

Case study

MHR leverages Vertiv and Sudlows partnership for data centre expansion and enhanced infrastructure



Background

MHR, founded in 1985, is a leading provider of HR, payroll and finance software and services. MHR's managed payroll and private hosting services support over 10% of the UK workforce. Due to continued growth and the success of its private cloud hosting model, MHR required a third generation of data centre to support increasing customer numbers.



Challenge

MHR's challenge was to replace one of its current data centres to enhance its capability and capacity.

This presented the opportunity to design and build a completely new facility from the ground up, incorporating all of the learning and knowledge garnered from the previous two generations.

Vertiv was an existing partner in the data centre maintenance space, and MHR reached out to them for recommendations at the start of the design process.



Company profile:

A leading provider of HR, payroll, finance software solutions, hosting, and outsourcing services.

Industry: Human Resources and Payroll Software and Services.

Region: Nottingham, Nottinghamshire, UK

Solution

Vertiv partnered with global technical services specialist Sudlows to specify, design and deliver a new state-of-the-art facility, exactly to the required specifications.

Vertiv's technical solutions focused on expanding capacity with a comprehensive suite of critical infrastructure components and services, namely:

- **Vertiv™ Liebert® EXL S1 300kVA UPS system:**

Known for its compact footprint, high operating efficiency, and advanced control features, it provides clean and consistent power supply, safeguarding critical IT equipment against power outages, voltage fluctuations, and other power anomalies. Its maintenance bypass feature allows servicing without interruption.

- **Vertiv™ Liebert® EXS 80kVA UPS system:**

A transformer-free UPS that offers exceptional features for mission-critical applications. With a double conversion efficiency of up to 96.2%, the Vertiv Liebert EXS enables operational cost savings, helping reduce both the Total Cost of Ownership (TCO) and environmental impact. With less energy wasted as heat, you can be confident you're getting the most out of your power source.

- **Vertiv™ SmartAisle™:** To optimise cooling efficiency within the expanded white space, Vertiv implemented Vertiv SmartAisle infrastructure solution.

This system physically separates hot and cold air streams, enhancing cooling performance and efficiency. By containing the cold air within the IT equipment aisles, the Vertiv SmartAisle solution reduces the overall cooling demand, leading to energy savings and improved temperature stability for MHR's critical hardware. This directly tackles the challenge of managing increased heat loads associated with expanded IT capacity.

- **Vertiv™ PowerBoard Low Voltage Switchgear:**

It includes an automatic transfer switch, which provides an added layer of power resilience. In the event of a primary power source failure, the **ATS** automatically switches the load to a secondary power source (such as a generator).

- **Temporary Generator Connection Points (1250A & 800A):**

This allows for the quick and safe connection of temporary generators during extended power outages or for planned maintenance of the primary power infrastructure, further enhancing the resilience of MHR's operations.

- **Vertiv™ Liebert® HPC-S:** The air-cooled chiller provides high-cooling density in a compact footprint, high-efficiency performance and unwavering cooling continuity, allowing thermal stability through the integrated **Vertiv™ Liebert® iCOM™** control system; this centralised management capability orchestrates unit teamwork and optimization, giving MHR greater visibility and control over its data centre environment.

- **Vertiv™ Liebert® CRV:** Deployed as a high-performance chilled water solution, offering exceptional cooling efficiency directly in front of a row within a small footprint that maximises usable data centre space. Designed for seamless integration with the chilled water system and the **Vertiv™ Liebert® HPC-S chillers**, the Liebert® CRV units utilise advanced teamwork functionality to harmonise airflow and capacity, enabling a precisely balanced thermal environment.

- **Vertiv™ Liebert® HPM:** Selected as the dedicated **chilled water solution** for the UPS room, fully integrated into the central **CW system** alongside the Vertiv Liebert HPC-S chillers. Chosen specifically for its high reliability in critical infrastructure spaces, this displacement unit allows optimal airflow distribution and thermal stability, providing a flexible cooling foundation for the facility's power protection systems.



Results

The combination of Sudlows' design and engineering expertise, and Vertiv's full end-to-end solution portfolio—including onsite installation and commissioning—provided MHR with a reliable, high-performance solution built for long-term success:

- **The next generation of MHR data centre:** The newly designed facility, powered and cooled by Vertiv's solutions, provided the necessary capacity for future expansion and growth alongside highly resilient design.
- **Improved power reliability and uptime:** Vertiv™ Liebert ® EXL S1, Vertiv™ Liebert® EXS and Vertiv™ PowerBoard LV Switchgear systems maintained consistent and reliable power supply, minimising the risk of downtime and protecting valuable data and services.
- **Temporary generator connection points:** Further enhanced backup power strategy.
- **Optimised chilled water cooling efficiency and reduced energy consumption:** Vertiv™ SmartAisle™ containment, combined with Liebert® CRV, Liebert® HPM precision cooling and Liebert® HPC-S chiller with Liebert® iCOM™ controls, delivered a fully optimised chilled-water solution that significantly improved thermal performance, reduced energy consumption, and lowered MHR's overall operating costs.
- **Enhanced operational system performance** enabled by the end-to-end Vertiv™ solution inclusive of installation and commissioning services.
- **Scalable and future-ready infrastructure:** The solutions allow easy expansion, enabling MHR to adapt to evolving business needs.
- **Expertise and seamless integration:** Sudlows' design expertise and project management capabilities were instrumental in designing and integrating the new infrastructure seamlessly with MHR's existing environments minimising disruption and enabling optimal performance.



“MHR has been hosting sensitive customer data in its private cloud since the mid 90s, before the word cloud was even coined! In that time we have moved from dial-up connections into server rooms, through three generations of data centre design to where we are today, hosting over 3.5M UK employee records and transferring £2.5Bn in BACs transfers per month. This latest and greatest generation of data centre will now allow MHR to support its customers well into the 2030s with the most efficient and reliable model ever.”

— **Ian Price,**
Director of Corporate IT