RiMatrix Next Generation – Establishing Data Centres Flexibly, Reliably & Fast

RiMatrix Next Generation (NG) is a ground-breaking new modular system for installing data centres flexibly, reliably and fast.

Based on an open-platform architecture, RiMatrix NG means customised solutions, delivering future-proofed IT scenarios, can be implemented anywhere in the world. These include single rack or container solutions, centralised data centres, distributed edge data centres or highly scaled co-location, as well as cloud and hyperscale data centres.

RiMatrix NG is the first platform that supports OCP direct current technology in standard environments.

Change is a constant across today's IT infrastructure, but digital transformation is creating innovation at a pace that has never been seen before and the pace will almost certainly continue to accelerate. This requires both rapid responses and long-term investment in data centres which are flexible enough to meet a myriad of new challenges.

Rittal has responded with its new RiMatrix Next Generation (NG) IT infrastructure platform.

"Right from the initial design phase, we thought ahead in terms of adapting to diverse and constantly evolving requirements when we were developing the open platform," says Uwe Scharf, Managing Director Business Units and Marketing at Rittal.

"Our customers have to adapt their IT infrastructures to developments faster than ever before to ensure business-relevant products and services can be continually created at the highest possible speed and without faults.

"Our aim is to support them as their partner for the future."

The result is a pioneering, open platform for creating data centres of all sizes and scale, flexibly, reliably and fast, and one which supports comprehensive consulting and services throughout the entire IT lifecycle.

Whether it's single rack or container solutions, centralised data centres, distributed edge data centres or highly scaled colocation, cloud and hyperscale data centres, the modularity and backwards compatibility of RiMatrix NG mean that it's possible to update individual components in an infrastructure, so the entire data centre can continually be adapted to meet fast-changing technological developments.

"RiMatrix NG thus becomes an IT infrastructure platform that is extremely future-safe and flexible," Scharf explains.

All IT infrastructure components in a single modular system

The RiMatrix NG modules cover five functional areas: racks, climate control, power supply and backup, and finally IT monitoring and security. This enables IT managers to quickly and easily create solutions that are tailored to their individual requirements. The number of potential combinations offered by Rittal and its certified partners (e.g. for energy supplies or fire safety) means that users can both meet their

own needs, and any stipulated local regulations, wherever they are based across the world.

RiMatrix NG offers users the same flexibility as Rittal's other modular systems, both through the new and updated racks, as well as other, older generation models. This makes the platform scalable in terms of size, performance, security and fail-safe reliability.

If a particularly fast response time is required, or existing buildings do not offer sufficient space, then the data centre can be placed within a container and safely integrated into any existing IT infrastructures.

First platform for OCP technology

The RiMatrix NG is the first platform to support the use of OCP components and direct current in standard environments.

Highly standardised, direct-current architectures and 21" racks in the Open Compute Project (OCP) design are increasingly becoming recognised as the most energy-efficient choice for hyperscale data centres.

"Rittal is both a driver of the OCP initiative and a top supplier of OCP racks for hyperscalers worldwide," Scharf says.

"With the RiMatrix NG, we are the first supplier to enable the straightforward use of OCP technology in standard data centres."

Data centre operators can use RiMatrix NG modules and its accessories into an existing, rapidly changing architecture without switching the entire data centre or changing the uninterruptible power supply (UPS) to direct current.

"In this way, we now provide all our customers with easy access to the energy and efficiency benefits of this technology for the future – even for individual applications," Scharf explains.

IT climate control

IT systems installed in RiMatrix NG are cooled in a controlled cycle using tailored and fail-safe fan systems, refrigerant-based or water-based solutions, and their performance is continually monitored.

The cooling solutions can be tailored to each and every system, from single racks, suite and room climate control, right up to complex high-performance computing (HPC) using direct chip cooling (DCC).

IT power supply and backup

Rittal's "Continuous Power & Cooling" concept is a way of bridging short-term power failures to prevent damage to both active IT components and other parts of the infrastructure, including the climate control. It offers protection across the full length of the energy supply, from the main in-feed, USP systems and sub-distribution, to the smart socket systems (power distribution units) in the IT racks.

IT monitoring and safety

The RiMatrix NG platform supports monitoring solutions such as the Computer Multi-Control III (CMC III) monitoring system and the Data Centre Infrastructure Management (DCIM) software. This includes

various sensor options measuring humidity, temperature, differential pressure as well as vandalism.

Users can also choose from a range of protective measures depending on their needs, for example a basic protection room within a modular room-in-room solution, or a high availability room for even greater reliability.

The platform's safety is certified under ECB S rules from the European Certification Body GmbH (ECB).

Rapid project implementation

RiMatrix NG was designed in such a way that new data centres can be rapidly installed. Components can be quickly and easily laid out using the web-based Rittal Configuration System and there is also Rittal's unique 24/48-hour delivery window for standard products in Europe.

The platform's international ratings not only ensure its reliability, they further speed-up IT project installations because they eliminate the need for time-consuming permit and test procedures.

Consulting throughout the entire IT lifecycle

In addition to the system components, Rittal's customers are given all the support they need for set-up and operation. And this support continues across the entire IT lifecycle of a data centre.

The company's service portfolio includes design consultation, planning and configuration, as well as assistance with operations and optimisation. Flexible financing models, including leasing, round-off its portfolio and enable needs-oriented investment.