

**Rittal – The System.**

Faster – better – everywhere.

VX IT

The world's fastest IT rack



ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES



FRIEDHELM LOH GROUP



# RiMatrix NG

## The next generation of IT infrastructure platforms

Rittal takes its popular RiMatrix IT infrastructure platform to a new level with the RiMatrix NG. IT trends indicate we will be facing enormous challenges in the years to come. Digital twins, autonomous things, artificial intelligence, augmented analytics and smart cities are just a few of the buzzwords that will rely on high-performance networks and powerful data centres. RiMatrix NG is the perfect solution for companies worldwide, covering the full spectrum from small individual rack installations to edge, enterprise, colocation and hyperscale data centres.



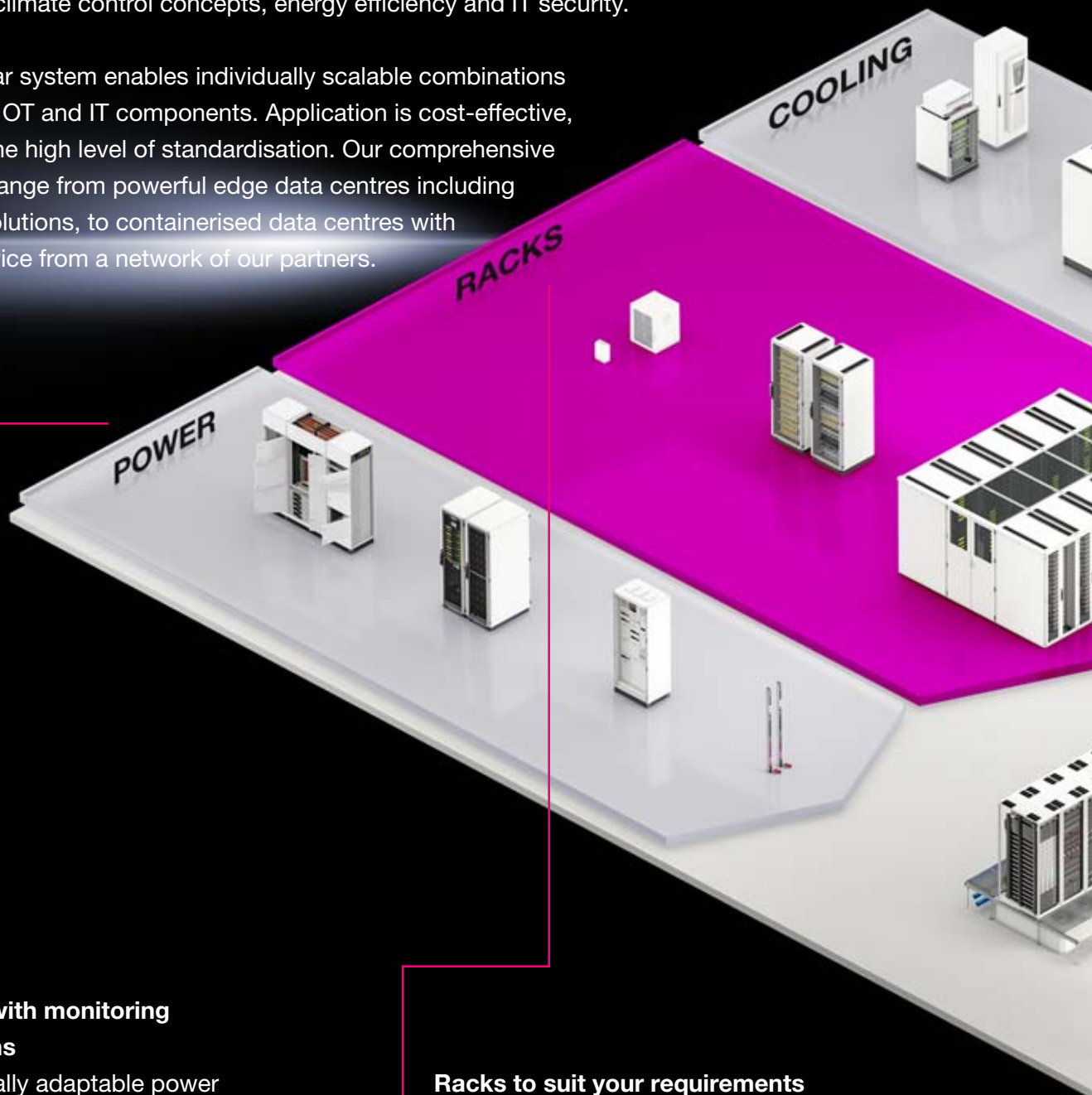


# RiMatrix NG

## Innovative edge and cloud solutions from Rittal

Digitalisation demands the continuous, fast supply of dedicated IT processing. Rittal caters for this need by providing an IT infrastructure platform which guarantees high availability, data quality, innovative climate control concepts, energy efficiency and IT security.

The modular system enables individually scalable combinations of selected OT and IT components. Application is cost-effective, thanks to the high level of standardisation. Our comprehensive packages range from powerful edge data centres including software solutions, to containerised data centres with IT as a service from a network of our partners.



