



Flying into the future: Crystal Cabin Awards 2022 shortlist shows accelerated innovation towards sustainability, digitalisation and flexibility

Future aviation cabins to offer new levels of flexibility for passengers and airlines // Sustainability a top trend in submissions // Crystal Cabin Awards returns as an in-person event in 2022

Hamburg, 17 March 2022: Future generations looking back at air travel in 2022 may feel as though they are looking back to a distant, long-gone era. New, zero-emission propulsion systems will be the norm. Yet the passenger experience of traveling by air will likely be radically different in the future, too. The annual Crystal Cabin Awards is a creative playfield where designers, engineers and visionaries come together to plan the future of the aircraft passenger experience. And in 2022, that mission is not just about quality. As the shortlist for the 2022 edition shows, manufacturers, academia and individuals around the world are continually innovating towards reducing the environmental impact of aviation, while offering new solutions to give airlines more flexibility in configuring the aircraft cabin for their customers. Returning as an in-person on 14 June, the Crystal Cabin Award 2022 will see an international expert jury gathering at Aircraft Interiors Expo in Hamburg to decide who will raise the aviation industry's most coveted trophies this year.

Re-Configuring Cabin Spaces

Aviation industry innovators are constantly seeking out new ways to exploit the limited space available in aircraft cabins. This is made particularly tangible by concepts like **Elevate**, an entry by **Teague** and **NORDAM**, who have collaborated on a “floating furniture” strategy designed to bring wide-body comfort to the single-aisle business class. **Collins Aerospace** in cooperation with **PriestmanGoode** and **Tangerine** joined forces to produce Finnair's new business class offering, **AirLounge™**. This disruptive design does away with some traditions – like seat recline – while embracing others to offer an organic, cocoon-like feel.

This year's shortlist also sees multiple entries taking a clean-sheet approach to cabin accommodation. Many focus on foldable, reconfigurable elements that allow airlines and passengers alike to reconfigure their expectations of how aircraft cabins use the available space. An example is an entry by student Jiayi Yu from the **University of Reutlingen**. The **Shift Cabin Interior** study allows seats to be configured in multiple positions for work or relaxation, both along the axis of the seat as well as to the side. Yet it also offers airlines an enticing prospect: to fit more seats into the same business class space as existing, fixed seating.

MMILLENNIUM describes its experimental seating concept **AirSleeper** as an aircraft seat architecture that leverages the available space and passenger ticket price in new ways. Each



passenger is provided with a seat that can be folded into a flat bed, accompanied by multiple surfaces both at seat level and above passengers' heads. Echoing traditional train compartment seating concepts, **NeXtGC** by the **German Aerospace Center** gives the "group of 6" a surprising new twist. The designers created a modular concept that attaches two facing rows of three seats to the sidewall and the floor as well as to a rail system in the ceiling area, freeing up the space usually reserved for overhead bins. Stowage is also provided below the seats for faster passenger in- and egress, while the option to turn the seating into a sleeping area adds a flexible component.

Safety First, Always

With the Covid 19 pandemic, the industry's concern with airborne pathogens has become more relevant. Several manufacturers have been working on clever ideas to minimize spread of Covid-19 – or any other infectious disease for that matter – on aircraft. **AirShield** by **Pexco Aerospace** in Cooperation with **Teague** uses existing cabin infrastructure to lower dramatically the chance of catching an infection from one's seat neighbour by directing a specially designed airflow between passenger spaces. **Weigele Aerospace's Vientum** clean air system takes techniques proven in ground-based systems like school classrooms into the aircraft cabin to suppress spread of pathogens like Sars-Cov2.

Passenger safety has always been the prime directive in aviation. **Safran Cabin** has now provided passengers with even more peace of mind. Its new **Fire Resistant Cargo Container** can inhibit Category D fires for 6 hours, including those resulting from faulty lithium ion batteries found in digital devices. In the event of a container fire, that gives the flight crew invaluable additional time to land safely. Some safety systems, meanwhile, improve on existing systems in ways that offer other benefits, like reducing an aircraft's carbon footprint. **Caeli Nova** says that its **Cordillera** emergency oxygenation system could, if implemented globally, save 1.2m tonnes of CO₂ emissions annually by allowing aircraft to fly at higher altitudes after a decompression event.

