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VIP Boeing 787-8 Takes Center Stage at EBACE

KIRBY HARRISON, MAY 24, 2016

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The first fully appointed VVIP Boeing 787 stands tall in the static display at Geneva's Cointrin Airport.

Unique among the aircraft in the Static Display at EBACE 2016 is the **first VVIP outfitted BBJ 787-8**, the **pride and joy of project manager Kestrel Aviation Management**, completions specialist Greenpoint Technologies, and Pierrejean Design Studio of Paris.

Kestrel Aviation managed the purchase, modification and completion of the 787, and its sale to an Asian operator.

Greenpoint's role in the completion process began in January 2013, with the firm investing nearly US\$1 million in research and development. Weekly engineering and design meetings incorporated technical disciplines from IFE integration and electrical load analysis to sidewall attachment and window integration.



The early investment was critical to understand the various differences incurred with a BBJ 787 interior completion and allowed the Kirkland, Washington-based company to meet the aggressive completions schedule set by Kestrel Aviation.

“From the beginning, we approached the 787 with an innovative mindset,” said Greenpoint design director Annika Svore Wicklund. That mindset involved all three partners in the project, from such initial challenges as decompression and floor structure attachment to leather panels and the absence of hardwood banding on the cabinetry, she said.

With its carbon fiber fuselage, much of the Greenpoint's previous experience on legacy metal aircraft was of limited relevance to the BBJ 787. An entirely new data set was needed from Boeing to facilitate design and installation of a VIP cabin.

The 787 is an all-electric aircraft. Its complex electrical design and unique software architecture presented the project with "a steep learning curve." The aircraft's cabin alone contains some 26 miles of new wiring, with more than 17,000 terminals which require connection to the electrical architecture without causing power overloads or interference.

"Our engineers conducted extensive research to learn the unique features inherent in making changes to this complex aircraft," said Greenpoint engineering VP Bruce Kay. "Examples of areas posing the most challenge were integration of the 787 power distribution system to ensure that current return requirements were properly addressed including defining system logic, wire routing, termination, and shielding for thousands of wire bundles installed for the VIP interior and systems."



For those fortunate enough to receive an invitation to visit the BBJ 787 at EBACE, the tour

begins at the main door with a grand entry foyer of high, domed ceilings, hardwood flooring, leather bulkheads, custom artwork and extensive accent lighting. To the right of the entry, via an undulating lit corridor, is the main lounge – a multi-use space for entertaining guests, dining or relaxing, with several divans, tables and 55-in. flat-screen monitors.

To the left is the master suite, which holds bedroom and master washroom/lavatory, described by Kestrel Aviation as “a sanctuary for rest and rejuvenation.” The California king bed, oversized shower and dual sinks provide ample space for two.

Among the cabin highlights is a circular lavatory dividing the main lounge and aft cabin, where there are 18 lay-flat first class seats and six premium economy seats. Throughout the cabin are dedicated tablets for cabin control of everything from seats and entertainment to flight attendant requests.

For the cabin crew there are private, custom sleeping quarters with individual storage space for each member, as well as flight attendant areas in the forward and aft cabins.

Kestrel and Pierrejean focused on the five traditionally recognized human senses for guidance in design. The objective was to minimize the physical toll that a passenger would experience in an aircraft capable of 17-hour, nonstop point-to-point flights anywhere on earth.

For the sense of sight, the goal was an “oasis of peace” and soft earth tones, with smooth, flowing lines, an absence of sharp edges and intuitive control of natural and artificial mood lighting. For the sense of touch, the team wanted a design that felt organic, with surfaces inviting emotional as well as physical connection.

Noise and vibration are very physically debilitating, Kestrel Aviation noted, so it set the bar high with extensive soundproofing. And for scent and taste it focused on air distribution and filtration and segregation of zones with hard and soft barriers.

Pierrejean has an extensive record of design innovation that includes large VIP aircraft and mega-yacht interiors. Its style, according to Kestrel Aviation, “is a fusion of European Modern and Asian tradition, which is deceptively easy on the eye.”



With Kestrel Aviation, Pierrejean developed the cabin concept from initial sketches and layouts through 2D and 3D drawings and renderings. This material was then transferred to Greenpoint for detailed engineering design, installation and certification.

The aircraft is scheduled for an official delivery to Kestrel Aviation in late June, after a 30-month process that included 18 months in the hangar.

“The genesis of the project was the vision of Kestrel Aviation’s client that the 787’s characteristics would make a unique, ultra-long-haul corporate aircraft,” said a spokesman. **“This is now a reality.”**

“We learned a great deal from our first 787, which is already flowing to our second 787,” added Greenpoint EVP Bret Neely. Greenpoint is at Booth I051.—Kirby Harrison