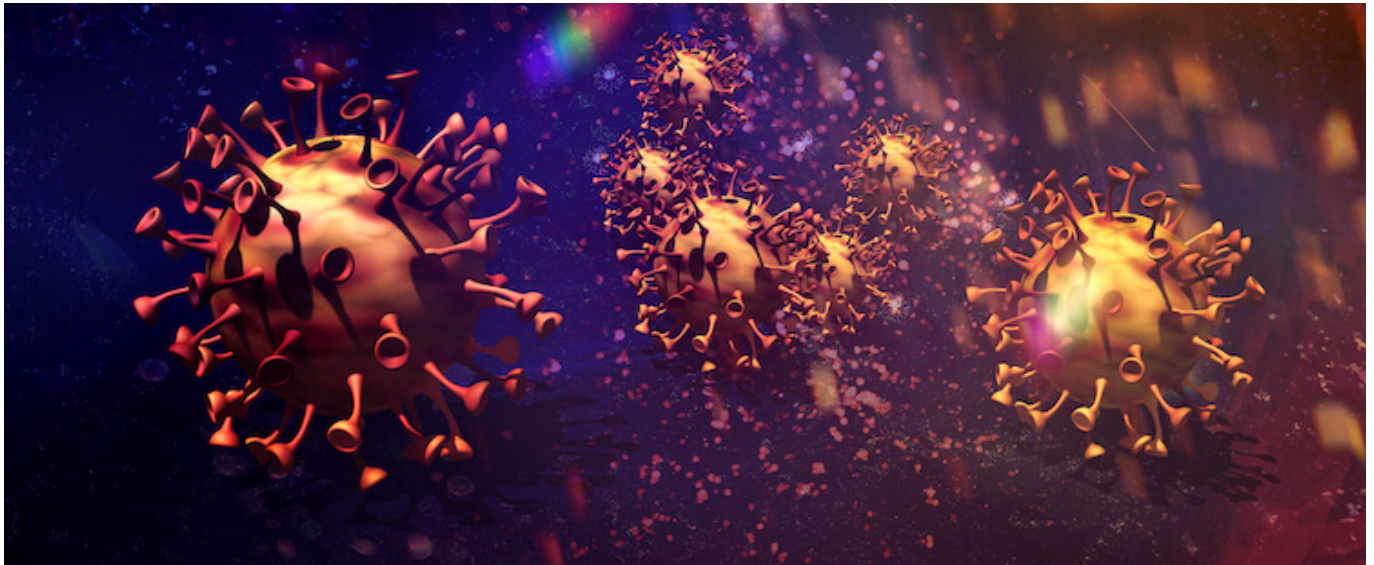


Cabin hygiene report: Focus on fresh

This is a special feature from PAX Tech's [AIX Hamburg June 2022](#) issue, on [page 18](#).



Cabin hygiene is evolving quickly to help ensure passengers and crew feel confident in the cabin. Airlines are working tirelessly to ensure a clean and safe environment, and this cannot be achieved without the help of the companies innovating hygiene solutions for all areas of the aircraft: air, water, surfaces, lavatories and galleys.

In this cabin hygiene report, *PAX Tech* interviews four companies on how these areas can be kept clean.

Got galleys?

Despite demand for its products reducing nearly 80 percent during the pandemic, [Onboard Logistics'](#) Engineering Director Tommy Walsh tells *PAX Tech* there is an uptick in demand again as airlines seek solutions for keeping galleys organized and managing waste.

The company has recently unveiled the [Flex-e-Frame 3R's](#) waste collection system. The three Rs represent: reduce weight, reusable frame, recycle when done.

The Atlas standard frame can convert a meal trolley into a waste trolley, reducing overall weight of the trolley and freeing up space for the airline to carry revenue-generating products. Onboard Logistics partnered with galley insert equipment manufacturer [Korita Aviation](#) to develop a trolley that has the waste bin removed. A set of rungs are installed on top of the trolley to hold the Flex-e-Frame 3R's in position.



Onboard Logistics' total Airline Waste Management System includes the Flex-e-Clip, Flex-e-Drawer, Flex-e-Frame 3R's and best-seller Flex-e-Bag

Using the Flex-e-Frame 3R's can reduce the weight of a waste cart by up to eight kilograms,

depending on the airline, Walsh says.

The reusable plastic frame holds the waste bag open and fits into an Atlas standard waste trolley with rungs at the top. The whole system can be assembled in the flight kitchen or onboard by the crew, and at the end of the duty cycle, it is fully recyclable.

“Most airlines use a meal trolley to distribute a disposable meal service, and then a waste cart to collect waste. In the environment of weight reduction to save fuel, using two trolleys for the same service makes no sense,” says Walsh. “Using our waste management system can eliminate the requirement for the waste trolley.”

Onboard Logistics offers the total Airline Waste Management System. It consists of the [Flex-e-Clip](#), [Flex-e-Drawer](#), Flex-e-Frame 3R's and best-seller [Flex-e-Bag](#).

Touchless touch-ups

[International Water-Guard](#) introduced its [Healthy Lav](#) offering last summer, a range of touchless lavatory solutions and water disinfection technology to help passengers stay safe and feel comfortable in the cabin.