### Power with monitoring functions

Individually adaptable power supply for greater reliability and efficiency, thanks to digital control of, for example, voltage, current, power factors, active and apparent power.

### Racks to suit your requirements

As the world's leading manufacturer of server and network racks, Rittal offers a unique, comprehensive range of racks and accessories for every individual IT application.

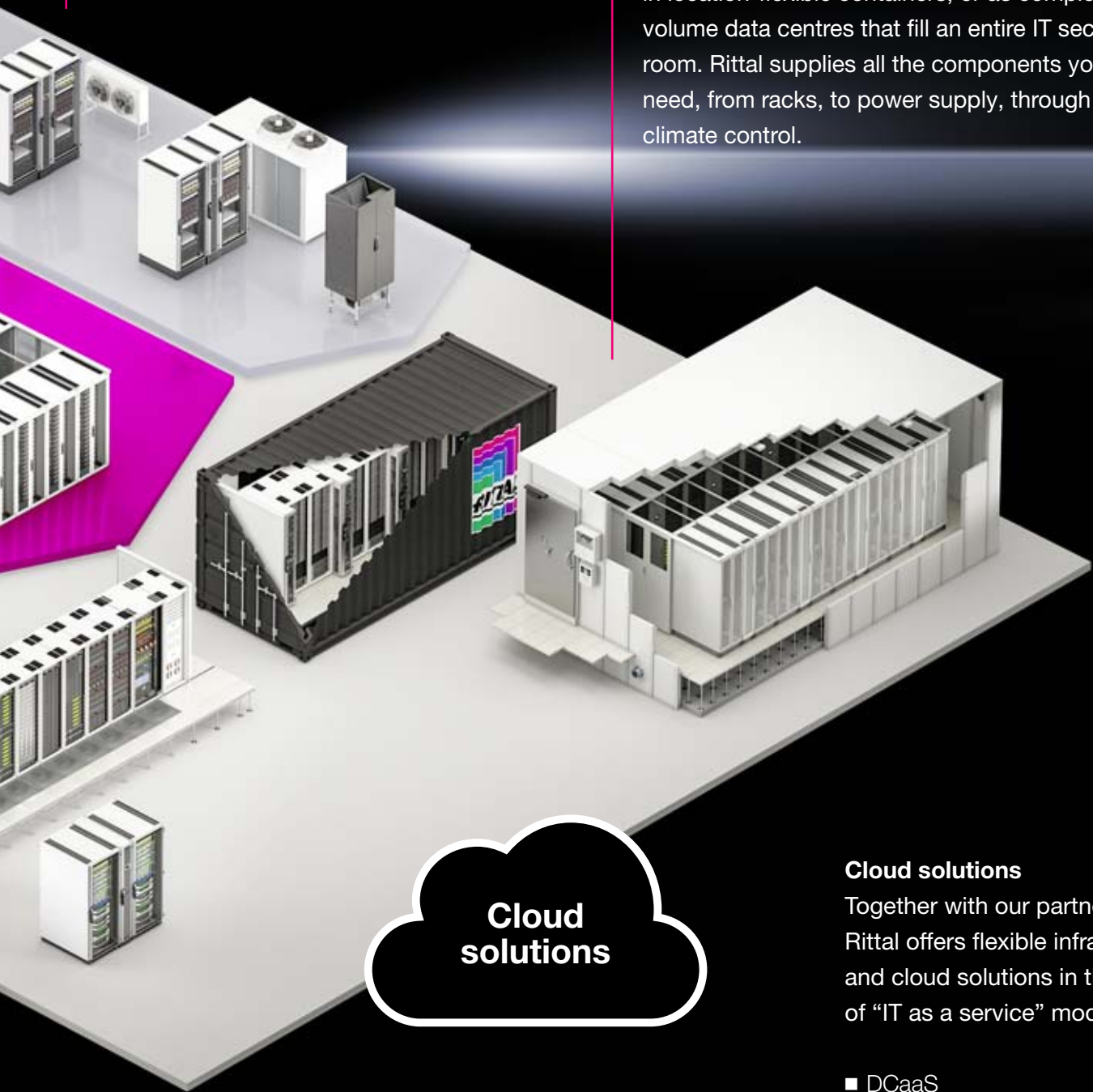


### Cooling: from racks to rooms

With scalable climate control concepts such as the Liquid Cooling Package (LCP) or direct CPU cooling, data centres can now be advanced in a temperature-neutral manner without needing to modify the room.

### Rittal Edge Data Center: your complete solution for large data volumes

Depending on the planned location and data volume, the Rittal Edge Data Centers may be used either as compact rack combinations, or larger data centres in location-flexible containers, or as complete, high-volume data centres that fill an entire IT security room. Rittal supplies all the components you will need, from racks, to power supply, through to climate control.



**Cloud solutions**

### Cloud solutions

Together with our partners, Rittal offers flexible infrastructure and cloud solutions in the form of “IT as a service” models.

- DCaaS
- ITaaS
- CaaS



# VX IT

## The solution for all network and server applications

Whether you need a network rack to house a distribution board, or server racks for an edge, colocation or hyperscale data centre, the new VX IT provides the ideal platform. All the demands of a modern IT infrastructure are met.

