

# Transportation Pilot

July 2020

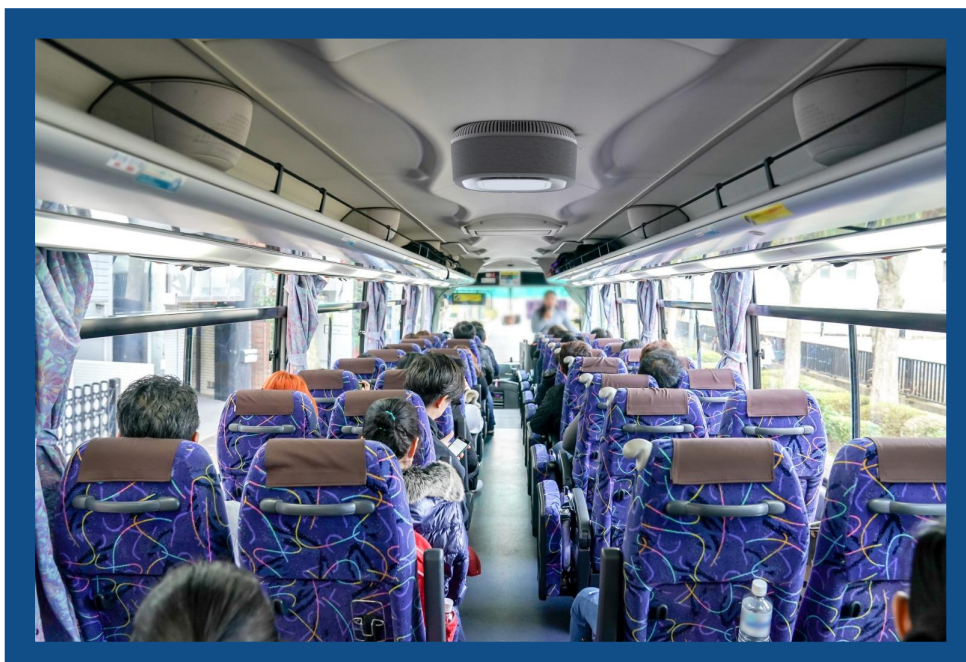
# Overview

During this sensitive time in which the Coronavirus pandemic has affected the whole world, we at Aura, believe that our device can help alleviate and treat infected air.

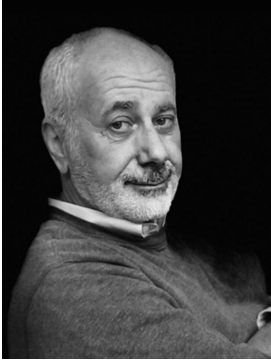
Aura provides a comprehensive solution for improving and managing the air quality in SAR-EL busses and in the public transportation in general. The pilot was executed through an interactive data-based experience, providing air quality data and insights.

Public transportation vehicles (busses, trams, rails and metros) are used daily by millions of people; often they carry passengers above their capacity, especially commuters in morning and evening peak hours. This might contribute to the spread of diseases among public transport users. For example, there is an association between acute respiratory infection (ARI) in winter and bus or tram use in the five days before symptom onset. During the COVID-19 outbreak, as in previous epidemics and pandemics, epidemiologists are encouraging social distancing, meaning people should keep about six feet (or 2 m) or more apart from others. This measure is obviously in conflict with the concept of public transportation.

**J Transp Health. 2020 Mar**



# Testimonials



**Samuel Smadja**  
Founder, Owner &  
President

"Aura Air and our Transportation Department performed a pilot in the installation of air purifiers for monitoring and filtering the air in our tourism busses.

In previous experiments run by Aura Air, and in the pilot at Sheba Medical Hospital, it was demonstrated that the filter made by the company successfully managed to filter a series of high-risk pathogens including various viruses, such as the Coronavirus, Influenza H1N1 and Influenza H5N1.

Furthermore, the Aura Air filtration system is currently being used to disinfect and target the Coronavirus in Sheba Medical Center. The results are impressive and we are proud to be working with a company that takes this matter seriously, using innovative technologies to reach an effective solution.

