

Rittal – The System.

Faster – better – everywhere.

One for all. Your all-in-one solution.

RiMatrix Micro Data Center



ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP



Edge Computing – Data evaluation in real time

Even the cloud has its limits – that’s where edge solutions come into their own

The digitalisation of your business operations is the next major step towards becoming a smart company. The rise in world-class digital technology such as artificial intelligence, augmented reality and much more offers undreamed-of possibilities. At the same time, the data volumes generated are growing at an exponential rate.

To make optimum use of this data, it must be processed in real time and converted into usable results. This pushes the cloud to its limits, but micro data centres offer an efficient solution.

Maximise the benefits: Micro data centres

On the periphery (or edge) of the network, micro data centres deliver effective data processing with short latencies. Dependencies on local data centres are eliminated; you retain control of the data at all times. But that’s not all micro data centres can do. For example, they can also take over entire IT infrastructures at public administrations or supermarkets. They can also be used for data protection.

24.48%



**Growth of the global
micro data centre market**

2022 to 2024¹

¹ Source: Technavio, 2021 – Mini Data Center Market (micro data centers, page 39)

Micro data centres: Driving your success, now and into the future

The globally standardised all-in-one solution

RiMatrix Micro Data Centers from Rittal expand to keep pace with your requirements. They cover all output categories, are individually configurable, and adapt readily to the ambient conditions. Standardised modules ensure maximum flexibility and extendibility.

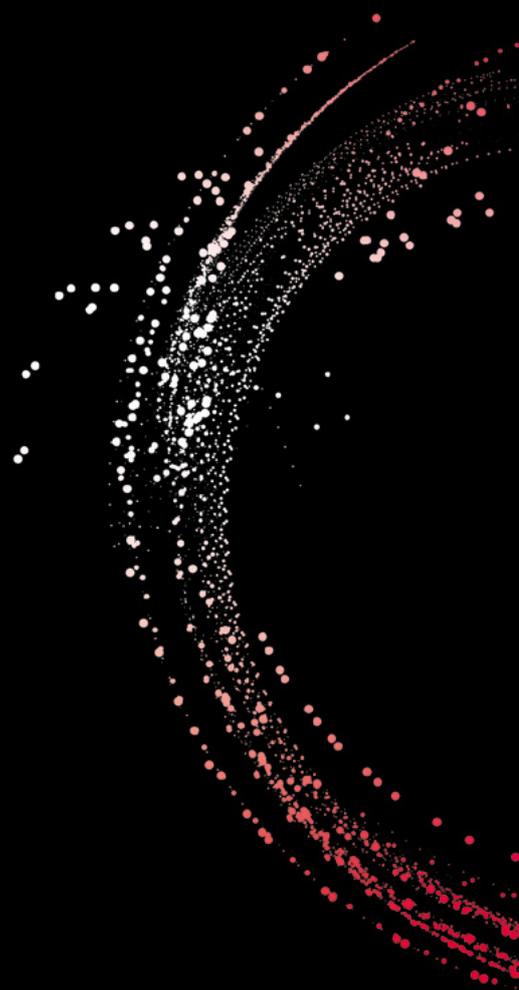
The unique feature of RiMatrix Micro Data Centers are the perfectly coordinated OT bundles of rack, power, cooling, monitoring and security modules, all ready for immediate use. A configurator with built-in plausibility check makes customisation to your individual requirements easy, complemented by a streamlined ordering process.

Maximum flexibility, security and efficiency

RiMatrix Micro Data Centers combine the very best of Rittal's IT portfolio, with maximum individuality to accommodate just about any requirement: For indoor and outdoor environments, with a simple or smart power supply, active or passive cooling and the required level of security. As space-saving solutions, our bundles are supplied with detailed documentation and can even be experienced through augmented reality. Operating costs are calculated using Total Cost of Ownership (TCO), Power Usage Effectiveness (PUE) and Computational Fluid Dynamics (CFD) analyses, which in turn leads to the creation of optimised climate control concepts. Optionally, you may opt to complement the bundles with an individually selected service package which might include assembly, problem-free installation and commissioning, rapid troubleshooting, professional maintenance and the procurement of original spare parts, for example.

