



SIEMENS

Solutions for Data Centers

Swiss Supercomputing Centre – superior to any other make

Latest building technology from Siemens ensures safe, efficient and smooth operation of the fastest computer in Switzerland.

At the new Swiss National Supercomputing Centre (CSCS) in Lugano-Cornaredo, Siemens has supplied integrated data center solutions to meet infrastructure needs, safety and security requirements and ensure the highest level of energy efficiency.

A modern building complex for high-performance computing research
The Swiss National Supercomputing Centre is a high-performance computing center and an autonomous unit of the Swiss Federal Institute of Technology in Zurich (ETH Zurich). Founded in 1991, CSCS develops and promotes technical and scientific services for the Swiss research community in the fields of high-performance computing.

In March 2012, CSCS moved from Manno to its new location in Lugano-Cornaredo. The modern CSCS complex comprises two separate buildings, a five-story office block with a total surface area of 2,600 square meters and a windowless three-story concrete cube.

A growing amount of data results in increased requirements for data centers
The data center market is one of the world's fastest growing industries. With the huge increase of Internet usage, paperless storage and modern IT services such as virtualization and cloud computing, companies and organizations around the world are facing rapidly expanding volumes of data, which is making businesses heavily dependent on data centers.

In order to keep business running at maximum efficiency, data centers must be safe, secure and resilient. In addition to fire safety and security measures, energy-efficient and green IT operations play an important role for today's data center owners.

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Tailored solutions for maximum uptime and increased efficiency

For the new CSCS building complex, Siemens was commissioned to build a highly reliable system, which is capable of managing and controlling the various subsystems.

In such a supercomputing center, an integral fire safety and security concept is crucial to protecting critical data and ensuring maximum uptime. The installed solution comprises 11 IP cameras and 2 addressable 2-way devices with speakers and microphones, along with a Sinteso™ fire detection system including 430 fire detectors, 28 manual call points and 228 alarm indicators. In the event of evacuation, an integrated voice notification system comprising 250 loudspeakers and 62 strobe lights is activated. A Desigo™ Insight management station with over 4,000 data points and 21 controllers was installed to provide for simple, intuitive control of all building systems.

Due to all provided solutions and the use of natural resources like water from the Lake of Lugano to cool the supercomputers, CSCS has become one of the most energy-efficient and ecologically sustainable supercomputing centers in the world.

Everything from a single source

A decisive factor for the customer in choosing Siemens was the advantage of obtaining a complete solution – from system design and installation to project management and maintenance – from a single supplier. Siemens' service technicians stationed in the Canton of Ticino simplified rapid handling of issues. This is crucial in a sensitive environment like the CSCS is in order to keep intervention times to an absolute minimum.

In addition to this, CSCS benefits from the wide range of Siemens know-how as the technology partner combines years of engineering expertise with a comprehensive portfolio of products, systems and services, to provide integrated solutions especially designed for data centers.

Highlights

- Maximum system reliability and availability throughout the entire system's life cycle
- Sustainability and significant cost savings via the efficient use of natural resources
- Single point of contact – from the planning phase through to building maintenance, validation and archiving