

Infrastructure & Cities Sector Building Technologies Division

Nürnberg, February 8, 2012

**Light+Building 2012, Hall 11, Booth B56
Trade Fair Preview**

Green Comfort from Siemens

Innovative solutions for energy-efficient buildings

From April 15 to 20, 2012 Siemens will introduce a number of innovations at Light+Building, the international trade fair for architecture and technology. Under the trade fair motto “Maximize your Building Efficiency” Siemens will exhibit products and solutions which significantly increase the energy efficiency of buildings without compromising comfort. The spectrum of solutions will range from building automation, energy efficiency services and the intelligent power grid of the future (smart grid) to products for power distribution and electrical installation technology.

At Light+Building, Siemens will present itself as an innovative one-stop supplier who ensures energy efficiency, comfort, safety and security in buildings and infrastructures across all areas and the entire life cycle. These solutions are based on the open communications standard KNX, which allows for flexible networking of all building control components. Investment protection, another major focus for Siemens, is guaranteed thanks to the ability to perform modernization work in stages and the backwards compatibility of Siemens products across the entire building life cycle.

Designo for intelligent building automation

One highlight at the Siemens booth will be networked solutions which combine multiple disciplines, thus increasing the functional range and reducing operating costs. Total Building Solutions (TBS) with Designo integrate building automation with fire detection and video surveillance as well as Simatic S7-based production-side infrastructure into an end-to-end management system.

Designo Total Room Automation (Designo TRA) integrates HVAC, lighting and shading into a complete package that meets the requirements of performance class A, the highest energy

efficiency rating. The range of products is based on freely programmable, modular room automation stations equipped with KNX, DALI and EnOcean interfaces. Desigo requires no additional interfaces for BACnet/IP communication. Benefits for operators include a high degree of flexibility in terms of how rooms are used; modifications necessitated by a change in usage are easy to implement.

One notable feature is the innovative Green Leaf energy-efficiency indicator based on the tested Desigo RoomOptiControl application. An indicator on the room operator unit shows users how energy-efficient their activities are: A colored icon shaped like a leaf gives a real-time snapshot of energy consumption. If consumption is too high, the leaf is red. Users can press a button on the operator unit to optimize room control, which turns the leaf green.

Eco Monitoring, a new Desigo efficiency feature, monitors ongoing operations of HVAC systems based on energy-relevant key performance indicators (KPI). Deviations from the target state, inefficient operations and increased energy consumption are displayed as they occur and reported to Desigo Eco Viewer, an application running on the Desigo Insight management station. Desigo Insight provides an easy-to-read overview of the energy efficiency of a building and its systems and allows operators to initiate corrective measures, if needed. This prevents increased consumption and wear on system components.

Solutions to enhance ease of use

Siemens Building Technologies will introduce the UP204 operator panel, a multifunctional room unit to control lighting, shading, heating, cooling and ventilation. The device is equipped with touch screen (2.8 inch color touch display, 320x240 pixels) and a pressure-sensitive thumb wheel, providing for intuitive, customized operation. KNX bus technology makes it possible to integrate a number of different room and building functions and seamlessly control them from a single device. In addition, UP204 supports the creation of timer programs and scenarios.

The new HomeControl app for the iPhone offers owners of Synco 700, Synco living and Sigmagyr building automation systems remote access no matter where they are. The intuitive user interface shows at a glance whether the system is running properly. If adjustments are needed, the user-friendly software allows direct access to all important information and settings. This gives users the opportunity to enforce energy-efficient operations at any time and from anywhere. The HomeControl app requires the OZW772 web server which is integrated right into the building automation system.

Performance optimization with impressive potential

At Light+Building, Siemens will show how to reduce energy consumption and CO₂ emissions in large-scale installations and industrial environments using itself as an example: In the past year, Siemens optimized 17 of its locations, which had previously consumed an above-average amount of energy, using its Energy Efficiency Program (EEP). Other projects are being planned. The results have been impressive so far: After implementing a variety of energy efficiency measures, Siemens is now able to save €5.5 million in energy costs each year and reduce its CO₂ emissions by 18,000 metric tons. The Energy Efficiency Program involves analyzing the general conditions and financing options (for example, energy performance contracting), defining individual measures, implementing the project and standardized reporting. The EEP system, which can be customized for companies of any size, will be presented in detail at Light+Building.

The Green Building Monitor, to be featured at Light+Building, is an optional component of the EEP program. It is a simple solution to display energy savings and sustainability efforts in order to increase awareness among building users. Energy engineers at Siemens Advantage Operation Centers collect and analyze a building's consumption data and then bring it into a user-friendly format. Building users can check the Green Building Monitor at any time to see the building's current efficiency level and to view additional information and tips on how to save energy. Building owners benefit from real-time optimization of their building systems. The Green Building Monitor is part of Siemens' Building Performance Optimization service, recently certified by TÜV Rheinland to comply with the DIN EN 16001 standard for energy management systems.

