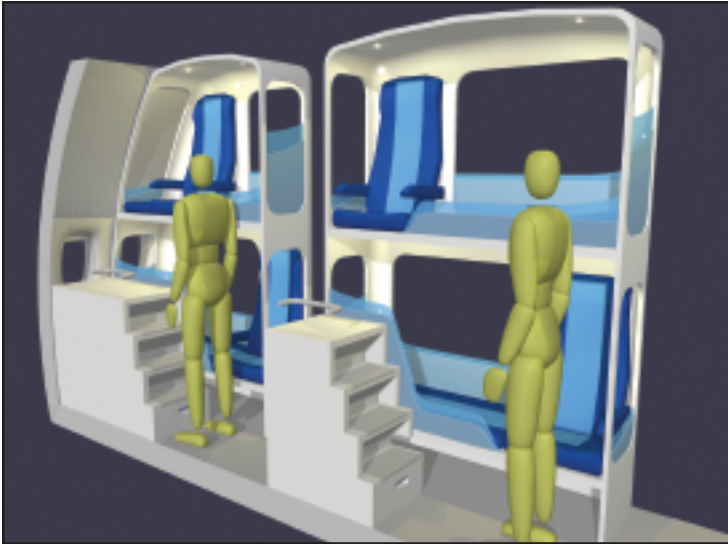
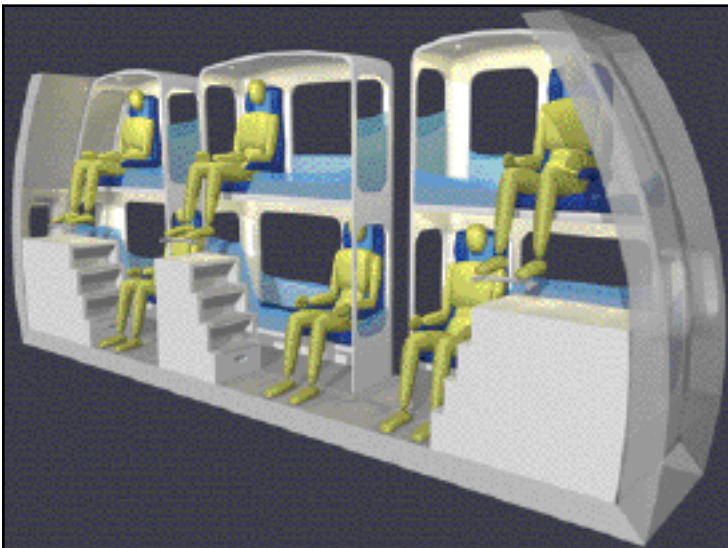


# The Perils of Jet Lag: *Take It Lying Down*

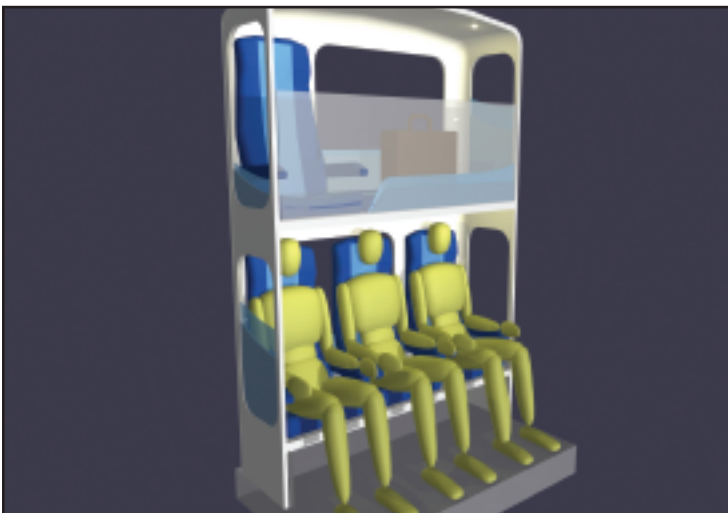
Story by Mark Stuertz  
Images by Jacob Emil



The FLEX-SEAT significantly reduces boarding time for large aircraft as passengers do not block aisles while storing luggage.



The FLEX-SEAT can comfortably seat six abreast on most wide body jets.



