



Safe and Sound: Ideas for restarting air travel

The shortlist for the two new Crystal Cabin Award special categories provides insights into a safe and comfortable future in the skies.

Hamburg, 27 May 2021: Boarding an aircraft carefree — when will that be normal again, and what will air travel look like in the future? As international air travel gradually ramps up, demand is stronger than ever for innovations that make us feel hygienically safe and at the same time comfortable. With its new special category of “Clean and Safe Air Travel”, the Crystal Cabin Award, the world’s leading industry prize for cabin innovations, provides a platform for developments aimed at creating confidence. And the shortlisted entries for the “Judges’ Choice Award” special category reinforce the fact that a crisis is no restriction on creativity in the aircraft cabin. These awards go to submissions that particularly impressed the international jury.

Enabling people to feel good about boarding an aircraft was the motivation behind numerous shortlisted entries in the Crystal Cabin Award special category, “**Clean and Safe Air Travel**”. Amongst the finalists are ideas for innovative antimicrobial coatings such as the the “**ION Technology**” from **SEKISUI KYDEX**, which can be applied to all plastic and sanitary surfaces. The treatment, directly incorporated into the thermoplastic, also enables the surface to better withstand daily cleaning. The **UV Disinfection Wand** from **The Boeing Company**, in collaboration with **Etihad Airways**, **Healthe® Inc.**, and **FarUV Technologies**, also promises thorough cabin disinfection. This portable “magic wand” eliminates up to 99.9% of viruses and bacteria on cabin surfaces by means of 222-nanometer UV light, an approach to cleaning that is not only significantly quicker but also gentler. Air circulation within the aircraft cabin has been a major topic of discussion in the context of COVID-19. **Villinger**, the shortlisted entrant behind the **CleanAir™** cabin air purification system, takes up the fight against unwanted passengers such as pathogens and pollutants down to the size of atoms. Ionising micro-electrodes are used in place of standard filters.

Paradigm change for a new experience of flying

In the course of 2020, a whole row of concepts were presented, aimed at making social distancing possible in the aircraft cabin, including the omission of some seats. In view of the reality that flying still has to be worthwhile for the airlines, British design agency **PriestmanGoode** has submitted its “**Pure Skies**” concept for economy and business class, whereby cabin configuration and materials facilitate distancing without sacrificing



load factor. Staggered seating, personalised space for cabin baggage, and “clip on” folding tables, disinfected and handed directly to the passenger from the trolley, are just some features. **Delta Air Lines** delivers on its promise to passengers of a new standard with the shortlisted **CareStandard** rulebook for hygienic travel, from check-in to baggage reclaim. The US airline is drawing on its particularly early response to the challenges of coronavirus, such as implementing a comprehensive test strategy for flight personnel and extensive cleaning and ventilation concepts. **FTI Engineering Network** from the Berlin region shows how artificial intelligence can make safe air travel possible. The **Smart Cabin** concept includes an expansion of camera-based support for flight attendants: in the future, AI could be implemented to automatically recognise masks and, with infra-red cameras, to check passenger health. These innovations have also reached the shortlist for the “Clean and Safe Air Travel” category.

Clean and Safe Air Travel: On the safe side with data

Hygiene can even be entertaining, as Hamburg’s **ZAL Center for Applied Aeronautical Research** shows with its concept, entitled **ZAL Clean Fun – Gamified Handwash Hygienics**. The passenger’s handwashing routine is analysed by artificial intelligence, with the “hygiene level” reported in a game-like way on the lavatory mirror. **AURORA**, from **HID Human Interface Design GmbH** and **VeCtor GmbH**, provides the passenger with a digital assistant. The app bundles available real-time data on queues at the gate, the passenger’s health condition, and the hygiene status of the seat. Once the passenger is seated, **Be Safe – Build Trust** from **AerQ GmbH** makes travel as free of contact as possible with features such as “QTouch”, enabling the passenger to control the in-seat display with hand gestures, and “QSound”, providing the passenger with an individualised sound bubble without headphones.

At the jury’s discretion: Judges’ Choice Award

Once again, at the Crystal Cabin Award 2021, innovative cabin concepts promise more comfort and unique experiences in every seating class. This year, for the first time, cabin innovations can also be shortlisted for the special “Judges’ Choice Award” category, promoting a new start for the industry. **Toyota Boshoku** developed a cabin concept, for example, designed to give a genuinely positive boost to the economy travel experience. **POSITIVELY ECONOMY** combines three economy classes in one, from the innovative eco-seat at the window to the personalised Premium Economy and Premium Plus middle seats with more space and privacy. **Collins Aerospace** and **PriestmanGoode** have produced passenger comfort with the experience of a first-class suite for **Aeroflot**. Designed for the A350 in 2020, **Horizon Premier** fulfils some business-class passenger



needs such as privacy, thanks to a door, and plenty of storage space in a small closet. Also shortlisted for the Judges' Choice is the **Economy Sky Dream** from **ADSE**, reminiscent of interrail travel but with a good helping of increased comfort. Overhead lockers above the central seating block on long-haul airliners make way for loft beds, and baggage is simply stowed under the seat.

