

# Aircraft *interiors* INTERNATIONAL

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## sitting pretty

"CONSIDERED TO BE THE SEGMENT OF THE POPULATION WHO ARE THE ADAPTERS OF INNOVATION, IT IS GENERATION Y THAT WILL DRIVE CHANGE TODAY AND FOR YEARS TO COME"

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## EDITOR'S NOTE

### sweet dreams

As an adolescent I was rarely troubled by sleepless nights, bar those I brought upon myself by staying out until the small hours. Cocooned in the family environment, and further cushioned by the absence of any real responsibility, there was little to worry about to keep me awake.

Unfortunately in my adult life as an editor beset by deadlines, this is no longer the case. My mind now swings into overdrive around midnight and instead of catching z's, I find myself dotting i's and crossing t's in fear of having missed a grammatical error or spelling mistake. Sad isn't it? And once I reach this heightened state of mental alertness, I often turn my attention to more serious matters – world peace, West Ham United's appalling football season, and my trouble sleeping of course.

So what has all this to do with this magazine? Well, according to Carlos Martinez-Celis of AirDesign, it was his inability to sleep brought on by the discomfort of his seat when flying long haul that proved the catalyst behind his controversial AirBorne Hotel concept (page 42), which quite literally 'stacks' passengers on top of each other in special modules. Whether you consider this idea the stuff of nightmares or a dream come true, the design is at the very least brave in its attempts to remedy the cramped conditions that currently prevent many of us from enjoying a restful flight.

Critics of the scheme would rather see the same energy applied to less ambitious projects concerned solely with improving seating comfort. Fortunately they should be encouraged by Klaus Brauer's article on page 66 regarding Boeing's introduction of a system for measuring the comfort standards of seats, especially those in economy. Simple to apply and understand, the system will help ensure that future seats are at the very least comfortable and well designed.

Of course one of the biggest benefits of a sleep-filled night is the ability to dream of a better world, perhaps even one where West Ham always wins and magazine deadlines don't matter. Should you find yourself in this lucky position, why not use your imaginative talents to create the ultimate aircraft interior? Please consider forwarding any ideas you might have to Blake Emery, director of differentiation strategy at Boeing, whose article on idealized design (page 50) is a vital starting point for anyone interested in improving the flight experience.

As for improving the chances of world peace, at least today's youth are well aware of the fact that we are all one people living on the same planet, having grown up with the advent of the Internet and much improved access to air travel. Hopefully their considerable influence (see FutureBrand's Generation Y article on page 18) will encourage the pursuit of a more united world. In the meantime, may I take this opportunity to wish you all a prosperous new year and an even better night's sleep!



**Anthony James**  
Editor

# dream state

STAIRWAY TO HEAVEN OR PIE IN THE SKY? A NEW CONCEPT DEFIES CONVENTION IN A BID TO GIVE PASSENGERS PLENTY OF ROOM TO RELAX AND SLEEP, REGARDLESS OF CLASS

**D**esigners have traditionally struggled to find a solution that addresses the two basic requirements of delivering a true 'sleeper' aircraft. The first and most important factor is to maintain costs and passenger capacity, while the second is to create a practical cabin configuration that gives passengers enough room to relax and sleep, as well as the independence of being able to make their seat into a bed (or vice versa) without help from the crew.

Enter the AirBorne Hotel (ABH) concept, which proposes the use of two- or even three-storey seat modules, with the upper modules being reached by ladder. Such a design could accommodate a similar number of passengers as that of conventional passenger cabins, while also enabling wider seats and even a third aisle (to help improve boarding and disembarking). This last feature is made possible because the ABH concept requires only 8 seats (at floor level) instead of the usual 10 seats across a typical Boeing 747 economy cabin.





The seat module's design, which incorporates a practical foldout mechanism, allows passengers to operate their seatbeds without any help from the crew, so travelers can choose individually when to sit up, partially recline or lie flat and sleep, depending on their individual needs.

**Value for money:** The ABH project team believes the ABH concept would be inexpensive to implement because all elements have been conceived in such a way to ensure their design is simple and free of costly accessories, mechanisms and parts. Modular construction techniques could be employed, using composite plastic materials, which are lightweight and robust. It was the project team's aim to ensure ABH cabins can be fitted or retrofitted on aircraft rapidly and efficiently. All these factors allow for the production, installation, operation and maintenance of ABH cabins to be moderate in cost.

The ABH concept has also been specifically developed to ensure similar operational costs per passenger as compared to those presently in effect; and to allow airfares, both in economy and in business class, to be held within the range of current ones, but with very definite comfort advantages for the passenger.

