

Inside the 787 dream with LHT



One of several completions houses excited by the Boeing 787 announcement this morning is Germany's Lufthansa Technik.

"We're the first completion centre to present a dedicated 787 Dreamliner VIP interior rather than one that could fit any old widebody," Walter Heerdt (stand 2662) said here this morning.

The senior vice-president for marketing and sales at the Hamburg-based completions specialist was talking about his company's newly unveiled sample design for a VIP conversion of the Boeing long haul twinjet. "The 787 is already a top-seller – I don't think any other aircraft has gathered orders so quickly," he said. "We expect it to be a big success in the VIP/government market too."

The new concept's striking internal and external treatments are the work of UK-based Andrew Winch Designs. The company created its first VIP aircraft interior – for a Boeing BBJ2 – five years ago and since then has worked on several



Walter Heerdt: Possibilities are endless

similar projects, including a scheme for a private Airbus A380.

"We're delighted to be involved in the 787 design with Lufthansa Technik and cannot wait to see the aircraft take to the skies for the first time," company founder Andrew Winch said today. "We want to show that the possibilities for a cabin are endless – no-one should feel his choices are limited to what exists today."

The new interior's up-to-the-minute look is matched by lavish attention to the comfort of long-haul travelers. There are no fewer than 32 lie-flat seats or beds – nine of them doubles – throughout the cabin. The forward lounge features multifunctional seating areas with sofas and fully reclining armchairs, and entertainment provision includes a 50in (12.5cm) plasma screen on the forward bulkhead.

A prime feature is the dining and conference room with full communications facilities, a centrally located dining table accommodating 10 people in seats fully certificated for take-off and landing, and a 42in plasma screen housed in a credenza aft of the table.

Other facilities include a bar with fixed stools, reclining chairs and a dedicated audio system, and a master stateroom with a sofa, 42in plasma screen, chaise longue and table. Located off the stateroom is the principal's private office, with desk, library and full communications.

Heerdt has little doubt that it won't be long before his Dreamliner comes true. "I expect to start contract negotiations on completing a VIP 787 before the type enters commercial service in 2008," he said. "With a number of VIP 787s already ordered, the race for completions business is on."

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An inside job

Interiors can make or break an executive aircraft program. With business booming in the corporate market completions centers are working flat out to deliver innovative solutions. Liz Moscrop reports

The customer was adamant he was going to have a marble floor on his aircraft. No matter that it would crack very quickly as the aircraft flexed during taxiing or in turbulence. No matter that marble is both heavy and brittle. He wanted marble and that's what he was going to have.

Persuading him to accept a viable alternative was part of the everyday service offered by Patricio Altuna, executive vice-president of Landmark Aviation's Associated Air Center. Like completions centers all over the world Landmark is enjoying booming business thanks to a robust executive aviation market.

Sales are up (the US General Aviation Manufacturers Association reported the highest-ever first-quarter billings in history this year), forecasts are good and trends look set to continue through 2007. As airframers crank up their output, they have turned to partners to help them with completions. Bombardier now focuses on standard interiors at its Montreal plant and places aircraft for customization, with partners including Lufthansa Technik and Midcoast Aviation.

Lufthansa Technik will create executive/VIP interiors for the Challenger 850, the executive variant of the CRJ200 – for which it has a contract for 17 over the



Landmark's Patricio Altuna (left). Above – the final version of 767-200, outfitted by the company.

next three years. Midcoast will be a 'preferred' completion center for the 605, Global 5000 and Global XRS, as well as the CL850. Rodger Renaud, Midcoast's vice-president completion and modification sales, is delighted with the addition to its business. "We will have completed 25 green aircraft by year end. At any one time we have 20 aircraft in our facility," he says.

Although Dassault Falcon Jet does most of its interiors in-house at its Little Rock center in Arkansas, it has used Jet Aviation's Basle facilities for several years. In Brazil, Embraer uses three sources for interior components on its Legacy 600: Nordam, Duncan Aviation and its own cabinetry shop. The company is tight-lipped

about whether it will use the same system on the Phenom 100 and has yet to announce how it will outfit its new Lineage 10000.

A carefully planned design process pays off for customers. Altuna says: "We work with OEMs or with the customer through OEMs, so that the end-user gets a feel of what they are looking for. With large and mid-size jets the sky's the limit. We have yet to do two aircraft alike. We recently completed our sixteenth BBJ and have completed 12 Airbus Corporate Jets. It is hard to establish a trend."

He adds: "For aircraft with a global reach, the customer expects to have long intercontinental journeys. This means we need to install a bedroom or a divan that is convertible into a day bed. We ask does the customer want a shower or a bidet? A conference room? How many people will be

on board? Will they be sleeping or working? What are their other preferences? Would they mind sharing a lavatory with other passengers? We produce a first draft and offer it to the customer to mark it up and red-line it. We then go back to the computer."

Once the plans have been signed off, Landmark goes back to the customer with a commercial proposal and summary schedule with major milestones for a preliminary design review. Altuna believes it is vital to spend a long time with this stage of the process. Bernard Conrad, Lufthansa Technik's senior vice-president of completions center, agrees. He says: "Sometimes a customer doesn't even know quite what they want. Or knows, but cannot articulate this. We work closely with them, down to the level of visiting their homes or favorite hotels to get a feel for what appeals to them. We will show them famous designers' work to help them express what it is exactly they want."

Mock-up

LHT has been known to build a basic mock-up to show the customer the initial design. Conrad points out that this is cheaper than having to correct mistakes further down the line. At every stage of the process the realities of operations, systems, weights and certification are checked.

Altuna says: "At the end of the process the aircraft has to be weighed with its new interior and then undergo certification flights. Decision-making from the customer upfront enables us to apply to the relevant regulatory agency ahead of the build. We make the agencies aware of the engineering and customer approach. This means that we have no 11th hour problems or

surprises to impact delivery."

Comfort is king and centers borrow from each other. Midcoast has partnered with Lufthansa Technik to distribute and support the German company's network integrated cabin equipment (NICE) system. The US center is installing the system in some of its green projects.

In another innovation, Qinetiq and LHT have developed new trim panel speaker (TPS) technology in response to burgeoning customer demand for more sophisticated noise reduction and enhanced audio systems.

Surround sound

TPS uses existing fittings to produce significantly higher sound quality than conventional speakers. Using surround sound, it blends with NICE and is seamlessly integrated with the trim as either flat or curved speaker panels.

Designing for the private jet market demands a complex mix of skills to turn a metal tube into a flying boardroom, home or palace. All interior components have to conform to either a 16g (16x the earth's gravity force) dynamic test requirement or 9g, depending on the aircraft type. Completions centers are increasingly turning to high design to create innovative spaces – for example earlier this year TAG Aviation teamed with Versace to offer an exclusive interior design service.

So what of that marble floor – how did Altuna resolve the situation tactfully? He laughs: "I noticed the elevators in his hotel had marble floors and were badly cracked. When our customer saw this he was happy to listen to us and delighted with the faux marble material our artist created for him out of aluminum."



Original rendering of the 767-200 is very close to the finished version.