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The Sukhoi Business Jet, Russia's answer to the big iron offerings of Airbus, Boeing and Embraer, should benefit from the design input and market expertise of its first customer, Comlux



1. One of Superjet's interior concepts for the SBJ



THE SBJ INTERIOR IS EXPECTED TO BE SIMILAR TO THE EMBRAER LINEAGE IN TERMS OF MODULARITY, LAYOUTS (THREE-FIVE ZONES) AND OPTIONS

Wider, slower, lower, cheaper. This could be the marketing mantra that lures value-conscious VIPs and budget-strapped potentates to the recently announced Sukhoi Business Jet (SBJ), the US\$50 million (£31.04 million) executive version of the Russian-built US\$32 million (£19.86 million) Sukhoi Superjet 100 (SSJ), a 100-seat regional jet now entering service.

Superjet International announced the SBJ in June 2011 and signed its first customer, Comlux, in October 2011. Comlux's business aviation empire includes aircraft charter, sales, management, cabin design, outfitting

management and cabin completions businesses. The order – two SBJs, plus options for two more – is worth US\$200 million (£124.16 million) and puts Comlux in the unique position of being both a development partner and customer for the SBJ.

Although Superjet has created three concept layouts of its own for corporate, government and VIP versions of the SSJ, Comlux is partnering with Superjet on as-yet undisclosed interiors for its two SBJs. Work on these designs is already underway at Comlux Creatives, headed by Tim Callies (who is speaking at the upcoming Business Jet Interiors World Expo, to be held on 22-23 February 2012 in Cannes, France).



CABIN STATS

Sukhoi Business Jet
Cabin width: 10ft 7.4in
Cabin height: 6ft 11.5in
Cabin length: 66ft 11.3in
Seats: 2 + 14 passengers in VIP layout
Range: 4,250 nautical miles at Mach 0.78 with eight passengers and NBAA IFR reserves
High-speed cruise: 465kts
Max altitude: 40,000ft
Price: US\$50 million (£31.04 million)



First there was the Lineage

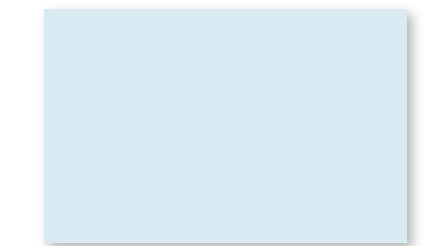
Embraer may hold the clues to the potential success of the recently announced Sukhoi Business Jet (SBJ) and executive versions of large regional jets likely to follow, including Bombardier's C-Series. Embraer announced the Lineage 1000 in 2006 and delivered the first to the end user in 2010. The airframe is based on the company's E-190/195 jet, which has been flying since 2004. Over the last five years the price of the Lineage has crept up to US\$50 million (£31.04 million) and most of its customers have come from the Middle East, home to many long, near sea-level runways.

Initially, Embraer farmed out much of the work on the Lineage, including cabin design and completion. There were glitches and vendor 'modifications' along the way, and the initial completions took much longer than anticipated. The first Lineage rolled into completion in 2008 and the customer had to wait until 2010 to get the aircraft.

Still, the Lineage broke valuable new ground when it came to designing functionality in, and costs out of, large aircraft interior completions, largely through a modular scheme that divides the main cabin into five zones plus the lavatory and walk-in baggage compartment. The modules maximise flexibility and utility, simplify installation and hold down costs. Customer-specified interiors are available for an additional charge.

The Lineage has an NBAA-IFR range with 19 passengers of 3,967 nautical miles, 622ft² of passenger cabin floor area and 4,085ft³ of cabin volume. That is more than twice the volume of both the Gulfstream G550 (1,669ft³) and the Bombardier Global XRS (2,022ft³), but about 75% that of the ACJ (5,300ft³) and BBJ (5,390ft³). Yet the Lineage can still carry eight passengers directly from New York to Moscow at speeds up to Mach 0.82.

The Lineage developed a new niche in the large cabin market and competition was only a matter of time. Still it could be a very slim niche. Together in 2009 and 2010 Embraer delivered 10 Lineage 1000s and in 2011, for the first six months of the year, had not delivered any more.



2. The private bedroom on Superjet's Government SBJ concept
3. The bar, lounge and conference area on Superjet's VIP SBJ layout

The SBJ interior is expected to be similar to the US\$49.25 million (£30.57 million) Embraer Lineage in terms of modularity, layouts (three-five zones) and options. The aircraft are strikingly similar in performance capabilities and range. In addition, Comlux is likely to leverage its experience from Boeing Business Jets (BBJs) and Airbus Corporate Jets (ACJs). The company operates a diverse fleet of 19 charter aircraft including a Boeing 767, five ACJs, seven Bombardier Globals, five Challengers and a Dassault Falcon 900LX.

Completion Comlux will also handle the completion of its SBJs at the Comlux America completion centre in Indianapolis, USA, now designated the first approved Sukhoi Business Jet Completion Centre. The completions should take place in 2014, with service entry scheduled for 2015.

Established in 2008 through the acquisition of IndyJet, which specialised in refurbishments, small business jets and maintenance, Comlux America finished its first full completion, a VIP A320CJ, in early 2011. It is now expanding and adding capabilities to its facility in anticipation of the SBJ and other transport-category completions – a second Airbus (an A319CJ) and a BBJ are in the works.

