



## **Binghamton University's \$66 million Engineering and Science Building named Top Green Project of the Year; Stantec obtains industry design award**

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Binghamton University's new Engineering and Science Building has been selected as the top Green Project of the Year in Engineering News Record's New York Region annual Best Projects competition. The \$66 million facility provides additional academic, research and administrative space for one of the fastest-growing engineering schools in the Northeast.

Working in collaboration with Binghamton University's project architect of record, William Hall III, RA, Stantec provided civil, structural, mechanical, electrical, and fire protection design services for the 125,000 s/f facility, which opened to students earlier this month. Of particular note, six members of the Stantec design team are Binghamton University graduates. The engineering team was led by project manager Michael Heikkila, PE, LEED AP.

"We are very proud of the Engineering and Science building project," said Jesenko Muftic, director of design at Binghamton University. "It is an excellent example of our commitment to 'green design' at Binghamton University and the State University of New York system, under the direction of the State University Construction Fund."

The building is designed to strict sustainability standards and is expected to receive a Leadership in Energy and Environmental Design (LEED) certification of Platinum, the highest level, from the United States Green Building Council.

Among the building's unique green features:

- \* Energy wheels are used in place of traditional heat recovery coils and heat pipes, greatly increasing the efficiency in both heating and cooling modes. This is a particularly important feature for laboratories, which require a large amount of outside air for ventilation that cannot be recirculated due to health and safety requirements.
- \* Geothermal heating is used to circulate water that has been warmed by the natural temperatures of the earth's core. This design takes advantage of the moderate temperatures in the ground to boost efficiency and reduce energy costs.
- \* Offices are outfitted with active chilled beams, a radiant heating and cooling system that is installed in the ceiling and uses water, rather than air, to remove heat caused by lights, computers and other equipment. This is a technology widely used in Europe but, to date, with very few applications in the United States.
- \* The main entrance, rotunda and bridge feature in-floor radiant geothermal heating. These systems are more efficient as they provide heating and cooling at the floor level rather than conditioning the entire space.
- \* Skylights that offer the same insulation as a regular roof but allow for natural light to flood hallways, laboratories and shared spaces. Offices are located around the perimeter of the building and utilize

light shelves. Widespread use of natural light also drives down energy costs for the facility.

- \* A data center/server room that uses a cold-water system to draw heat away to pre-heat the laboratory outside air.
- \* A photovoltaic wall (two stories of solar panels) that converts sunlight to electricity.
- \* A green roof that insulates the building and is self-sustaining by eliminating runoff, increasing the roof's lifespan.
- \* A 200,000-gallon rainwater harvesting system that will provide water for restrooms and the cooling towers.

The building itself is designed to foster collaboration and teaching. For example, mechanical systems are accessible and serve as a teaching tool for engineering students. Additionally, laboratories are visible in the hallway through a wall of windows allowing for the space to be used as a showcase for student and faculty work or to be closed off by window treatments for privacy.

The new facility is the second building at Binghamton's Innovative Technology Complex, and provides much needed new space for the University's Thomas J. Watson School of Engineering and Applied Science. It houses the Watson School's dean's office, departments of mechanical engineering and electrical and computer engineering, the Integrated Electronics Engineering Center, start-up suites, academic spaces and flexible laboratory spaces.

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