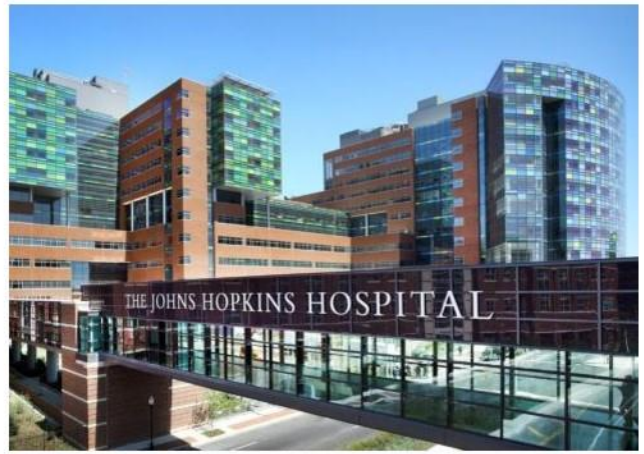
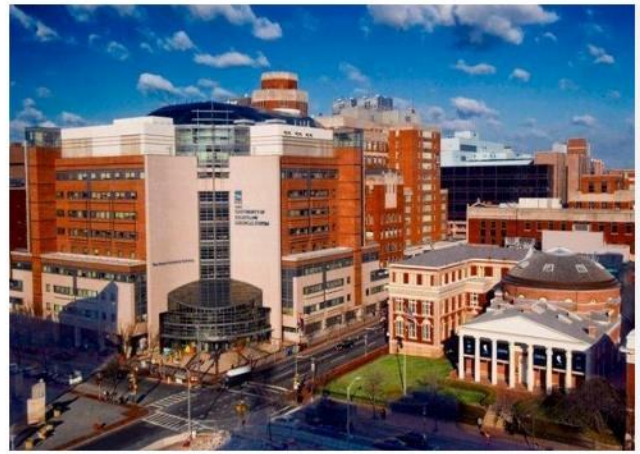
HEALTHCARE CASE STUDIES AND PROJECTS



JOHNS HOPKINS HOSPITAL

AtmosAir helped reduce VOCs by over 45%, and reduced five particle size ranges.



LBJ Hospital (TX)

AtmosAir helped reduce VOCs by over 65%, and reduced five particle size ranges.

NYU LANGONE

Whitepaper written by NYU Langone Professor on AtmosAir Solutions

METHODIST HOSPITAL (TX)

AtmosAir helped reduced major sewer gas odors and improve perceptual air quality.

2019 AtmosAir Project | Cedars-Sinai Biomanufacturing Center

Project Information: Cedars-Sinai is developing a state-of-the-art new biomanufacturing facility called the Cedar-Sinai Biomanufacturing Center (CBC). New air handling units will feature AtmosAir BPI.
Architect: HOK
MEP Consultant: AEI

CEDARS-SINAI®

Cedars-Sinai in Los Angeles, California

Case Study | Virginia Commonwealth University Health

SITUATION

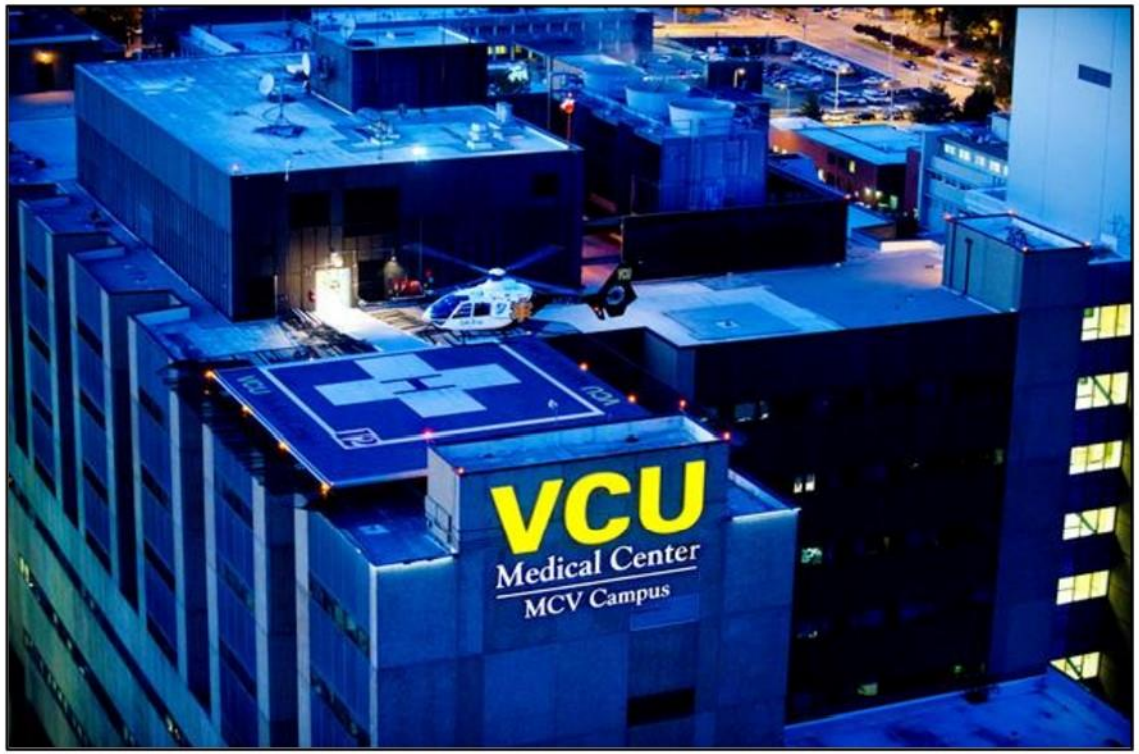
VCU Health was experiencing indoor air quality issues caused by helicopters landing on the rooftop area.