### **Dependable customer focus**

The new VX IT is modular in concept with a customer-focused configurator which guides you quickly and easily to a solution that is tailored to your specific requirements. Our state-of-the-art production lines and optimised logistics ensure availability and on-time delivery.

### **Matching modules**

The new VX IT is the basis for RiMatrix NG – the next generation, a development of the proven Rittal IT system, which has been extended to now include numerous innovative products and features.

### **Seamless compatibility**

A data centre infrastructure outlives its individual servers. Compatibility with established RiMatrix systems is therefore crucial. The VX IT and RiMatrix NG are ideally suited for extending existing data centres and replacing individual components.

### **Future-proof**

We know the trends and understand what factors concern you as an IT expert and your company so that we can supply a solution that is future-proofed. VX IT, as well as RiMatrix NG, are subject to constant ongoing developments in order to meet the demands of future IT infrastructures.



# VX IT as an integral part of RiMatrix NG

## VX IT in typical applications



### **Innovative platform**

- RiMatrix NG now includes a number of additional key components, such as pre-defined data centre modules and built-in OCP technology.
- Our ongoing R&D work keeps us up-to-date with future technology trends.
- Energy-efficient components form the basis for implementing customer-specific sustainability concepts.

### **Easily customised**

- RiMatrix NG adapts and underpins the IT lifecycle, from planning through to operation and optimisation.
- RiMatrix NG is easily scalable in every spectrum, be it output range, installation size, availability or fail-safe operation. The open platform concept supports the addition of certified products and solutions from third-party providers.
- Variable financing options exist alongside the product portfolio to allow for a flexible investment decision.





### **Consistent availability**

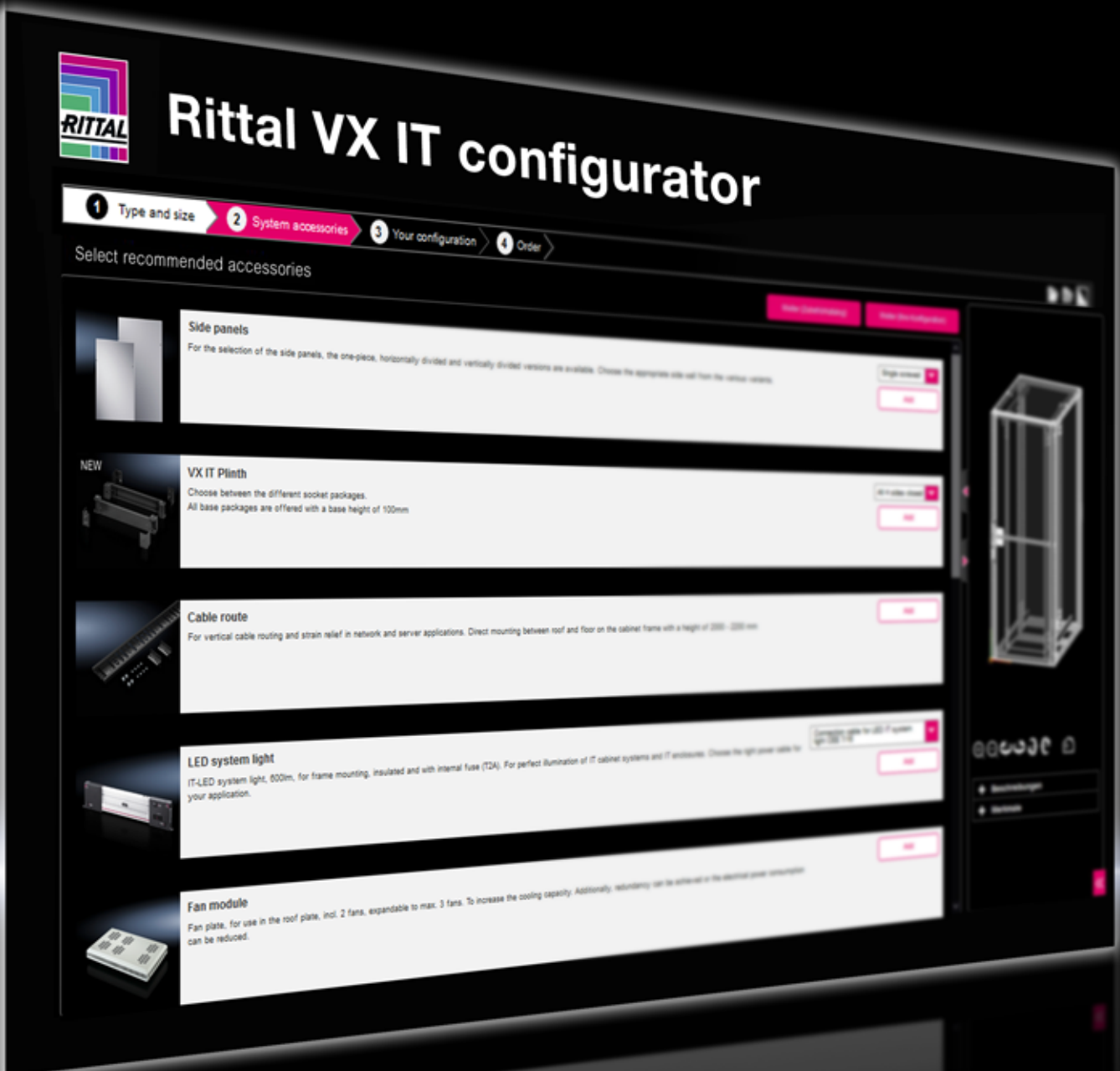
- Associated, tried-and-tested solutions such as edge and container data centres reduce the customer input.
- RiMatrix NG is perfectly suited to the challenging demands of IT components as well as higher-level management systems and enables the swift application of complete solutions (XaaS).

