

# Rittal – The System.

Faster – better – everywhere.

## Rittal Edge Data Center

Scalable, flexible solutions for every requirement



ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP



# Rittal edge solutions

Edge computing is speeding up IT by bringing the network closer to the data to reduce latency and increase real-time analysis. From the plant floor to the subway tunnel and remote desert solar installations, the Internet of Things (IoT) is integrating sensors, data and systems to help decentralize and localize control over the systems that run the world today.

## The lifecycle IT

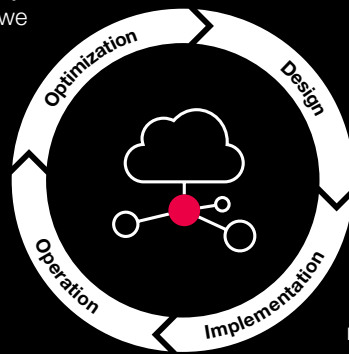
Scalable solutions and flexible services for your data center at clearly calculable costs

### Optimization

Optimization: The efficiency, cost, sustainability and scalability is carefully analyzed to so that we can identify ways to optimize your IT infrastructure.

### Operation

Your data center operations need to be protected to ensure 24x7 uptime. Our individualized service agreements with guaranteed response times can provide the peace of mind and keep your data center solution running.



### Design

We will design the data center infrastructure to give you the optimal balance of CAPEX and OPEX. Our solutions are developed based on pre-engineered platform designs that can be customized to your needs and can be deployed globally.

### Implementation

Our installation team will build and install the supporting infrastructure (power, cooling, fire suppression, monitoring & security data) needed to operate your critical IT. Once built, it will be tested, commissioned and handed over to you.

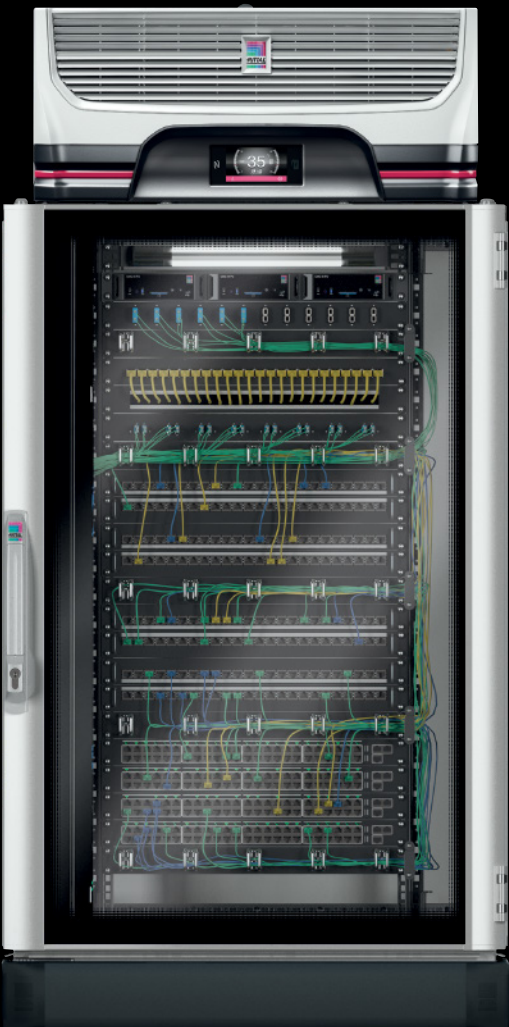
# Maximum efficiency in a minimal space

## Edge data centers with innovative cooling technology

Edge Data centers are often located in unconditioned environments and exposed to harsh conditions, making protection of the IT equipment from such contaminants crucial. Rittal offers a full spectrum of cooling solutions designed to operate in these harsh environments maintaining the proper conditioned space for your IT equipment.

### Application example:

Single enclosure solution designed to install in space constrained locations. The stand-alone roof top air conditioner and solid front and rear enclosure doors ensures operation in the harshest of environments.



### Your benefits at a glance:

- Pre-engineered solutions - unpack, install, and deploy
- Industrial strength - protect the mission critical IT deployment
- Safety, security, stability - designed to maximize uptime ■ IP 54 with pleated filter rating keeps equipment safe from dust and water droplets
- Remote monitoring and control – sustain locations with limited IT support infrastructure

### EAC – 13

IT infrastructure	Product description
IT rack	(1) TS IT Network/server enclosure, with solid roof
IT cooling	Roof mounted cooling unit, Blue e+, up to 1.3kW, with IoT Interface
IT power	PDU, Metered, 120V, 1PH, 60Hz
IT power	UPS, 3000VA/2700W, 120V
IT monitoring	Additional temperature, humidity and vandalism sensors
IT security	Electronic locking with keypad and network access
IT fire suppression	In-rack Novec 1230 fire suppression system
IT accessories	IT LED system light. Raised platform base.

