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SOLUTIONS FOR INSTITUTIONAL FACILITY MANAGERS & THE BUILDING TEAM

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Products in Action

Space in a hurry: The Eneref institute examines how SmartSpace modular classrooms help schools think 'Green' while lowering operating costs

Facility managers will be pleased to learn that there is a faster way to provide high quality facilities for their students and staff while lowering expenses.

The Carroll School recently opened the doors to Smart Space, an environmentally friendly classroom that is the nation's first school building that is both' green' as well as modular. The unit took only six weeks to build and five days to install. SmartSpace is loaded with sustainable and renewable features from air quality to reduced energy use. Hickory Consortium, a Harvard, MA-based sustainable building consultancy says the projected energy use is 50% less than that of new construction.

Introduced by Triumph Leasing of Littleton , MA, the Northeast's premiere modular building company, the new portable luxury classroom design is the perfect solution for school districts and hospitals in a hurry for additional space. For years, when schools and hospitals needed building space quickly they have called upon modular construction to get up and running fast. Now with SmartSpace they can provide a setting where protecting the environment and resources is more than a textbook lesson.

According to Cliff Cort, president of Triumph SmartSpace, "A SmartSpace classroom protects the health of the environment, children and teachers, as well as the school's budgets. It can serve as a teaching tool as well, giving kids a glimpse into how their immediate environment can have a positive effect on the world at large."

As the first-of-its-kind 'green' modular classroom, SmartSpace offers a specially designed two-stage heating and cooling system, which Cort says is far more efficient than standard wall units. Also built into the design are double-paned low-e windows, and a highly insulated building envelope for maximum heating and cooling efficiency. A reflective roof helps lower air conditioning costs. The SmartSpace rooms are also outfitted with automated light sensors that dim the lights when there is sufficient natural light, and know to turn the lights off when people leave the room.

The environmentally friendly layout is designed with the children's health in mind. Skylights and oversized windows bring in increased natural light that helps improve both mood and performance, leading to fewer absences and higher standardized test scores. Research has shown that students perform up to 26% better on standardized tests when they are in classrooms with a lot of natural light. Students are happier and perform better when sunlight is factored in.

An airlock entry is one of the many design highlights that adds to

Carroll School students in Lincoln Mass., walk past their new environmentally friendly relocatable modular classrooms

the building's efficiency. By including an airlock entry and vestibule, SmartS pace is able to prevent air conditioning and heat from leaking out every time someone opens the door, which makes a great impact on energy savings. The Triumph SmartSpace classroom was designed to provide up to 26 LEED points.

Sustainability is at the forefront of the movement toward modular construction. At Carroll, the new 1,262 sq. ft. unit has an initial assignment to house the school's tutoring offices for the next few years. The unit's mobility will allow the school to use the SmartSpace classroom for other needs as identified in the future. SmartSpace can be moved as schools see fit to meet their spaee needs as they continue to evolve and grow. It is an investment that will readily pay for itself.

The classroom at the Carroll School has already won two national awards for green design. In 2006, the design received the first place award in the Portable Classroom Design Challenge, a national competition sponsored by the Montgomery County School District in Maryland 111 partnership with the Council for Educational Facility Planners and the Emerging Green Builders of the US Green Building Council. More recently, the project earned the prestigious 2007 Green Buildings Best of Show Award from the Modular Building Institute.

This article is an excerpt of a larger Eneref Institute report which assesses the impediments to building zero net energy urban communities in the U.S. A companion film documentary, “The Eneref Project”, will seek to demonstrate to key decision-makers that commercially viable communities can be developed using a combination of energy harvesting and energy conservation.