

HOSPITALITY CASE STUDIES AND PROJECTS

More and more hotel brands are meeting the growing demand for healthier, cleaner accommodations that combat issues like mold, bacteria, and viruses.

AtmosAir creates a measurably cleaner environment while helping the hospitality industry decrease their energy consumption and carbon footprint.



Case Study | Hilton Hotels and Resorts Mold Mitigation



SITUATION

AtmosAir was installed in Hilton Orlando Lake Buena Vista in 2018 to mitigation mold issues.

RESULTS

Hilton observed significant reductions in Mold Spore counts in each room tested.

Mold Volatile Organic Compounds (MVOCs) and TVOC were reduced.

The AtmosAir systems improved the overall indoor air quality in each room served and reduced mold spore levels overall.

AtmosAir is now installed in Hiltons across the country including hotels and resorts in Dallas, New York City, Saratoga Springs, Austin, and at the brand's headquarters in McLean, VA.



RAW Mold Spores

The RAW Mold Spore measurement: showed a reduction in the total of RAW mold spore count



Spores/m3

The Spores/m3 measurement showed reduction in the total of m3 spore count



TVOC's

The TVOC measurement: showed a reduction in total volatile organic compounds in the air.



MVOC's

The MVOC measurement: showed a reduction in the likelihood of mold growth activity.

Test Type	Room #	Before	After	Reduction %
RAW Count Mold Spores	2540	110	41	63%
	2327	926	9	99%
	1836	275	20	89%
	1074	19	11	42%
	555	62	12	81%
Outdoor Air	n/a	1	20	n/a
Spores/m3	2540	1467	547	63%
	2327	12347	120	99%
	1836	2333	267	89%
	1074	253	147	42%
	555	827	160	81%
Outdoor Air	n/a	13	276	n/a
TVOC's	2540	3700	1400	62%
Mold VOC's	2540	7	5	29%



Case Study | Marriott Residence Inn Chicago, IL



RESULTS

AtmosAir was tested in identical guest rooms at the Marriott Residence Inn in Chicago.

An AtmosAir room and another "control" room was left unoccupied while the air conditioners ran continuously.

After 2 days, air quality testing was done in each room. Results showed a 93% reduction in TVOCs in the AtmosAir room, compared to the control room.

TVOCs are irritants and gaseous elements or chemical compounds released by cleaning products, furniture, carpeting, adhesives, paint and lacquer, as well as outside emissions.

The AtmosAir tests proved that AtmosAir can significantly impact air quality in as little as 2 days.



Readings from baseline Room 316 (without AtmosAir) and Room 410 (with AtmosAir)

	Comfort and Ventilation				Air Cleanliness			Building Pollutants		
	CO2 (ppm)	Temperature (°F)	Relative Humidity (%)	**CFM (Outdoor Air PP)	PM 10 (µg/m3)	PM 2.5 (µg/m3)	TVOC (index)	CO (ppm)	Radon (pCi/l)	Ozone (ppm)
Room 316 Non AtmosAir	475	74	21	123	4	4	> 150	0	0	0
Room 410 AtmosAir	503	66	28	102	5	4	10	0	0	0
Typical/Comfort	< 1100	71 - 74	20 - 60	> 15	< 40	< 20	< 10	< 3	< 2	< 0.1
Recommended	< 1100	68 - 78	20 - 60	> 15	< 40	< 20	< 35	< 9	< 4	< 0.1

Residence Inn Marriott, Downtown Loop, Chicago, IL

Case Study | Carnival Cruise Line Regal Princess



SITUATION

After a startling Norovirus outbreak on a competitor cruise ship caused one-fifth of passengers to fall ill with Norovirus, Carnival took preventative measures on their Regal Princess, which joined the Carnival fleet in 2014.

RESULTS

TVOC was reduced by 95%.

Particulate matter was reduced by up to 45%.

Five types of airborne bacteria were tested for, all of which returned non-detectable results.

According to the CDC, as of 2019 the Carnival Regal Princess has had zero outbreaks of gastrointestinal illness since AtmosAir was installed in 2014.



Element	TVOC	PM .05	PM 1	PM 2.5	PM 5	PM 10	Ozone
W/O AtmosAir	40 ppb	1.88 ug/m3	3 ug/m3	7.25 ug/m3	15.83 ug/m3	27.87 ug/m3	0 ppm
With AtmosAir	2 ppb	1.64 ug/m3	2.31 ug/m3	4.06 ug/m3	8.66 ug/m3	16.75 ug/m3	0 ppm
% Difference	-95%	-13%	-23%	-44%	-45%	-40%	-



Bacteria Type	Pre AtmosAir	Post AtmosAir	% Difference
Bacillus Simplex	7 CFU	ND	-100%
Dermaoccus Nishinomiyaensis	7 CFU	ND	-100%
Micrococcus Luteus	14 CFU	ND	-100%
Staphylococcus Epidemidis	63 CFU	ND	-100%
Staphylococcus Saprophyticus	7 CFU	ND	-100%
Total	98 CFU	ND	-100%

ND = Non Detectable



AtmosAir Project | Norwegian Cruise Line



Norwegian Cruise Line
Multiple Ships

SITUATION

Gaming and common areas of the fleet's Epic ship were having issues with odors and smoke, leading to passenger complaints.

RESULTS

AtmosAir 500 series systems were installed across 13 AHUs serving the ship. AtmosAir standalone systems were installed "dead" areas where airflow was weak. After the installation, on-board staff saw a noticeable difference in the air quality and passenger complaints were reduced. Since the pilot installation, AtmosAir has been installed on two additional ships: the Jewel and Jade.



AtmosAir Project | Homewood Suites by Hilton



Homewood Suites Times Square
312 West 37th Street,
New York, NY

PROJECT

The newly opened Homewood Suites in Times Square installed AtmosAir as basis of design in their AtmosAir allergy-friendly Wellness Rooms.

AtmosAir was installed in 35 guest rooms, which were offered at a \$20 premium.

RETURN ON INVESTMENT

After the hotel's first 3 months in operation, the AtmosAir rooms were sold out 80% of the time.

Projected annual revenue from the premiums alone on AtmosAir rooms is estimated at over \$200,000.

The AtmosAir purchase received its return on investment in under 3 months.

