

CLEAN AIRCRAFT LAVATORY

“The design of a new concept to improve passenger hygiene on long haul flights”



THE PROBLEM

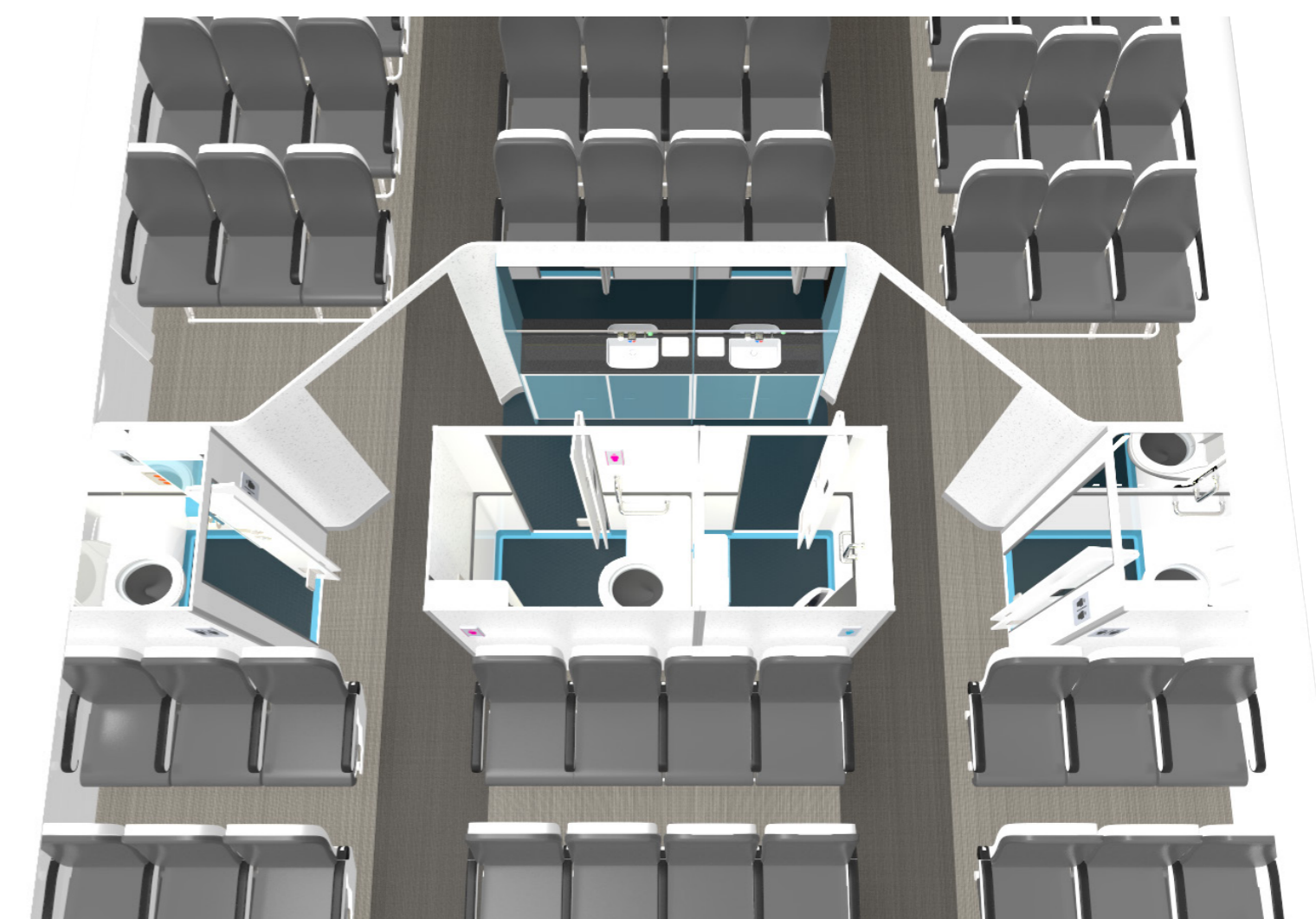
Aircraft lavatories have featured the same fundamental design for close to 50 years. Passengers are not satisfied with the hygiene conditions in this version of lavatory, especially in economy class where there is a high density of people repeatedly going to the toilet and failing to clean up after themselves.

Specifically, the problem is that lavatories are too small for passengers to practice good hygiene. Badly aimed urine soaks the floor, the paper bin fills up quickly and overflows and the smell is less than desirable following repeated use. In busy cabin environments the flight attendant cannot always be relied upon to clean up the mess left by others.

THE SOLUTION

Using public restrooms as a source of inspiration, this design aims to reduce the risk of poor hygiene the removing the individual wash basins and putting them in the cabin for shared use. The Z-Lavs are a modular approach which allow airlines to design new layouts for enhanced lavatory provision.

The number of surfaces touched inside the lavatory is reduced and the reduced presence of water and paper reduce the likelihood of disarray, keeping the space tidy for longer. The principle driving this is that less is more. Users are provided with the tools they need for hygiene, when they need them.



Urinating while standing in a moving vehicle can be a struggle. This 32x32 inch cubicle is designed for men to urinate quickly and on target.

Men can now quickly use the lavatory when they just need to urinate and use the unisex lavatory when they need to defecate. This will drastically cut down on passenger waiting times and reduce the chance of urine landing on the floor.

Provision of urinals has been common practice in public restrooms for years and have many benefits. With industry attention trending on urinals, it is likely that they will take off soon enough.

A female only lavatory is provided which takes up the usable space saved by the small urinal Z-Lav. Females are given a larger lavatory to use, measuring 46x32 inches.

With the removal of the wash basins this creates a much larger space volume to use the lavatory comfortably. Additionally, restricting male use will help to keep the floor to remain clean and urine free.

Placing a larger lavatory in the middle of the aircraft also presents an opportunity to increase provision for passengers with reduced mobility.

This lavatory can be used by all passengers. It is virtually the same as the female lavatory but is smaller at 42x32 inches and features a curved ceiling to align with the cabin

In the event that one of the gendered lavatory breaks down, all passengers will have back up. Passengers are expected to show preference for the gendered lavatories. Having options is preferable for passengers..

When compared to the standard lavatory to the right, this lavatory is more voluminous and fewer disposable products inside which can contribute towards a messy lavatory

This lavatory must still be used narrow-bodied aircraft which do not have the extra space for a communal wash basin. It closely resembles the typical lavatory design.

This lavatory included to illustrate the differences between the hygiene benefits of the new Z-Lavs with the current state of the art. In particular the amount of space which is lost for the sake of having a wash basin

The selection of components in the Z-Lavs is highly simplistic when compared to the standard lavatory. This is expected to have a positive impact on manufacture and repair

Male



Female



Unisex



Standard



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Clean Aircraft Lavatory
18/07/2018
Integrated Product Design

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