

Indoor Air Quality Measurement & Control: Successful Application of Environmental Sensor Platforms

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ABSTRACT

Now, more than ever, building operators must instill confidence among their occupants for a healthy and safe building. Virus transmission concerns along with healthy-building trends are driving significant interest in the air we breathe indoors. Over the last eighteen months, indoor air quality, ventilation rates, filtration, chemical use, particles, and aerosol transmission has been front page news. Now under more pressure for answering, “how safe is the air in our building?” -facility owners and managers are faced with making more informed decisions on how to properly ventilate spaces, mitigate risk and ensure a comfortable and healthy environment for their occupants. Data from accurate sensor measurements is a starting point for understanding how the spaces / buildings are performing. The next level is to integrate sensor signals with the HVAC system operation (or BAS) to automatically optimize ventilation rates to enhance IAQ and minimize energy impacts. A key feature of today’s significantly improved monitoring technology is the ability to harness the sensor data with dashboard analytics, and easily identify key performance indicators in context of established guidelines from ASHRAE, WELL, WHO, and CDC. Other benefits of real-time monitoring include confirmation of HVAC or room level filtration effectiveness, and identification of deferred maintenance items. The good news is - real-time indoor air quality monitoring systems have become far more robust, practical, and affordable. IAQ monitoring is becoming a core component of a healthy and safe building. Like instruments on an airplane, managing IAQ without measurements is like flying blind. This presentation will provide you with a working understanding of various considerations for applying IAQ sensors in your building.

BIOGRAPHY

20th Annual New York State Green Building Conference

March 31 to April 28, 2022

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David has over 25 years of experience in the building industry with a focus on HVAC system improvements. With a penchant for applying innovative technologies, his firm has managed over 2,500 projects, working with owners, subcontractors, and /or engineering firms to assure optimized HVAC performance and indoor air quality assurance. Over the past 10 years he has implemented a dozen or so projects where both IAQ and energy efficiency have been optimized through deployment of environmental sensors. In critical environments, such as laboratories, energy reductions have ranged between 45 and 55%. (see Project profiles: <https://greenbldgpartners.com/projects/>). He is a graduate of the school of business administration at the University of Vermont

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