**Passenger comfort and convenience:** Only three out of every eight passengers would not have an aisle seat in an ABH

## OUR SURVEY SAID...

"It's good to see a radical innovation that challenges preconceptions in the aviation industry. How legislative, structural, weight and cost implications shape the future of this concept on its path to becoming reality will be the key to its success." – **Joe Ferry, Virgin Atlantic Airways**

"Bravo Mexico – we need designers with fresh ideas to make flying a more agreeable experience. Please let us conceive future generations of aircraft more as airborne hotels rather than flying buses." – **Tom Karen, Design Consultant**

"Some of the questions raised by the concept will have engineers jumping out of their seats, but with today's technology

and skill it should not take any great wit of man to make such an idea a reality. However, careful study and analysis of



the ergonomics and social behaviour of passengers in a mock-up would be required and the design gently tweaked – if this sort of study is omitted it could all fall flat on its face." – **Robin Dunlop, Cut The Mustard (CTM) Design**

"The interior resembles a dark, overcrowded library where the passengers are the books on the shelves! No matter what lighting effects might be used, you are still talking about a cabin that resembles the inside of a cargo aircraft. Most passengers just want to travel in a reasonable atmosphere, and an open cabin gives a feeling of space and security. Current seat pitches need addressing, and this should be where time is directed, rather than thinking about treating the customer even more as a piece of freight. After raising the concept at some of our focus groups, we were given very short shrift by passengers who foresaw many logistical difficulties that would prevent this from flying." – **Edward Plaisted, Skytrax Research**



## ABH MODULES ENABLE A PASSENGER IN THE MIDDLE SEAT TO EXIT WITHOUT THE NEED FOR THE PASSENGER IN THE AISLE SEAT TO STAND UP AND STEP OUT

economy-class cabin arrangement, compared to six out of every 10 in a conventional economy-class layout for a Boeing 747. Given their dimensions, ABH modules enable a passenger in the middle seat to exit without the need for the passenger in the aisle seat to stand up and step out to allow them to pass. For those who would prefer not to be between two people, the best option is the aisle seating, which comprises 70 per cent of all the seats in an ABH economy-class cabin, compared to just 40 per cent in an average Boeing 747 economy-class cabin.

All ABH modules and seat-beds will have armrests/safety rails for passenger protection and for added privacy from adjoining seats. To further ensure passenger safety, each seat-bed will have a three-point adjustable seat belt that the traveler can wear comfortably adjusted while seated or while sleeping. Moreover, ABH modules help protect passengers from shocks, flying objects, fire or the spraying of fuels in very much the same way that monocoque-built cockpits of Formula 1 cars protect their pilots: saving their lives even in the most violent crashes and collisions. Ladders are also designed to be extra safe: they are built-in, sturdy and solid; have rounded corners to avoid injury and plenty of ergonomic handle grips. They are also finished with anti-skid materials to prevent slips and falls.

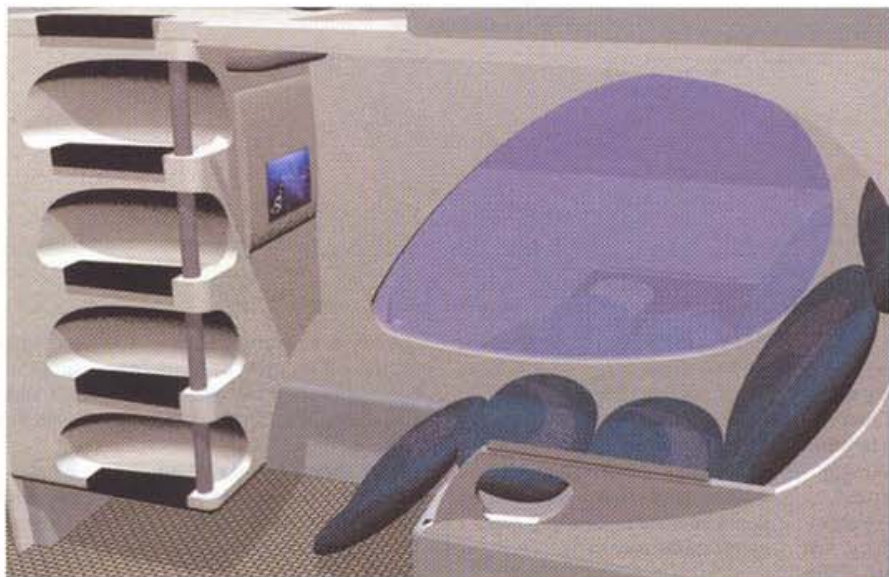
But what about those who are unable to climb into seats via ladders? In an ABH economy class cabin, there are 10 to 15 per

cent special accommodations, next to the windows, and 30 per cent of the remaining modules are located at floor level, which means up to 40 per cent of modules may be assigned to senior or disabled passengers. In business class cabins, this figure would be about 57 per cent.