The offering includes a touchless faucet, touchless flush, the 'HE' (high efficiency) lavatory water heater and the UVL1 LED water disinfection unit. The HE Heater is a weight-saving, high-performance drop-in replacement for many existing lavatory water heaters. IWG HE Heaters have FAA PMA certification so it is eligible for install on the majority of Airbus and Boeing airframes without the need for an STC.



The Healthy Lav by International Water-Guard includes touchless faucet, touchless flush, the 'HE' (high efficiency) lavatory water heater and the UVL1 LED water disinfection unit

The UVL1 carries out the vital task of ensuring that the aircraft water is free of harmful pathogens. It uses LED lights that emit ultraviolet light in the UV-C spectrum rendering pathogens unable to reproduce and therefore harmless to humans. The UVL1 is compact, lightweight and is straightforward to install just upstream of a spigot, faucet or galley water supply line.

The Healthy Lav offering is available in separate components or as a complete line-fit or retrofit package. To assist with integration, all touchless products and the UVL1 can be powered from IWG's Lavatory Control Module so just one new power input into the lavatory is required.

Something in the air

A focus on the immune system has been extensive through the pandemic. For commercial aviation, this is particularly top of mind since aircraft cabins have very dry air, says Peter Landquist, VP Senior Advisor Sales [CTT Systems AB](#), provider of aircraft humidity control systems.



Peter Landquist, VP Senior Advisor Sales CTT Systems AB

In CTT System's report entitled *Importance of Aircraft Cabin Humidity - from a scientific point of view*, the company interviews several scientists on the effects of low cabin humidity on the immune system and well-being.

"Low humidity harms the mucous membranes in our airways which reduces the primary defense against airborne pathogens and potential infections," said Professor Bertil Forsberg, environmental medicine at [Umeå University](#) in Sweden, in the report. "Dry air, as in the aircraft cabin environment with Relative Humidity (the measure of water vapor content of air) dropping down to five to 20 percent, therefore increases the risk of exposure to viable virus particles and other airborne pollution - and consequently, infectious diseases."

CTT's Humidifier Onboard and Anti-Fuselage-Condensation systems aim to create a healthy cabin environment.

"It solves the humidity paradox in an aircraft: too dry cabin, too wet fuselage," Landquist says.

The Humidifier Onboard solution adds humidity to the cabin to elevate the passenger experience by maintaining the body's natural moisture balance and preventing rapid degeneration of the immune system. It helps prevent dry eyes, nose, and skin and helps improve rest, sleep and taste. Humidifier Onboard can be line-fit and retrofit, installed in the cabin zone it is meant to target and available for 787, 777, 777x, A350 and A380 aircraft.

Earlier this year, the company signed a development agreement with Airbus Corporate Jets ([ACJ](#)) for Humidification Onboard systems for the new [ACJTwoTwenty](#) family aircraft. The pair also have an existing contract for the [ACJneo](#) family.

“These agreements mark a milestone, a new era in Business Jet Aviation. Private jet premium travelers expect to arrive refreshed with intact immune system, otherwise the risk of infection at your arrival destination is simply too high,” says Landquist.

Proven protection



“The Germ Guy” Jason Tetro, representative for Polygiene’s Biomaster antimicrobial technology

“It’s no secret that germs are everywhere and when it comes to pathogens, the best place to find them is where humans are grouped,” says “[The Germ Guy](#)” Jason Tetro.

Tetro works with [Polygiene](#) representing the company’s Biomaster antimicrobial technology. With a background in healthcare, Tetro has been researching and promoting infection prevention and control in the cabin for more than 20 years.

Biomaster antimicrobial technology from Polygiene uses silver to reduce the microbial load and naturally inhibit the growth of microbes. It can be added to any substrate – polymer, powder coatings, paint and lacquers, paper, textiles and ceramics – essentially anything in the cabin.



Polygiene can be added to any substrate – polymer, powder coatings, paint and lacquers, paper, textiles and ceramics



Polygiene Biomaster antimicrobial technology is ideal in lavatories and everywhere else in the cabin

“Silver predates anything we currently use when it comes to antimicrobial activity and has continually proven to be one of the most effective passive antimicrobial agents out there. When used in the right form at the right concentration, it’s highly effective against microbes and odor while posing no concern to humans,” Tetro tells *PAX Tech*.

Silver has two forms, one being the hard block, as in 925, and the other, a salt. The block is inert but the salt, which is used in Polygiene’s Biomaster, reacts with the molecular wall of microbes and inhibits energy production and DNA replication to render the organism harmless. The salt also neutralizes odor by binding volatile compounds that lead to unpleasant smells, like sulfur. It turns them into unnoticeable, odorless, microscopic minerals.

Tetro says, “based on studies, the germiest places on the aircraft are the headrest and seat pocket. Having antimicrobial technology such as Polygiene’s Biomaster can help airlines and passengers ensure they are as clean as possible between routine cleanings.”

Tetro explains this is called targeted hygiene.

“Polygiene helps ensure the microbial load remains low when and where you cannot clean,” he says.