

“The whisper-quiet CELSIUS M770 workstations from Fujitsu with their tremendous graphics and processing power form the ideal basis for high-resolution and high-end visualization solutions.”

Maik Langer
Managing Director
Langer IT Solutions GmbH

Langer IT, in cooperation with okulon and Barco, uses CELSIUS workstations from Fujitsu to realize innovative visualization solutions.

At a glance

Country: Germany

Industry: IT system integration

Founded: 2001

Website: <https://langer-it-solutions.com/>

Challenge

Langer IT requires high-end computers for the visual preparation and innovative presentation of complex CAD models. They must provide high processing power so that complex geometries can be integrated in virtual camera movements.

Solution

Langer IT relies on compact and powerful FUJITSU CELSIUS M770 to provide concentrated computing power to the visualization solution from okulon GmbH. The internal bandwidth in particular allows the application, the tracking interaction medium and the visual output to work simultaneously.

Benefit

- Powerful graphics performance for technically demanding virtual reality installations
- Stable and fail-safe operations for every presentation form (curved, dome, L-shape, flat)
- Elegant and space-saving installation in racks thanks to the compact design
- Streamlined and efficient systems with high-performance individual workstations instead of cumbersome clusters
- Maximum flexibility based on control via mobile workstations

Customer

Langer IT Solutions GmbH has been planning and integrating stable and high-performance IT solutions for maximum graphics requirements at the national and international level since 2001. Founded as Datatechnix Consulting, the company expanded into Langer IT Solutions GmbH in the year 2017. The ITIL-certified system integrator tailors all solutions to customer requirements and perfectly coordinates the technical requirements, existing IT solutions and project objectives. In addition, the service provider also successfully collaborates with interdisciplinary partners.

Products and services

- FUJITSU CELSIUS M770 desktop workstations with NVIDIA Quadro P5000 and P6000 graphics cards
- FUJITSU CELSIUS H970 17.3-inch mobile workstation

Master concept for virtual, three-dimensional dome projections

Langer IT Solutions GmbH possesses outstanding expertise in implementing demanding entertainment and virtual reality projects that put considerable demands on graphics visualization. "Demand for impressive visual experiences is steadily increasing. Elaborate and immersive projections and installations guide the observer through visual worlds. We use our technologies and solutions to turn this trend into reality," emphasizes Maik Langer, Managing Director of Langer IT. The IT company, which is based in Unterhaching near Munich, Germany, has developed master concepts for virtual, multi-dimensional and high-resolution projects in various application fields to address the demand for moving images.

To implement the projects on a technical level, Langer IT needs high-performance and high-end hardware solutions that offer sufficient graphics and processing power to accommodate the considerable technical demands of the models in the applications. It also requires powerful projectors and sophisticated visualization solutions that are able to display the complex models in every geometry. "To be able to create this demanding technical scenario, we depend on reliable and professional project partners that contribute the best product solutions that are available in the market to the master concept," explains Maik Langer.

CELSIUS workstations with maximum processing and graphics power

To meet the complex requirements, Langer IT relies on the proven solutions provided by long-standing partner Fujitsu: The CELSIUS M770 desktop workstation, for example, meets a number of important criteria. It features ultra-high-end 3D NVIDIA Quadro P6000 graphics cards, each of which contains 3840 CUDA cores and a graphics memory of 24 GB RAM, as well as a memory bandwidth of 432 GB/s. These systems thus offer the graphics capacity that is required to create the technically demanding projections with the maximum amount of resolution and performance. F90-4K13 projectors from Barco GmbH are also used. These are 4K UHD DLP laser-phosphor projectors with a light intensity of 11,800 lumen. okulon GmbH is a close partner and expert for professional visualization solutions.

On the software side, the models are processed with the Autodesk VRED 3D visualization solution. It imports the movement data from the HMD (head-mounted display) glasses and makes it visible to the observer in every geometry using a special mathematical transformation. As a result, the observer experiences a virtual, three-dimensional and very realistic scenario. The classic application areas are entertainment facilities such as 3D movies, scientific installations such as planetariums as well as development environments for industry. The

technical concept is used in a variety of application scenarios, e.g. the Transportable Cave from manufacturer Barco. Using this virtual reality display solution, images can be projected on three sides in 3D.

Energy-efficient, whisper-quiet and compact

"With the CELSIUS M770 workstations from Fujitsu, we are on the safe side. They can be seamlessly integrated into the existing virtual reality master concept. In addition, they are energy-efficient, whisper-quiet and compact," confirms Maik Langer. The workstations, which are developed and made in Germany, impress with their space-saving design. With only four rack units, the CELSIUS M770 can be elegantly placed in the corresponding server cabinets. This is a particularly important feature since the installations do not normally have a lot of space. Moreover, the workstations only produce very little heat despite their high performance, hence they do not require elaborate cooling and use very little electricity.

Another advantage: The CELSIUS M770 workstations are wireless and very quiet, which facilitates servicing and significantly reduces background noise. "The systems guarantee the stable and fail-safe operation of the projections and other virtual reality installations," explains Maik Langer.

Moreover, the FUJITSU CELSIUS H970 mobile workstation has been selected for the following reasons: The laptop impress with its compact design while still offering a level of performance that is similar to the stationary desktop devices. Outstanding functions with regard to graphics, RAM and network capability ensure that demanding visualization tasks can also be implemented in a mobile virtual reality environment.

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