All the variants shown are sample configurations. Individually adaptable.



**EAC-26**



**EAC-58**

#### Application example:

- Integrated single enclosure with cooling, power, fire suppression, and related accessories
- Designed for unconditioned spaces, such as factories, distribution centers, closets
- Physically secure installation protects critical IT equipment against dust, water, fire, and intrusions
- Remotely monitor and control installation

IT infrastructure	Product description	Product description
IT rack	(1) TS IT Network/server enclosure, with solid or cable management roof	(1) TS IT Network/server enclosure, with solid or cable management roof
IT cooling	Blue e+ cooling unit, up to 2.6kW, rear door mounted with duct or sidewall mounted, with IoT Interface	Blue e+ cooling unit, up to 5.8kW, sidewall mounted, with IoT Interface
IT power	PDU, Metered, 120V, 1PH, 60Hz	PDU, Metered, 208V, 1PH, 60Hz
IT power	UPS, 3000VA/2700W, 120V	UPS, 8000VA/6900W, 208V
IT monitoring	Additional temperature, humidity and vandalism sensors	Additional temperature, humidity and vandalism sensors
IT security	Electronic locking with keypad and network access	Electronic locking with keypad and network access
IT fire suppression	In-rack Novec 1230 fire suppression system	In-rack Novec 1230 fire suppression system
IT accessories	IT LED system light. Raised platform base.	IT LED system light. Raised platform base

All the variants shown are sample configurations. Individually adaptable.

# Reliable, redundant and fail-safe

## Edge data centers in the small output category

Edge data centers can handle a wide variety of tasks, not just data capture and condition monitoring. With critical processes, such as controlling traffic flows or monitoring production processes, it is particularly vital for an edge data center to reflect the availability of the application. Scalable redundancy is the key here.

### Application example:

IT infrastructures comprising just one or two IT racks must still offer the same features as a large data center. This begins with a reliable power supply and cooling, and extends through to monitoring. Smaller edge data centers are ideally suited for distributed installation across various locations for processing data in real time (for example, traffic monitoring and control).



### EDX-XCL or EDX-XOP

IT infrastructure	Product description
IT rack	(1) or (2) TS IT Network/server enclosure, viewing and solid doors (closed loop) or perforated doors (open loop)
IT cooling	Close-coupled LCP DX unit, up to 20kW, closed or open loop
IT power	PDU, Metered, 208V, 1PH, 60Hz
IT power	UPS, 8000VA/6900W, 208V
IT monitoring	Additional temperature, humidity and vandalism sensors
IT security	Electronic locking with keypad and network access
IT fire suppression	In-rack Novec 1230 fire suppression system
IT accessories	IT LED system light. Raised platform base.
All the variants shown are sample configurations. Individually adaptable.	



# Scalable in multiple dimensions

## Edge data centers in the medium output range

Edge data centers are always defined by the application. CPU-intensive applications may require multiple enclosures with a higher cooling output. The modular system from Rittal safeguards your growth plan, as it is scalable in terms of size, redundancy and maximum load.



# Pre-Engineered, Ready to Deploy

## Edge data centers available for rapid installation

The continued increase of edge data center to support an unparalleled demand for data presents new challenges. When it comes to installation, having the capacity for rapid deployment allows businesses to get their IT equipment operational quicker.



**RDX-55 or RCW-55**

IT infrastructure	Product description
IT rack	(6) TS IT Network/server enclosures, perforated doors
IT cooling	Close-coupled LCP DX or CW units, open loop
IT containment	Aisle containment
IT power	PDU, Switched, 208V, 3PH, 60Hz
IT power	UPS, 60kW, 208V
IT monitoring	Additional temperature, humidity and vandalism sensors
IT security	Electronic locking with keypad and network access
IT fire suppression	Room Novec 1230 fire suppression system. early smoke detection system
IT accessories	IT LED system light. Raised platform base.

All the variants shown are sample configurations. Individually adaptable.