RESULTS

AtmosAir was installed in the Intensive Care Unit and Respiratory areas of the medical campus.

AtmosAir was able to reduce VOCs caused by the helicopter's diesel fumes by 30%.

No IAQ issues have been reported since the installation.



VCU Health

VCU Health System

Case Study | Johns Hopkins Hospital

JOHNS HOPKINS MEDICINE

Baltimore, MD

SITUATION

Johns Hopkins Hospital had 60k square feet of lab space with persistent indoor air quality issues.

Air quality complaints were made by employees.

4 AtmosAir 508FC systems were installed in the facility, as well as continuous air quality monitoring.

Graywolf detailed air sampling was completed.

RESULTS

VOCs, particles, and perceptual air quality improved with AtmosAir installed.

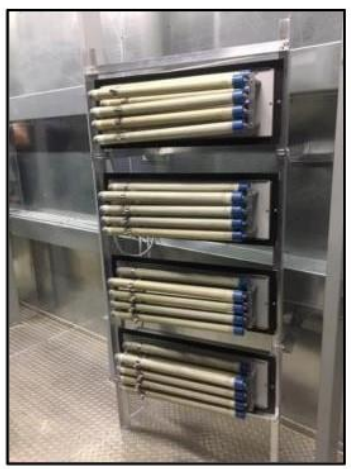
Readings taken outside Room 202 Pre AtmosAir Installation

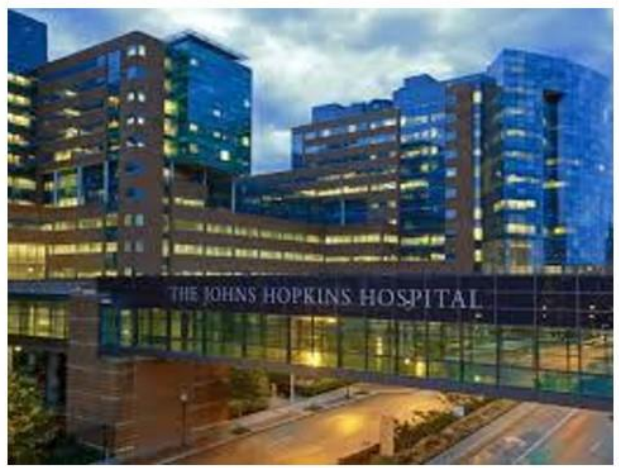
Element	CO2	Temp	RH	TVOC	Ozone	CO
Avg. Values	431 ppm	78 F	25%	183 ppb	0 ppm	.08 ppm
Guidelines	5000 ppm	68 to 78 F	30 to 60%	500 ppb	.10 ppm	9 ppm
Element	PM .03	PM .05	PM 1	PM 2.5	PM 5	PM 10
Avg. Values	N/A	1.31 ug.m3	1.70 ug/m3	2.10 ug/m3	2.23 ug/m3	2.51 ug/m3
Guidelines	N/A	N/A	N/A	35 ug/m3	N/A	150 ug/m3

Readings taken outside Room 202 Post AtmosAir Installation

Element	CO2	Temp	RH	TVOC	Ozone	CO
Avg. Values	968 ppm	76 F	24%	94 ppb	0 ppm	.79 ppm
Guidelines	5000 ppm	68 to 78 F	30 to 60%	500 ppb	.10 ppm	9 ppm
Element	PM .03	PM .05	PM 1	PM 2.5	PM 5	PM 10
Avg. Values	N/A	.887 ug.m3	1.18 ug/m3	1.43 ug/m3	1.49 ug/m3	1.65 ug/m3
Guidelines	N/A	N/A	N/A	35 ug/m3	N/A	150 ug/m3

