

A large, multi-story brick building with classical architectural features, including arched windows and a prominent corner entrance, set against a city street background with other buildings and traffic.

# Building a Sustainable Home for World-Class Artistry — Taking Carnegie Hall into the 21st Century

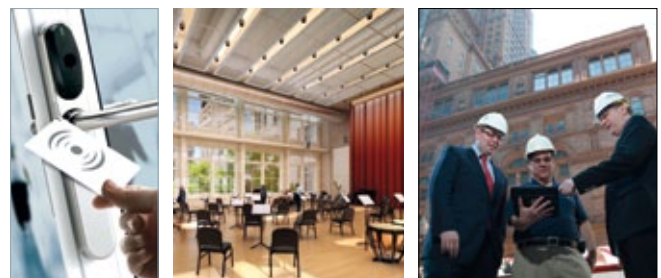
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## Art meets science and engineering

Carnegie Hall is one of the world's most renowned concert halls. Originally built by the industrial magnate Andrew Carnegie over a century ago, it remains a focal point for the international music scene. Since 1891, the finest artists of every musical genre from classical to pop have appeared here — from Tchaikovsky, Leonard Bernstein, and Frank Sinatra to The Beatles and Tina Turner.

The Studio Towers Renovation Project (STRP) is one of the most extensive renovation projects in Carnegie Hall's history — an infrastructure upgrade that focuses on two towers added atop the concert hall at the end of the 19th century, rising 12 and 16 stories around and above Carnegie Hall. The project will fully refurbish the Hall's backstage areas to better support the great artistry on the venue's famed stages and add new inspirational spaces dedicated to music education on the building's existing upper floors.

Almost 165,000 square feet (15,329 square meters) of space will be modernized for a reduction in energy consumption and CO<sub>2</sub> emissions. Siemens has joined as one of Carnegie Hall's technology partners to support the STRP and is supplying the building automation, fire and life safety, and security systems as well as parts of the power distribution system for the project. This undertaking highlights how Siemens is making America's buildings more energy efficient, safe and secure.





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### LEED certification for a 123-year-old building

Siemens' key goal in this project is to help Carnegie Hall secure a "Leadership in Energy and Environmental Design" (LEED) Silver certification from the U.S. Green Building Council upon completion of the work. Preserving and enhancing a 123-year-old landmark building for the future and making it LEED-compliant is an extraordinary undertaking. It requires applying an innovative approach and navigating some unique challenges given the many constraints of working in a 19th century building without original construction plans to reference.

When the renovation is complete, Carnegie Hall will be protected by a fire and life safety system that can be monitored and controlled from a single location. If a fire is detected anywhere in the facility, the command and control station is instantly alerted. In less time than it takes to draw a single breath, alarms are activated and rules-based emergency control operations are engaged, including fire door closure, elevator capture, and air handler turn on/shut-off. This state-of-the-art system will help provide for the safety of artists and visitors at all times.

Siemens SiPass access control systems will ensure that only the right people have access to the right places at the right time, offering peace of mind and providing freedom of movement in a secure environment. This is especially important for a venue such as Carnegie Hall, which has many different access points and levels of clearance for building occupants including staff, performers, and students, among others.

Bringing these systems together is Siemens APOGEE building automation system, which will not only supervise Siemens fire and security infrastructure, but also integrate and control the third party and legacy technologies that are not being replaced during this renovation phase.

Just like a symphony orchestra, building modernization requires perfect harmony between all the instruments, or, in this case, systems involved. The building automation system is the conductor controlling all components in an energy-saving way. By calibrating temperature or humidity, for example, Siemens technology will help create the optimal environment for artists and audiences, teachers and students to perform at their best. Once the renovation project is complete, the various systems will be conveniently controlled from a central location, and if desired, remotely.

### A pleasure for both music lovers and the environment

In addition to the Siemens solutions being implemented, this historic landmark is also addressing energy efficiency through other initiatives, inside and out. The STRP's sustainable design takes advantage of the abundant natural light that filters into the building's 450 original windows as well as newly installed skylights. Exterior improvements include a new 10,000-square-foot roof terrace with reflective pavers and plantings that will reduce the heat island effect and the building's overall carbon footprint. Inside, low-flow plumbing fixtures will significantly reduce water consumption. This sustainability commitment has helped attract significant philanthropic support, including New York City grants representing 25% of the project's funding. If Carnegie Hall achieves LEED Silver certification, the venerable concert hall will be one of the oldest and most notable buildings with such a distinction. Our hope is that the successful, sustainable upgrade of an iconic building like Carnegie Hall will serve as an inspiration for other landmark buildings around the world.