### **Reliable solutions**

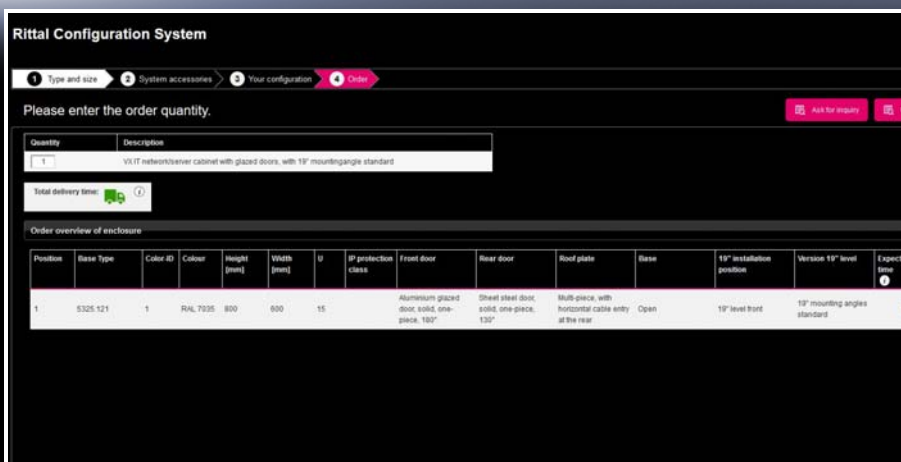
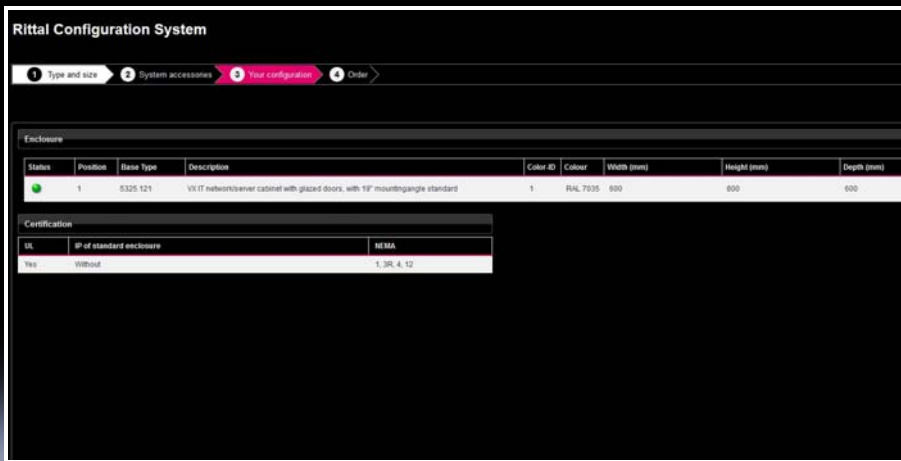
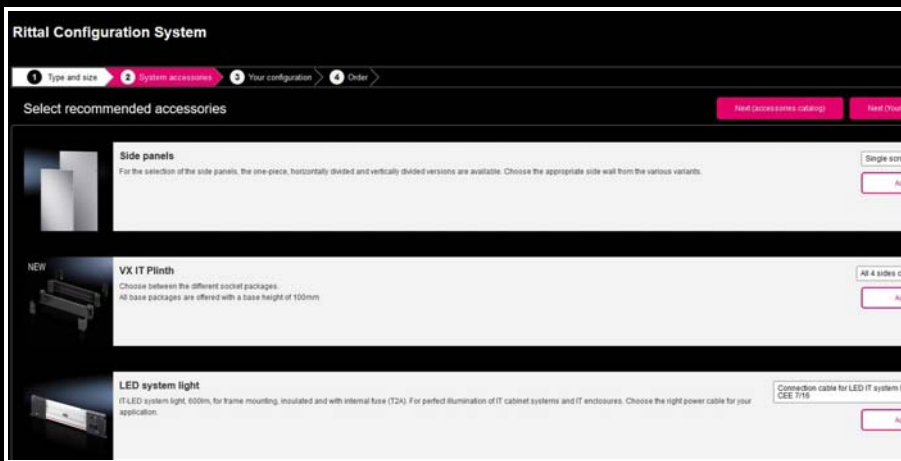
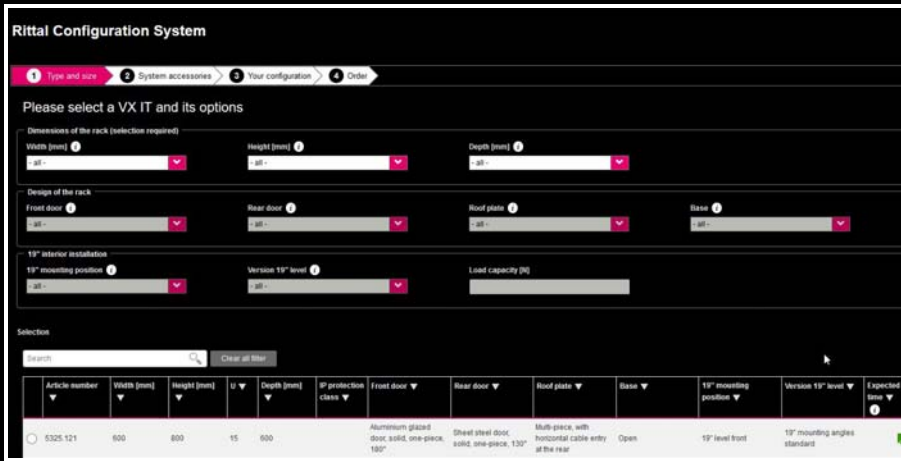
- RiMatrix NG boasts the same tried-and-tested Rittal quality that meets international standards and norms.
- The new platform is compatible with existing installed systems and guarantees flexible future-proofing.
- Full documentation and training, plus a comprehensive customer service package, round out the RiMatrix NG concept.