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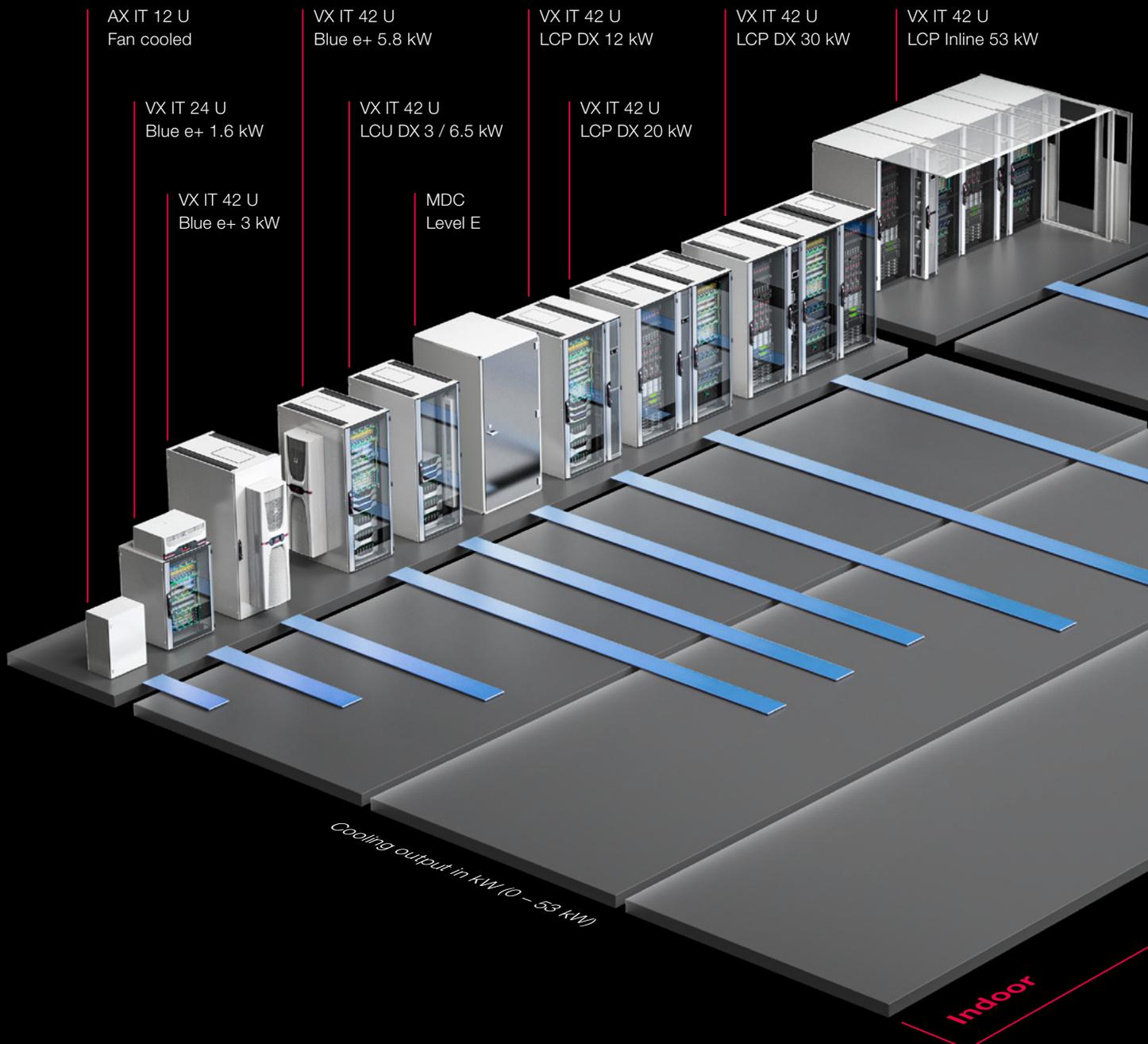


