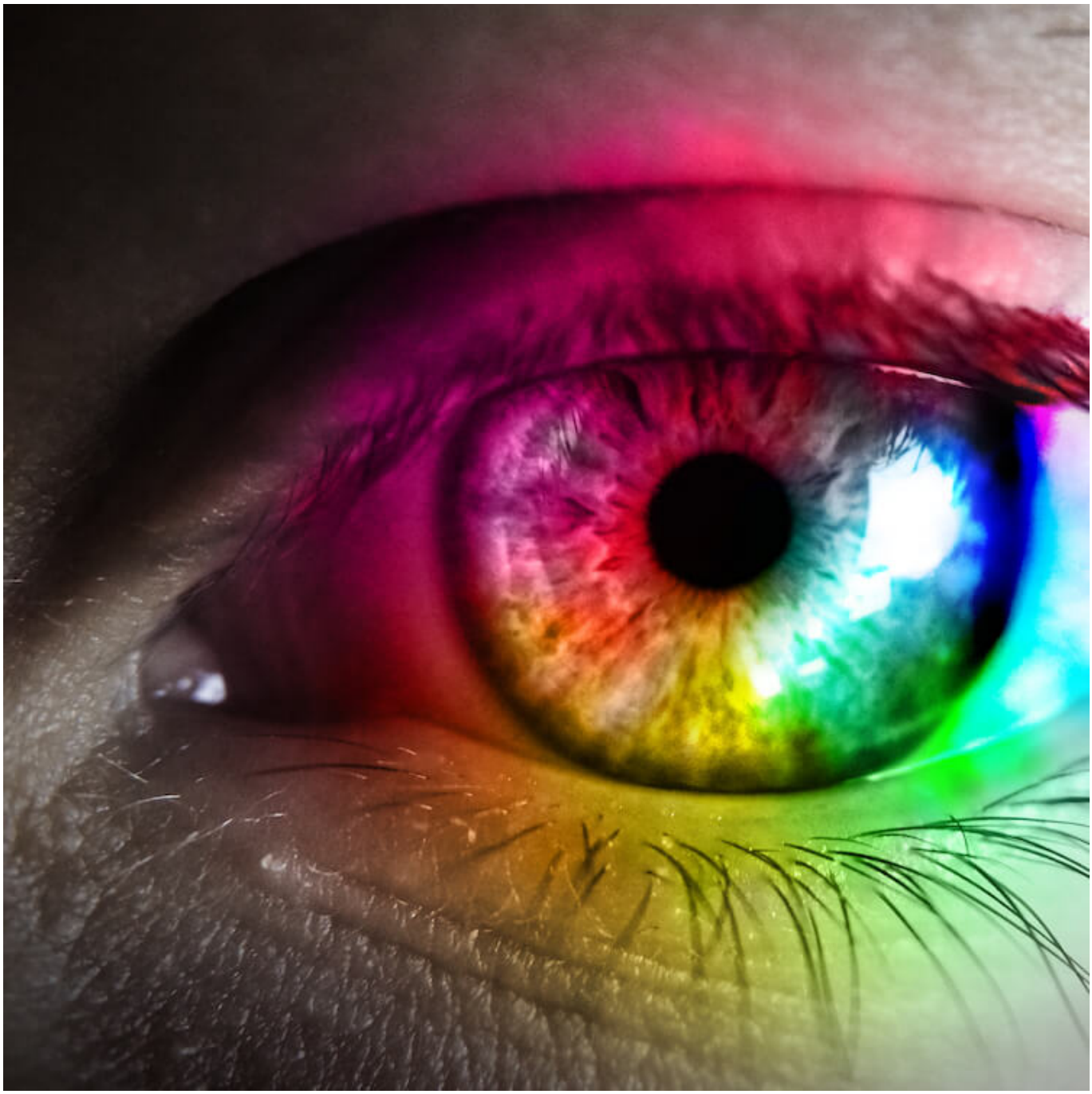
How Collins Aerospace brings color in the cabin

This is a special feature from PAX Tech's AIX Hamburg June 2022 issue, on page 26.



Subtle changes in color in an aircraft cabin can improve how passengers see food and cabin fixtures

Advancements in lighting technology and the science behind it are opening up an array of solutions that promise to help the complex task of making passengers feel comfortable in an environment like an airline cabin, which is distinctly foreign to the natural world.