Barrier-free travel: Ideas for inclusive air travel

The industry is re-inventing itself, and the focus is not only on safe and clean travel; other challenges, too, are being addressed more strongly than before. Several ideas for inclusive, barrier-free air travel have made it into the shortlist for the Judges' Choice Award special category, such as **Airportainer** from **Airbus Operations GmbH**. The cargo storage unit facilitates the safe and efficient transport of private wheelchairs without them taking up space in the cabin during the flight. **FACC AG** and its cooperation partners **FH Joanneum, Netwiss, Raltec research group, Rodlauer Consulting, TU Vienna, FFG**, and **BMVIT** are also aiming to make an aircraft that is more accessible to everyone. On short-haul and medium-haul single-aisle aircraft, the lavatories are not really barrier-free, because the space for toilets is limited by the demand to maximise seating capacity. **LAV4ALL** promises a 100-percent barrier-free aircraft toilet, available for retrofit in airliners from A320 up to wide-body, with new interior features in terms of arrangement, design, and colour, along with maximum passenger autonomy thanks to sufficient space and a wider door. **AirGo Design** has also submitted a concept for a barrier-free toilet on medium-haul and long-haul routes, responding to the increasing deployment of single-aisle aircraft on these routes. With the **SPACE** concept, the company aims to deliver 43% more space and dispense with the need for the flight crew to help the passenger get in and out of the wheelchair.

Expanding the comfort zone

Alejandro Nuñez Vicente from **Delft University of Technology** demonstrates that there is still plenty of room at the top, and that students can compete on an equal footing with companies. His **Chaise Lounge Economy seat concept** makes use of the cabin height, elevating one row of seats and then placing the next row lower again, creating more space. Flexible seat inclination further supports passenger comfort. "Comfort through flexibility" is also the motto behind the **INTERSPACE** concept from **Safran Seats** with **Universal Movement**: padded wings the full length of the seat, which can be folded out of the backrest as needed and provide both headrest and privacy. The fact that this "comfort zone" can be retrofitted made it a favourite with the jury. First-class for free? **VantageSOLO** from **Thompson Aero Seating** was specially developed for medium-haul and long-haul single-aisled aircraft, providing a completely flat horizontal bed with direct aisle access for every seat, something normally only seen in wide-body cabins.



The categories and the award season: How the Crystal Cabin Award works

The Crystal Cabin Award, initiated by the cluster Hamburg Aviation, is awarded in eight categories: “Cabin Concepts”, “Cabin Systems”, “In-Flight Entertainment and Connectivity”, “Greener Cabin, Health, Safety and Environment”, “Material & Components”, “Passenger Comfort Hardware”, “University”, and “Visionary Concepts”. In 2021, in view of the global Covid-19 pandemic and its impact on global air travel, there will be two additional categories for the Crystal Cabin Award: “Clean & Safe Air Travel” and the “Judges’ Choice Award”. Entrants shortlisted as finalists by the 27 expert members of the international jury are invited to a virtual pitch of their concepts. The winners in the special categories will be announced at the digital Aircraft Interiors Expo, taking place around the virtual Aircraft Interiors Expo (14 - 16 September 2021).

Acclaimed industry award – acclaimed industry support

The Crystal Cabin Award is supported by Airbus, Aircraft Cabin Management, Aircraft Interiors Expo (Reed Exhibitions), Aircraft Interiors International Magazine, Ameco Beijing, APEX, ATR, The Boeing Company, SIMONA Boltaron, Collins Aerospace, Diehl Aviation, Etihad Aviation Group, FIT AG – Additive Manufacturing Group, Flightchic, Flightglobal, Future Travel Experience, Hamburg Invest, Inflight Magazine, Jetliner Cabins, RedCabin, Runway Girl Network, SEKISUI SPI, and TSI Seats.

A selection of photos of the shortlist is available for editorial use here:

<https://seafife.hamburg-tourism.de/f/c8ea91be4c76467b8916/?dl=1>

English press texts and contact details provided by the entrants, are available for download here:

<https://we.tl/t-6CxDqyFpN3>

About the Crystal Cabin Award

The Crystal Cabin Award is THE international prize for innovations in the field of aircraft cabins. A high-calibre jury made up of renowned academics, engineers, specialist journalists and airline and aircraft manufacturer representatives comes together under the slogan “Let your ideas take off” to honour extraordinary cabin concepts and products. The competition was launched by Hamburg Aviation and is organised by the Crystal Cabin Award Association. The award, to date the only one of its kind, has been presented in association with the Aircraft Interiors Expo in Hamburg every year since 2007. The trophies have become a seal of quality, known and coveted around the world.

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