

Rittal – The System.

Faster – better – everywhere.

SOLUTIONS SUITE

FOOD & BEVERAGE



ENCLOSURES

POWER DISTRIBUTION

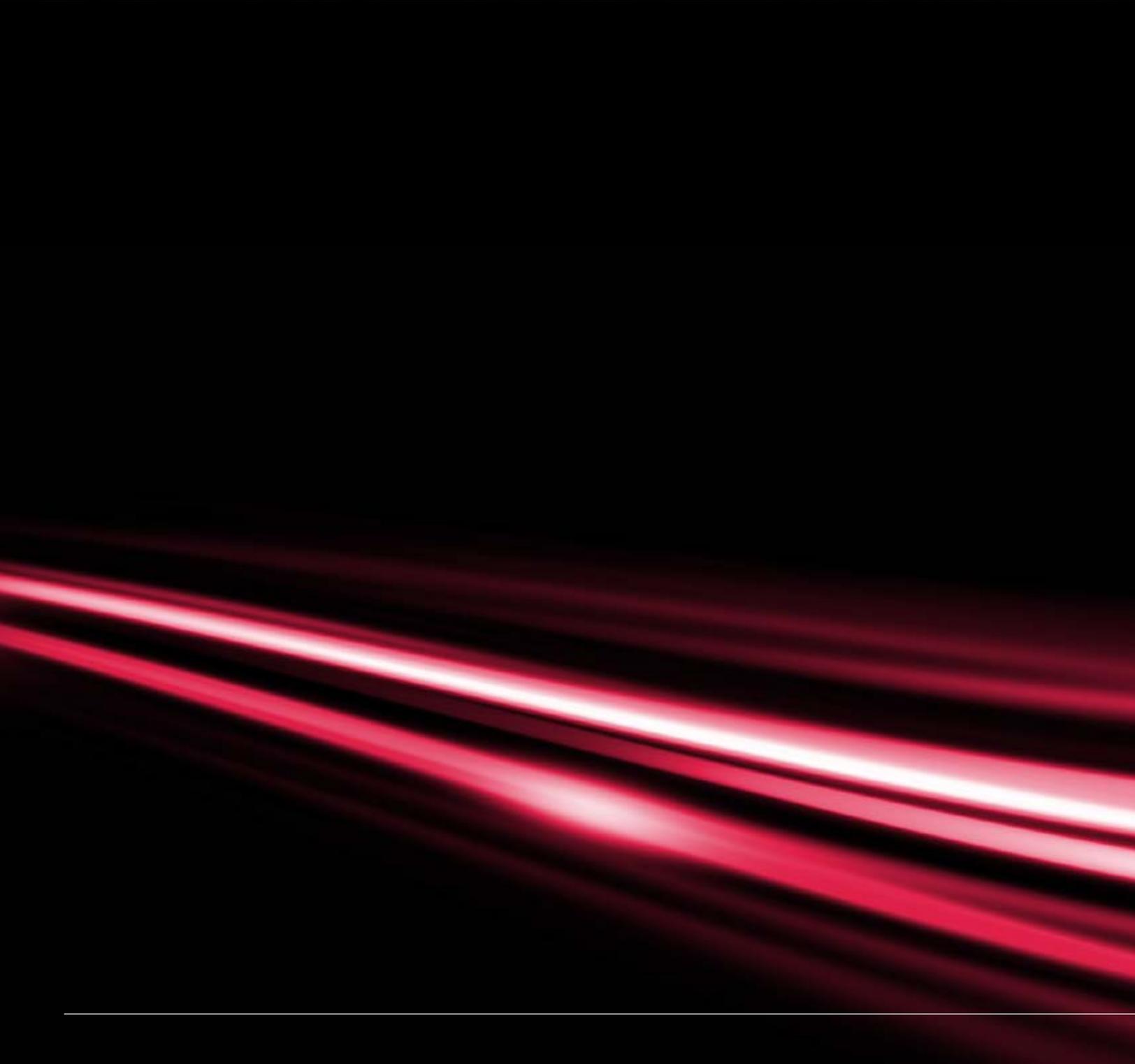
CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES



FRIEDHELM LOH GROUP





SOLUTIONS SUITE

FOOD & BEVERAGE

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THE FUTURE OF FOOD & BEVERAGE

Tomorrow's outcomes depend on today's decisions. In the highly regulated food and beverage industry, where sanitary production is a top priority, food and beverage producers must consider a variety of opportunities and challenges in order to compete in the marketplace. Optimizing end-to-end plant processes and enhancing the safety and efficiency of production is key to overcoming industry challenges and seizing opportunities for growth and profitability.

