



### Future-proof expansion of the IT infrastructure through edge and cloud systems

## Rittal: The IT and data centre trends in 2019

- **Data centres will acquire greater AI-based monitoring capabilities**
- **Processing the flood of data in real time with edge computing**
- **Hyperscale data centres will drive the cloud market**
- **Streamlined cooling technologies will boost energy efficiency in the data centre**
- **The Nordic countries' location advantage will help to cut costs**

Herborn, 17 December 2018 – Rittal has outlined five trends related to the cloud computing and data centre industry that IT managers should have on their agenda in 2019.

### **Trend 1: Data centres will acquire greater AI-based monitoring capabilities**

Without assistance systems that feature artificial intelligence (AI), IT data centre specialists will soon be unable to operate large and complex IT systems in a fail-safe way. According to the IDC, half the components in large data centres will already be featuring integrated AI functions and operating autonomously by 2022. In order to support this development, IT administrators will have to use predictive analytics and machine learning to streamline IT operations. For example, these tools will provide predictive fault forecasts and support optimised

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load balancing so that companies can ensure that their IT environment offers high availability.

### **Trend 2: Processing the flood of data in real time with edge computing**

The 5G mobile communications network is expected to be launched in Germany in the second half of 2019. The many transmission masts required for 5G will make it necessary to expand the mobile communications infrastructure through edge data centres. Furthermore, 5G will increase the amount of data that network operators and other companies have to process. The analysts at CB Insights forecast that every user will generate an average of 1.5 GB of data per day with an Internet-enabled device by 2020.

By decentralising the IT infrastructure with edge data centers, data can be processed right at its source. This will lead to low latency in data processing, enabling real-time applications for the control of industrial robots or autonomous vehicle systems. Edge data centres are connected to the cloud to provide additional data analysis.

Consequently, businesses should now be examining how to expand their IT capacities flexibly over the coming one to two years and evaluate edge concepts with this aim. The general trend towards standardisation is another key factor in achieving the fast deployment time and scalability that the market demands from data centre solutions.

### **Trend 3: The cloud market will benefit from hyperscale data centres**

In Germany, acceptance of the cloud is continuing to grow. The pioneers in this development are mechanical and plant engineering. According to Bitkom, every

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second company in this sector is already using the cloud. At the same time, investments in hyperscale data centres are increasing globally, an indication of the further spread of the cloud as an operating model. Market researchers at Synergy Reach expect that there will be over 600 hyperscale data centres worldwide by 2020. Right now, the number is around 450.

That is why Rittal recommends that, in 2019, IT managers determine the necessary balance between an on-site edge or core data centre and cloud resources in line with their corporate strategy in order to optimally support application hosting and high availability.

### **Trend 4: Optimised technologies will increase energy efficiency**

Next to high availability, energy efficiency is seen as the second most important management issue when it comes to operating a data centre. According to the Borderstep Institute, the energy efficiency of new data centres has improved by roughly 60 percent over the last decade. At the same time though, energy requirements have continued to rise as IT capacities have grown. In 2017, while servers operating in Germany needed around 4.7 billion kWh, infrastructure systems such as cooling and UPS accounted for roughly 5.3 billion kWh.

For data centre managers, the energy optimisation of the entire data centre should therefore be the top priority in the coming year. Hybrid cooling units that integrate free cooling and refrigerant-based cooling, for example, offer new approaches to cost optimisation.

### **Trend 5: The Nordic countries' location advantage will help to cut costs**

The Nordic region has now become an attractive location for cloud and colocation providers. Countries such as

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Denmark, Finland, Iceland, Norway and Sweden offer renewable energy sources, a climate favourable to data centres, very good internet connections and a high level of political and economic stability. Analysts expect the turnover of data centres in the region to grow by eight percent per year until 2023.

When contemplating the planning of cloud projects, IT managers thus also have to weigh up alternatives in the Nordic region such as Norway's Lefdal Mine Datacenter (LMD). Rittal is the LMD's strategic and technological partner. LMD's electrical power is entirely from renewables, and the cooling system makes use of local sea water. As a result, the facility achieves a power usage effectiveness (PUE) of 1.15, and operating costs for customers are low.

### **How Rittal is preparing its customers for the future**

"Alongside the trend toward greater standardisation, we will see companies expanding their IT infrastructure in a more decentralised way in 2019. This will support the digital initiatives that now form an integral part of a successful corporate strategy. One way of doing this is through edge data centres, which can be put into operation very quickly and on the company's premises as IT containers for instance, and which thus support the digital transformation in all branches of industry. Rittal is offering an array of solutions for edge infrastructures, ranging from rack solutions to turnkey IT containers with cloud connections," says Andreas Keiger, Executive Vice President of the Rittal Global Business Unit IT.

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**Caption(s)**

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Image 1 (fri182037700.jpg): With digital transformation, the demand for rapidly available data generated near the point of origin is growing. This calls for additional power, short latency times for provision of the data, as well as uninterrupted data availability and system-wide security. Rittal developed the RDCC-based edge data centres to meet these and other requirements.

Image 2 (fri180426300): Natural cooling when conditions are suitable: The new LCP DX/FC Hybrid includes both a cooling circuit and a separate water circuit. When temperatures are low, the solution automatically uses indirect free cooling. The core component of this cost-effective solution is an external hybrid condenser with an integrated free cooler.

Image 3 (fri161477900): "In 2019, we will see companies increasingly expanding their IT infrastructure in a decentralised manner. Edge data centres are one way of doing this. Rittal offers a range of solutions – from rack solutions to turnkey IT containers with cloud connections," says Andreas Keiger, Executive Vice President of the Rittal Global Business Unit IT.

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## **About Rittal**

Rittal, headquartered in Herborn, Germany, is a leading global provider of solutions for industrial enclosures, power distribution, climate control and IT infrastructure, as well as software and services. Systems made by Rittal can be found in more than 90 percent of all global branches of industry, including mechanical and plant engineering, food and beverage production and in IT and telecommunications.

The wide range of products from the global market leader includes configurable enclosures, whose data is available throughout the entire production process. Intelligent Rittal cooling solutions with up to 75 percent lower energy and CO<sub>2</sub> consumption can communicate with the production environment and enable predictive maintenance and service concepts. Innovative IT solutions ranging from IT racks and modular data centres through to edge and hyperscale computing solutions all form part of the portfolio.

Leading software providers EPLAN and Cideon complement the value chain, providing interdisciplinary engineering solutions, while

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Rittal Automation Systems offer automation systems for switchgear construction. Rittal delivers within 24 hours in Germany – precisely as needed, flexibly and efficiently.

Rittal was established in 1961, and is the largest member company of the owner-operated Friedhelm Loh Group. The group is a highly successful global player, with 18 production sites and 80 international subsidiaries. It has approximately 11,500 employees and posted revenues of €2.5 billion in fiscal 2017. In 2018, the family-run business was named one of Germany's leading employers by the Top Employers Institute, for the tenth year running. Within the scope of a Germany-wide survey, Focus Money magazine identified the Friedhelm Loh Group as one of the nation's best providers of vocational training for the third time in 2018.

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