Johns Hopkins Hospital Results





AtmosAir 508FC systems in Discharge of AHU

Case Study | Seattle Children's Hospital

Seattle Children's
HOSPITAL • RESEARCH • FOUNDATION

Seattle Children's Hospital Operating Rooms, Seattle, WA

SITUATION

The hospital was forced to close its 14 main operating rooms after tests revealed traces of Aspergillus mold in several operating rooms and equipment storage rooms.

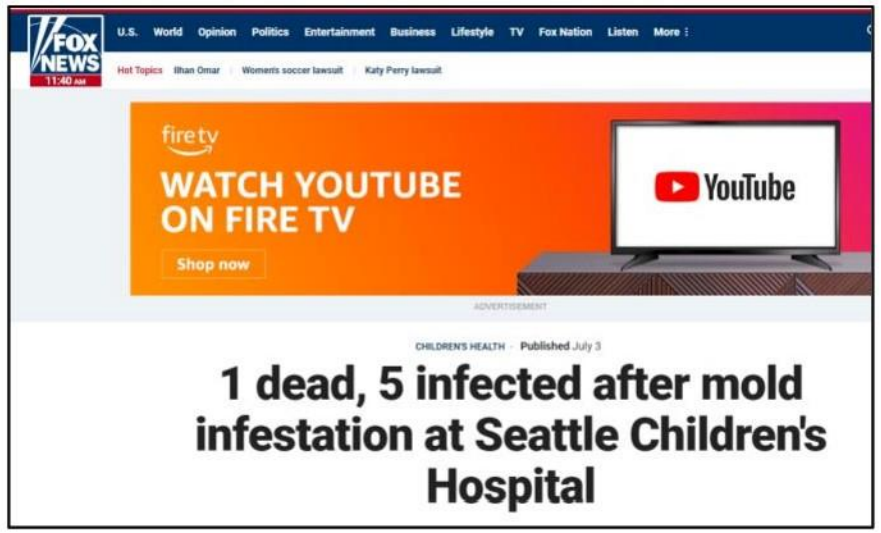
Mold led to one patient's death and five other infections.

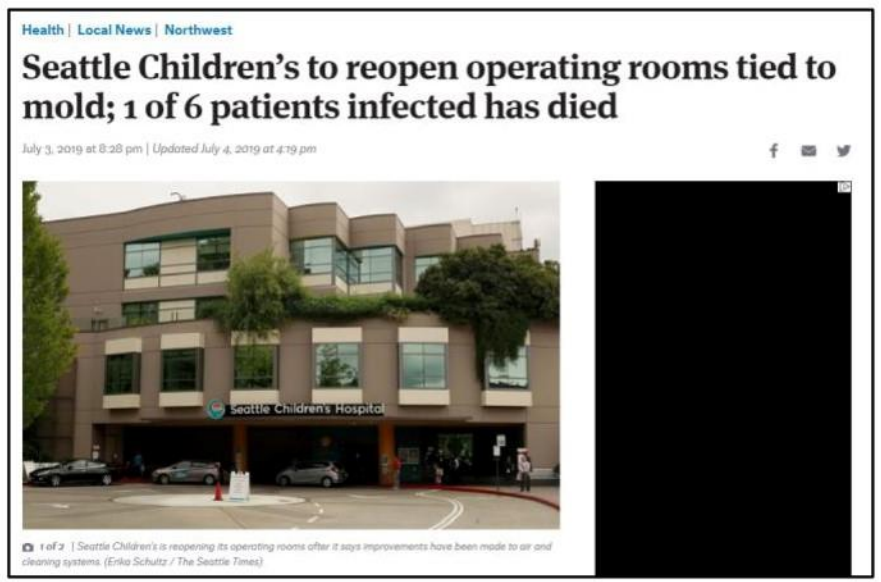
RESULT

AtmosAir continuous air quality treatment and monitoring was installed.

Other AHU modifications were made for building health.

The result was extremely positive with operating rooms being reopened and mold measured at 0 CFU.





Case Project | North Shore LIJ South Oaks Hospital

IMPLEMENTATION

The South Oaks Hospital wanted a solution to stop the spread of pathogens and bacteria throughout the building and reduce bio effluents and odors.

AtmosAir was installed throughout the facility.

The technology was successful in its objective and reduced particle counts and TVOC levels.

AtmosAir is now installed in 3 of their buildings.