Application example:

Your business may involve running numerous critical IT applications simultaneously and the data center needed to support may necessitate multiple IT cabinets. These data centers even though not as large as the hyperscale ones, need to be designed and built to the same standards and quality as the hyperscale ones. Rittal's pre-engineered platform designs allows you to have a superior, code compliant data center customized to your needs at a tier level you want.



RDX-90 or RCW-90

IT infrastructure	Product description
IT rack	(9) TS IT Network/server enclosures, perforated doors
IT cooling	Close-coupled LCP DX or CW units, open loop
IT containment	Aisle containment
IT power	PDU, Switched, 208V, 3PH
IT power	UPS, 100+20kW, 208V, 3PH
IT monitoring	Additional temperature, humidity and vandalism sensors
IT security	Electronic locking with keypad and network access
IT fire suppression	Room Novec 1230 fire suppression system. early smoke detection system
IT accessories	IT LED system light. Raised platform base.
All the variants shown are sample configurations. Individually adaptable.	





**Benefits of Rittal pre-engineered platform designs:**

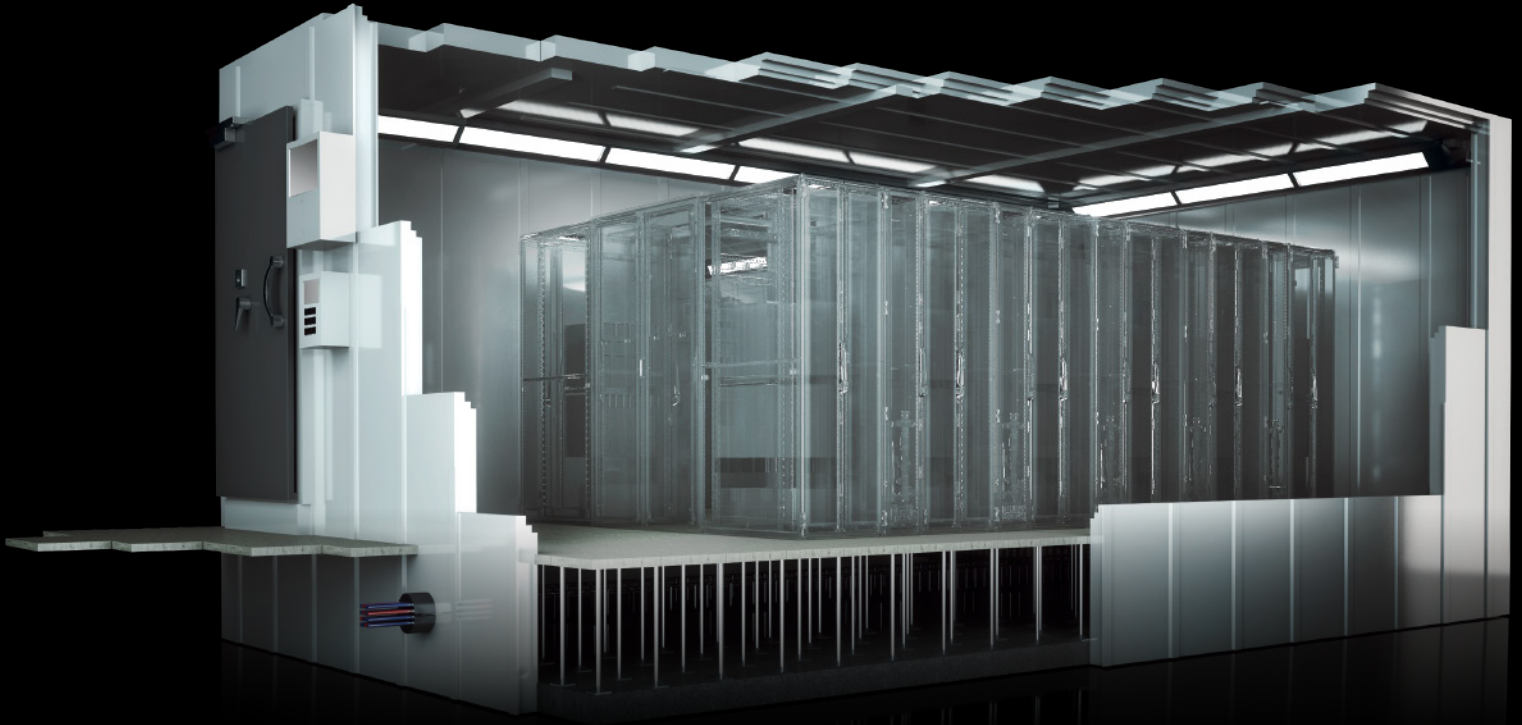
- Pre-engineered designs complete with electrical, ,mechanical, fire suppression, etc. for various IT loads
- Easy customization of design to suit your individual requirement on redundancy, power, rack density, etc
- Project planning and management
- Complete turnkey delivery with commissioning of installed data center

