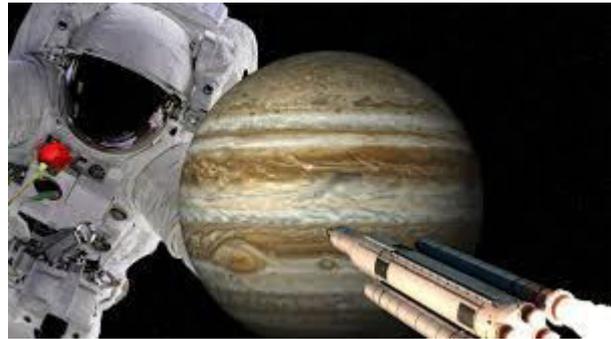


Imagined by NASA, Delivered by Airora

1. Houston, we have a 'VOC' problem!

The Airora story begins when NASA started planning for a manned mission to Mars. One major challenge, amongst many, was how to how to feed the crew when there's no way to resupply them?

NASA's answer was to grow fruit and vegetables within the space vehicle. But guess what, it is not that easy! (is it ever?)



Most plants, and particularly those that produce fruits and vegetables emit ethylene gas. Ethylene, a typical volatile organic compound (VOC), is a naturally occurring plant hormone that encourages fruits and vegetables to ripen. In our gardens and orchards ethylene naturally dissipates into the atmosphere. But, within a sealed spacecraft, ethylene doesn't dissipate, it concentrates, causing vegetables and fruits to ripen too quickly, spoiling them before they can be consumed.

In short, NASA had a VOC problem.

Their challenge was complicated by the fact that the VOC gas molecules are so small that they would pass through even the most effective HEPA type filters. So, how to remove the ethylene, and by the way use little power, be maintenance free and produce no harmful side effects? – a challenge indeed!

2. NASA's elegant solution

NASA's solution was elegant and resulted in a way to purify the air, at a level never before possible.

Basically create a cauldron of hydroxyl radicals in a reaction chamber, circulate the air through the chamber, and thereby destroy the ethylene gas. The big plus was that hydroxyl radicals are entirely safe for humans.

Back on earth this solution has been widely applied in specific applications for the removal of ethylene gas.

In 2001 during the tragic Anthrax threats in Washington, D.C., the technology was tested by the University of Wisconsin who determined it to be effective in eliminating Anthrax spores.

In fact, the hydroxyl radicals eliminated over 99.9% of spores that entered its reaction chamber. This discovery spurred other research which determined the technology was effective in destroying bacteria, viruses, and virtually any VOC it came in contact with, as well as pollen, mould spores, mycotoxins, dust mites ... you name it. In essence, anything organic that passed through its reaction chamber.

3. Back here on earth



Unfortunately, NASA's imagined use depended on cleaning the air within a space vehicle by passing it through a reaction chamber. In a small, sealed space vessel, where all the air circulates through a regeneration and cleaning device, this is a practical proposition. However, here on earth, indoor spaces in buildings are far too 'leaky' for such a device to be very effective.

4. The Airora scientific breakthrough

This is where Airora's scientists enter the story.

While it takes a device to create hydroxyls indoors, outdoors hydroxyls are continuously created entirely naturally. Those hydroxyls cascade through the atmosphere, destroying pollutants on contact. This is why hydroxyls have been called 'Nature's Detergent' and how living things can survive on earth.

Airora's scientists have taken NASA's idea and invented a way to create a hydroxyl cascade that permeates in seconds throughout a whole room, or even a whole building. No longer does all of air to be cleaned need to pass through the device as pollution is destroyed in-situ on contact with the hydroxyl cascade.

Our air purifiers employ our new patented technology, not just to create a plentiful supply of hydroxyl radicals, but also to introduce trace amounts of ozone and natural plant oil into the device's exit air stream. Those additional ingredients create the environmental conditions which, just as outdoors, support a self-sustaining hydroxyl cascade. That cascade distributes by molecular diffusion throughout the indoor space in seconds, without relying on air movement, both destroying all pollutants on contact and reducing the ozone level in the room overall. We have, in effect, recreated the outdoors, indoors.

Today, you can have all the benefits first foreseen by NASA, efficiently and affordably delivered throughout your home using Airora's air purifiers.