Individual bins for authorized hand baggage are also built into each module; these are located above the passenger's feet, at a comfortable and safe distance from the head and upper body area. Additional space for hand baggage is located at both sides of the cabin over the windows. Total stowage capacity is considerably increased when compared with conventional cabins.

ABH modules provide travelers with much more individual space, as well as with the possibility to move freely within their modules and to leave them and walk about at will, without disturbing other passengers. These features reduce health risk factors such as immobility and inadequate posture during extended periods, which are suspected causes of several travel-related health conditions. Moreover, since passengers will be able to rest and sleep comfortably for the entire duration of the flight, fatigue and stress – two factors that can contribute to poor physical and mental health – will be cut.

**Inflight service/entertainment:** Flight attendants can distribute simple meals (sandwiches, etc) in practical containers. Also,





## ABH UNITS FEATURE INDIVIDUAL VIDEO SCREENS LINKED TO CAMERAS TO PROVIDE A VIRTUAL WINDOW, ENABLING PASSENGERS TO ENJOY SPECIAL VIEWS

passengers can have permanent access to a self-service snack bar. This would also give passengers a reason to get out of their seats often and walk, as is presently recommended by airlines to reduce travel-related health risks. At any rate, it should be emphasized that the ABH system allows passengers a more relaxed flight environment with lots of rest and sleep and less need of attention from flight attendants or inflight entertainment.

Finally, all the ABH units feature individual video screens linked to cameras to provide a virtual window, enabling passengers to enjoy take-offs, landings and special views.

**Rewriting the fare system?** With so many improvements to passenger comfort, it would appear the ABH concept challenges an unwritten rule of the airline industry: differentiation between classes is essential because it encourages more people to pay for premium-class travel, which is where carriers get most of their money. However, this is not necessarily the case. Although ABH offers every traveler a fully reclining seat, it hardly undermines the existence of premium-class seats, since there would still be important differences between classes. These differences include greater comfort, more personalized attention from flight attendants, better meals and all the status and privileges currently found in first class. These will continue to appeal to many travelers who will still be willing to pay for them.

More importantly, if airlines are able to provide economy passengers with vastly improved levels of comfort, it is likely that travelers will be glad to pay a little extra for this great advantage. After all, most passengers don't look for the cheapest fare because they lack the money, they do so because they figure that if they are going to travel cramped in a small seat anyway, they might as well pay as little as they can for it. If people are switching airline preferences to get a few extra inches, the possibilities for any airline that gives passengers a fully reclining seat at an affordable cost are virtually limitless.

**Conclusion:** There is no doubt that many challenges and obstacles still lie ahead for the ABH concept. In view of its novelty, it will certainly have to go through a detailed process of acceptance and certification by safety and regulatory bodies. Ultimately, its fate will depend on whether it is a winner among travelers – this alone will determine whether it takes flight. So far, the ABH project team has received hundreds of letters, an overwhelming majority of which (about 95 per cent) express their approval for the ABH concept. **END**

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### CARLOS MARTINEZ-CELIS COMMERCIAL MANAGER AIRDESIGN, MEXICO

#### What was your first ever design project?

Designing and then cutting out a set of wooden horizontal partitions, ladders and ramps to turn a birdcage into an early version of a hamster cage – you could describe it as a birdcage retrofit project! I was 8 years old and my sister and I had white mice at the time. The rodents chewed up a good part of the wood but lived quite happily for a while.

#### What inspired you to develop the ABH concept?

I recently had to regularly fly long-distance. The many uncomfortable and wakeful nights led me to think about how all that wasted space right over my head could be used to deliver a more comfortable way to fly.

#### Besides devising aircraft interiors, what do you do when you are having trouble sleeping?

I try to get all thoughts and worries off my mind as if passing them on to someone else. Easier said than done, but it works!

#### Where should I go if visiting Mexico for the first time?

A top choice would be the Teotihuacan archeological site with its majestic pyramids. However this is probably a distant second to the ancient Aztec city of Tenochtitlan, which

must have been spectacular – unfortunately this is where modern Mexico City stands today. Oh well, there's always Cancun!

#### What is your worst tequila experience?

A few of them I can't remember – others I wouldn't want to! Maybe the worst tequila experience for most Latin Americans was the 1994 Tequila Effect – but that's another story!