.

Most recently, the Ohio-based company has been working with Caribbean operator Insel Air on a seat upgrade programme. Global has been upgrading the cabins of the airline's MD-80s, Fokker 70s, Fokker 50s and Embraer 110s. "These aircraft are all going through a cabin refresh consisting of newly refurbished business-class and economy-class seats, new carpet and our new product, the PED Pouch [which allows personal electronic devices to be used hands-free without taking up tray table space]."

Hamblin believes that Global's small size allows it to "offer pricing and support in a more effective manner than larger organisations. We continue to evolve our approach and partnerships to find the best solutions for our customers."

RETRO THINKING

Likewise, cabin system developer, installer and maintenance company Inflight Canada (IFC) is busier than ever. IFC works with airlines around the world, on every aircraft type, on everything from full cabin reconfigurations to new seats, new audio- and video-on-demand systems, communications, in-seat power and wireless IFE, including its own cabin solutions.

Over the past year alone, its customers have included Air Canada, Air Canada rouge, Nordwind and Transaero, with aircraft including 737s, 767s, 777s, A330s and MD-88s, and it is about to start work for Delta Air Lines and Air France, says George Smallhorn, IFC's president and general manager.

"We presently have 211 aircraft either under contract or very close to being signed," notes Smallhorn, adding that future prospects are also encouraging. "There is a lot of activity. We believe there are far more opportunities opening up for retrofits going forward."



In July 2013, TAP Portugal approached Marshall Aerospace and Defence Group to upgrade two A330s it was purchasing in order to expand its long-range fleet.

IFC's experience puts it in good stead, Smallhorn believes. "There are not that many retrofit organisations that do only passenger cabin systems, including seat modifications and replacement, and very few that have the experience with so many different cabin systems as IFC," he says.

The company has also designed its own passenger entertainment and passenger services system that offers the added bonus of in-seat power. The PES/PSS+P system controls reading lights, call lights and chimes in 767s, 777s and A330s, with a 747-400 version under development. "It also provides USB power at 2.1 amps and PES audio as options at each seat," Smallhorn explains.

COMPETITIVE ADVANTAGE

US-based aviation services provider AAR is another company that believes its smaller size compared with some of the large players involved in the cabin modification sector gives it an advantage. "With our engineering services and five locations in our MRO network, AAR is well positioned for this type of work," says Ron Eaton, vice-president of engineering services.

"The recent consolidation of interiors companies under larger company umbrellas has created an opportunity for AAR to capitalise on our ability to take on programmes with unique requirements and challenging timelines. We can leverage our smaller size to be more flexible and responsive to our customer's needs and create custom solutions," he explains.

Interior design and integration is a core competency for AAR's Engineering Services

group, and the company is looking to expand its footprint in this area, says Eaton. AAR has conducted interior modifications for most major US airlines, as well as some based in Latin America.

"This work is primarily requested on older/legacy platforms that airlines want to update to meet customers' increased expectations for IFE and other amenities that can now be found in newer platforms," notes Eaton. "We have also done interior installation work on some VIP aircraft, as well as engineering integration and certification work for airlines in the Asia-Pacific region, primarily from our Singapore Engineering Services office."

One Asia-Pacific customer was Bhutan's national carrier, Drukair, with AAR replacing business- and economy-class seats and installing additional economy-class seating on three A319-100s. The programme involved design, engineering, certification and supply of seats and cabin parts, as well as MRO for the reconfiguration. As always, the work was carried out on a tight schedule, with all three aircraft completed in just eight weeks. Another Asia-Pacific client was China's Xiamen Airlines. AAR modified Xiamen's 757-200s to achieve a three-class configuration by installing a first-class section with lie-flat seats and a business class.

AAR is qualified to do everything from interior reconfigurations using its in-house engineering team to IFEC installations and upgrades, says Eaton. "AAR can handle every aspect of an interior mod and offers turnkey packages," he adds.

And with airline consolidation in the US and increased competition for passengers

worldwide, Eaton does not expect the rate of interior modification work to slow down any time soon. "Airlines want to differentiate their inflight product, which means constantly updating their interiors with the latest and greatest," he observes.

Work in the interior modification business is characterised by quick turnarounds. "Timeframes are shortening more and more," observes LHT's Dose, adding that sometimes "the industry is asking for almost impossible things".

RAPID PROGRESS

An example of an ongoing cabin modification contract being undertaken to a tight schedule is the upgrading of Scandinavian Airlines' A330s and A340s. Swiss maintenance and modification specialist SR Technics is over halfway through the programme, having completed four of seven A330s/A340s for SAS.

The US\$15 million one-year contract, which was awarded at the beginning of this year, involves the replacement of business, premium economy and economy seats, and the fitting of new in-seat power supply and IFEC systems, with Zodiac Inflight Innovations' RAVE IFE system and Panasonic's Global Communications Services connectivity solution being installed. The aircraft are also being equipped with new galleys, stowage and cabin mood lighting.

The work, which is being conducted at SR Technics' centre of excellence in Zurich, is being undertaken when the aircraft come in for a heavy maintenance C-check and repainting, to minimise aircraft downtime.

"The downtime for cabin modifications depends on the work scope and level of complexity. However, it takes roughly four weeks per aircraft, with an additional week for the certification phase, for the first aircraft to be completed," says SR Technics.

The company has carried out similar projects for a number of international airlines, as well as working on VIP and head-of-state aircraft. "This is definitely a growing area and reflects SR Technics' strategy to become a centre of excellence for cabin modifications at all levels of complexity," it adds.