Rittal's hygienic design enclosures and climate control solutions are engineered to work hand-in-hand with aggressive sanitation protocols to help ensure production equipment is clean at the microbiological level. Our suite of hygienic design solutions helps manufacturers:

- Protect mechanical and electrical control equipment against water ingress
- Prevent food contamination — and the expensive downtime that results from it
- Prevent corrosion from frequent exposure to harsh cleaners and high-pressure hot water and steam

HYGIENIC DESIGN IS JUST THE BEGINNING

Rittal's innovative hygienic design solutions are engineered for high hygiene zones, but they are part of a larger industrial automation ecosystem that food and beverage manufacturers can leverage. By streamlining the panel building and switchgear system engineering process using industry-leading software, EPLAN, and implementing Edge data centers to store their own data as close to the source as possible, Rittal customers are enjoying the benefits of full automation, digitalization, and IoT connectivity.

Rittal's suite of products for food and beverage are designed and engineered for:

■ Automation

In combination with EPLAN, the integrated planning, production, modification, and deployment of such critical plant infrastructure such as enclosures, climate control, and IT network/server cabinets creates a more visible production cycle to identify redundancies, streamline workflows, and reduce energy consumption and production costs.

■ Industry 4.0

IoT-enabled devices create a smart production facility where decisions and plans are made proactively as opposed to reactively for greater degrees of flexibility and agility, readying companies for shifts in demand or production variables. The end goal is to be able to optimize efficiency and productivity for higher profitability.

Rittal's hygienic design solutions help manufacturers to reduce the risk of downtime, optimize production processes, and increase the safety and productivity within each hygienic zone.



■ Energy Efficiency

Rittal's climate control solutions represent a quantum leap in terms of energy conservation due to our patented heat pipe technology. This innovative hybrid process relies upon two parallel cooling circuits working together to provide demand-based cooling, which helps facilities lower their carbon footprint by reducing energy usage — and costs.

■ Regulatory Compliance

Our NEMA-rated IP66 and IP69K enclosures provide the durability, safety, and superior cleanability to comply with FSMA regulations while adhering to the requirements stated in the UL safety standards necessary for global production viability.