All sizes and output categories available: RiMatrix Micro Data Centers

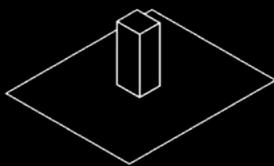
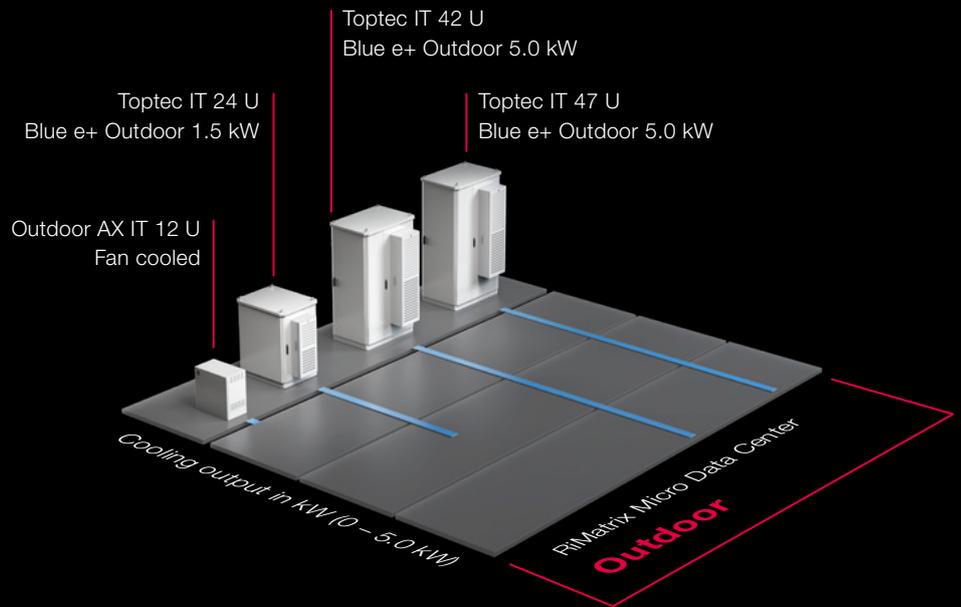
**Standardised yet flexible:
Mini-data centres for maximum requirements.**

Choose your bundle:

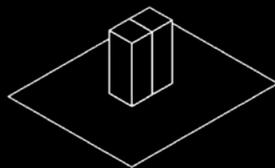
Our wide range of variants and sizes will satisfy the most discerning requirements, even for those requiring sustainable high-performance cooling. There's also a bespoke range of accessories such as PDUs, UPS systems and monitoring options. First-class service adds the finishing touch.



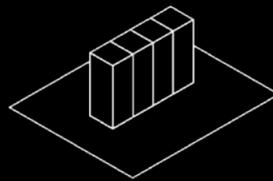
RiMatrix Micro Data Centers are available as indoor and outdoor versions, in rack sizes of 12, 24, 42 and 47 U and with cooling outputs of up to 53 kW.