Innovators are finding new ways to promote recycling and reduce waste

As expected, a raft of entries for the 2022 Crystal Cabin Award focussed on bringing more sustainability to aircraft interiors. Entries by **ELeather**, **Lantal Textiles** or **Metzo** are designed to achieve this without compromising passenger experience. **ELeather's Essence** solution recycles leather waste to produce its upholstery and save on raw materials, while Switzerland's **Lantal Textiles** in cooperation with **Tenerías Omega** and **Olivenleder®** has introduced a **wet-green®** tanning process for its leather fabrics, using vegetable oils instead of chrome- and gasoline-based chemicals. Aircraft seat cushion maker **Metzo** in cooperation with **The Vita Group** has submitted a recycling system for old cushions to offer passengers an option with lower environmental impact.

Waste and weight reduction will continue to be an arena where industry development is at its most intense. **Airbus Operations** has engineered an technology-driven solution designed to tackle the problem of passenger food waste. Its AI-based **Airspace Food Scanner** captures data about passengers' food consumption, producing valuable data for airlines to adapt their catering



services to better match customer demand. Made from sustainable materials, **RECARO Aircraft Seating**'s modular, lightweight **plug-in seat table** system promises aircraft weight reduction that, if adopted for 50 aircraft, could save 1,000 tons of CO₂ annually.

An accelerating trend: Aircraft cabins to become an increasingly digital space

In the information age, safety encompasses an increasingly wide cross-section of the air travel experience. Digital and physical security are two needs addressed by **Gentex Corporation**'s proposal for an **iris biometric scanning system**. Its engineers envisage an aircraft wide system, for example authenticating crew when entering the cockpit or implemented in a seatback device to personalise passengers' media or shopping offerings.

Airlines' in-cabin digital offerings are also becoming a hotbed of innovation. **KrisShop on KrisWorld** embodies a novel approach by **Singapore Airlines**, **airfree** and **Thales** that shows that the future of in-flight shopping will go far beyond paging through a well-thumbed catalogue. Touted as the world's first inflight eShopping experience on a seatback IFE system, KrisShop on KrisWorld lets passengers browse a digital catalogue, buy in realtime using a credit card and determine the delivery point, either along their travel route or at home. AerQ's engineers have submitted **AERENA**, a platform to help airlines quickly and cheaply adapt onboard apps to personalise their customers' digital experience, while reducing development costs.

Noise cancelling in consumer electronics has seen avid uptake among frequent flyers in recent years. **ACM Aircraft Cabin Modification**'s **MYZONE** applies active noise cancellation (ANC) technology to the headrest and beyond. Compatible with any aviation seat, the designers say that the system can also use window panels and other cabin elements as a loudspeaker, attaining a sizeable 3 dB reduction in aircraft noise.

The Innovations of the Year – the whole world is watching on 14 June 2022

The **Crystal Cabin Award**, an initiative of cluster **Hamburg Aviation**, is presented in **eight categories**: "Cabin Concepts", "Cabin Systems", "Health & Safety", "IFEC & Digital Services", "Material & Components", "Passenger Comfort", "Sustainable Cabin", and "University".

For each category, the 28 expert members of the jury select three finalists, which will be announced at the beginning of May 2022. The finalists get to pitch their concepts to the jury in person at the world's leading trade show for aircraft cabins, the **Aircraft Interiors Expo** (14th – 16th June 2022 in Hamburg). The winners of the 2022 Crystal Cabin Award will be announced at a gala dinner in Hamburg on the evening of 14 June. For the first time in its history, the prize-giving ceremony will take place at the Altonaer Kaispeicher.



Note for the press:

A selection of images, an overview of the shortlist as well as the complete PR package of 2022's shortlistees with English press statements and contact details is available for download here:

<https://seafire.hamburg-tourism.de/d/a69a866e40214609b235/>

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About the Crystal Cabin Award

The Crystal Cabin Award is THE international prize for innovation in the aircraft cabin. 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. This unique honour has been presented at 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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