# Rittal Modular Enclosures with Climate Control and Monitoring Technology Set the Stage for Top-Tier Mobile Carrier's Research and Innovation.

CASE STUDY

A top-tier telecommunications company in the U.S. has built its reputation on innovation in the marketplace with its network, services and business practices. As the company closes in on 6 million users, research and testing are crucial for further innovation.

When the company decided to build out a new research and testing facility for the next generation of mobile communications, it created one of the most dynamic and demanding installation environments Rittal has encountered.

"The customer wanted to maximize installation flexibility and include the maximum number of TS IT enclosures in very limited spaces," said Herb Villa, Data Center Solutions Senior Systems Consultant at Rittal. "Secondly, they required product reliability and accurate monitoring of critical system components. Anything less than 100 percent system availability was unacceptable."

The research and testing facility would require enclosures to be installed in a variety of spaces including large test rooms, smaller labs and multipurpose areas. In addition to flexibility to fit in these various spaces, the company also put an emphasis on component reliability and system monitoring capabilities for the new deployment. In the rare instance of component failure or unauthorized access, they needed instant notification of any alarm condition, along with backup systems, to ensure uptime while site personnel could respond as needed.

Rittal designed a solution for the carrier that incorporated fully integrated modular enclosures, specific to the individual installation spaces' requirements. Rittal product solutions included preassembled TS IT modular enclosures in various dimensions, pre-configured with LED lighting, cable and airflow management components and related accessories.

The system design also included Rittal's Blue e+ ultra-efficient air conditioning units and enclosure fans to ensure adequate heat removal and environmental protection. Finally, a Rittal CMC III Monitoring solution was provided as the "brains" of the installation. CMC III systems deliver real-time monitoring of critical climate control, environmental parameters and back up support in case of any component failures.

The configuration also included auto-door opening kits and secondary exhaust fans installed in the core network communication footprints for maximum reliability and resiliency. Footprints in test and lab areas incorporated EC fans and controllers for additional heat removal and climate control during long-term component testing on end user and OEM equipment.

"System reliability, installation flexibility and component adaptability were all mandates to support the initial installation and future demands," explained Villa. "The enclosures installed in the lab spaces can be easily modified to support the next generation of communications systems. Those placed in core communications spaces produce a stable and secure installation designed to maximize the system availability."

The CMC monitoring in particular is ideal for the carrier to manage and track real-time operational parameters or emergency conditions. If a fan or controller experiences a programmed alarm condition, the CMC III monitoring system will read the failure and sound the alarm. The source of the failure can be remotely identified via the CMC web portal.

In the end, Rittal's modular enclosure set up, paired with the ultra-efficient Blue e+ units and CMC III monitoring technology, were able to be fit into the lab and multi-use spaces. In addition, the complete solution delivered the reliability and monitoring necessary to help the carrier continue innovating in the market.