INSIDE THE **HIGH** HYGIENE ZONE



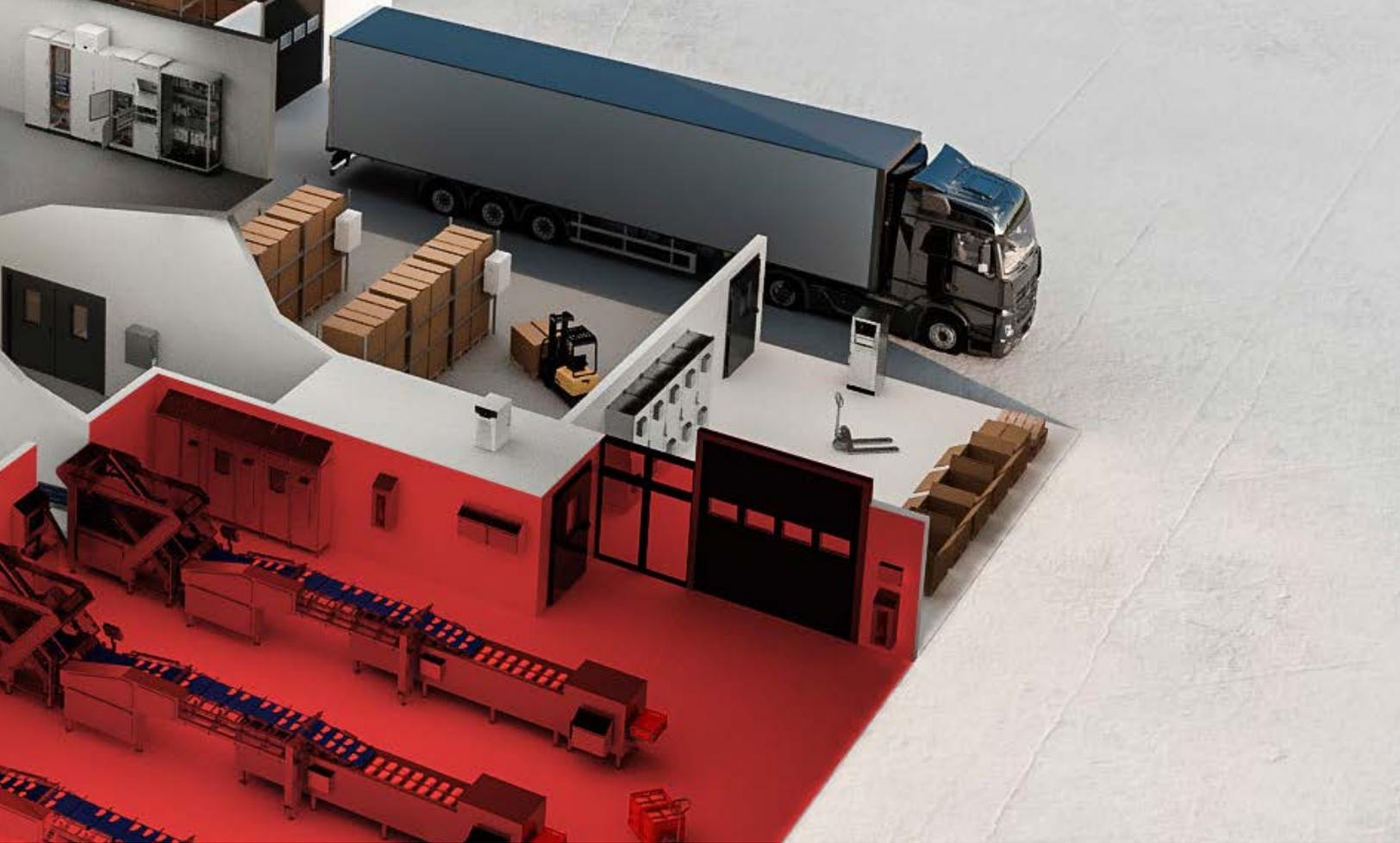
THE ENVIRONMENT

Open processes where food is splashed on the machines, floors, and other surfaces. Equipment is sanitized with aggressive cleaning agents plus high-temperature and high-pressure water. These processes include frequent washdowns with sanitation agents along with other cleaning practices where durability and reliability of equipment is critical to continuous production.

THE REQUIREMENTS

Equipment must have the highest degree of water and chemical resistance. Typically, enclosures must be IP69K, slope-top, brushed stainless steel, and have gaskets made with FDA-approved materials.

Hygienic Design Slope-Top Wallmount Enclosures
Hygienic Design Freestanding Enclosures
Hygienic Design Air-to-Water Heat Exchangers



THE SOLUTIONS

Hygienic Design Wallmount Enclosures

Stainless and carbon steel construction, 30° forward slope-top design, and an IP69K rating provide the maximum in durability and protection for electrical components. Hygienic design terminal boxes and junction boxes have easy-to-clean lock systems and replaceable silicone gaskets designed to withstand aggressive detergents, hot water, and high degrees of water pressure during repeated washdowns.

Human Machine Interface

NEMA-rated stainless steel HMI consoles allow for process automation and the implementation of Industry 4.0 principles while providing durability and contamination prevention. NEMA 4X and IP 55 rated, Rittal stainless steel pushbutton boxes are engineered to protect equipment from dirt, dust, sprayed water, oil, and coolants.

Hygienic Design Air-to-Water Heat Exchangers

30° angled roof design, water-resistant and joint-free seals, water connection flexibility, and smooth external surfaces reduce dirt and foreign contaminant buildup.

