

# AIRCRAFT CABIN

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MANAGEMENT

**New for old**  
TAP and Lufthansa

**Meeting point**  
Aircraft Cabin Maintenance Conference

**Front loading**

First and Business cabins



(photo: PriestmanGoode)

# Touchy feely

AIRCRAFT CABIN DESIGNERS ARE MAKING THE MOST OF TECHNOLOGICAL ADVANCES, USING NEW PRODUCTION AND INSTALLATION TECHNIQUES – ALONGSIDE LIGHTER AND OFTEN UNUSUAL NEW MATERIALS – IN AN ATTEMPT TO ENSURE CABIN FURNISHINGS PROVIDE CUSTOMERS WITH A HOME AWAY FROM HOME. **HELEN MASSY-BERESFORD** LEARNS MORE

★ **Ioana Dragusin**, Accounts Manager at Romtex Anjou Aeronautique – which makes textiles, composite products, seatbelts, extensions and restraint systems, as well as providing design and engineering services, certification, maintenance and repairs for cabin interiors – says: “Furnishings are crucial because they help ‘create’ the cabin interior which best promotes an airline’s brand and image.

“They are most important because they can give the passenger a sense of comfort and safety when on board. This sense of quality during the inflight experience, through custom made interior designs, can implicitly promote the airline’s image, gaining passenger trust as well as creating a sense of space and safety at the same time,” she adds.

Singapore Airlines wanted its next-generation cabin products to also promote a sense of home-from-home: “We wanted to introduce a refreshing cabin interior that brought out the character and seat products of each individual class. We did not want our designers to be constrained by aviation norms, the emphasis has always been to move towards colours and trims that are associated with high-end furniture found in homes and hotels,” a spokesperson confirms.

Luke Miles, director of design consultancy Territory, was previously Global Head of Design for Virgin Atlantic and was responsible for the interior of the Boeing 787-9 Dreamliner. Launched in October 2014, the aircraft was designed to reflect the company’s evolution.

“If you look at the old Airbus A330 aircraft compared with the 787, there is a change. Virgin is obviously older as a company, and a little bit more mature and sophisticated. We tried to represent that in the interior,” Miles says.

“On the 787-9 the notion was to tone down the colour slightly within the cabin and focus all of the colour on the crew. We dialled down the colour to make the cabin more of a calm, sophisticated backdrop for wonderful service. Additionally, you can change the lighting in order to get a different feeling,” he adds.

As well as the lighting, unusual materials played a role in the cabin, Miles explains. In his new role at Territory, innovative materials and technological developments play an important



part in the aircraft cabin design projects the team is working on. “When I was at Virgin we tried to make the cabin elements, monuments and other products at least feel lighter. For example, the [Virgin 787-9 Upper Class] bar is cantilevered, so it almost floats inside the space,” Miles says. Corian was used on the bar – a synthetic surface material commonly used in kitchens and bathrooms which is both stain resistant and easy to repair if scratched.

“Ironically it’s quite a dense material, but we machined it back on two sides so it became a lightweight skin across the bar which we could then back-illuminate. What’s lovely about Corian is that when it scars or scratches you can fix it very easily.”

The backlit bar helps convey an important message,” Miles says. “As well as being materially innovative, the 787 is a highly connected aircraft, taking all manner of readings that are downloaded when it lands. We wanted to try to represent that level of hidden intelligence within the products that were actually being placed inside the aircraft.”

Touches like that help bring the technological innovation of the aircraft to life for passengers, Miles adds. “Boeing is making great strides in composite technologies, but a lot of the composite work is completely hidden to

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*Luke Miles, Territory*

passengers. For us, there was a feeling with that project that we had to try and bring to life some of the magic of how that aircraft was put together, including all of the intelligence inside – making that viewable and ‘experience-able’ for the customer.”

Often, it is the small touches, rather than complete cabin overhauls, that make a difference to the passenger experience.

Etihad Airways recently announced it was introducing to its economy class cabins on both longhaul night flights and all ultra-longhaul routes an ergonomic pillow/neck

pillow. The cabins themselves have also been refreshed, with new touches that include colourful headrest covers.

Its new amenity kits include a reversible eye-mask with ‘Do not disturb’ and ‘Wake me for meals’ printed on each side, while a blanket bag doubles as a ‘cabin tidy bag’ to reduce clutter around the seat and to store personal items.

Further forward, suites include a luxurious throw and cushion, reflecting the new interior’s colour palette which started on the Airbus A380 and Boeing 787-9. ▽

Changing off-the-shelf products can positively effect passengers. Here, on South African Airways economy seats, it is the stitching details and headrest reveals (photo: PriestmanGoode)





Singapore Airlines uses a warm and cool palette for maximum effect (photo: Singapore Airlines)



Business class customers on ultra-longhaul flights benefit from a new turn-down service that features a mattress, cotton loungewear and slippers, as well as a plush comforter and full size pillow.

