

SEAMLESS DESIGN

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## FLAWLESS



F/LIST'S STONE VENEER  
COUNTERTOPS SUPPORT THE  
SEAMLESS DESIGN APPROACH

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The principle of seamless design is about creating harmony within the cabin, a calming environment with minimal visual interruption. It considers the cabin as a continuous space, but perhaps with transitions between different zones. “When we create a design concept, the worst thing we can have is a patchwork design that appears as if we didn’t consider all areas,” says designer Judy Miller. “A seamless design includes consideration of how the cabinetry is created – the contours, shapes, and so on. This way, as you enter the aircraft and move about the interior, it feels like a cohesive and well-thought-out design.”

Summer Sun, manager of design at Flying Colours, agrees with the characterisation of seamless design as providing a harmonised environment. “It should have good flow with no sharp interferences, for example, not jumping from a linear design to a floral one, but flowing continuously through,” Sun says.

However, this doesn’t preclude incorporating contrasts, for example having a major change of tone in the lavatory, or one contrasting piece of

INDUSTRY EXPERTS  
SHARE THEIR THOUGHTS  
ON HOW THE IMPACT OF  
THE PANDEMIC MIGHT BE  
FELT IN AN INCREASED FOCUS  
ON SEAMLESS DESIGN,  
INCLUDING A REDUCTION  
OF HARD-TO-CLEAN  
GAPS AND SPLIT LINES

*Words by Marisa Garcia*

EMBRAER



MROs who have installed the Bongiovi system include C&L Aviation Services, Duncan Aviation, Spirit Aeronautics and West Star Aviation



ABOVE: BONGIOVI'S AUDIO SYSTEM ELIMINATES VISIBLE SPEAKERS

LEFT: WITH THE BONGIOVI SYSTEM, TRANSDUCERS ARE AFFIXED TO THE BACK OF CABIN PANELS

furniture. "Another example is to have everything solid, and then one thing that is transparent, such as crystal."

### MINIMAL INTERRUPTIONS

The overall effect is of a canvas that can be changed through the use of soft furnishings and throw cushions. The advantage of a seamless, minimalist design, Sun explains, is that it is adaptable for multi-use aircraft. "There's a trend for medium to large design concepts that must meet two or three functions, say to support family use and business trips. Minimalist styling helps with this. Modern design with minimal interruption is very popular."

Melanie Prince, head of innovation at F/List, believes that seamless design has a timeless appeal that is always in demand. "An adaptive and highly intuitive cabin, which is free from unnecessary distractions, is always in favour and tends to make an agreeable, long-lasting impression," she contends.

## INSTALLING A *Bongiovi system*

Bongiovi Aviation has seen increased demand for its speakerless audio systems of late from the MRO side of the market. "When COVID hit, obviously a lot of the manufacturers stopped producing as many aircraft, and it gave us a good time to focus on the aftermarket," explains Heath Cohen.

In these kind of projects, Bongiovi goes on-site to support the engineers and technicians installing the transducers. Bongiovi staff will also run a full diagnostic of the soundscape,

making adjustments to ensure high-fidelity sound. They optimise the sound no matter what materials are used in the cabin design that might impact acoustics. The project timeline will vary from aircraft to aircraft. Still, Bongiovi experts are on site to answer MRO technicians' questions on installing the transducers and perform a final 'shake, rattle and roll' soundscheck to ensure an optimal sound.

"Our goal is just to keep getting more and more of the MROs on board," says Cohen.



## “Modern design with minimal interruption is very popular”

Now with heightened focus on cabin cleaning and hygiene, could we see an increase in this minimalism, with more effort expended on eliminating gaps, split lines and awkward spaces that could become dirt traps for dust and grime to gather? Is there much opportunity to do this?

### A WORLD OF OPPORTUNITY

“There is a world of opportunity for improvements,” says Prince. “Emerging materials and technology allow us to offer a brand-new product portfolio that will enhance comfort via simple and elegant features. For example, seamlessly integrated wireless charging stations within natural surfaces that morph into an ergonomic position, and flexible interior features that only appear when needed. Additionally, elegant, natural surfaces that are easy to clean and simple to disinfect should become a new standard for the most demanding passengers.”

F/List offers stone surfaces in most shapes, with no split lines. “The use of ceramic and stone countertops, which are easy to clean, ensures superior sanitary standards in the galley and lavatories,” comments Prince. “For the passenger cabin, optimising the passenger experience by inherently reducing the common contact areas, and the integration of protective coatings like Microshield 360, would be a definite cabin hygiene advantage.”

