

CASE STUDY

Aerospace Industry

2000m² office space refurbishment using underfloor air conditioning

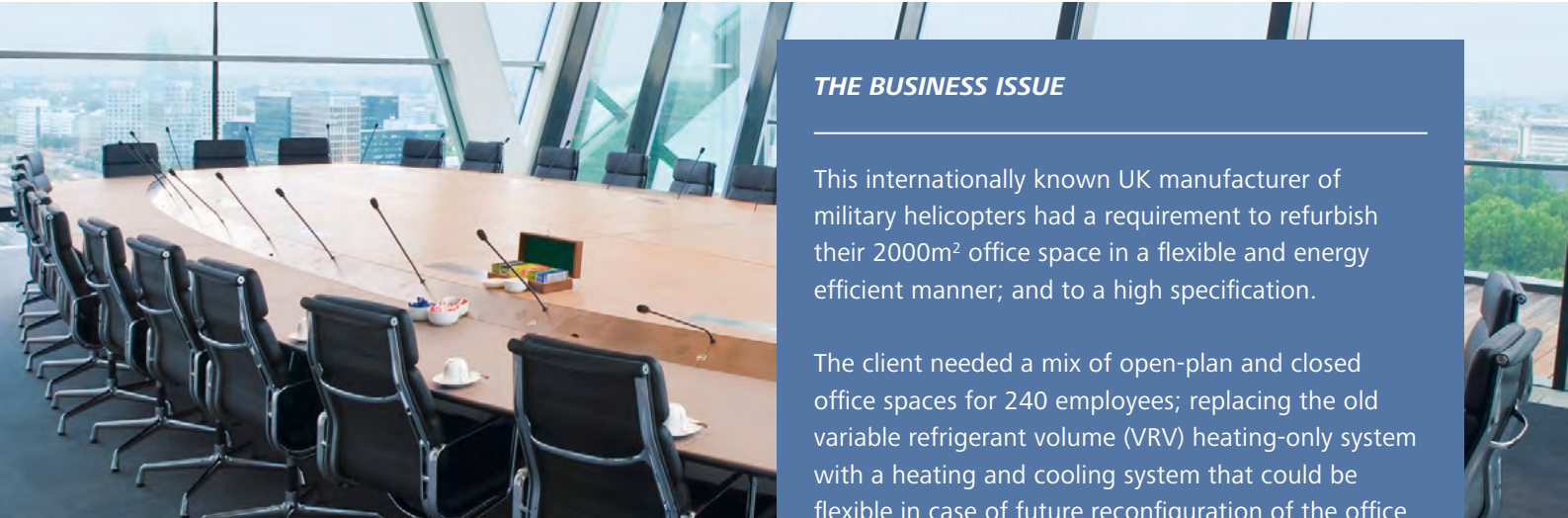
DencoHappel Solutions



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 **DencoHappel[®]**

The Consultation



THE BUSINESS ISSUE

This internationally known UK manufacturer of military helicopters had a requirement to refurbish their 2000m² office space in a flexible and energy efficient manner; and to a high specification.

The client needed a mix of open-plan and closed office spaces for 240 employees; replacing the old variable refrigerant volume (VRV) heating-only system with a heating and cooling system that could be flexible in case of future reconfiguration of the office layout.

Why this was important?

The office space was more than 20 years old, and no longer a comfortable space for employees to work in. It had a poor perimeter heating system and didn't allow for any cooling or intake of fresh air.

The refurbishment programme was to be carried out in two parts of 50% each, in order to minimise disruption and to ensure the client could continue to use the offices throughout the refurbishment period.

Capabilities

DencoHappel engineering and technical teams worked with the client throughout the **design, planning,** and on-site **project management** phases. **Design:** DencoHappel Engineers designed a heating **and** cooling solution for the refurbished office space, which would feature:

- Efficient and intelligent heating systems
- High performance and flexible underfloor air conditioning
- The use of fresh air as a coolant wherever possible
- The utilisation of hidden corridor spaces and raised floors for installation, keeping the visible office area clear
- A flexible design, allowing future reconfiguration of office space without the need to move the new heating and cooling installation
- Full independent monitoring and adjustment capabilities for the whole building, delivered through a full Building Management System (BMS); covering alarms, unit function and operating conditions.

Project Management: The installation plan produced by DencoHappel together with the client allowed for the office space to remain operational throughout the 12-week refurbishment period, which was carried out in two parts.

The Solution

DencoHappel products used

DencoHappel Officecool units. 14 of these **high performance underfloor air conditioning units** were installed in the office space, delivering bespoke and adjustable temperatures throughout the area through the use of Local Environmental Control Units.

Local Environmental Control Units (LECU). LECUs enabled pinpointed temperature control to small areas, allowing temperatures to be set according to personal comfort levels. In this case, some 150 LECUs were installed in the raised floors in both the open plan area, and in offices of varying sizes. In the case of future office reconfiguration, individual LECUs can simply be moved, without having to reinstall the whole system.

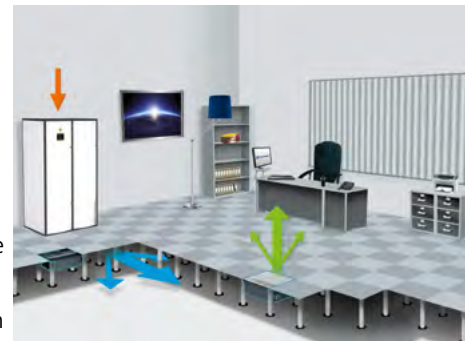
DencoHappel CAIRplus Air Handling Units allowed heat generated by the office to be recovered and extracted; but also provided free cooling and purging of the air each evening. This allowed a regular influx of fresh air, which employees had identified as being important to their comfort.

The Building Management System (BMS) monitored the CO² levels in the offices, which in turn adjusted the inputs and outputs of the CAIRplus units. Combined with the dual compressor systems that are a feature of these units, and which deliver a high COP (coefficient of performance) rating, this ensured optimum energy efficiency and consumption from the installation.

Outcome for the client

The offices were delivered on time and in two parts, in line with the 12-week project plan schedule.

The new heating and cooling system is operating at the same level of energy efficiency as the previous heating-only system; whilst providing a higher level of comfort and personalised control for employees. Indeed, employees are no longer identifying issues with the office temperatures, and have a new, bright, light and airy environment in which to work.



To find out more



Sales



Service



Excellence



Inspiration



Global



DencoHappel is a global provider of precision climate control

Our consulting and service teams in your area will be happy to work with you to develop solutions - with expertise and creativity.