FLEX-SEATS can be converted instantly to Economy Class by folding the steps into the upper level. The upper level serves as storage.

Jet lag can be killer. Take it from a mouse. According to a University of Virginia study released late last year, a majority of aging mice died when subjected to the equivalent stresses of a weekly Washington to Paris flight for eight straight weeks, expiring at a rate triple of the elderly mice in the study's control group. Crank the jet lag intensity up a few ticks and the death rate mounts.

But it doesn't take a crowd of timeworn mice to show that being trapped between airline seats while streaking through cirrus clouds for long periods can be deleterious. A robust market has long swirled around such jet-lag related afflictions, breeding remedies as varied as acupuncture kits, homeopathic treatments, and lighted visors. There's even a website devoted to deciphering which airliner seats are the most comfortable on any given flight. *Seatguru.com* helps passengers select the most desirable seats available on specific flights by compiling airline and aircraft layouts, passenger reviews, and information from pilots and flight attendants.

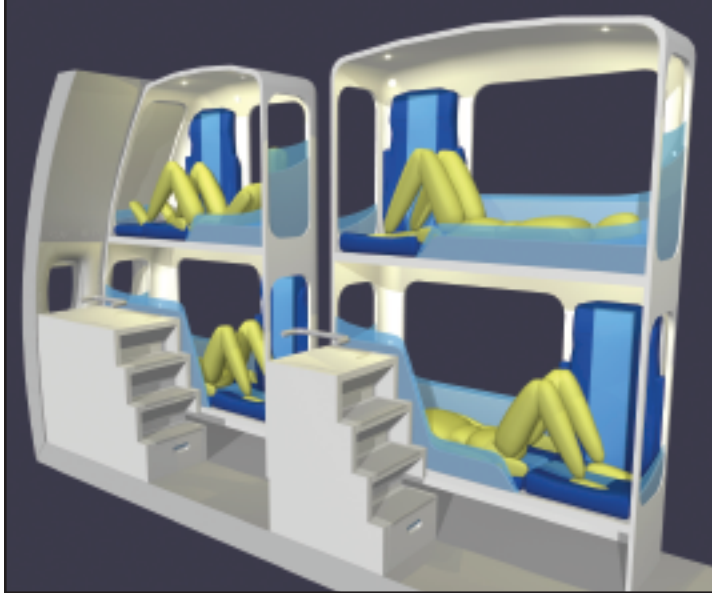
Still some passengers divert from conventional seating arrangements, homeopathic pills and other remedies such as head-dunking in ice water and gulping gallons of coffee to tame the trials of travel. Some passengers simply invent.

"The only thing I wanted to be able to do was lie down and sleep on an overnight flight," says frequent traveler Emil Jacob, a Boston-area economics consultant and inventor who regularly endured 12 hour-plus flights to Europe and the Middle East. Jacob was forever searching for three or four open seats on long flights so that he could stretch out. But many times even after finding those empty seats, fixed armrests intervened. "So I slept on the floor of the plane," he says. "I was so exhausted. After a few hours I woke up and stared at the ceiling of the plane and I thought 'there has got to be an easier way of doing this.'"

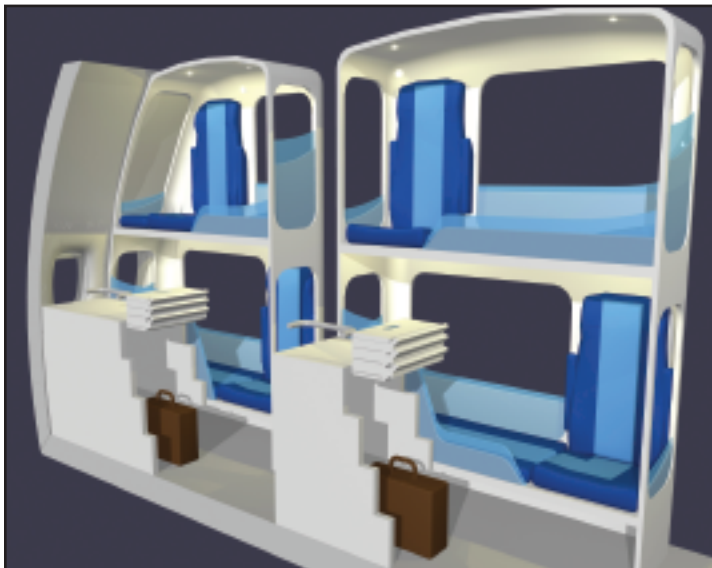
An inventor of ergonomic devices designed to make hand-held computers and cell phones easier to use, Jacob believed that there had to be a way to efficiently utilize the generous floor-to-ceiling space in wide body aircraft--such as the Boeing 747, 767 and 777 and the Airbus A340 and upcoming A380--to allow economy class passengers to fully recline at affordable prices. He began experimenting with bunk beds and ladders, but industry insiders told him that climbing ladders on an airplane would create enumerable safety hazards.