Sun of Flying Colours suggests shutters can be replaced with reactive glass to make cleaning easier. She also notes that particularly durable



materials could be useful in high-traffic areas, especially in higher-use corporate aircraft, to ease maintenance.

### SPEAKERLESS AUDIO

There are also options to eliminate speakers from the cabin, one of which was recently installed by West Star Aviation for a client. Bongiovi Aviation’s speakerless audio system is based on transducers, which can be affixed to virtually any cabin surface to transmit sound. Together with proprietary DPS signal processing technology, the system offers a fully immersive soundscape.

Heath Cohen, executive vice president of marketing and sales at Bongiovi Aviation, notes that the company has been gaining market share since the system was introduced as that chosen for the HondaJet in 2018. Bongiovi partnered with Mid Continent Controls (MC2) to produce and certify the hardware to meet

ABOVE LEFT AND ABOVE: A COMPLETION BY WEST STAR AVIATION DEMONSTRATING THE SEAMLESS DESIGN PRINCIPLE

BELOW: F/LIST SAYS IT CAN OFFER ITS STONE VENEER SURFACES IN MOST SHAPES WITHOUT SPLIT LINES



Click here to read more trend predictions from Melanie Prince, head of innovation at F/List

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ABOVE: A STREAMLINED INTERIOR CREATED BY WEST STAR AVIATION

LEFT: A PALETTE OF MATERIALS CHOSEN BY WEST STAR FOR A PROJECT REQUIRING A HARMONIOUS DESIGN AESTHETIC

FAA requirements. The system was shown on the Gulfstream G700 mockup displayed at NBAA-BACE 2019, and Bongiovi has also certified a speakerless audio and PA system for Textron Citation Latitude and Longitude jets. Now the firm is also working more and more with MROs.

## INDIVIDUAL REQUIREMENTS

Debi Cunningham, vice president of marketing at West Star Aviation, notes priorities vary massively depending on the customer and how they intend to use the aircraft. “Every interior is a custom design because our designers find out what customers are looking for,” she says. “Some use their aircraft strictly for corporate use – it’s like having a flying office – and for those, everything is immaculate and sterile, not fancy. If it’s more for family use, then you’re looking at more elaborate designs – maybe some bulkheads with leather padding and things like that – because they want it to reflect comfort. I worked on an aircraft a couple of years ago where one of the requirements, because it was for a family, was to use materials and leathers that blended well with mustard and ketchup. That was because they flew with their children, and they were always having hamburgers and hotdogs on the aircraft.”

Overall, Cunningham says that private owners’ decisions are most often motivated by the desire to create a customised, home-like environment suited to their needs. “We have a lot of designs for seats that have fewer folds and less gathering and fewer crevices and things like that, but the result is whatever our customers are looking for,” she says. “Our customers may have a car with seats that they like, say a Bentley or Ferrari; our designers have been asked many, many times for seats to look like those. All of them have intricate patterns.” ❖

## THE WELLBEING trend

The pandemic has accelerated an existing trend that has seen growing focus on how the environments we inhabit affect our health and wellbeing, says Judy Miller. “We are definitely going to have long-term effects in the design world following the pandemic,” she elaborates. “Many of those things were coming to the forefront, even before the pandemic happened. With the focus on sustainability came emphasis on cleanability, including antimicrobial and antibacterial surfaces and materials.”

Manufacturers were already developing products in line with these trends, Miller adds. “Things that were being developed for other industries will eventually make their way into aviation, and some already have,” she says. “These developments will have a lasting effect and we’ll see more of them as we go on. Cleanliness is never going to go out of style.”

Miller suggests it will likely be a bigger factor for corporate and fractional jets. “With any aircraft used by multiple people, you want the highest level of cleanliness as well as antimicrobial and antibacterial surfaces,” she says. “We’ll see the trend start in the refurbishment and fractional ownership markets, then that’ll roll into new completions.”

She says the demand for cleanliness is tied into the enduring trend for wellness. “With that requirement in mind, designers should consider the wellness of passengers – improving the cleanliness of the air, water, high-touch surfaces, all of that. It is a growing consideration in the residential and commercial design worlds and will expand in aviation.”

She also believes a new generation of aircraft buyers are shaking things up. “Younger buyers will prioritise environmental factors and sustainability; those are huge things for them,” says Miller. “That generation has grown up identifying with companies based on shared values. Responsible luxury is a big trend. Legacy owners will benefit from that too, because the new generation of buyers will push OEMs to offer those things.”