# Individual IT racks

With the VX IT configurator







## Configure individual racks to your specific requirements

- Customised, application-specific rack variants are created quickly with our Web-based configurator.
- Configuration is based on a modular principle: Starting with the basic rack and on up to interior fittings as well as the required accessories to create a fully individualised solution.
- In this way, the VX IT configurator supports a wide range of configurable rack variants, extending far beyond the standard rack portfolio.

## Maximum flexibility and control reviews to ensure precise configuration

- To prevent configuration errors and mis-ordering, all configuration stages are immediately checked for correctness.
- At the configuration stage, our recommended accessories are displayed automatically for easy, fast selection.
- Other accessories may be selected at any time depending on your requirements and installed in predefined positions. Individual positioning of the components is also possible on the advice of your sales representative.
- Accessories can be delivered separately, enclosed with the order or supplied pre-fitted, depending on your preference.

## Complete clarity and optimal delivery times

- The configurator provides complete clarity about anticipated delivery times.
- Every rack ordered via the configurator is supplied fully assembled, although delivery times will vary depending on the rack's level of customisation.

# Comprehensive modular system

To meet every requirement





## Versatility for all applications

- Even the standard variants are available in up to 28 sizes (EU series) – 2 widths, 6 heights and 4 depths.
- Choose your individual 482.6 mm (19") installation to meet your specific requirements from a comprehensive range of racks, components and accessories plus two different load classes (see detailed rack specifications "dynamic" or "standard") and your chosen 482.6 mm (19") interior installation variant. Load limits of up to 15,000 N or 18,000 N are available.

## Tailored door concept

The choice of door depends on the spatial conditions and your individual requirements with regard to access, climate control and protection category.

- New 180° hinge ensures a maximum door opening angle even when bayed plus a large-scale handle system including security lock with semi-cylinder.
- We have the right door to suit any climate control system, be it rack, suite or room cooling.
- New options include automatic door opening to provide emergency cooling or to ensure extinguishing of the racks when using a gas-based room extinguisher system.
- Glazed doors for optimal viewing or to ensure a closed climate control zone in conjunction with high-performance cooling applications, such as high-capacity heat exchangers.

## Roof concept with the required protection category

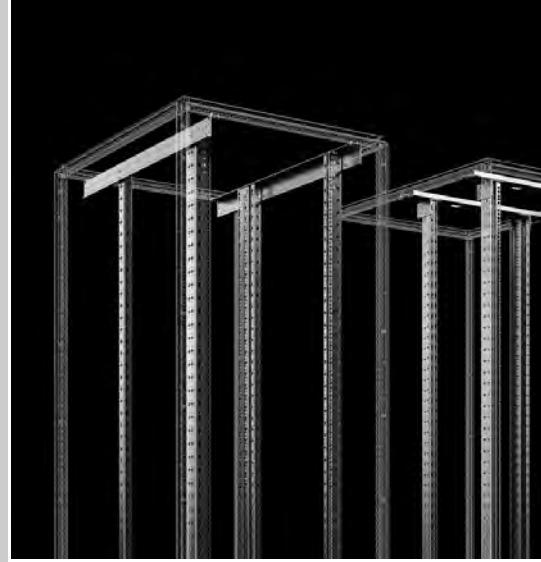
The choice of roof solution will depend on your planned cable entry and prescribed protection category, for example:

- One-piece, solid, with a protection category of up to IP 55
- With brush strip on both sides across the entire rack depth
- Cable entry via brush strip horizontally at the rear, across the entire rack width
- Cable entry in the corner zones via brush strips

## User-friendly side panel solutions

Your choice of side panel will depend on the required level of access and the prescribed security and protection category parameters, for example:

- For individual racks: Optionally one-piece, multi-piece, horizontally divided, plug-in or vertically divided, hinged
- To complete a suite of racks: Multi-piece, screw-fastened or partitions, one-piece, slide-in fixing for physical separation of individual enclosures within the rack suite



# High load capacity

With maximum flexibility





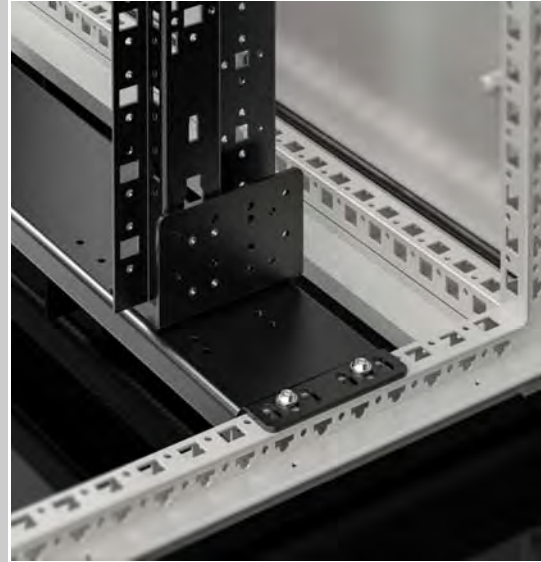
## Flexible 482.6 mm (19") installation

Choose from two 482.6 mm (19") installation systems, depending on your requirements:

- Standard – Load capacity up to a maximum of 15,000 N or 12,000 N to UL 2416
- Dynamic – Load capacity up to a maximum of 18,000 N or 15,000 N to UL 2416
- Different installation concepts are available for the 482.6 mm (19") mounting angles, depending on the rack dimensions. While 600 mm wide racks are mounted directly onto the rack frame, in 800 mm wide racks the 482.6 mm (19") levels are mounted on depth stays or cross-members.

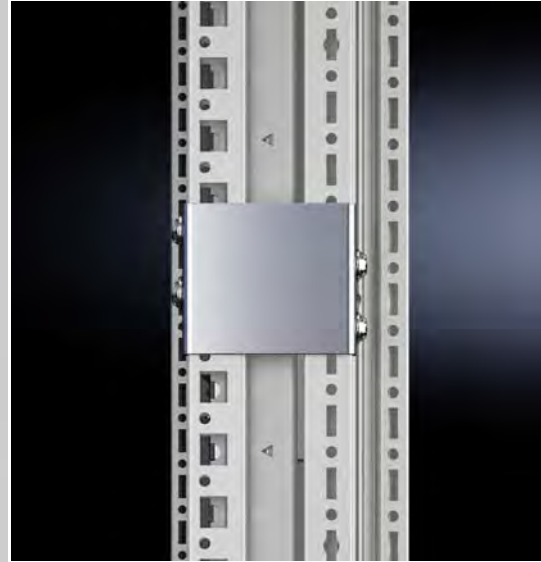
For 800 mm wide racks, alternative mounting dimensions of 21", 23" and 24" are also supported, together with asymmetrical arrangement of the 482.6 mm (19") mounting level. The standard installation variant with cross-members is used with rack depths of up to 800 mm and is ideally suited for use as a network distributor by supporting fast, simple cable management across the entire rack width in any height unit.

- An asymmetrical arrangement of the 482.6 mm (19") level gains additional installation space on one side which may be used for optimised cable routing or to integrate a Liquid Cooling Unit (LCU).



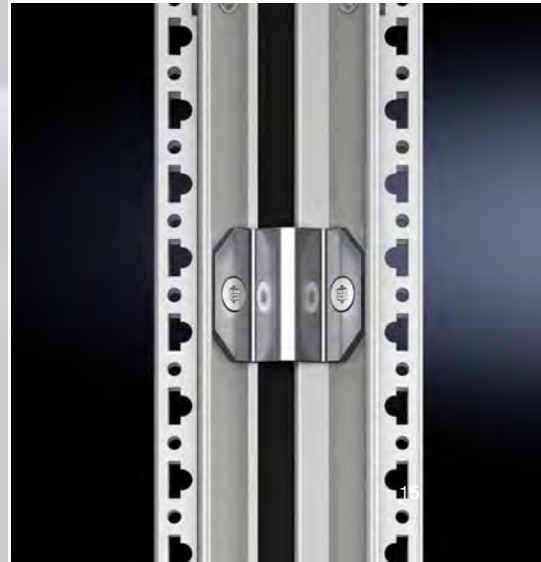
## Easily extend your existing systems

- The VX IT is also compatible with all existing IT infrastructure solutions using the TS IT and DK TS systems – in other words, the VX IT allows for additional configuration and buying.
- Thanks to the new baying variant with 3 mm baying gap, entire racks or liquid cooling packages can easily be removed from the rack suite and replaced with updated hardware.



## Simple conversion to VX IT

- Our smart conversion aid, available on the Rittal website, allows you to easily convert your existing rack systems to the new VX IT system.







