

## Headquarter building of the Siemens Building Technologies Division in Zug, Switzerland, certified as a Green Building

- **The world's first Gold certification according to the newest LEED version for existing buildings**

The headquarter building of the Siemens Building Technologies Division at Gubelstrasse 22 in Zug has been certified under the Leadership in Energy and Environmental Design (LEED) sustainability system. It is the first existing building anywhere in the world to receive LEED EBOM Gold certification under the current version 4. The experience gained during the certification process will fully benefit other Siemens locations as well as external partners and customers.

Energy-efficiency in buildings is a key business field for Siemens and, at the same time, a special concern for the company's own properties. As early as 2006, the corporation set itself the goal of certifying all of the company's new buildings under the Leadership in Energy and Environmental Design (LEED) system. This internationally recognized sustainability system guides building design and operations to essentially achieve a balance between environmental protection, high occupant satisfaction and a positive business impact. Certification by the independent Green Building Certification Institute confirms that a building has been developed, planned and constructed according to measurable sustainability criteria. Siemens pursues specific sustainability goals for both existing buildings and new construction. When rating the building's sustainability achievement, in addition to the building performance, LEED-EBOM (Existing Buildings: Operations and Maintenance) also looks at building operations, including the purchase of supplies and the commuting patterns of the occupants.

Triggered by the internal Green Building Initiative, a project team within the Siemens Solution and Service Portfolio instigated certification of the building at Gubelstrasse 22 applying the latest LEED-EBOM version. The seven-story administration building is currently serves as the international headquarters of the Siemens Building Technologies Division. In the future, the new owner, the city of Zug, will consolidate its municipal government here, which is currently distributed throughout the city. The 70-year-old property, which offers approximately 12,000 square meters of floor space, can be considered a green building, also thanks to targeted investments made over the past few years. Following the optimization of the heating control system in 2010, it now consumes approximately 35 percent less energy and is thus one of the most energy-efficient properties on the industrial campus in Zug, where it is domiciled.

### **Top marks for the core requirement of energy efficiency**

The project team performed all preparation and directed implementation work required for certification themselves. The expertise, experience and credibility developed during the certification process can thus be fully utilized for future consulting and certification services, which will benefit not only other Siemens locations but also external partners and customers

In June 2014, after intensive project work and data gathering over a period of twelve months, the historic building became the world's first property to receive LEED-EBOM Gold certification under the latest version 4. The building earned a total of 64 points, surpassing the threshold of 60 points required for Gold certification. It received the maximum of 20 points for the core requirement of "optimizing energy efficiency." Because of the advantageous location, a majority of building occupants use alternative means of transportation to commute; for this reason, the building also earned the maximum number of points in the "location and transportation" category. However, the certification also revealed existing performance weaknesses. Potential for improvement exists in areas such as "material and resources," which covers recycling rates for building waste streams.

While the result of the LEED certification represents a specific snapshot in time, energy consumption will continue to be checked through ongoing monitoring, and corrective action can be taken as needed. Compliance and continuous improvement of additional key criteria will be controlled through supplementary internal policies –

pertaining to water and recycling, for instance – as well as educational programs aimed at influencing occupant behavior.

### **Internal expertise for consulting and implementation**

Michael Brook, Head of Portfolio Management Solution, who co-heads the team for the LEED certification project, draws an entirely positive conclusion: “We were able to benefit from a strong initial situation. The building’s solid structure and its orientation, as well as the continuous investments made over the past few years have turned out to be a stroke of luck. Building up our internal expertise and skills where LEED is concerned has paid off. Thanks to the practical knowledge gained in our own building, we are in a position to cost-effectively both optimize existing buildings and apply our ideas in new building design with respect to green building certification. We can better assess the requirements of building owners, operators and occupants and provide our customers and partners targeted and comprehensive support as they work toward ‘green certification.’ We offer system-independent consulting, and our Siemens solution and service portfolio gives us a toolbox for implementing the measures necessary to achieve continuous improvements in energy efficiency.”

### **Ecological benefits lead to economic added value**

The growing importance and weighting of ecological factors boosts demand for and increases the value of sustainability-certified buildings all over the world. Private and institutional investors as well as the public sector are joining in on sustainability. In addition to the environmental benefits, the advantages of green buildings are also apparent when it comes to their operation. According to the U.S. Department of Energy, for example, LEED Gold-certified buildings require an average of 25 percent less energy, generate 34 percent fewer emissions and consume 11 percent less water than do conventional administration buildings. Operating costs drop by 20 percent while the satisfaction of building occupants and employees rises by approximately 30 percent. Rating a property according to sustainability criteria increases its attractiveness and makes it easier to market. This results in higher rents as well as lower vacancy rates. Moreover, owners, operators and tenants of green buildings benefit from a better image, allowing them to become more competitive in their markets.

*((optional box))*

### **LEED: More than a building standard**

Leadership in Energy and Environmental Design (LEED) is a U.S. system introduced in 1998 for environmentally compatible, sustainable building construction that saves resources. Certification is awarded by the Green Building Certification Institute, an independent, non-profit trade organization dedicated to sustainable building construction. In contrast to MINERGIE, Switzerland's national building standard, LEED takes into account a number of rating criteria that go far beyond pure energy or building standards. For example, the point system also covers access to public transportation and – where privately used buildings are concerned – proximity to schools and shopping. The goal behind this more comprehensive view is to make occupants of LEED-certified buildings less dependent on means of transportation that burden the environment.

The certification system includes different variants or certification systems for different phases of a building's lifecycle, for example focusing on design and construction in new buildings and focusing on operation and maintenance in existing ones.

The criteria are divided into categories that impose mandatory, prescriptive preconditions and require a certain number of environmentally compatible services, which in combination determine the final points awarded to a building. In a LEED assessment, a project rated under the current version 4 can earn a total of 110 points in the following quality levels: "Certified" (40-49 points), "Silver" (50-59 points), "Gold" (60-79 points) and "Platinum" (80 points or more). Buildings are rated according to the following categories:

- Sustainable sites: LEED-certified buildings must be built according to a waste management plan that reduces waste generation and provides for the use of recyclable or locally produced materials.
- Water efficiency: The existence of rain water collection systems or faucets with pressure controllers must ensure maximum efficiency in water consumption.
- Energy and atmosphere: The optimum use of renewable and locally sourced energy can significantly lower the building's energy costs.

- Material and resources: Buildings constructed with natural, renewable and locally produced materials such as would receive a higher number of points under the LEED rating system.
- Indoor environmental quality: The building's interior must be planned in such a way that it delivers an optimum balance energy and operational performance and occupant well-being and comfort.
- Innovation: The use of improved building technologies compared to the existing best practice is a value-enhancing element of the LEED certification.
- Location and transportation: This criterion was added to version 4. It essentially rates the property's location and access to transportation, e.g. alternative means of transportation and nearby public facilities.

**Contact for journalists:**

Cornelia von Dewitz, phone: +41 41 724-4363

E-mail: [cornelia.von-dewitz@siemens.com](mailto:cornelia.von-dewitz@siemens.com)

The **Siemens Infrastructure & Cities Sector** (Munich, Germany), with approximately 90,000 employees, focuses on sustainable and intelligent infrastructure technologies. Its offering includes products, systems and solutions for intelligent traffic management, rail-bound transportation, smart grids, power distribution, energy efficient buildings, and safety and security. The Sector comprises the divisions Building Technologies, Low and Medium Voltage, Mobility and Logistics, Rail Systems and Smart Grid. For more information visit [www.siemens.com/infrastructure-cities](http://www.siemens.com/infrastructure-cities)

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