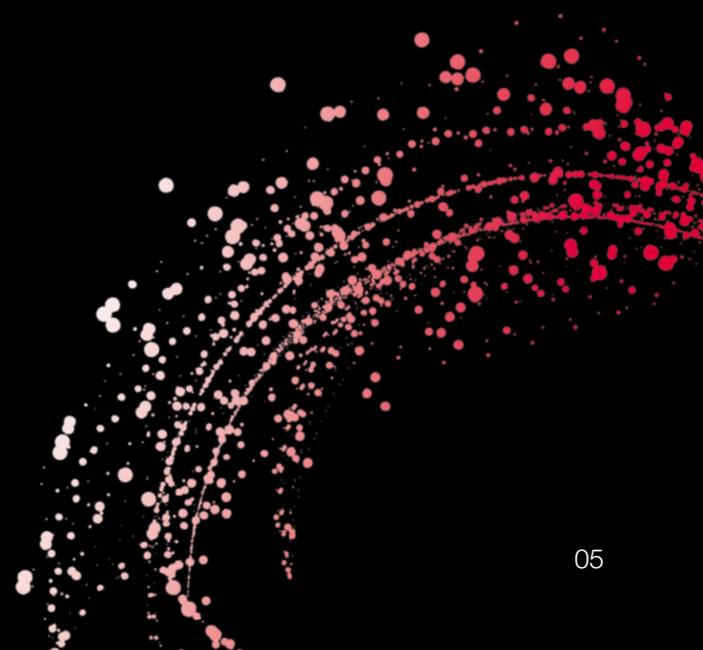
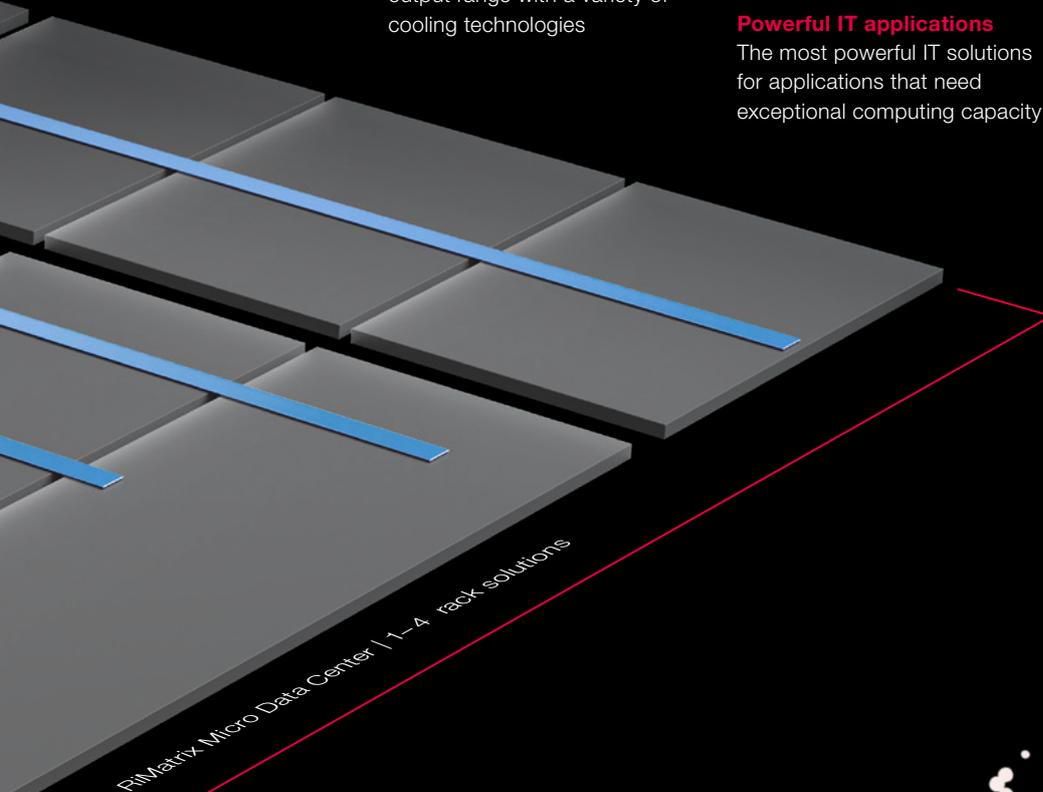
Small IT applications
IT solutions for lower-output applications and small server quantities



Medium-sized IT applications
IT solutions in the medium output range with a variety of cooling technologies



Powerful IT applications
The most powerful IT solutions for applications that need exceptional computing capacity



Maximum efficiency in a compact space

Micro data centres with innovative cooling technology

Micro data centres are expanding into ever more application areas, from industrial operations and building management to logistics chains and distribution centres. Efficiency and reliability are everything.