It is not just at Etihad; across the industry the high-end developments that make flying a stylish experience for first or business class passengers are filtering through to improve the environment for economy passengers, Miles says. And here too, it is all about the details.

“There’s always a migration of technologies and techniques across the cabin. There is a real estate challenge but I think that thinner and lighter is the way it’s moving. There’s an opportunity to take some of that content and shift it down the aircraft.”

Kyle Scorgie, Colour, Material and Finish (CMF) Designer at PriestmanGoode agrees: “There is undoubtedly more innovation in aircraft furnishings now, this has been largely led by the more high-end sector of the industry.

However, there are ways in which these are trickling down to economy class. I think that standout experiences in that class come from attention to detail. A lot of airlines use off-the-shelf products, when small changes to catalogue products can actually have a really positive effect on the passenger experience. For instance, look at the stitching details and headrest reveals on the South African Airways economy seats, or the bespoke fabric for Thai Airways’ economy class that is designed to reflect the iridescence of Thai silks found on the street markets of Bangkok. Over the years, we’ve developed really strong partnerships with a lot of suppliers; this now enables us to work with them to customise standard products.”

New technologies – and new design ideas – also play a key role when it comes to seating, a make-or-break factor in determining whether a flight is a comfortable experience or not.

“The aviation world is heading in the direction of lighter materials for the aircraft interior. This has had a definite effect on

seating design. It has changed the airlines’ requirements regarding seat cushions and covers, but also seatbelts and torso restraint systems,” says Alexandra Cringasu, General Manager of Romtex Anjou Aeronautique, which counts AerCap Leasing, Aeroflot and Royal Air Maroc among its customers.

“In 2007, 90% of our portfolio was composed of orders for simple textile covers. These last years our profession has totally changed. As a consequence of these advances, Romtex Anjou Aeronautique has experienced an increasing demand to supply padded seat covers which can ensure maximum passenger comfort on lightweight seat structures. We have also noticed a high interest in leather and e-leather covers,” she adds.

“We are constantly working on renewing the design and weight of our textile products and seatbelts – for example we have developed our light belt 353 with an aluminium buckle.”

Elsewhere, Singapore Airlines introduced a new ergonomically sculpted cushion for its latest first class seat, which boasts an improved adjustable headrest. It also lengthened the beds by two inches to 82in, as well as adding a padded headboard and additional mattress layer.

“To provide customers with additional privacy and personal space similar to that of an individual cabin within each seat, we have extended the fixed back shell to cover more of the seat’s sides, creating a personal sanctuary in the sky,” a spokesperson adds.

“The look of the first class seat has also been refreshed, with rich dark chocolate leather and contemporary jaffa orange accents in the headrest and cushion trim. The warm, rich browns of the seat are contrasted against the cool metallic grey of the seat’s fixed back shell in a play of colours.”

Weight reduction can touch on all elements of cabin design, Miles says. “At Virgin we very carefully reviewed the weight of every piece of cutlery, china and glassware that went on board and stripped out as much as possible. When you’re thinning down chinaware you can start to use lightweight and stronger materials. It’s also about paint systems and how they are managed. Even the layers of paint that go on seats or monuments can dramatically increase weight.”

Miles says Virgin has also made its seating lighter and more comfortable. It removed bulk from premium economy seating by stripping away foam and resculpting what remained to allow for more legroom. Both airline and passengers benefit because the changes led to more legroom and less fuel burn. ➤



Dragusin adds: “The aircraft structure and seats are becoming lighter, so in order to ensure the same degree of comfort their soft furnishings become more complex, have to be more comfortable, and thus tailor-made. For a lot of programmes, we have to design and manufacture seat covers in two different leather colours, with ornamental design stitches which are customised to complement the interior harmony of the aircraft. We don’t just manufacture seat covers, we develop a customised product design in order to reflect the airline’s image. We also integrate our services with the new materials’ design development – including customised fabric and leather designs and colours – and therefore provide customers with a wide range of options to choose from when renewing the cabin interior.”

“New generation aircraft obviously have new generation, lighter seats. As such, seatbelts have to be lighter too, so we developed our new range of colour-customised lightweight belts,” added Daniela Matei, Marketing and Sales Manager of Romtex Anjou Aeronautique.

Virgin opted for a mix of textiles and leathers for seat coverings on the new 787-9, which helped create a sense of continuity with the rest of its fleet.

