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Transmission of Data into the Cloud

Capturing, transmitting and processing data lies at the heart of what has been dubbed “the fourth industrial revolution”.

It’s one of the reasons why cutting-edge connectivity has become so important in factories and similar environments to facilitate new, smarter ways of working, such as predictive maintenance.

Connectivity is a feature of Rittal’s new cooling units and chillers and its recent collaboration with Siemens MindSphere and IBM Watson IoT provides a unique insight into the capabilities and opportunities which exist, now and in the future for a world enabled by Industry 4.0.

Rittal’s new Blue e+ cooling units and chillers consume an average of 70 per cent less power than their conventional counterparts. They also raise the bar in M2M communication.

Specifically, they can transmit key data to a smartphone quickly and simply via a NFC (near field communication) connection. The RiDiag III parameterisation and diagnostics software uses a USB interface or a network to support efficient system operation, deliver rapid support for maintenance and repairs, and deliver in-depth diagnostics.

The new communications module (Com Modul) also allows the cooling units and chillers to communicate with any higher-level system via OPC UA, PROFINET, SNMP, Modbus RTU and CAN Master – enabling predictive maintenance, data analytics and more.

Siemens MindSphere

Rittal’s coolers and chillers interact seamlessly with Siemens MindSphere. This cloud-based, open Internet of Things (IoT) operating system enables customers to develop their own Industry 4.0 applications. The platform is scalable, and can capture and analyse huge volumes of data – paving the way for smart-factory processes in areas such as energy data management and resource optimization to name but two.

In addition, it harnesses analytics to predict when repairs and maintenance are required. This cuts costs and raises system uptime compared to scheduled works conducted at predefined intervals.

The system even calculates the fastest way to complete these tasks, which can be particularly advantageous at facilities with a large number of machines. Plus, because up-to-the-minute data on each unit is available on the IoT platform, service engineers know what replacement parts they will require for the job in hand, eliminating the need for multiple trips.

IBM Watson IoT

Watson's architecture is designed to rapidly process information and employs machine learning algorithms to analyse growing data volumes with increasing precision – with the aim of finding better answers to a variety of challenges.

These types of data analytics applications streamline maintenance and cut downtime – in other words, customers benefit from lower costs and higher machine availability. The solution's new technologies also open up new business opportunities, for example, within the scope of smart maintenance contracts.

All this interactivity provides a unique insight into the future world of Industry 4.0, and the new business models these will enable. And all this potential stems from the seamless transmission of data from sensors inside the cooling units and chillers to the cloud.

Further information at www.rittal.co.uk and www.friedhelm-loh-group.com or on twitter @rittal_ltd.

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Image

Picture shows: Rittal's new Blue e+ cooling units and chillers

Notes

Rittal, headquartered in Herborn, Hessen, 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 are deployed across a variety of industrial and IT applications, including vertical sectors such as the transport industry, power generation, mechanical and plant engineering, IT and telecommunications. Rittal is active worldwide with 10,000 employees and 58 subsidiaries.

Its broad product range includes infrastructure solutions for modular and energy-efficient data centres with innovative concepts for the security of physical data and systems. Leading software providers Eplan and Cideon complement the value chain, providing interdisciplinary engineering solutions, while Rittal Automation Systems offers automation systems for switchgear construction.

Founded in Herborn in 1961 and still run by its owner, Rittal is the largest company in the Friedhelm Loh Group. The Friedhelm Loh Group operates worldwide with 18 production sites and 78 international subsidiaries. The entire group employs more than 11,500 people and generated revenues of around €2.2 billion in 2014. For the seventh time in succession, the family business has won the accolade “Top German Employer” in 2015.

Further information can be found at www.rittal.com and www.friedhelm-loh-group.com.