Hose-Proof Air Conditioner Hoods

Stainless steel, slope-top construction provides a higher protection category when fitted over a fan-and-filter unit.

Hygienic Design Accessories

Engineered for maximum customization, Rittal's hygienic design accessories include cable glands, stainless steel lock nuts, cam locks, wall spacer brackets, enclosure keys, hinges, and more to optimize your hygienic design system no matter the application.



INSIDE THE **MEDIUM** HYGIENE ZONE



THE ENVIRONMENT

Beverages or food that are contained, mixed, or processed in vats, vessels, tanks, and/or piping. Equipment is regularly drained, flushed, and cleaned, along with the floors and other high-touch surfaces.

THE REQUIREMENTS

Equipment must have some resistance to water splashing, corrosion, and chemical vapors that may arise during the cleaning process. These areas usually require slope-top enclosures that are NEMA 4X and stainless steel.

NEMA 4X Stainless Steel Slope-Top Wallmount Enclosures
NEMA 4X Stainless Steel Freestanding Enclosures
NEMA 4X Stainless Steel Blue e+ Air Conditioners



THE SOLUTIONS

TS 8 Modular Enclosures

The TS 8 combines the strength of unibody floormount enclosures with the flexibility of modular design. Stainless steel construction provides NEMA 4X and IP 66 durability and protection, while zinc-plated mounting plates and detachable rear panels allow for application flexibility.

Stainless Steel Wallmount Enclosure

Quick-release fasteners with plastic bushings allow for easy installation, maintenance, and sanitation while stainless steel construction and brushed grain surfaces provide durability during frequent washdowns. NEMA 4X and IP 66 rated.

Blue e+ Cooling Units with IoT Interface

Reducing energy costs by up to 75% due to a hybrid technology that allows for demand-based cooling, the Blue e+ with Rittal's IoT interface can be integrated with hygienic design hose-proof hoods for increased protection. Network alerts, remote monitoring, a touchscreen interface, and mobile connectivity make Blue e+ the most dynamic climate control system on the market today.



