

A340-500, is already preparing to break with tradition to keep its passengers happy for extended periods. These all entail using a fair proportion of the underfloor cabin for purposes other than seating, enabling the passengers to get out of their seats and do something less passive than in-flight entertainment condemns them to.

So far, "lower deck" compartments in existing Airbus long-range aircraft are being used for crew rest areas and that, of course, would almost certainly continue to be the case in addition to whatever the airline sees fit to do for its passengers. Airbus points out that the use of under-floor space is widespread in its customers' long-haul aircraft. UK charter carrier Airtours, for example, has taken an option of installing lower deck lavatories in its A330-200s, but the manufacturer confirms that Virgin is the only

start – is something that many passengers enjoy, says Moore. Being able to meet and talk at a bar is appreciated and, on longer flights, it could be given more space, he says. Other ideas based on social activity include a properly run gambling table, rather than computer-game gambling.

Also mooted is a "gym" area, possibly with exercise bikes and weights, associated perhaps with shower rooms. Certainly, says Moore, lavatories would be larger and there would be more of them per passenger. The idea of separate men's and women's lavatories is under study, says Moore, because women prefer their own. In addition, although most lavatories could be compact as they are now to ensure that the ratio of lavatories to passengers is high, others could also be proper washrooms. Washroom design could make shaving or other grooming less of a contortionist exercise than it is in today's cramped lavatories.

The opportunity to sleep properly at night, however, is the highest priority on every air traveller's wish list, says Moore. Boeing has already floated the idea of "upstairs" sleeping compartments above the 777's main cabin, and BA says it is actively considering this option. There is plenty of space to do this because, as well as having a body almost as wide as that of the 747, the 777's main deck floor is set relatively low. In some of its 747s, KLM, for example, provides crew-rest compartments above the main cabin (as distinct from the forward upper deck area), so it is possible.

Virgin, not to be trumped as far as sleeping arrangements are concerned, says that private cabins, one of the options that the airline is considering, would give passengers the ultimate in comfort and privacy. Owner Richard Branson has said in public that this unprecedented level of privacy would allow passengers "...the chance to join the mile-high club" – if that was what pleased them. Moore says, however, that even if cabins would require a higher price than the market found acceptable, then comfortable bunk beds in a sleeping compartment could be another option.

One particular movement in the industry which would appear to militate against the use of too much customer airlines' imagination is the thrust – spearheaded by Boeing and the US Air Transport Association (ATA) – to bring down aircraft manufacturing costs through

PASSENGER BEHAVIOUR

AIRLINES ARE already having to consider the effects of the increase in unruly or aggressive passenger behaviour, even during flights lasting a few hours, let alone extremely long journeys. "Air rage" has been acknowledged internationally as a growing problem (*Flight International*, 11-17 November, P16) which ruins the quality of the journey for the well-behaved majority, and occasionally presents real danger to cabin crew and even to the flight.

Seat and cabin layout, including space set aside for "social activity", or more spacious washrooms, all have the potential to influence a traveller's state of mind.

Non-smoking rules on flights is already statistically established as the major single trigger for "air rage", although alcohol consumption is another. These threats, although present on shorter flights also, tend to increase with the length of the journey.

Virgin, which already distributes nicotine patches to those who want them on its longer flights, says it is investigating the feasibility of allowing smokers access to a small, well-ventilated smoking cabin and whether this would genuinely alleviate the problem. The potential danger of having frustrated smokers attempt to block lavatory smoke detectors before lighting up might be reduced in this way.

Virgin says that it now trains its cabin crew to recognise the early symptoms of potential trouble and how to act to prevent it. The simplest of all methods is to be stricter about allowing passengers already the worse for drink to board.

UK airlines have called for behavioural research to determine the specific effects cabin confinement has on people, and one possibility is that recommendations on cabin design might emerge.

standardisation (*Flight International*, 18-24 November, P40). Airbus, equally aware of standardisation's advantages, counters that almost all seat or cabin changes/additions required for ultra long-haul aircraft are modular in nature, so the problem does not arise as far as manufacturing standardisation is concerned. The lower deck sleeping cabin, for example, is pallet based.

The ATA concedes that seating and cabin design provides airline branding and image, and is an essential part of the marketing message to passengers. It insists, however, that units like galleys are not, and could be, more standard. For example, United Airlines chairman Gerald Greenwald, who has a shopping list of items that are ripe for standardisation, says that existing differences in IFE interfaces are unnecessary and infuriating. □



Space does not eliminate boredom or the effects of prolonged inactivity. In the Boeing 777 (below), bunks in an upper level compartment are offered

A340-500/600 customer so far which has "...expressed an interest in" the use of lower-deck space for sleeping accommodation.

Virgin corporate communications chief Paul Moore says that air travellers should be seen "as people first and passengers second". He explains that, given the normal needs that people have on a very long range flight, they should be able to vary their activities as much as possible. Cabin design, Moore maintains, has traditionally been "engineer-led", and Virgin believes that it is not difficult to break away from that concept and look at other possibilities. As part of its self-imposed role as the air transport industry's iconoclast, Virgin has been in the forefront of the introduction of all-class inflight entertainment (IFE), not confining interactive equipment purely to the high yield cabins.

Its Upper Class passengers, however, in addition to the digital IFE, have been variously offered the privileges of massage, aromatherapy and manicure, and the carrier runs a stand-up bar on several aircraft. Socialising – although it tends to be shunned in the seat row for fear of encouraging an endlessly talkative neighbour to