Installing Aura Air purifiers will enable a safe and healthy environment for both our staff and customers, as well as encourage tourism to continue to take place and thrive. As a result, we have signed a commercial contract with Aura in which we will install Aura Air devices in all of our busses."



**Mair Cohen**  
Bus driver

"Installing the product on my bus initially caused a lot of questions about its essence. Having explained that this is a device that disinfects and purifies the air - everyone expressed satisfaction and appreciation for the quick response to the new situation. There is no doubt that this is a must-have product for any public transportation vehicle."

# Product Market Fit

At first, we needed to choose a location for the product on the bus; the issue required technical planning. We selected the location of the product so that it could reach its potential both in terms of air quality monitoring and in terms of disinfection and purification of the air. After choosing the most suitable place, we had to find a converter that would convert the power supply and in addition, produce a suitable rack, which was custom made for our cooperation.



## Railway Converter

Converters for railway units adapt the parameters of the electric current to the values required by the receivers, while also guaranteeing the safety of the entire skid, protecting it against overvoltages and short circuits.

The converter is stable in harsh environments such as: high vibration, extremely low or high temperature.

## Spacial Rack

In order to secure the device to the bus ceiling, we were required to design a custom rack.



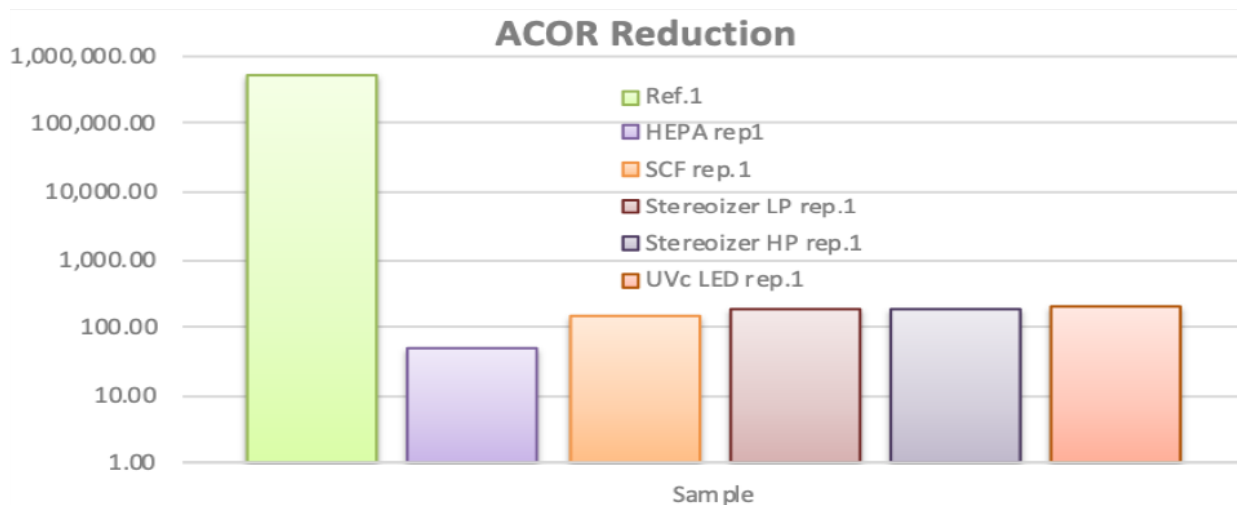
# Our Claim

(Based on the Aura Air white paper)

As part of the growing concern of hospital-acquired infections, in August 2019, Aura Smart Air performed a trial in collaboration with The Department of General and Oncological Surgery at The Chaim Sheba Medical Center in the installation of air purifiers for the purpose of disinfecting and purifying the air from various pollutants.

Initial results showed a remarkable ability of the purification device to disinfect various bacteria and viruses. With the outbreak of the COVID-19 pandemic, in Wuhan, China, focus of the global medical community has changed from preventing hospital-acquired bacterial infections into preventing viral spread of SARS-CoV-2.