INSIDE THE **BASIC** HYGIENE ZONE



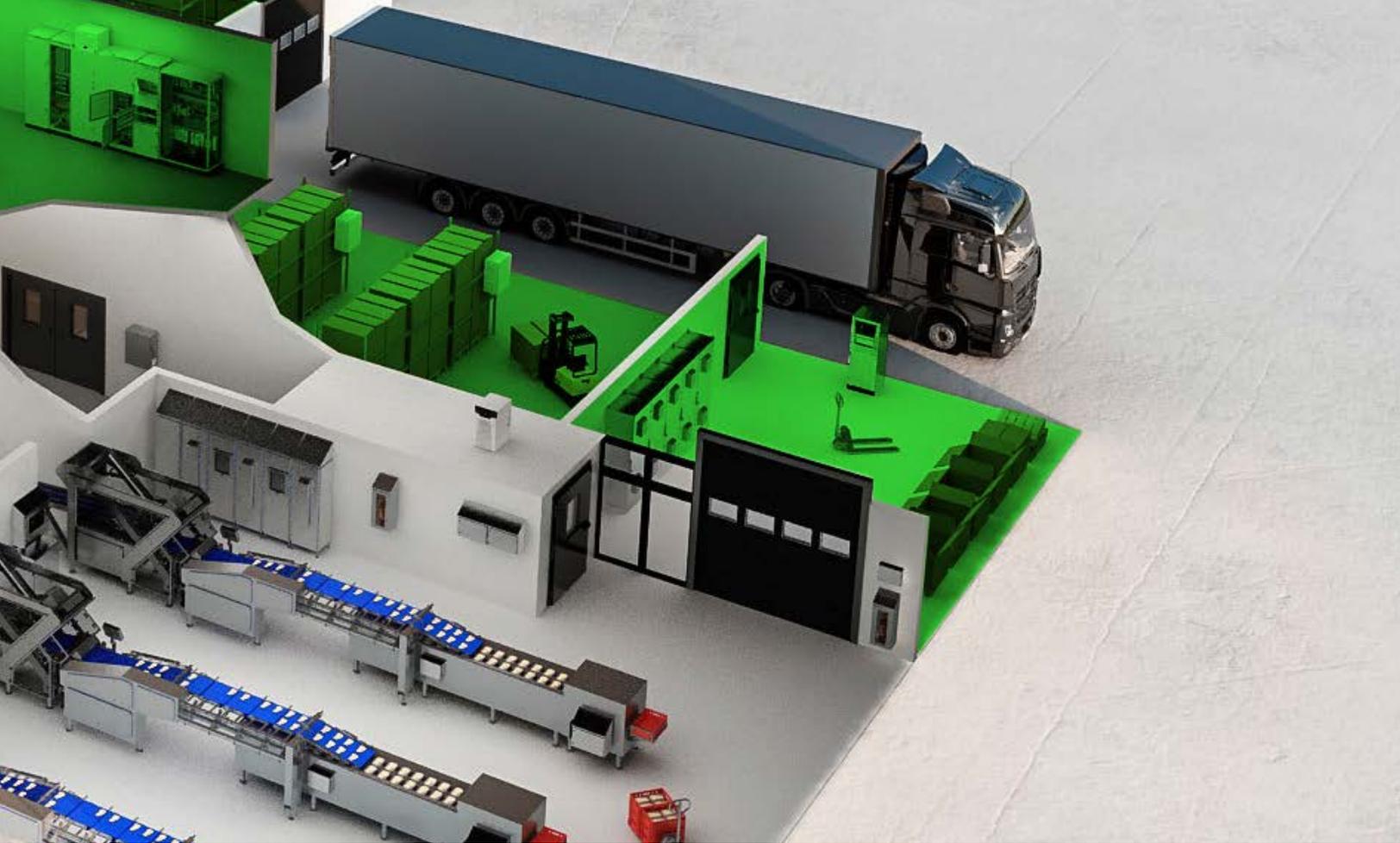
THE ENVIRONMENT

No open processes or washdown requirements. These areas include things like building systems and automation, power infrastructure and switchgear, packaging, palletizing, storage, and conveyors.

THE REQUIREMENTS

Typical enclosure requirements are NEMA 12 and either carbon steel or stainless steel.

Wallmount Enclosures; Stainless or Painted Carbon Steel
FreeStanding Enclosures; Stainless or Painted Carbon Steel
Blue e+ Air Conditioners; Stainless or Painted Carbon Steel
IT Network/Server Cabinets



THE SOLUTIONS

AX/KX Small and Compact Enclosures

The AX/KX line of small and compact enclosures feature easy assembly and interior installation. Carbon steel construction with a foamed-in-place gasket, zinc-plated mounting panel, and quick-release 130° door hinges. Durable enough to withstand a variety of environmental conditions yet compact enough for a variety of applications.

IT Network/Server Cabinets

The new IT standard in flexibility and scalability, the TS IT Pro provides maximum airflow and efficient cable management for quick and easy installation for use in the food and beverage space. With high-density cooling and power distribution capability, the TS IT Pro is the next level in network/server rack enclosures.

Rittal Liquid Cooling Package

Available in multiple configurations, Rittal's Liquid Cooling Packages create a larger, more consistent stream of cooling as opposed to more conventional liquid cooling systems. High-efficiency fans and multiple water connections at the top and bottom of the unit provide the flexibility and power to create optimized, targeted cooling to extend the life of your electronics.

Edge Air Conditioner (EAC)

Rittal's pre-engineered Edge Air Conditioner (EAC) platform utilizes the Rittal Blue e+, a wall-mounted air conditioner with highly efficient hybrid technology. The unit contains both an active cooling circuit with speed-regulated components for demand-based cooling and an integral heat pipe for passive cooling.



LIVING AT THE EDGE

The food and beverage industry is at something of a crossroads. While today's producers may not view themselves as being at the forefront of the IT infrastructure conversation, food and beverage companies in a modern production landscape are also tech companies. The ability to gather, sort, retrieve, and act on data as quickly as possible is a necessity for producers to be proactive to consumer demands and behavior, compliant with safety regulations and guidelines, and competitive via optimized processes and workflows.