Intelligent power distribution in buildings and power supply grids

At Light+Building, the Siemens Low and Medium Voltage Division will present its extensive portfolio for secure, flexible and efficient power distribution. These products and systems cover the entire energy chain in a building, ranging from power feed-in and distribution all the way to individual outlets. In addition, they support the implementation of new energy concepts based on wind power, photovoltaics, electromobility and smart grids.

The 8DJH gas-insulated medium-voltage switchgear, for example, uses standardized protocols to transmit commands to and signals from the switchgear to the higher-level control system, thus meeting all requirements for integration into the future smart grid. Low and Medium Voltage will also exhibit standards-compliant components for safe and cost-effective operation of commercial photovoltaic facilities as well as an energy monitoring system featuring Sentron PAC power meters and Sentron powermanager software.

A special low-voltage highlight at the Siemens booth will be a solar carport equipped with a built-in WB100A charger for electric vehicles.

Solutions to create and expand smart grids

Siemens' informational offerings centering on smart grids will feature a consulting and analysis tool to develop a smart grid business strategy, a decentralized energy management system for virtual power plants and a total solution for smart metering. The latter not only acquires and processes energy consumption data, it also includes billing via an SAP interface. This smart metering solution consists of the AMIS consumption data acquisition and distribution network automation system and the EnergyIP meter data management system by eMeter. Since the December 2011 acquisition of eMeter, the California-based meter data management specialist, EnergyIP is a fixed part of Siemens' smart grid portfolio. EnergyIP is a data hub which integrates the existing IT systems of energy suppliers into the smart metering infrastructure via an SAP-certified interface. This allows utility companies to use smart metering on an end-to-end basis – from metering to billing, from operations management to grid planning. Energy Automation, Power Quality and Multimedia functions have now been integrated as well. Power Snapshot Analysis is the world's first smart grid application to deliver real-time grid information via AMIS smart meters. This information is enriched with power quality measurements which help improve grid stability and supply security. Open interfaces to tablet computers and smart phones support the graphical display of consumption and energy values on mobile devices.

The products and solutions presented at Light+Building are part of Siemens' Environmental Portfolio. In fiscal 2011, revenue from the Portfolio totaled about €30 billion, making Siemens one of the world's largest suppliers of ecofriendly technologies. In the same period, our products and solutions enabled customers to reduce their carbon dioxide (CO₂) emissions by nearly 320 million tons, an amount equal to the total annual CO₂ emissions of Berlin, Delhi, Hong Kong, Istanbul, London, New York, Singapore and Tokyo.

For more information about the Siemens exhibits at Light+Building 2012 please visit www.siemens.com/light-building.

The **Siemens Infrastructure & Cities Sector** (Munich, Germany), with approximately 87,000 employees, offers sustainable technologies for metropolitan areas and their infrastructures. Its offerings include integrated mobility solutions, building and security technology, power distribution, smart grid applications, and low- and medium-voltage products. The Sector comprises the Divisions Rail Systems, Mobility and Logistics, Low and Medium Voltage, Smart Grid, Building Technologies, and Osram AG.

For more information, visit <http://www.siemens.com/infrastructure-cities>

The **Siemens Building Technologies Division** (Zug, Switzerland) is the world leader in the market for safe and energy-efficient buildings (“green buildings”) and infrastructures. As a service provider, system integrator, and product vendor, Building Technologies has offerings for building automation, heating, ventilation and air conditioning (HVAC), fire protection and security. For more information, visit www.siemens.com/buildingtechnologies

The **Siemens Low and Medium Voltage Division** (Erlangen, Germany) serves the entire product, system, and solution business for the power distribution infrastructure of public utilities, municipal utilities, and industrial facilities. The Division is responsible for providing reliable power supply equipment for conventional and regenerative power plants as well as intelligent, compact switching stations for distribution networks in metropolitan and rural areas. In addition, the Division supplies energy-efficient solutions for the integration of renewable energy and energy storage in the grid. For more information, visit <http://www.siemens.com/low-medium-voltage>

The **Siemens Smart Grid Division** (Nuremberg, Germany) supplies products and solutions for intelligent and flexible network infrastructures. To meet growing energy needs, the networks of today and tomorrow must integrate all forms of power generation and ensure bidirectional energy and communication flows. Intelligent networks help make it possible to generate and use power efficiently and on demand. They contribute to the electrification of railroads and also supply industrial enterprises, infrastructure elements, and entire cities with electricity. For more information, visit <http://www.siemens.com/smartgrid>