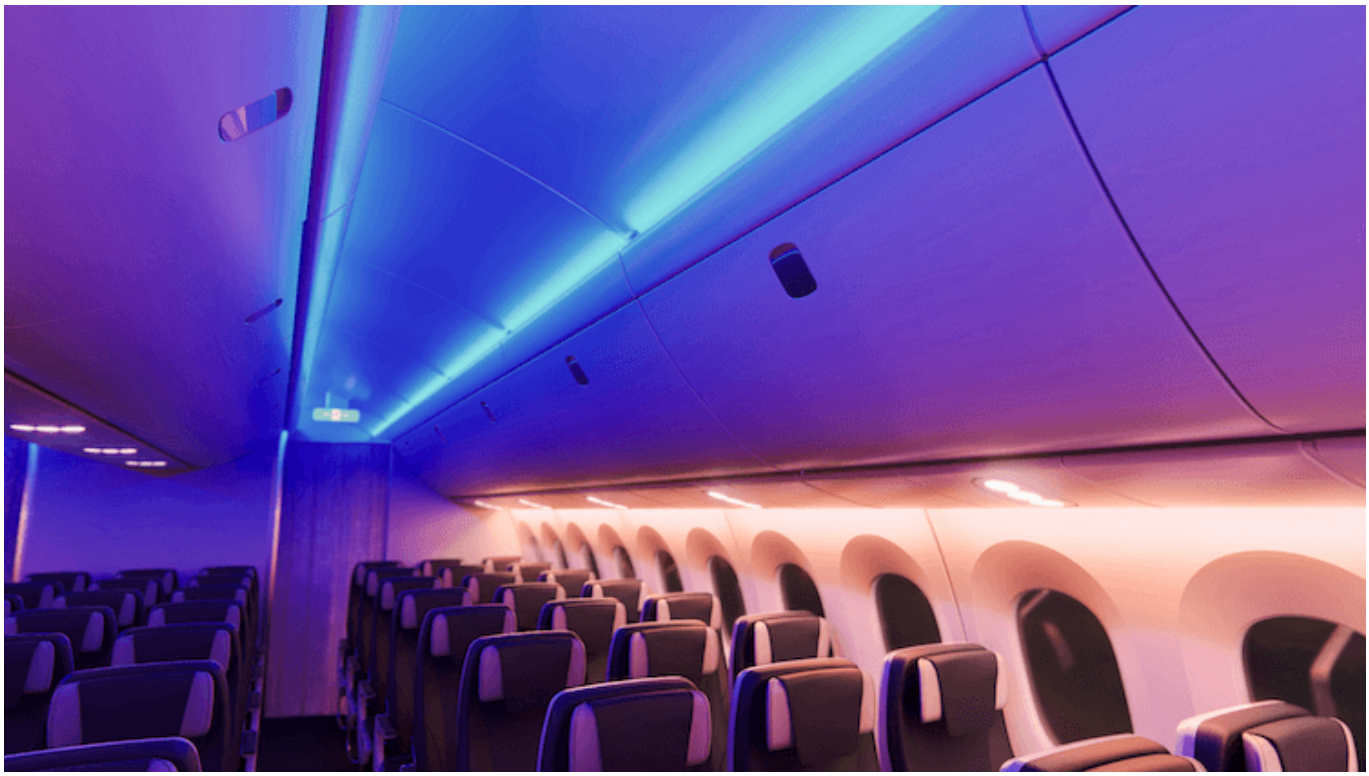
Passengers moving through the airport, to the cabin and into the air often experience a low-level anxiety just by partaking in air travel. With the help of LED lighting, what they can see in the dimmed

cabin can have a positive effect on mood and sleep. The cabin becomes bathed in seemingly endless combinations of amber, purple and cyan.

The latest offering in cabin lighting improvements will be flying in early 2024. The unnamed airline customer has selected the Hypergamut lighting system from Collins Aerospace. Visitors to this year's Aircraft Interiors Expo can browse the finalists displays of the Crystal Cabin Awards where the system has been listed.

"Hypergamut is the culmination of years of research, a number of technical developments and cabin lighting innovations that have been brought from concept to aircraft implementation," Eric Johannessen, Technical Fellow at Collins Aerospace tells *PAX Tech*.

The products' name was picked because the six primary LEDs used offer the largest color gamut possible, says Johannessen. Traditional systems normally offer around four LEDs; and with two more there is an expanded range of color in many combinations.



The Hypergamut lighting solution will be flying in early 2024

To make the system work, Hypergamut taps into flight data. "Spectral weighting modes" within the system determine how lighting is best optimized throughout the boarding process, on into mealtimes, cruising, cleaning and relaxation.

"These spectral modes go beyond the hue, saturation and relative brightness of the system, influencing the feel, look and perception of the cabin," Johannessen adds.

As a result, Hypergamut can improve the appearance of materials, food, fixtures and the cabin itself. The subtle influence of light also goes to work on passengers, utilizing wavelengths that fall within a circadian spectrum, which is the light range that influences the sleep cycles in humans.

Johannessen says that Hypergamut can be integrated into existing cabin lighting infrastructure and retrofitted with established methods. The high-efficiency LED system require less power to produce similar lighting levels. "At the same time, full power can be achieved to produce an extremely bright

and crisp interior, improving the look, feel and perceived age of the cabin.”