**RCW-180**

IT infrastructure	Product description
IT rack	(18) TS IT Network/server enclosures, perforated doors
IT cooling	Close-coupled LCP CW units, open loop
IT containment	Aisle containment
IT power	PDU, Switched, 208V, 3PH
IT power	UPS, 200kW, 480V, 3PH / 208V, 3PH
IT monitoring	Additional temperature, humidity and vandalism sensors
IT security	Electronic locking with keypad and network access
IT fire suppression	Room Novec 1230 fire suppression system. early smoke detection system
IT accessories	IT LED system light. Raised platform base.
All the variants shown are sample configurations. Individually adaptable.	

# High availability to suit every application

Edge data center in a security room\*



## Application example:

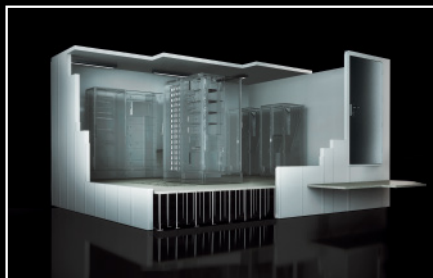
Innovative services provided by regional and local government demand the highest standards of security for storing sensitive citizen data and protecting it from manipulation, as well as real-time and long-term data processing. Additionally, data centers must often adapt flexibly to local situations and offer the option of dismantling and reassembly at another location.

The modular, scalable edge data centers in the Rittal security room meet all these requirements – the optimum solution for efficient e-government applications.

### TIER IV High-Availability room



### TIER III Basic Protection Plus room



### TIER II Basic Protection room



\*To be available soon

# The flexible modules concept

## Edge data center in a container\*

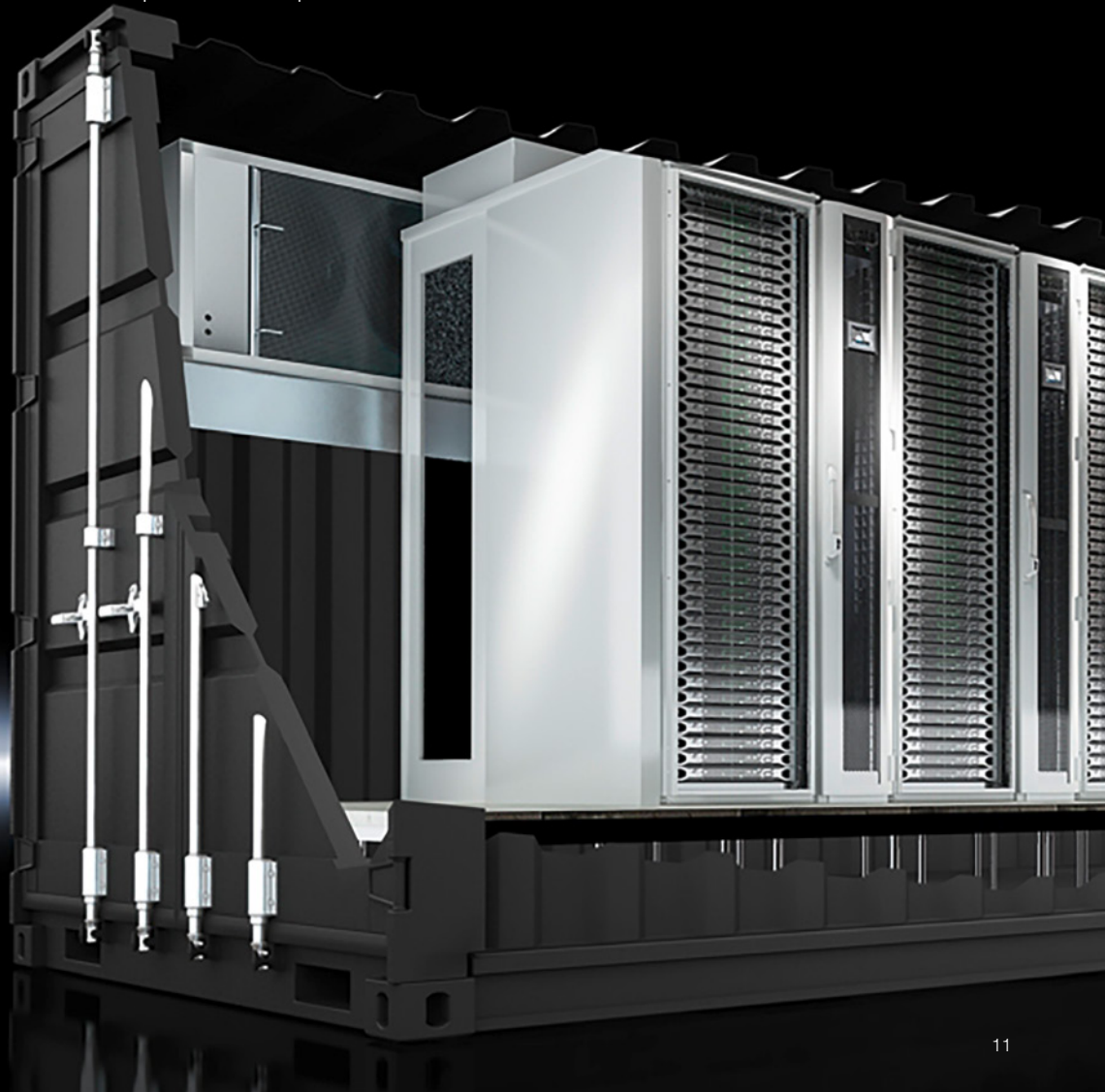
The IT infrastructure is significantly impacted by ever-growing data volumes. Demand for CPU and storage capacity is growing at a similar pace, leading to a need for more server and storage systems, yet space to increase the footprint of the IT infrastructure is limited. Rittal's data centers in containers offer the perfect solution, because the standardized systems are installed in a short time and the concept is individually tailored to your requirements.

