Aircuity case study

Saint Francis Hospital and Medical Center

The Best Patient Care in the Best Environment

Saint Francis Hospital and Medical Center was established in 1897 in Hartford, Connecticut. Currently licensed for 617 beds and 65 bassinets, it is a major teaching hospital and the largest catholic hospital in New England. In 2010 the John T. O'Connell Tower was constructed, which continued the tradition of Saint Francis as a regional leader in innovation and clinical excellence. Saint Francis Hospital is the founder of the integrated healthcare delivery system, Saint Francis Care, which spans two campuses and includes numerous centers specializing in cancer treatment, vascular diseases, joint replacement and rehabilitation. Continually working to deliver upon their vision of "Best Care for a Lifetime", superior indoor environmental quality is paramount to the hospital.

With a comfortable and healing environment their number one priority, Saint Francis searched for a way to continuously monitor and track the environmental quality of their operating rooms. Regulatory agencies were in need of more data, so the hospital was seeking a solution that could provide accurate multi-level reports.

CONTINUOUS MONITORING AND VERIFICATION OF ENVIRONMENTAL CONDITIONS

First learning of Aircuity's OptiNet® solution and data services in 2004, the hospital chose to install OptiNet in the return systems of their existing operating rooms. The remote sampling, centralized sensing system continuously takes samples of the air and tests for TVOCs, particles, and dewpoint. In addition to gathering valuable data about the indoor environmental quality of the operating rooms, Saint Francis was able to implement a "safe standby" mode in these suites. When the operating rooms were not in use, airflow could be reduced to save energy with the OptiNet system monitoring the condition of the space. If issues are detected, airflow is increased to design maximum until containment levels have subsided. Once the air is clean, ventilation levels are lowered again, saving energy.

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> Joe Greenier, Director of Engineering
> **Saint Francis Hospital and Medical Center**

Aircuity's software based solution, Aircuity Advisor™ Services, provides the in-depth look at ventilation data that facilities and engineering personnel required. Multiple departments within the hospital want access to actionable information, and the data collected by the OptiNet system and presented via Advisor's secure web portal is ideal for internal and external regulatory use. Saint Francis utilizes these capabilities to look at both small and large particles along with dewpoint in each OR suite. Readings can be trended to show how a particular issue was handled to justify temperature and humidity readings if a regulatory body had any questions during their visit. Facility engineers extract the data and present graphical reports during their monthly meeting with infectious control. When a question about the condition of a particular space arises, data can also be

brought to doctors, nurses and infectious control in order to rule out that air quality had any influence. Staff can then focus on the clinical side, getting to the root of the problem.

The hospital also used the newly available data to provide verification for clinical personnel that air quality was not being sacrificed for energy efficiency. “The system allowed us to prove to clinical personnel that we were going above and beyond on not only on the energy side, but on the air quality side as well, proving that we could do both at the same time”, stated Joe Greenier, Director of Engineering at Saint Francis.

Clinical verification of humidity levels within the OR is another way that Saint Francis is able to deliver superior patient care. Facilities staff found that circuit boards and other internal components were previously being exposed to higher humidity levels than the manufacturer had intended. “Aircuity has helped us measure the humidity in our operating rooms, giving us sensors that are very reliable and very accurate to make sure that we do not exceed the highpoint on the humidity side”, said Greenier. With humidity levels now staying constant, equipment performance has increased and spot problems have been eliminated.

SAINT FRANCIS EXPANDS PARTNERSHIP WITH AIRCUITY IN THE JOHN T. O’CONNELL TOWER

In 2010 Saint Francis Hospital constructed the 10 story, 318,000 square foot, John T. O’Connell Tower, located on the North Side of their campus. With an enlarged Emergency Department, 19 replacement operating rooms, and 72 replacement medical/surgical patient beds, this facility brought the hospital into the next era of world class care. The Tower is also home to the Connecticut Joint Replacement Center (CJRI), which is recognized as one of the major joint replacement centers on the east coast. Deemed as a “Hospital within a Hospital”, the CJRI includes six orthopedic operating rooms and 63 replacement inpatient orthopedic beds.

Building upon the successful implementation of Aircuity into the existing OR spaces, Aircuity’s OptiNet system and Advisor Services were considered necessary and designed into the building. This gives Saint Francis the ability to perform clinical validation of OR humidity, sensing for active humidity control, monitor critical environments and document system performance. Facility managers also rely upon Aircuity’s data to troubleshoot system issues and validate environmental conditions.

The OptiNet system also served as a way to attract new surgeons to the CJRI during the building’s construction. Two prominent surgeons whom the hospital was pursuing felt very strongly about superior air quality within the OR. Saint Francis demonstrated the capabilities of the OptiNet system in their existing OR and this ultimately led to their decision to come to Saint Francis.

A CONTINUING MISSION

Since the first installation of Aircuity’s OptiNet and data solutions in 2004, Saint Francis has had the ability to continuously monitor data and research different aspects of the environment. With a host of data at their finger tips and the ability to achieve sustained energy savings, Saint Francis will continue to be at the forefront of their industry, successfully executing their mission to provide the best patient care in the best environment.

ABOUT SAINT FRANCIS

Saint Francis Care is an integrated healthcare delivery system established by Saint Francis Hospital and Medical Center, an anchor institution in north central Connecticut since 1897. Licensed for 617 beds and 65 bassinets, it is a major teaching hospital and the largest Catholic hospital in New England. Other major entities of Saint Francis Care include The Mount Sinai Rehabilitation Hospital, the Connecticut Joint Replacement Institute, the Hoffman Heart and Vascular Institute of Connecticut, the Saint Francis/Mount Sinai Regional Cancer Center, and the Joyce D. and Andrew J. Mandell Center for Comprehensive Multiple Sclerosis Care and Neuroscience Research. Its services are supported by a network of five major Access Centers and eight additional medical office centers sited throughout the region. For more information, visit www.stfranciscare.com.

ABOUT AIRCUITY

Aircuity is the smart airside efficiency company providing building owners with sustained energy savings through its intelligent measurement solutions. By combining real-time sensing and continuous analysis of indoor environments, the company has helped commercial, institutional and lab building owners lower operating costs, improve safety and become more energy efficient. Founded in 2000 and headquartered in Newton, MA, Aircuity’s solutions have benefitted organizations such as the University of Pennsylvania, Eli Lilly, Masdar City, the Bank of America Tower and the University of California-Irvine. For additional information on the company and its solutions, please visit: http://www.aircuity.com

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