

Density Scaled. Uptime Protected.

Business Objective

A hyperscale DC operator needed to increase power density across 100 existing racks from 6 kVA to 15 kVA to attract higher-value tenants and increase revenue per rack a complex, phased upgrade in a live environment requiring PDU replacement, busbar reconfiguration, CFD validation, and full testing without compromising uptime.



BUSINESS NEED

**Increase Power Density
from 6 kVA to 15 kVA
Across 100 Live Racks**

- Execute a phased density upgrade in a production environment without disruption to existing tenant operations or redundancy levels

**Maintain N+1 Redundancy
Throughout the Upgrade**

- Ensure scalability and redundancy are preserved at every phase of the upgrade, with no reduction in availability during execution.

**Validate Cooling Performance
Post-Upgrade via CFD Analysis**

- Conduct post-upgrade CFD analysis to confirm airflow adequacy for new density loads and eliminate hot spot risk.

SOLUTION & IMPACT

**150% Density Increase.
Zero Downtime.**

- All 100 racks upgraded from 6 kVA to 15 kVA with N+1 redundancy maintained throughout.

**CFD Validated. Zero Hot
Spots.**

- Thermal performance confirmed at new density level before full production handover.

**Premium Rack
Revenue Unlocked**

- Facility repositioned to attract higher-value enterprise workloads at premium rack rates.

Conclusion

Technavious delivered one of the most technically demanding DC revamps in its portfolio upgrading 100 live racks from 6 kVA to 15 kVA in a phased, production-safe programme that preserved redundancy, validated thermal performance, and increased the facility's commercial density by 150%. The result was a future-ready hyperscale environment capable of commanding premium rack rates and attracting higher-density enterprise workloads.