Rittal's innovative cooling units in the Blue e+ series with integral heatpipe herald a new dimension in efficiency, particularly for micro data centres at the lower end of the output range.



The benefits for you:



- Micro data centres with rapid availability for all industries
- Complete solution including all relevant OT components
- Modular and easily configurable, in Rittal's unparalleled quality
- Maximum energy efficiency with innovative Blue e+ cooling units
- Globally standardised, adaptable to local conditions

RiMatrix Micro Data Center Blue e+ S

Rittal Model No.	Product description	Quantity
5304126	Closed network/server rack VX IT	1
7859000	IT system light, LED; 600 lm	1
5302011	Air baffle plate for VX IT	1
3312800	Roof-mounted cooling unit Blue e+ for IT, 1.6 kW	1
7979217	PDU metered 16 A/1~	2
7030111	Temperature/humidity sensor	1
7030120	Access sensor	2
7030400	Smoke detector	1



Application example:

RiMatrix Micro Data Centers are designed to take over entire OT and IT infrastructures in all sectors, from public administration and retail to logistics and industry. Individually scalable to your needs and flexibly adaptable to the local conditions.

- Cooling of IT equipment with standalone rack solutions
- Rack-based cooling solution combined with 482.6 mm (19") rack extinguisher systems
- Minimal space requirements for a fully equipped micro data centre
- For use in industrial and commercial environments
- Accommodation of entire IT infrastructures

RiMatrix Micro Data Center Blue e+ L		
Rittal Model No.	Product description	Quantity
5311126	Network/server rack VX IT	1
5302120	Cable route for VX IT	2
7859000	IT system light, LED; 600 lm	1
3189940	Wall-mounted cooling unit Blue e+ for IT, 5.8 kW	1
3124300	IoT interface	1
5302014	Air baffle plate for VX IT	1
7979216	PDU metered 32 A	2
7030111	Temperature/humidity sensor	1
7030120	Access sensor	2
7030400	Smoke detector	1
7030263	Automatic door opening (ADO)	1
7338121	Fire alarm and extinguisher system DET-AC	1

Reliable, redundant and fail-safe

Micro data centres in the lower output range

Micro data centres can handle a wide variety of tasks extending far beyond data capture and condition monitoring. Particularly with critical processes, such as controlling traffic flows or monitoring production processes, it is essential that the IT infrastructure centre reflects the availability of the application. Scalable redundancy is the key here.



Application example:

Smaller OT infrastructures e.g. with just one or two IT racks must still offer all the features of a large data centre, including a reliable power supply and cooling as well as monitoring. Micro data centres are ideal for distributed installation across various locations and for processing data in real time (such as traffic monitoring and control).

RiMatrix Micro Data Center LCU 3–6.5 kW		
Rittal Model No.	Product description	Quantity
5311126	Network/server rack VX IT	2
7859000	IT system light, LED, 600 lm	2
5302014	Air baffle plate for VX IT	2
3311492	LCU split cooling unit Zero-U, 6.5 kW	1
7979216	PDU metered 32 A/1~	4
7030111	Temperature/humidity sensor	2
7030120	Access sensor	4
7030263	Automatic door opening (ADO)	2
7338121	Fire alarm and extinguisher system DET-AC	1
7338321	Add-on unit DET-AC	1

High-MTBF, compact and reliable

Micro data centres in a security safe

Highly sensitive information such as patient data must be protected from theft, while production data must be protected from physical threats such as dust, fire and splashed water. The encapsulated RiMatrix Micro Data Center Level E is designed to meet these challenges. The various options available, plus the opportunity of buying, ensures a high degree of flexibility wherever used.

Application example:

Its modular layout and option of dismantling and reassembly at any time means your micro data centre can expand to keep pace with your growing requirements. The security safe provides complete protection from physical threats up to the required resistance class in a minimal space, and ensures the requisite fail-safeness for automated production in Industry 4.0 environments.



