DESIGN INNOVATION

AS PART OF THIS ISSUE’S FOCUS ON BESPOKE DESIGN, THREE TOP DESIGNERS REVEAL THE WORK THAT GOES INTO CREATING INNOVATIVE CABIN ELEMENTS

Words by Izzy Kington

WHERE DID YOUR LATEST INNOVATIVE IDEA COME FROM?
OLED technology enables a totally different approach to placing monitors in the cabin. Inspired by screens integrated in hotel bathroom mirrors, my idea was to implement screens in transparent partitions. I included the idea in two recent design studies – one for the B777X and the other for the BBJ Max 7. Designing interiors for upcoming aircraft types motivates me to give new technologies and materials a try.

HOW IS THIS A DEPARTURE FROM THE CURRENT STATUS QUO?
OLED monitors can make a big impact on aircraft interior design, where we are always limited in terms of space. This technology would give us so many more options for placing monitors in the cabin – enabling us to peel them off the walls, where they have traditionally been placed and stand out as big black squares within the cabin.

Onboard connectivity is very important nowadays. The technology in this sector is evolving quickly and designer are challenged to implement it into the design nicely.

WHAT CHALLENGES NEED TO BE OVERCOME TO MAKE THIS A REALITY?
Both the OLED screen technology and its integration in transparent partitions definitely presents a certification challenge and would require some investigation.

HOW IMPORTANT IS IT TO CUSTOMERS TO HAVE SOMETHING BESPOKE AND INNOVATIVE IN THEIR CABINS?
If the innovation or bespoke element improves comfort and connectivity, it’s always to their advantage.

CAN YOU SEE ANY WAY FOR THE INDUSTRY TO CHANGE TO MAKE IT EASIER TO INNOVATE?
The VIP market is always a bit dependent on the commercial aviation world – new technologies are invented there first, simply because the market is much bigger.

It would definitely be an advantage for the industry if suppliers would be a bit more flexible in terms of customizing their products for VIP aircraft.

LEFT: UNIQUE AIRCRAFT’S DESIGN STUDY FOR THE BBJ MAX 7
BETWEEN: ANOTHER DESIGN STUDY, FOR THE BBJ 777X, ALSO FEATURES OLED MONITORS IMPLEMENTED IN TRANSPARENT PARTITIONS

Bright Ideas

Warja Borges
Owner and interior architect, Unique Aircraft
CUSTOMERS WILL BE ABLE TO COMMISSION FULLY BESPOKE CABINS FOR BOEING BUSINESS JETS’ LONG-LEGGED NEW WIDE-BODY AIRCRAFT, AS WELL AS ENJOY MANY BUILT-IN COMFORTS.

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long

sighted
It comes as standard with the best options available for its commercial sister, including maximum certified take-off weight. Also included are the electronically dimming windows and triple cabin air filtration of the 787. The windows can be darkened from clear to 99.99% opaque. “If passengers wish to lighten them, the light will not flood the compartment and disturb other passengers like with traditional sliding window covers,” adds Fecteau.

TRIPLE FILTRATION

The air filtration system includes ozone filtration; HEPA filtration to remove bacteria, viruses and particulates, and gaseous filtration to remove odors, gaseous contaminants and other irritants.

Maximum cabin altitude has been reduced to 6,000ft. “Studies show this greatly improves comfort – making air easier to breathe, increasing humidity, and reducing fatigue, headaches and jetlag,” says Fecteau. Further lowering it provides negligible incremental benefit.”

There is also a humidification system in the flight deck. Fecteau says completion centers can add humidification systems for the main cabin.

TACKLING TURBULENCE

Another comfort improvement has been targeted through Boeing’s Smooth Ride technology, introduced on the 787. Static and dynamic air-pressure readings are taken from the front of the aircraft in flight. Pressure disturbances are correlated with air turbulence, analysed, and the fly-by-wire system uses this data to make small control inputs to the flight control surfaces to counteract turbulence. Fecteau also says proprietary noise-damping technology in the engine cowls has lowered decibel ratings to well below ICAO standards for future engine noise levels. “Completion centers also do other things to reduce noise, from widening air ducts, to reducing ventilation air speeds, to adding sound-dampening...