PRESS RELEASE

Scalable compact data centre for Edge Computing

KLEUSBERG receives a micro data centre solution from the Edge Data Center Programme from SCHÄFER IT-Systems

Neunkirchen, 7th November 2023. In addition to rising energy costs, companies are faced with the challenge of operating climate-friendly yet, at the same time, high-performance server rooms. To meet the efficiency requirements, all components must be individually matched to each other. Nevertheless, a high degree of flexibility for change is essential for future developments. This balancing act requires a large number of mutually compatible modules and components which, in combination with each other, can reliably meet changing requirements. The family business KLEUSBERG has therefore opted for an edge computing data centre infrastructure from SCHÄFER IT-Systems.

Edge computing solutions have the potential to significantly reduce the energy footprint of our data society by optimising computing loads. Data centres are energy consumption giants. German data centres consumed 16 billion kilowatt hours in 2020. The greatest energy demand is for the IT systems themselves, such as servers, storage systems and network modules. The data centre infrastructure consumes 40 to 60 per cent of the energy.

In this context, the F-Gas Regulation will also bring about a change in the use of refrigerants for many data centre operators. They must be aware that refrigerants based on partly fluorinated hydrocarbons (HFCs), especially those with a high global warming potential, will become increasingly less available on the market due to the HFC phase-down in accordance with the F-Gas Regulation. This has consequences for the reliability and thus availability of data centres. Water-based cooling solutions are more climate-friendly and energy-efficient. In a compact solution, the waste heat can also be put to good use.

KLEUSBERG's former server room, with two open racks and room air conditioning in a repurposed office space, no longer met today's requirements for a modern IT environment in terms of cooling and secure IT infrastructure. Among other things, this caused difficulties in IT compliance as well as in day-to-day operations with high data traffic.

The advantage of edge computing becomes very clear here in particular: Companies also need to process data on-site – this is called hybrid IT. In addition, the interweaving of cloud and edge computing increases availability and optimises latency times in the network. Overall, all of the company's IT applications benefit from this.

Compact data centre infrastructure from an experienced solution provider

Above all, KLEUSBERG is impressed by the "everything from a single source" approach, be it sustainable cooling with water or the space-saving room-in-room solution. This is because all of the necessary units, such as the extinguishing system, uninterruptible power supply (UPS), cooling, monitoring, power connection and distribution (power), have their place in, under and on the installed edge solution. The construction is completed with a practical cable tray and a plinth, so that no additional raised floor is necessary.

"For good reasons, we wanted to set up a powerful custom solution hosted in-house. An investment of this kind must be able to grow with the company in order to be future-proof and sustainable in operation. This is exactly what we received, designed exactly to our needs. The 30 kW output of the new data centre is converted into thermal energy during operation, which does not go to waste, but rather is supplied to our building in the form of energy for heating and hot water. Despite the use of proven standard components, it was possible to implement a highly individualised solution. We are very satisfied and are already thinking about another backup room," explains Stefan Betzing, Kleusberg Grundstücksverwaltungs-GmbH & Co. KG, Management.

Tried-and-tested modules allow for a customised complete system

Six IS-1 racks form the basis of the installed edge system. The system platform with various focal points in terms of safety, interior design and air conditioning is characterised by ergonomic and modern design. Up to 187 free height units are available for the installation of IT modules.

The IS-1 SideCooler CW used is a high-performance cooling unit that is attached to the side of the server cabinet. Two units were installed. This ensures efficient cooling of the IT components all year round. Various parameters can be set via an integrated controller. The

water-side connection has been adapted to the conditions on-site – this can be carried out either from above or below.

Grid disturbances do not affect operation, because an online UPS is used to supply the consumers with power without interruption. In this way, consumers are protected from all grid disturbances – complete and partial power cuts, voltage drops, overvoltages or frequency deviations.

The various IT devices and other electronic loads are connected to two robust rack PDUs per rack, which take over the power distribution within the edge computing system.

Continuous monitoring of the residual current allows faults to be detected in good time. This supports the security, availability and cost-effectiveness of the edge computing system because it prevents potential failures. In addition, this measurement increases the electrical safety for persons and equipment. Another advantage is the reduction in inspection costs, as the system no longer has to be switched off during the DGUV-V3 inspection. Type B residual current is measured.

Monitoring and maintenance guarantee fail-safe operation

In addition, early fire detection with integrated extinguishing increases the safety of the system and reliably protects the components from fire. The compact unit in 19 inch design and 2HU height monitors the rack by means of an aspirating smoke system, and extinguishes in the event of a fire by means of an extinguishing agent that counteracts a fire primarily by means of physical cooling effects.

Critical events are detected by the system's monitoring and reported via an Ethernet interface as well as via potential-free contacts. A web interface visually displays the messages of the individual system components and environmental values.

The compact data centres, so-called edge systems, from SCHÄFER IT-Systems are always handed over fully installed and tested. The installation takes place in the factory and on-site. A comprehensive briefing supports the quick and easy deployment of the system. Additional services are available for maximum availability. This facilitates cost planning and allows for the economic operation of the plants.

Edge Computing Configurator from SCHÄFER IT-Systems: <u>Click Edge Configurator</u>
Information on iQdata from SCHÄFER IT-Systems at: <u>Click iQdata data centre solutions</u>
Information on KLEUSBERG at: <u>Click KLEUSBERG | We give space to the future</u>

Images and captions:

1. Image: KLEUSBERG_Bild-1_(c)_Schaefer-Werke-GmbH.jpg
Caption: Front view of the IS-1 racks with cable management from SCHÄFER IT-Systems.

2. Image: KLEUSBERG_Bild-2_(c)_Schaefer-Werke-GmbH.png
Caption: Rear view of the installed IS-1 racks with cable tray and outgoing boxes on top.

3. Image: KLEUSBERG_Bild-3_(c)_Schaefer-Werke-GmbH.png
Caption: From left: Dennis Müller, specialist construction manager at KLEUSBERG, and Bernhard Johannes Germann, sales project manager at SCHÄFER IT-Systems.

About SCHÄFER IT-Systems (www.schaefer-it-systems.de):

SCHÄFER IT-Systems, an innovative manufacturer of customised network and server cabinet solutions as well as data centre solutions for conventional and complex applications, is part of the internationally successful SCHÄFER WERKE.

The family-run SCHÄFER WERKE Group, whose headquarters are in Neunkirchen in the Siegerland region, is active worldwide with diversified business areas: EMW Steel Service Centre, perforated sheets, container systems and industrial containers, infrastructure for data centres and equipment for offices and workshops. These business areas work on the common basis of high-quality steel sheeting, the processing of which is one of the company's traditional core competencies.

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