

Siemens supplies solar power system to Nuremberg soccer stadium

Siemens Power Transmission and Distribution (PTD), which among other things specializes in the development, supply, construction and maintenance of international solar power projects, is acting as general contractor to equip Nuremberg soccer stadium with a photovoltaic system. The customer is the Karstadt-Quelle-Versicherungen insurance company. Even before the start of the soccer World Cup, the system, which is currently the largest of its kind on the roof of a World Cup stadium, will be injecting up to 140 kilowatts of solar power into Nuremberg's power supply network.

A total of 758 solar panels on the southeastern, southern and western roofs of the stadium cover some 1000 square meters in all. In full sunlight one panel can produce 185 watts of electricity. To fix the six rows of panels onto the 42-meter high roof, Siemens developed special clamps to enable the trapezoidal roof to be used directly as a substructure.

Two 60-kVA inverters in a master/slave configuration convert the direct current produced by the solar panels into 400 VAC alternating current. The inverters are fitted with extensive monitoring and display systems such as PP-solar and WEB-log. These permit monitoring using remote access. The orientation and nature of the roof are taken into account when designing the SINVERT inverters, in order to minimize its impact on the output.

Siemens PTD M3 Solar projects undertook the project planning, scheduling and engineering, and in its capacity as general contractor carried out the management and execution of the project within three weeks.

This Siemens competence center for solar projects is based in the Netherlands and specializes in particular in developing, implementing and maintaining Building Integrated PV systems (BIPV) in utility buildings.

Following an article in a specialist journal about solar systems on soccer stadiums Siemens became interested in actually implementing this system on the Nuremberg soccer stadium. Although several solar systems are planned on World Cup stadiums, none have come to fruition. Together with Rotovolt and Welivit, Siemens designed a realistic system within the restrictions.

SINVERT solar inverter units are used for power generation with larger solar systems (30 kVA and over). These modular inverter systems are highly efficient and provide excellent facilities for remote access and monitoring. Special references in the field of turnkey solar systems include projects such as the 2.3 MWp solar roof for the Floriade horticultural exhibition, a 500 kWp one for Rotterdam Zoo, and installations for multi-story parking garages, manufacturing and production buildings and office buildings.

Investment in this solar system was handled by Welivit New Energy GmbH, a subsidiary of KarstadtQuelle Versicherungen. The project was also made possible by the commitment of the operators of the stadium and Rotovolt GmbH in a cooperation agreement and roof utilization agreement. Implementation of the project was made possible with the support of Oskomera, Sharp Solar, K&S Ingenieur-Consult GmbH & Co, Weissbach Elektrotechnik, Iliotec GmbH, the City of Nuremberg and N-ergie.

See www.siemens.com/solar

Siemens Power Transmission and Distribution (PTD), Erlangen, is one of the leading companies in the global market for power transmission and distribution. As a product supplier, systems integrator, and complete solutions and service provider, Siemens PTD enables power suppliers and industry to transport electrical energy cost-effectively and reliably from the power plant to the consumer. Represented in almost 90 countries, PTD's 25,850 or so employees worldwide posted sales of 4.3 billion euros in fiscal 2005 (September 30).

For further information see: www.siemens.de/ptd and www.siemens.com/solar. To contact Siemens PTD CoC Solar: Ms Lucy van Keulen, 0031 (0) 70 333 1161, lucy.keulen-van@siemens.com

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Siemens press picture

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Picture caption:

Solar power from the roof of Nuremberg soccer stadium: A total of 758 solar panels on the southern and western roofs cover some 1000 square meters in all. One panel can supply up to 185 watts of electricity. In full sunshine the solar power system built by Siemens could inject an output of 140 kilowatts into Nuremberg's power supply network.