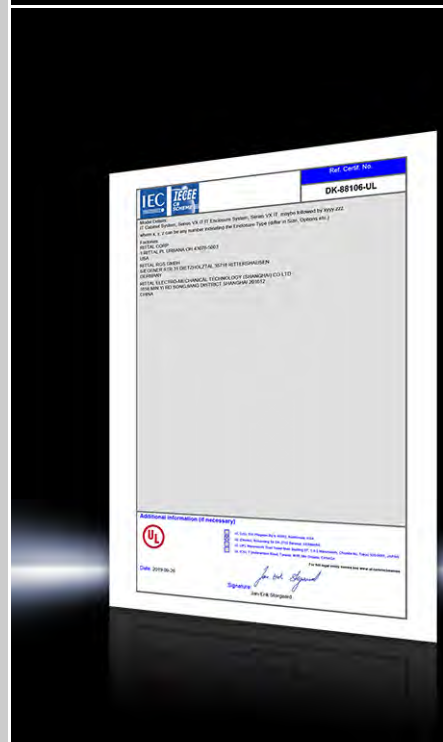
## Certification to international safety standards

- Rittal is compliant with the latest international standards and our products are certified accordingly.
- For example, our products meet the stringent new testing requirements for mechanical load capacity as defined by international standard IEC/EN 62 368-1 and American standard UL 2416.
- The quality of the VX IT, including all materials and components, is verified by UL certification.



## UL certification and configuration

- The VX IT is available in two versions certified to UL 2416 (E254143): The VX IT “standard” variant is certified for 1200 kg static load, while the VX IT “dynamic” version is certified for 1500 kg static load.
- Whichever customised solution you create using the Rittal Configuration System (RiCS), the product safety of the VX IT has been tested and certified. Testing covers all potential climate control and power distribution components as well as other accessories.
- This means that for RiCS-based configurations, no further tests or registrations are needed to ensure the delivery of safe products worldwide.



## CB test report and country-specific approval

- If required, country-specific certificates for local market access may be derived from the CB test report (DK-88106-M1-UL).
- The VX IT meets all applicable requirements to EN/IEC 62368 and UL 2416 and is therefore compliant with IT security standards, including any national variations between the EU, USA and Canada.



# Security and ease of use

Customised at all levels





## Roof

- A broad spectrum of individual roof solutions
- Ideal solutions for secure, simple cable entry, even with high cable volumes
- Closed variant for a high protection category of IP 55



## Walls

- Split side panels for problem-free one-man assembly
- Vertically divided, hinged side panels for easy access without dismantling the side panel
- Side panels latched from the inside for improved access protection



## Doors

- Vented or solid, to suit the individual climate control requirement
- Mechanical and electronic lock systems for optimum security
- Door control systems to automatically open the doors in the event of a cooling failure or for room-based extinguisher systems



## Base

- Individual base modules for optimum, secure cable entry from below
- Base/plinth systems with integral cable management solutions



## Room integration

- Perfectly adapted modules for achieving cold or hot aisle solutions



# Interior installation

With limitless versatility







## Power

- Wide range of socket strips and power distribution systems
- Power distribution unit in the zero-U space
- Professional monitoring and link to DCIM software (such as RiZone)
- Measurement of voltage, current, power factor, active and apparent power



## Cooling

- Individual climate control concepts for rack, suite and room cooling up to 55 kW per rack
- Minimised operating costs thanks to energy-efficient systems



## Monitoring

- CMC III for preventive intervention to help minimise the risk of downtime
- Mechanical and electronic lock systems for optimum security



## Security

- Fire alarm and extinguisher systems for early fire detection and automatic extinguishing if the cooling system fails or a room-based extinguishing system is triggered



## Interior installation

- Practical cable routing vertically and horizontally in the rack – even with high port density
- Component shelves, for static or extendable installation
- Air baffle systems for optimal air flow in the rack, tailored to the individual climate control solution





# Examples of VX IT applications

## The IT rack as distributor rack



**Scenario:**  
IT managers and engineers are often confronted with the challenging task of equipping office buildings etc. with suitable IT distributor racks. Cable management with tidy cable routing and fasteners, the ability to accommodate different network components such as patch panels or switches, the improved distribution of mechanical loads and structured cable routing are all particularly crucial.

**The solution:**  
The VX IT provides the greatest possible flexibility with width options available to accommodate the nature and quantity of cabling as well as offering depth-variable rails or combination rails to support cable routing using cable ties or cable supports using cable clamps. The glazed door provides ease of handling and allows for more convenient monitoring and control of, for example, free ports or active components. Vertically divided side panels provide optimum access to the front and rear from the sides, as well as to the components and cabling. Snap fasteners with an integrated internal latch on the side panels ensure the best access security and protection.

