

## How Can Real-Time UV-C Technology Make Air Travel Safer?

### Why Is Airborne Disinfection Crucial for Today's Airlines?

Since the COVID-19 pandemic, air travelers have heightened expectations around hygiene. With respiratory viruses like SARS-CoV-2 and Influenza A still circulating, traditional disinfection methods like HEPA filters, masking, and surface cleaning no longer provide sufficient protection. The aviation industry needs a real-time, automated solution that works without relying on passengers, and the [AVIVE™ System](#) from [AeroClenz](#) delivers exactly that.

### What Makes Aircraft Cabins High-Risk for Airborne Illness?

Airplane cabins are closed environments where passengers sit in close quarters and share air circulation for extended periods. Despite improved ventilation systems, airflow patterns can allow viruses to linger. CDC and FAA data suggest that in-flight transmission may contribute to up to **10,000 deaths and 3 million infections** each year in the U.S. alone.

### How Do Current Disinfection Methods Fall Short?

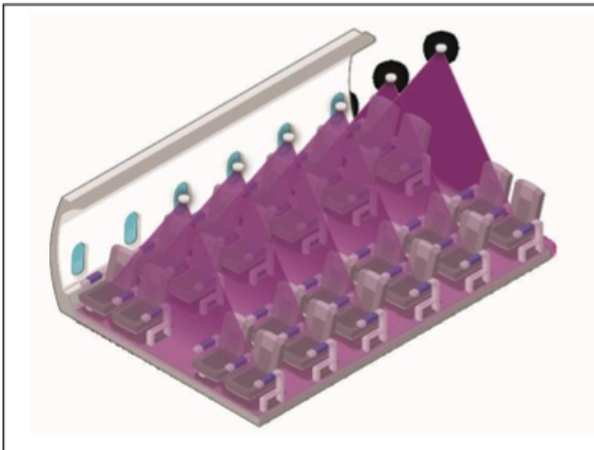
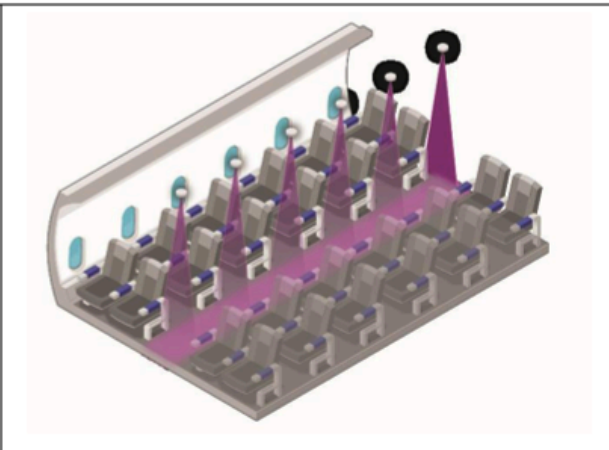
Disinfection Method	Pathogen Inactivation	Safety	Passenger Compliance
HEPA Filtration	Moderate	High	No
Ionization Systems	Low to Moderate	Variable	No
Surface Cleaning	Low (Airborne)	High	No
Masking	Moderate	Variable	Yes
<b>AVIVE™ System UV-C</b>	<b>High (Real-Time)</b>	<b>High</b>	<b>No</b>

HEPA filters are passive and only work after air reaches them. Ionizers may produce ozone and are less effective in real time. Surface cleaning targets tactile—not airborne—threats. And masking policies can be inconsistent and unpopular. The AVIVE System neutralizes airborne viruses at the source, continuously and automatically.

## How Does the AVIVE System Work?

The AVIVE System uses 265 nm UV-C LED light to disinfect cabin air in real time, **neutralizing viruses immediately after exhalation**. The system includes:

- **Continuous-Clean Engine:** Emits a broad beam of UV-C light to disinfect cabin air continuously. It operates below regulated human exposure limits, making it safe for passengers.
- **Aisle-Scrub Engine:** Activates when aisles are empty and achieves up to 90% pathogen inactivation in under 3 minutes.
- **Targeted Lavatory and Galley Units:** Automatically disinfect high-contact areas when unoccupied using focused, high-intensity UV-C.

	
<b>CONTINUOUS-CLEAN ENGINE</b> <ul style="list-style-type: none"><li>• Full-cabin illumination</li><li>• Calculated for 24-hour eye/skin safe dose</li><li>• Advanced two-tier sensor fusion suite ensures no over exposure to cabin occupants can occur</li></ul>	<b>AISSLE-SCRUB ENGINE</b> <ul style="list-style-type: none"><li>• Narrow beam exposure</li><li>• 90% pathogen inactivation in &lt; 3 minutes</li><li>• Intelligent sensors detect occupancy and control illumination</li></ul>

## What Safety Measures Are in Place?

The AVIVE System uses a **triple-redundant occupancy sensor suite** to ensure UV-C light deactivates instantly when spaces are occupied. These include:

- LIDAR (Light Detection and Ranging)
- Passive Infrared (PIR)
- Ultrasound sensors

All components operate within ICNIRP and ISO safety guidelines, ensuring low-risk exposure even during long flights.

## Is UV-C Disinfection Backed by Science?

Absolutely. UV-C light has been used for over 100 years to disinfect air, water, and surfaces. Modern LED technology allows the AVIVE System to emit a targeted 265 nm wavelength for maximum germicidal effect:

- **99.99% of airborne SARS-CoV-2 is inactivated** in under 30 minutes
- Viruses are neutralized right at the point of emission
- Safer than mercury- or xenon-based UV sources
- [Learn more from our AVIVE Whitepaper](#)

## What's the Economic Impact of Adopting the AVIVE System?

The cost of airborne disease transmission during the pandemic was estimated at \$200 billion per year. AVIVE could reduce this burden by \$160 billion, potentially preventing 8,000 deaths annually. Full-fleet adoption would cost airlines **around \$1 per passenger annually**. Even a **1% increase in passenger confidence** would cover that cost, while a 20% boost could generate **over \$14 billion** in new revenue.

## Can the AVIVE™ System Increase Passenger Confidence?

Yes — and that's a critical advantage. Unlike surface cleaning or mask mandates, the AVIVE System works quietly in the background, improving cabin air quality without requiring passengers to do anything. For airlines, this offers a competitive edge in rebuilding trust and loyalty in a post-pandemic world.

[Contact AeroClenz](#) today for a consultation and discover how quickly and efficiently we can engineer the perfect UV-C disinfection system for your specific environment. Let us build your confidence in clean air.