Michigan State University Wonders Hall

East Lansing, MI

Michigan Air Products provides a versatile, cost-effective solution for classroom, laboratory, and testing environments with seamless BACnet integration into a campus-wide Building Management System (BMS)

Home to the Cornerstone Engineering and Residential Experience (CoRE), the newly renovated Michigan State University Wonders Hall was transformed from a cafeteria to a mix of labs, teaching, and learning spaces.

Complete with a 42-seat classroom, electrical lab, wet lab, machine tool lab and an assembly and testing area (all outfifitted with Antec Controls), the renovation also created three modern, technology enhanced active learning university classrooms with capacities ranging from 78-112 seats.

With real-world expertise and challenges now incorporated into the classroom and residential environment, the CoRE reinforces the relevance of studies in engineering to solving global challenges. “Tomorrow’s engineers will design our nation’s infrastructure and help solve our most pressing problems. This space is an investment in our students that will equip them to be world-class STEM professional in the nation’s fastest-growing employment sector over the next decade”, said MSU President Samuel L. Stanley Jr., M.D.

The Challenge

These diverse spaces, comprised of labs and integral classrooms, have their own sets of varied airflow control requirements. Ultimately, the labs and classrooms needed dependable and accurate airflow controls designed for the specific application that will seamlessly communicate with the existing Building Management System (BMS). This variety of equipment was unobtainable in the offerings of other manufacturers.

A single type of airflow control device limits the ability to adapt to the unique requirements of each space. Equally important is the ease of communication between the room level airflow controls and the university’s BMS. Historically, this type of airflow control system would involve a gateway that would translate proprietary communications into BACnet ideas and methods. These tend to be costly chokepoints that provide limited BACnet functionality and hide many product features.

MAP's Solution

Michigan Air Products collaborated with MSU and Peter Basso Associates to deliver a comprehensive Antec Control system with 11 Venturi Valves (VV), 5 Single Duct Terminal Units (SDV), and 3 Fume Hoods within a 6,000 ft^2 space, all controlled by the Pace Critical Space Controller.

Not only does utilizing the appropriate airflow control devices keep equipment costs low, but it also reduces the overall complexity of the system. In this case, all airflow control devices incorporate the Antec Controls Pace Controller, making them native BACnet devices that communicate seamlessly with the BMS, ultimately eliminating the need for costly gateways.

The Result

Michigan State University needed a versatile solution to control the environment in a diverse set of spaces. MSU received the right set of tools that seamlessly communicate with the university’s BMS, eliminating unnecessary costs and minimizing the complexity of the control system, provided by Antec Controls and Michigan Air Products.

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PROJECT SUMMARY

PROJECT TYPE	Laboratory
LOCATION	East Lansing, Michigan
COMPLETION DATE	December, 2022
PROJECT DESCRIPTION	(5) Teaching Labs, (3) Fume Hoods
PRODUCTS	(5) SDV, (11) VV, (3) FHC
PROJECT SIZE	6,000 ft^2
MANUFACTURER	Antec Controls
ENGINEER	Peter Basso Associates
ARCHITECT	TMP