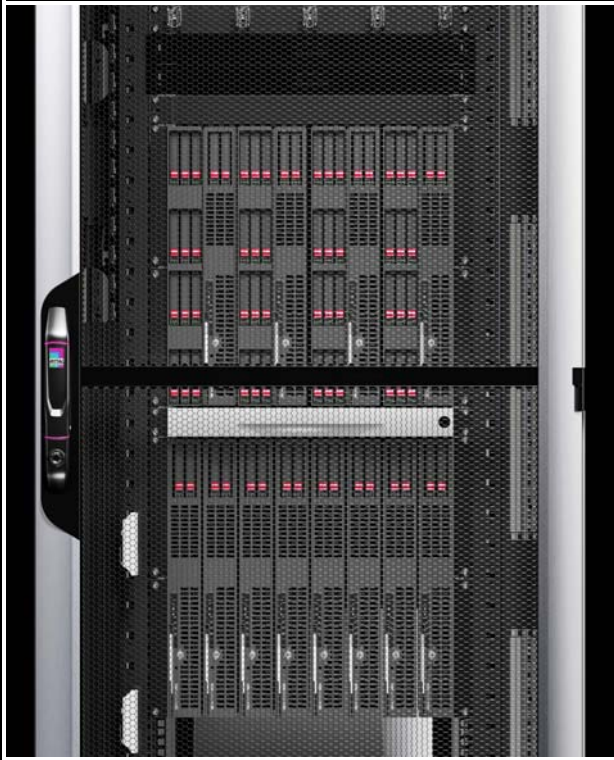
## IT enclosures in an industrial environment



**Scenario:**  
Industrial environments such as warehouses and production halls are often typified by harsh conditions. Key requirements of an IT rack, therefore, are numerous from protecting sensitive components from the ingress of dust or water to ensuring protection from electromagnetic radiation to safeguarding from physical damage by, for example, transport vehicles such as fork-lift trucks.

**The solution:**  
The VX IT enclosure with solid base assembly, one-piece solid roof plate, solid glazed door at the front and sheet steel door at the rear, with a protection category of IP 55, provides optimum protection from environmental and ambient conditions. Additionally, one-piece, screw-fastened side panels protect against unauthorised access. The additional internal latch on the side panel is a further security enhancement. A closed-loop LCU provides climate control while also ensuring the required level of protection to IP 55.

## Server racks in the data centre



### Scenario:

A key issue with data centres is how to dissipate waste heat in a confined space, and how to protect against overheating. In confined spaces, temperature control of the room is rarely possible, so measures should be taken to ensure adequate cooling of the rack. Energy efficiency is also a key consideration.

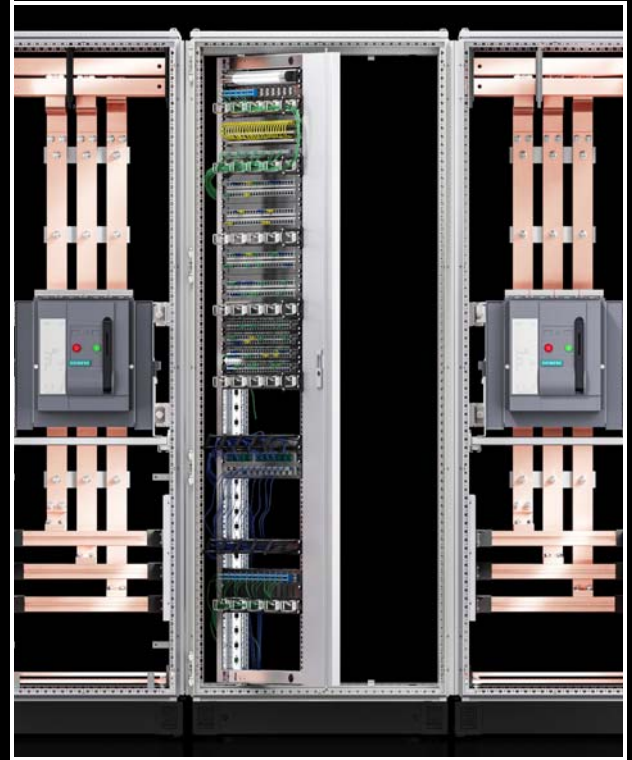
### The solution:

To this end, the VX IT offers the option of rack climate control with a solid sheet steel and glazed door, optionally available with an automatic door opening system. If the cooling system should fail, or in the event of a fire, the new “door-within-a-door” concept allows for the automatic opening of two integral door inserts. For room and suite climate control, vented doors front and rear can provide the ideal cooling strategy. As such, and if the room height permits, the VX IT with height units of up to 52 U allows for a high concentration of component installation and hence extremely efficient use of the room and space.

When using the new 180° baying hinge, the 180° door opening angle including comfort handle allows for greater space optimisation as well as greater installation freedom, particularly with bayed racks.

This results in superior access and reduced aisle widths while complying with relevant safety standards for escape routes.

## IT racks with simple electronic equipment/subracks in confined spaces



### Scenario:

In certain scenarios, the installation site of the IT rack prevents technical staff from being able to open the side panels or rear of the enclosure. For example, this may apply to IT racks in production halls that are positioned against the wall directly adjacent to machinery and power distribution systems. Other examples include network racks and distribution racks for telecommunications systems.

### The solution:

By replacing the rear door with a swing frame complete with rear panel, the VX IT solves this problem. The swing frame provides optimum access to the rack interior, to the rear of the 482.6 mm (19") equipment and to the installed components from the front. The swing frame is supplied in different versions with an opening angle of either 130° or 180°. This significantly eases maintenance and repair work, and modifications can be more effortlessly carried out.

# 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](http://www.rittal.com/contact)

XWWW00219EN2005

ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES



FRIEDHELM LOH GROUP