RiMatrix Micro Data Center Level E

Rittal Model No.	Product description	Quantity
7999909	Micro Data Center Safe (42 U)	1
7999909	Burglar and fire protection (RC2 / F 90)	1
5309106	VX IT for Micro Data Center Safe	1
3311492	LCU split cooling unit Zero-U, 6.5 kW	1
7979216	PDU metered 32 A/1~	2
7030111	Temperature/humidity sensor	2
7030120	Access sensor	2
7338121	Fire alarm and extinguisher system DET-AC	1

Scalable in multiple dimensions

Micro data centres in the medium and high output range

Micro data centres are always defined by the application. CPU-intensive applications may require multiple racks with a higher cooling output. The modular system from Rittal safeguards your growth plan with its scalable size, redundancy and maximum load.

Application example:

Smart cities, interconnected vehicles and streaming services pose the challenge of ensuring the continuous availability of safety-relevant data. This calls for data centres with ultimate levels of fail-safeness. Exceptionally energy-efficient data centres with a small footprint are the answer.



RiMatrix Micro Data Center LCP 12–53 kW

Rittal Model No.	Product description	Quantity
5311126	Network/server rack VX IT	4
5302014	Air baffle plate for VX IT	4
7859000	IT system light LED, 600 lm	4
3313420	LCP rack DX, 12 kW	1
3311360	Condenser unit for LCP DX	1
7979216	PDU metered 16 A/3~	8
7030111	Temperature/humidity sensor	4
7030120	Access sensor	8
7030263	Automatic Door Opening (ADO)	4
7338121	Fire alarm and extinguisher system DET-AC	1
7338321	Add-on unit DET-AC	3

Flexible and robust, whatever the weather

Micro data centres in outdoor environments

One for all guarantees flexible use in outdoor environments. Whether guarding against unauthorised access or protecting from pollutants such as humidity, temperature, dust or smoke, solutions for the outdoor sector demand maximum reliability.

Application example:

It is often the case that mobile communications and infrastructure companies must install their solutions outdoors. The IT components should therefore be well-protected from the weather and all types of threats. Solutions for the outdoor sector should be corrosion-resistant, capable of withstanding high ambient temperatures over long periods, and have a long lifecycle.

The benefits for you:



- Satisfies the highest quality standards with high-end materials and high protection categories.
- The smart design is efficient and weather-resistant
- Allows flexible, individual interior installation
- Extensive range of accessories available

RiMatrix Micro Data Center Outdoor M		
Rittal Model No.	Product description	Quantity
9774099	Outdoor enclosure Toptec IT	1
5302120	Cable route for VX IT	2
7859000	IT system light LED, 600 lm	1
3189340	Wall-mounted cooling unit Blue e+ outdoor, 5.0 kW	1
3124300	IoT interface	1
5302005	Air baffle plate for VX IT	1
7979216	PDU metered 32 A/1~	2
7030111	Temperature/humidity sensor	1
7030120	Access sensor	1
7030400	Smoke detector	1
7338121	Fire alarm and extinguisher system	1



Cloud? Or edge? Better still: both

Rittal and German Edge Cloud deliver innovative IT, edge and cloud infrastructures from a single source

With the rise of Industry 4.0 and the Internet of Things (IoT), growing numbers of machines and devices are equipped with sensors delivering vast quantities of data. Edge computing enables rapid, local pre-processing of data and can respond swiftly to changes as they arise. This data can be globally distributed via cloud structures for subsequent use and made available centrally in the cloud.

German Edge Cloud and Rittal have joined forces to implement and operate a basic infrastructure for Industry 4.0 and IoT applications, making it easier for you to configure and run edge and cloud data centres quickly and cost-effectively. This avoids costly, maintenance-intensive, inflexible and unreliable IT infrastructure and application landscapes.



