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Member organizations use BIM to partner on an FM education initiative

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Advancements in technology impact the built environment every day. Whether they are created for design, construction or facilities operations, new tools such as Building Information Modeling (BIM) and laser scanning are changing the way people work. As the tools and processes being used in the field adapt to the changes in technology, so must the methods for educating the future members of the work force.

While BIM has been a useful tool for design and construction for many years, it is just now beginning to enter to the built environment for facility management purposes. Some hope to utilize models for as-built documents on future expansions or renovations, while others look to use the model as a digital database for operation and maintenance information. To explore the concept of BIM-enabled facility management in a practical setting, IFMA member and BIM thought-leader J.C. Cannistraro, approached Wentworth Institute of Technology to embark on a first-of-its-kind student BIM project.

Designed as a unique, multidisciplinary co-op experience, the project brought together students from Wentworth Institute of Technology with backgrounds in architecture, mechanical engineering, and facilities management with the common goal of creating an accurate BIM of a facility plant. To execute the vision of the project, Cannistraro partnered with Wentworth, with which the company maintains a longstanding co-op recruiting program.

"Wentworth is an industry leader in providing design and construction education," said vice president of engineering Michael Cannistraro, P.E., LEED AP. "We continue to be impressed by the caliber of students that graduate from the Institute's various A/E/C programs, and become talented young professionals right before our eyes." Cannistraro served as a senior project manager and mentor for the full-time FM co-op student hired by his firm.

Students worked together to interpret existing conditions using point-cloud data from a laser scan as well as field surveying and measurement. Each student involved in the project gained hands-on field experience, participated on a project team, and learned various software platforms that enable accurate building information modeling. The project also involved generous contributions from technology partners Imaginit Technologies and Feldman Professional Land Surveyors, which provided the students with the laser scanning and point cloud tools needed for modeling an existing facility. It is also important to recognize that much of the modeling of existing conditions were performed by the student project leader, a Facility Management major, who experienced many of the modeling software tools for the very first time.

"This project represents a valuable learning opportunity for our students and further reinforces the importance of interdisciplinary education," said Greg Denon, director of career services at Wentworth Institute of Technology. At the end of the project, Wentworth facility managers were

provided with an accurate as-built model of the physical plant, as well as a Nucleus6D database that connected O&M manuals, photos and other important data to the model.

The collaborative, cross-disciplined nature of the project reflects the latest trends in today's construction market. In June, IFMA Boston spotlighted the Wentworth Student BIM project at a well-attended chapter event. The event was organized by Wentworth's Student Association for Facility Management. The technology and process behind the project will also be featured at IFMA's World Workplace 2011, in a session titled "Modeling the Future of an FM Education: Team Projects that Apply Technology to the Built Environment."

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