Edge computing is rapidly increasing the ways in which companies leverage their IT infrastructure. By bringing networks closer to the points where actual data is located, companies around the globe are deploying IoT products and solutions to integrate sensors, optimize IT systems, analyze data, and make decisions in real-time to reduce latency, energy consumption, and operational costs.



Common uses of edge computing can put sensitive IT equipment in harsh operating conditions that require durable, reliable, and turnkey solutions to protect critical data, reduce the possibility of disruption or breakdown, and simplify installation.

Rittal's edge computing solutions and modular data center solutions provide protection, dependability, and ease of installation for use in non-traditional IT environments.



ENERGY-EFFICIENT CLIMATE CONTROL

At the heart of operational efficiency in any industrial production environment is climate control, and this rings even more true in the food and beverage production space where temperature fluctuation is not only problematic for production efficiency but also for regulatory compliance. Advanced cooling solutions with IoT-enabled integrations help food and beverage producers see their holistic climate control architecture with more clarity and detail to identify areas where optimization can help reduce costs, decrease their carbon footprint, and drive profitability.

Energy-efficient industrial and IT climate control solutions, like Rittal's Blue e+ cooling units, are helping organizations reduce energy consumption and energy costs. The Blue e+ line features cooling capacities up to 6,000 watts and can be used in environments ranging from -4°F to 140°F. Even better, its powerful cooling capabilities deliver up to 75% energy savings.

The Blue e+ patented heat pipe technology is an innovative hybrid process that relies upon two parallel cooling circuits working together, depending on temperature difference. The integral heat pipe dissipates heat from the enclosure as soon as the ambient temperature falls below the setpoint, providing passive climatization. Active climatization is achieved via the compressor's cooling circuit with speed-controlled components for demand-based cooling. This unique inverter technology provides cooling output that is always exactly the amount needed at the time.

Not only is energy consumption far lower than with conventional technology, but the improved cooling leads to longer service life of the components inside the enclosure and the cooling unit itself.



THE AUTOMATED INDUSTRIAL NETWORK

Together with EPLAN, Rittal is revolutionizing the panel and switchgear design and enclosure modification process to create a holistic industrial network where each step in the manufacturing process works in sync and in communication with the next for truly optimized panel building.

EPLAN's powerful software makes it easier than ever before to create, store, share, and modify panel and switchgear schematics and pneumatics. This software leverages a component article database and digital twins to ensure that designs exist in a single place. Meanwhile, Rittal's modular enclosures allow for high degrees of customization to suit a variety of food and beverage applications on a global level.

The end result is a unified industrial automation network that connects design with manufacturing to create a framework where companies can create project end-to-end visibility and efficiency.



