

STULZ

CLIMATE. CUSTOMIZED.



Ideal room climate for optimum printing processes

STULZ optimises critical print production conditions at Paragon Customer Communications.

When it comes to guaranteeing the fast turn-around of critical regulatory communications, using the fastest print presses in the world, capable of producing up to two million pages a day, Paragon Customer Communications (Paragon CC) know that effective service delivery is increasingly reliant on room temperatures and humidity.

Paragon was looking for a tailored Air Conditioning solution for their demanding facilities in both a print room and a data centre. Reliability of equipment, no down-time and energy efficiency were the main drivers, and this is exactly where STULZ could offer a tailored solution providing the equipment and technology needed for cost efficient perfect environmental conditions.

The success of printing processes in an increasingly competitive print market where return on investment is important, is reliant on effective temperature and air humidity control. At Paragon Customer Communications STULZ keep the printing environment in optimum condition whilst ensuring high quality productivity for 500 personnel working within a critical printing workspace.

THE FACTS

Client

Paragon

Hardware

- 4 × CyberAir 3 GE-System
- 2 × 250 kW dry air coolers and pump sets

Task

- Decommissioning and removal of legacy equipment
- Full bespoke installation
- To provide air conditioning for a large print room
- Constant temperature and humidity for optimum printing & working conditions
- Free Cooling option
- Energy efficient solution
- TCO analysis
- N+1 Resilience

THE CUSTOMER

Paragon Customer Communications is an award winning, global communications company, helping businesses to deliver exceptional customer experiences via print and digital channels. Their production environments set new industry standards for governance, security and integrity; with their continuous investment and lean approaches ensuring quality and innovation are delivered at the very best value.

They provide unrivalled expertise and market leading solutions for industries where one-to-one customer communication is vital to their business, including the Financial Services, Telecoms, Utilities, Retail, Government and Charity sectors. Paragon Customer Communications' UK operation has a turnover of around £165m.

THE PROJECT

STULZ were initially contacted by Paragon CC's Head of Lean Continuous Improvement with a requirement involving issues with cooling in a data center. Discussions quickly evolved to look at the overall site at Dagenham and later, other location sites within the Group. The Dagenham site is a printing business, both physical and digital printing.

STULZ attended the site, a huge facility predominately involved in high tech printing for the banking and finance industry. Soon the STULZ Team were invited into the main print room facility which is the size of two football pitches. The facility contained a mezzanine (a building within a building). This was the main digital printing area.

Paragon CC were experiencing problems with cooling in that area and the existing systems were not targeting the cooling appropriately. Leaking split A/C units within the



print room supported by the legacy air conditioning units on the mezzanine roof above, were not meeting the desired room conditions for the Paragon CC employees and the day to day printing processes for this fast-paced critical environment.

IMPLEMENTATION

The STULZ Team took a consultative approach to the project and undertook a considered technical consultation to provide an appropriate solution, proposing a modern system to replace the legacy DX system, a hybrid GE solution, which incorporates “DX”, “Mix Mode” and “Free Cooling”.

It was agreed that the use of STULZ CyberAir 3 GE units in a N+1 resilient configuration supported by the appropriate dry air coolers & pump sets, would not only be the best solution, but would provide up to 70 % free cooling, year-round (based on environmental conditions being appropriate), resulting in a considerable reduction in annual energy costs for Paragon CC.

The CyberAir 3 precision air-conditioning system with either Indirect Free Cooling or Direct Free Cooling option conditions the air in Data Centers and equipment rooms up to 90 % more economically than conventional compressor cooling systems.



Dagenham Internal



The CyberAir 3 GE system

Based on the capacity for the building, STULZ installed four of the units situated on the roof of the mezzanine, cooled by two 250 kw dry coolers external to the building. STULZ then ducted their units into the roof, distributing the conditioned air into the printing room below. This targets the zones where the majority of the critical printing equipment was, and more importantly, the areas of high density printing equipment.

Darren Davies, STULZ Sales Manager said: “Basically, we were taking away all these hotspots and leaving a unified conditioned room which would then allow the machines to work at their maximum operational ability, because otherwise they would cease to function if the temperature rose above a certain point”

The legacy splits in the room were removed because they were leaking and dripping water on to the print area. In addition to supplying the equipment, the STULZ Team provided a fully engineered turnkey solution which addressed all the problems within that particular room. STULZ supplied both indoor and outdoor equipment with an additional modification allowing to bring the ambient air in from outside, and providing a solution to handle air change rates and mix mode free cooling when ambient conditions allow. This enables Paragon CC to ensure the whole system uses as little energy as possible.

The legacy units were decommissioned, the DX ceiling air conditioning units were removed as part of the full installation programme. Weekly status reports were submitted to the client providing full transparency of the project. All ducting and air distribution sets were installed complete with the installation of the dry air coolers and pump sets.

The Project Team had to manage the perception of the employees within the environment as the facility is used 24/7.

Darren Davies said:

“We had to explain to staff how the air moves and how it is supposed to be. A behavioural shift was needed for the system to work appropriately within the room. Leaving a big warehouse door open for example, was continuously letting in hot air. We undertook a process of educating staff as to how conditioned air is distributed and managed within the building and that was fully embraced by the Paragon CC personnel.”

Paragon CC is a significant global business with eight other sites similar to this location in the UK. The STULZ Team became a trusted advisor to Paragon CC throughout the project. Other consultations have led to several additional projects with Paragon CC at other sites, from data centre cooling with STULZ CyberRow units to sales office air-conditioning supplying products to control temperature and humidity precisely, to ensure efficient, continuous operation.



THE RESULT

A total cost analysis (TCO) was provided to demonstrate the capital equipment costs and the return on investment (based on the kilowatt/hour unit rate) and how much energy these units would consume against the legacy equipment.

The return on investment consideration was extremely important to Paragon CC. STULZ demonstrated, through a thorough energy analysis exercise, that a 9-month pay-back period for the capital equipment cost alone can be achieved.

Complete with the service & maintenance contract, the order was won, based on the best full turnkey cooling solution and support, the decommissioning and removal of legacy equipment and full installation of the STULZ solution.

Prior to being awarded the order for the print room project, STULZ secured the additional order to regularly service and maintain all other cooling equipment irrespective of manufacturer for the site. STULZ delivered a first-class installation, meeting Paragon CC's expectations. The print room now operates at a return air temperature between 22°C & 24°C with a relative humidity of 45% RH, providing a perfect condition for the printing process and workspace whilst guaranteeing increased productivity and 0 downtime.

ABOUT STULZ

STULZ is one of the world's leading solution provider of energy efficient temperature and humidity management technology, specifically for mission critical applications.

Backed by over 40 years of experience, STULZ is one of the foremost pioneers in the field of air conditioning solutions for dependable applications and Data Centers. STULZ air conditioning equipment is developed and manufactured primarily in Germany, to the very highest standards of quality and in line with exceptionally stringent testing criteria.

The STULZ product range includes traditional room cooling, high-density cooling, chillers, container modules and air handling units with adiabatic cooling. All systems are available with Indirect Free Cooling. STULZ offers Direct Free Cooling for CRAC systems, air handling units and modular Data Centers.

Together with its various sizes, extensive additional options and modularity, STULZ therefore boasts a product range that is unique in the world and can make optimum air conditioning a reality for practically every Data Center project.

For further information about our services and products please visit our website

www.stulz.com