Edge and cloud expertise from German Edge Cloud

- Modern edge and cloud technologies for automated IT landscapes
- Harmonisation and consolidation of heterogeneous system landscapes
- Guaranteed data superiority and sovereignty (avoiding vendor lock-in among hyperscalers)
- A high degree of modularity ensures scalability of edge and cloud components
- Fast commissioning and managed services

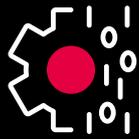


Edge infrastructure expertise from Rittal

- Complete OT portfolio and in-depth knowledge for rack, power, cooling, security and monitoring
- Standardised, modular, scalable solutions for turnkey micro data centres
- Secure, precise implementation
- Comprehensive planning, flexible project management and reliable commissioning for global implementation tailored to your requirements

Essential for successful digitalisation – A smarter world with edge computing

The future is digital – for life and work



75%

of data in **2025**
will be processed
outside of the
data centre or cloud.²

The perfect combination of edge and cloud services guarantees maximum success with your digital transformation. In the manufacturing industry in particular, digitalisation strategies must be designed from the edge. Initial digitalisation strategies for production should be considered from the edge – i.e. locally – with a view to maximum data protection, critical data and processes, plus latency in process control. This ensures that sensitive data, critical processes and special algorithms remain within the factory. What is more, the large number of IoT solutions in use calls for real-time processing and availability of data. Edge computing is not just useful; increasingly, it is crucial to a scalable hybrid digitalisation strategy for production, from the edge to the cloud.



² <https://www.gartner.com/smarterwithgartner/what-edge-computing-means-for-infrastructure-and-operations-leaders>

Competent. Globally present. Service from a single partner.

Minimise downtime, maximise efficiency – for the ultimate in system availability

Modern IT systems are the lifeblood of many companies for whom reliable functioning is vital. Failures and performance losses cost time and money. Rittal offers a comprehensive portfolio of services covering the entire lifespan of your data centre.



1. Consultancy

Professional, customer-centric advice from experienced Rittal experts. With careful planning and a bespoke configuration, we tailor the RiMatrix Micro Data Center to your requirements.

The benefits for you:

- Professional support at every phase of your IT project
- A bespoke system concept tailored to your requirements
- Turnkey solutions



2. Implementation

Complete first-time installation of your RiMatrix Micro Data Center by our service engineers: Configuration and assembly, together with instruction and training. Rittal's manufacturer expertise ensures complete system functioning.

The benefits for you:

- Complete first-time installation by professional service engineers
- Compliance with all regulations and guidelines as per your requirements
- Assured system function





3. Commissioning

All functions of the RiMatrix Micro Data Center are extensively tested during commissioning for reliable, flawless operation in the various system operating states. Comprehensive documentation in the form of an emergency and operating manual is included.

The benefits for you:



- In-depth testing of all functions
- Precise systems testing in various operating states
- Reliable operation as per the design



4. After-sales service

The Rittal after-sales service ensures the availability of your data centre 365 days a year. Maximum efficiency, from trouble-shooting to on-site maintenance by engineers – all at a predictable cost with flexible Rittal service agreements.

The benefits for you:



- 24/7 availability of your IT infrastructure, 365 days a year
- Compliance with the statutory regulations to DIN 31051
- Optimum spare parts availability for rapid trouble-shooting
- Enhanced value preservation of your data centre

Plannable costs:

Rittal service agreements allow you to tailor the scope of services to your specific requirements and pick & mix individual modules – all at fixed, transparent terms and conditions.



5. Modernisation

Rittal can carry out regular, in-depth energy efficiency, sustainability, capacity utilisation and scalability analyses of your micro data centre. These checks will tell you whether optimisation or modernisation is needed to prevent possible obsolescence.

The benefits for you:



- Assess individual optimisation and modernisation options
- Identify cost drivers and potential savings
- Minimise risks with predictive replacement of wearing parts

Rittal – The System.

Faster – better – everywhere.

- Enclosures
- Power Distribution
- Climate Control
- IT Infrastructure
- Software & Services

You can find the contact details of all Rittal companies throughout the world here.



www.rittal.com/contact

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