<u>Sample</u>	<u>Coronavirus Reduction Ratio [%]</u>
<b>Ref.1</b>	
<b>HEPA rep1</b>	<b>99.7243</b>
<b>SCF rep.1</b>	<b>99.9744</b>
<b>Sterionizer™ LP rep.1</b>	<b>99.9651</b>
<b>Sterionizer™ HP rep.1</b>	<b>99.9429</b>
<b>UVC LED rep.1</b>	<b>99.9631</b>



## Conclusions:

1. Each of the tested components of the Aura Air Device was able to significantly reduce the viral load of the Coronavirus as measured by PCR.
2. This early, however promising result, is the basis of an ongoing, advanced experiment, studying the performance of the Aura Air device in closed spaces.

The efficiency of the Sterionizer in removing different types of pollutants is presented in Table 2.

Table 2- Sterionizer efficiency tests

Substance	Substance name	Removal
Bacteria	Escherichia Coli	99%
	Escherichia Coli ATCC	91%
	Staphylococcus aureus	91%
	Pseudomonas aeruginosa	99%
	Staphylococcus aureus (MRSA)	99%
Fungus	Aspergillus Niger	97%
	Candida albicans	36%
	Dichobotrys abundans	90%
	Penicillium	95%
Mold	Cladosporium cladosporioides	97%
Spores	Bacillus subtilis var Niger	89%
Viruses	Influenza H1N1	99%
	Influenza H5N1	99%

Table 2 shows that the Sterionizer decreased the amounts of bacteria for at least 1 order of magnitude (more than 90%) for all the strains tested. It also decreased the amounts of fungus for at least 36% and the amounts of mold, spores, and viruses for at least 89% for all the tested strains.

Examples of the plates after incubation are presented in Figures 12-13:

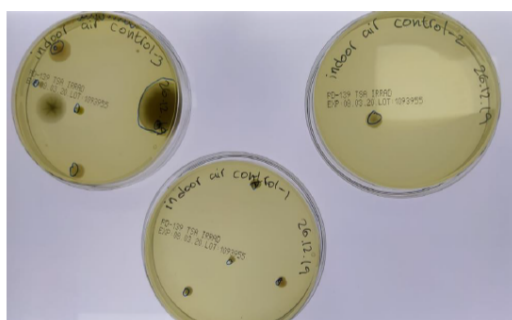


Figure 12: incubation results of the control plates on December 31<sup>st</sup>, 2019



Figure 13: incubation results of the Roy filter+ Sterionizer+ UV-C LEDs plates on December 31<sup>st</sup>, 2019

# Past Pilot Results

**Hilton** Hartford, Connecticut

Guest Room

PM 2.5 ↓ 42%  $\mu\text{g}/\text{m}^3$

PM 10 ↓ 8%  $\mu\text{g}/\text{m}^3$

VOC ↓ 31% ppb



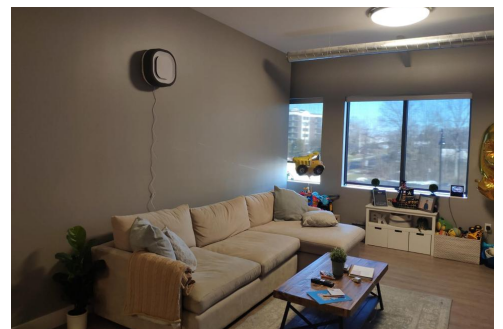
**Lexington** Hartford, Connecticut

Residential Apartment

PM 2.5 ↓ 82%  $\mu\text{g}/\text{m}^3$

PM 10 ↓ 48%  $\mu\text{g}/\text{m}^3$

VOC ↓ 34% ppb



**Shelbourne** Hartford, Connecticut.

Conference Room

PM 2.5 ↓ 33.3%  $\mu\text{g}/\text{m}^3$

PM 10 ↓ 2.4%  $\mu\text{g}/\text{m}^3$

VOC ↓ 28% ppb



## Method of Action



### PM 2.5

PM 2.5 levels were decreased as a result of the Ray Filter's HEPA layer



### PM 10

PM 10 levels were decreased as a result of the Ray Filter's HEPA layer



### VOC

VOC levels were decreased as a result of the Ray Filter's Carbon layer



### AQI

AQI decreased as a result of the Ray Filter, the UVC LED and the Sterionizer