“Taking furniture language from the ground and putting it in the air so you don’t feel like you’re sitting in a piece of transport has always been a driver in my work,” says Miles. “It’s a slightly warmer environment. There have been improvements in the weight of synthetic



leathers, but again I think natural leather wears so well and actually often gains quality with age. You’ve got the issue of whether synthetics do that, many times they don’t, simply because they’re manmade. I think there’s more work to be done in terms of dress cover design and manufacture and how this could be made slightly more lightweight.”

When it comes to using seat coverings to contribute to weight reductions: “More could be done – quite how they’ll do it will be interesting,” Miles says. “In terms of materials, there are some quite elegant woven materials that are extremely hardwearing. They are quite beautiful because they feel like they’re from a piece of furniture. It’s called buying long – the idea of investing early so that they last much longer and gain with age. That’s certainly something that we’re quite keen on.”

Scorgie says technological advances in materials are extremely important. “There are lots of restrictions in aviation, including weight and fire regulations among others, so from the outset there is a much smaller spectrum of materials to choose from than, say, contemporary interior design. It’s an interesting time for materials, the rise of design as a competitive tool in aviation has led to increasing pressure on suppliers to develop unique materials, patterns and finishes.”

At PriestmanGoode, the CMF department works closely with suppliers on development, Scorgie says. “Suppliers will come in to show us what they’re working on from a technical point of view, then, from the design side, we try to develop the creative aspect of the materials and finishes – for instance, adding certain patterns and achieving specific colours or textures. It’s a close collaborative process between our design and CMF teams, as well



Romtex feels it is important to be able to respond to designers with customised products (photo: PriestmanGoode)



as the suppliers. We find this the best way to work, as it enables us to develop bespoke finishes that help create standout products.”

Like Virgin, PriestmanGoode was inspired by materials that would not normally be associated with the high-tech world of aircraft design for its work with South African Airways.

“For our CMF team, the focus is on creating a culturally relevant interior with comfortable finishes and materials that are more akin to those you find in residential interiors. We work with many national carriers, and we think it’s really important to create a sense of place, to draw on local and national heritage, crafts and visual culture and to inject these into the interiors,” said Scorgie.

“Following an extensive research trip in South Africa, we created a palette of neutrals for the seats with bright accents and patterns for details and brand panels throughout the aircraft. We created patterns inspired by traditional African fabrics and crafts. And we used elements from the South African Airways logo on stitching details on the seats. They’re all subtle applications, but really

help in creating a consistent design vision and a relaxed atmosphere for passengers.”

For Romtex Anjou Aeronautique, one of the most important trends is customisation, Cringasu says, reflecting the fact that cabin interiors are such an important part of an airline’s brand image. The company does not manufacture large series or keep products in stock, so it can swiftly respond to customer demands for different colours or designs.

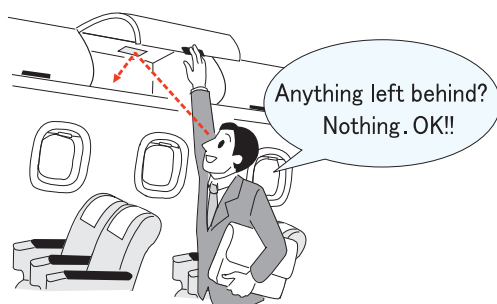
“The sense of safety is strongly related to the idea of a quality service. Quality service when on board also spans the general ambience and the sense of comfort that a new cabin interior can create. A ‘clean’ and ‘open’ cabin interior gives the passenger a sense of comfort, even visually, automatically promoting the airline’s service and thus the level of trust from the passenger’s perspective increases,” says Dragusin.

“Everything we manufacture, whether we’re talking about galleys, partitions racks, stowage units or soft furnishings is made to fit the airline’s particular need for a specific aircraft. For us, offering quality support is closely related to the idea of customisation.” ●

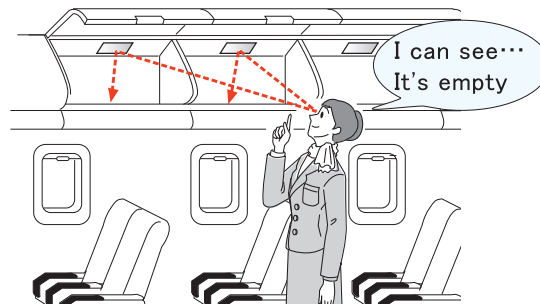
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### Passenger Convenience



### Quicker Aircraft Turns



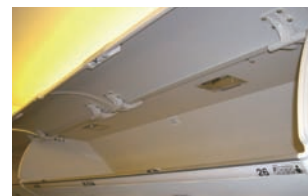
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