So Jacob refined his seating invention by creating a split-level system of private modules consisting of a seat and mini-bed for reclining. The top tier is accessed via foldable steps that double as storage compartments for carry-on baggage. To convert the modules to economy class seating, the steps can be folded into the top tier and used for storage while two seats can be added on the lower level at the expense of the bed.

Jacob insists there are numerous benefits to the



Spanning 3 economy seats across and proportioned for passengers up to six feet tall, FLEX-SEATS do not require the reclining mechanisms used in conventional seats.



Baggage is easily stored: Instead of lifting luggage into overhead bins, passengers store it safely under movable stairs.



Emil claims the FLEX-SEAT offers other benefits via food service cost reductions as most passengers departing on late evening flights will opt to sleep rather than have a meal.

FLEX-SEAT. For one, it dramatically reduces boarding and deplaning times as passengers do not block the aisles while storing and retrieving their carry-on baggage. The FLEX-SEAT can also serve as a passenger enticement. Up until now, seat design has been a Spartan cost-compromise with comfort largely defined as the absence of pain and injury. Jacob's invention could dramatically change that equation.

The FLEX-SEAT can also accommodate passengers with great girth, an important selling point as Americans have steadily gotten taller and larger since the dawn of the jet age more than 40 years ago, averaging an inch taller and 25 pounds heavier according to the National Centers for Disease Control and Prevention (2004). The FLEX-SEAT can potentially stem complaints and even lawsuits filed by passengers who believe they have been discriminated against due to their body size.

Will the airlines bite? German airline Lufthansa is already mulling a "kipper class" service, an economy sleeper cabin on its long-haul flights. Likely to be installed first in the mammoth Airbus A380 if the concept is adopted, Lufthansa's sleeper cabin would be configured with triple-deck bunk beds set out in a herring bone pattern on either side of the aircraft with two additional rows of bunked berths running down the center of the plane. But with comfort comes challenges: Lufthansa has to develop a way to configure the beds so they can be adjusted to accommodate passenger meals as well as safely prepare passengers for take-off and landing. Jacob's FLEX-SEAT resolves such challenges. Airbus is currently studying the FLEX-SEAT and Jacob says he has rustled up interest among a few major airlines, though he declines to name them.

Still increased costs are one of the key challenges keeping many potential FLEX-SEAT adopters on the sidelines, says Jacob. The FLEX-SEAT has 50% more surface cost than conventional coach seats. The approximate 50% ratio applies for a fully flat. The most economic version of the FLEX-SEAT can provide the equivalent space of slightly more than two economy seats for each passenger. The surface cost in this case would be about 20% more than average economy. In this most economic version, (which will not have full length and fully flat seats) a large plane with an arrangement of 3-4-3 conventional economy seats would become 2-4-2 FLEX-SEATS. This version would cost about 20% more in floor space but it will make a long haul flight more pleasant for sleeping as and for privacy. Yet Jacob believes there is potentially lucrative pent-up demand among long-haul travelers willing to trade a few extra dollars for dramatic increases in comfort. "Every square inch counts," Jacob says. Just ask a mouse. ✈️

For more information visit [jacob-innovations.com](http://jacob-innovations.com).

Editors Note:

*My thoughts when I first read this article were along the line of: "You have got to be kidding. How would the FAA ever certify the evacuation for an aircraft equipped like this?" However, after some thought and looking at the Suites installed in the Singapore Airlines A380, we may just see something very similar to this someday. Think about it.*