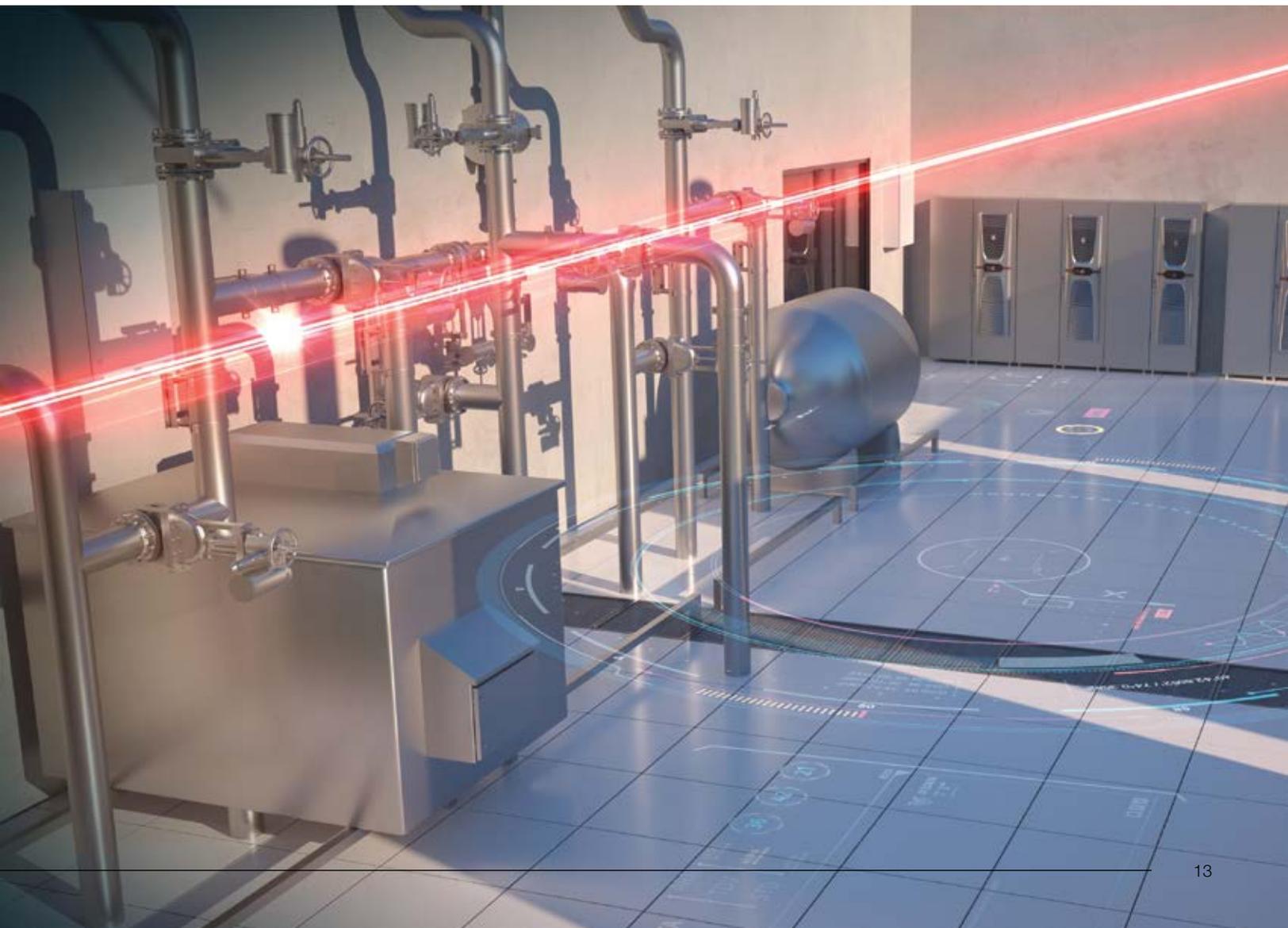
EXPLORE SOLUTIONS

Whether you're upgrading your enclosures, evaluating your climate control options, or opening a new automated plant, leverage Rittal's industrial automation expertise to outfit your facilities with hygienic design solutions engineered for food and beverage.

We provide industry-leading service and support for industry-leading products and solutions. With digital tools to help you select the right solution for your food and beverage application, streamlined procurement of parts and service for faster delivery, and system analysis and

consultation to help you identify areas of inefficiency and redundancy – Rittal is there to help boost your efficiency, minimize downtime, and grow your business. With more than 150 service locations and more than 1,000 technicians across the globe, our service teams can bring our industrial automation and IT expertise to you.

EXPLORE OUR SOLUTIONS AT [RITTAL.COM](https://www.rittal.com)



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

Rittal North America LLC

Woodfield Corporate Center
425 North Martingale Road, Suite 400 • Schaumburg, Illinois 60173 • USA
Phone: 937-399-0500 • Toll-free: 800-477-4000
Email: rittal@rittal.us • Online: www.rittal.com

Rittal Systems Ltd.

6485 Ordan Drive • Mississauga, Ontario L5T 1X2 • Canada
Phone: 905-795-0777 • Toll-free: 800-399-0748
E-Mail: marketing@rittal.ca • Online: www.rittal.ca

Rittal Mexico

Dr. Roberto Gayol 1219-1B • Col. Del Valle Sur, 03100 • Mexico, D.F.
Phone: (+52) (55) 5559-5369 • Toll-free: 01 800 8 Rittal (748.825)
E-Mail: info@rittal.com.mx • Website: www.rittal.com.mx

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