A new 64,500ft² building should open by mid-2012 and the company is adding up to 100 new jobs there. In-house capabilities include back shops for cabinetry and upholstery, sheet metal and avionics.

Superjet International's CEO, Carlo Logli, sees the Comlux deal as the first

It could have been so different...

Up until now, indigenous Russian business jets have largely been made over Tupolev airliners such as the model Tu-134 twinjet or Tu-154 trijet. But the idea of Sukhoi throwing in with a Western business partner to develop a fresh business jet is not entirely new. In 1989 the company teamed up with USA-based Gulfstream to develop a supersonic business jet – the S-21 Gulfstream-Sukhoi SST. Under the plan, Sukhoi would build the airframe while Gulfstream would be responsible for integrating the aircraft’s engines and avionics.

The plan came unglued when Gulfstream was sold months later to New York investment bank Forstmann-Little. CEO Teddy Forstmann preferred the likely profits from a new long-range subsonic business jet derivative, the GV, versus the costs of developing the first supersonic bizjet. The Gulfstream-Sukhoi partnership was dead, and the dream of a new Russian business jet put on hold.



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HAVING ENOUGH CABIN SPACE IS KEY AND IN THAT CATEGORY THE SBJ MORE THAN DELIVERS

step for the SBJ to become “a new player in the wide-cabin VIP aircraft segment” while Comlux CEO Richard Gaona expressed confidence that the SBJ would “deliver the efficiency and the reliability that our VIP customers are looking for”.

Logli estimates a market for 80-100 SBJs over the next 20 years, primarily to customers in North America, the Middle East and Russia.

The SBJ will feature key and mature technologies from a wide variety of well-known Western suppliers: avionics from Thales, electrical systems from Hamilton Sustrand, wheels and brakes from Goodrich, an environmental control system from Leibherr, a Honeywell auxiliary power unit (APU) and hydraulics by Parker. The SAM 146 engines were developed by PowerJet, a joint venture between Saturn of Russia and Snecma of France. Italy’s Alenia Aeronautica joined Sukhoi as a development and marketing partner and Boeing provided significant engineering and marketing support. If this aircraft could speak it would be a polyglot; punctuating the point that many future aircraft development programmes could be truly multinational enterprises.

4-5 Superjet envisages a private washroom on its Government and VIP SBJ concepts

Challenges Still, converting the SSJ into an executive luxliner is likely to be fraught with complexities, according to someone who should know – Boeing Business Jet president Steve Taylor. Early BBJ completions went less than smoothly and while, in theory, making over an airliner into a VIP barge sounds simple, Taylor and others who have been in the trenches know it is not.

“It’s such a big challenge,” Taylor says when asked about the prospects of the SBJ. “It is a really unusual aircraft

that you can move from one category (airliner) to another (business jet).”

Having enough cabin space is key and in that category the SBJ more than delivers with a tube that offers volume of 4,191ft³ and is approximately 6ft 11.5in tall, 10ft 7.4in wide and 66ft 11.3in long.

Conceptual SBJ layouts currently displayed by Superjet show arrangements with up to four main zones. The VIP layout features a large forward galley, two forward lavatories



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BusinessJet
interiors
WORLD EXPO
SPEAKER

- 6. Tim Callies, who is currently working on Comlux's own SBJ interior design
- 7. The private office on Superjet's VIP concept
- 8. The SBJ is based on the Superjet 100
- 9. Alternative styling for Superjet's SBJ concepts



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FOR A POTENTATE ON A BUDGET, THE SBJ MAY BE JUST THE TICKET



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(one designated VIP), a bar, lounge with three-seat divan and facing pair, a six-seat (a club-four and facing pair) conference area, a private office and an aft stateroom complete with bed, large private washroom and shower.

Superjet's corporate concept features the same forward galley, lavatories and bar/lounge, but cuts the rest in favour of a double club-four conference area, 2-2 guest seating, aft lavatory and a second galley.

The government layout is the same as the VIP one except for the middle section, where the lounge and conference area is swapped for a first-class compartment with 1-2 seating.

Performance All of this capaciousness comes with a performance price, if the figures remain as projected. While the SBJ is likely to be a luxurious ride it will also be a slow one, with a cruising speed of Mach 0.78 (high-speed cruise is Mach 0.81). It will also need 6,732ft of runway to take off at maximum weight, which is likely to come in

around 109,019 lb. That means the unwelcome mat will be out at places in the USA where a 100,000 lb weight limit remains in force. Cruising altitude is limited to 40,000ft; meaning the SBJ will have to share airspace and weather with the airlines. Maximum range with eight passengers is 4,250 nautical miles, dropping to 4,000 nautical miles with 19 passengers and 3,500 nautical miles with 38.

Overall, compared to the Embraer Lineage, the SBJ promises to use slightly more runway, be slightly slower, but offer a cabin that is wider and taller – although the Lineage cabin volume is only slightly smaller at 4,085ft³. But for a potentate on a budget, who might not want to fork out for a new ACJ or BBJ (which can ring the register at upwards of US\$75 million/£46.55 million when fully kitted out), the SBJ may be just the ticket. **END**

Web www.comluxaviation.com;
www.superjetinternational.com