### Application examples for Rittal container solutions:

- Lack of space, because more IT hardware is needed as data volumes grow
- Influence of IoT and Industry 4.0: Data exchange between the machines and data center must be guaranteed
- With edge data centers, the computing performance is provided locally, data volumes are reduced, and pressure on the main company data center is relieved

### Benefits of Rittal container solutions:

- Customized container solutions on a platform basis
- Predefined modules are individually compiled to create a container data center
- Pre-configured container solutions can be up and running in next to no time
- Project planning by Rittal
- Turnkey delivery of a field-tested solution complete with comprehensive documentation



\*To be available soon



# A smarter world with edge

## The future is digital – for life and work

The extent to which the IoT transforms our future will depend on faster, scalable and more secure networks: Consumers and companies alike need reliable connections to large numbers of systems that coordinate our lives and work. Edge computing plays a pivotal role in this new, smarter world.

Edge computing quite literally moves computer applications, data and services away from centralized nodes to the very edge of the Internet, facilitating rapid on-site analyses and data processing in real time. This doesn't just benefit sectors such as healthcare and transport, but any area of life which interacts with IoT devices.



### Smart Healthcare

- Maximum data security
- Compliance with data protection
- Implementation of private clouds



### Smart Telco

- 5G networks
- Mobile streaming
- Urban security
- Real-time risk detection



### Smart Industry

- Smart factories
- Digital twin
- Anticipatory maintenance



### Smart Finance

- Blockchain technologies
- Real-time transactions
- Smart contracts



# Data Center Implementation and Operation

## Turnkey Installation and After Sales Services

### Mechanical and Electrical Design

- Calculation of cooling requirements for data center
- Designing piping layouts
- Selecting type and number of cooling units needed – Rittal and/ or third party
- Calculation electrical load for IT and cooling
- Gaseous Fire Suppression System Design – if room fire protection is required

### Installation Services

- Install condensers and associated piping
- Install electrical power to racks, cooling units and UPS systems
- Install lighting and convenient outlets as required
- Install Hot/Cold aisle containment solutions
- Buildout room to install solution
- Install room security access solution

### Commissioning

- Review startup reports
- Develop tests scripts
- Perform testing of the solution as a total system
- Develop final report and review with client

### Project Management

- Single point of contact for customer
- Manage the day to day activity
- Coordinate with sub-contractors
- Provide Schedule, Status Reports and Closeout Documentation
- Coordinate customer training

### After Sales Services

- Maintenance contracts
- Extended warranties
- Defined onsite response time
- 24x7x365 Customer support



Edge Platform Design



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# Rittal – The System.

**Faster – better – everywhere.**

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

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