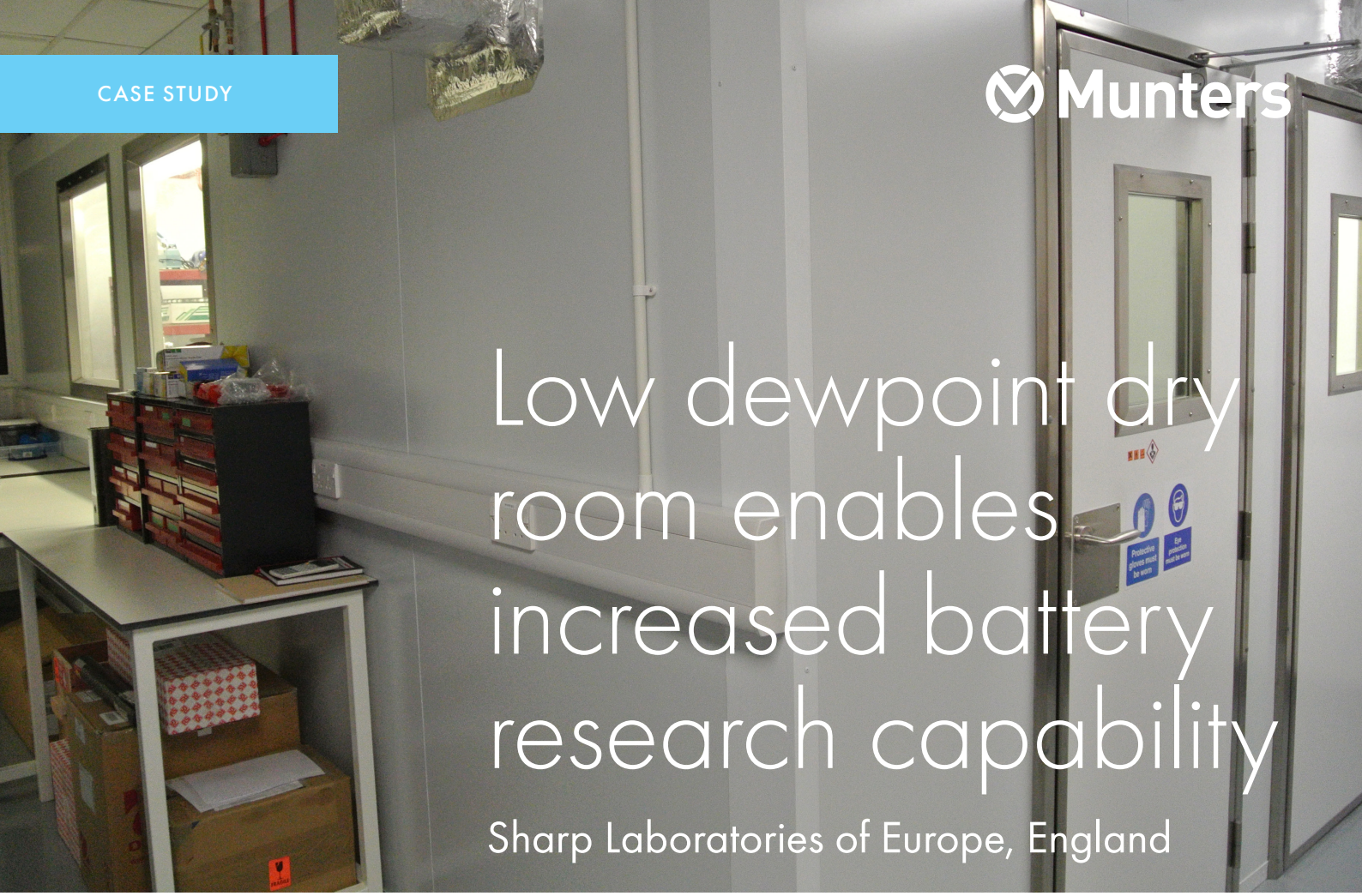

CASE STUDY

Low dewpoint dry room enables increased battery research capability

Sharp Laboratories of Europe, England

Sharp Laboratories of Europe carries out research into new ideas for Sharp's innovative technologies including mobile phones, laptops, televisions and battery solutions. Part of this research includes developing next generation battery technologies using new materials. In the past, Sharp Laboratories of Europe used gloves box isolators to create the climate conditions needed to work with batteries.

Munters recommends dry room with temperature and humidity control

Some components of the batteries can be moisture-sensitive, working in a dry environment removes the variation in results caused by humidity in the atmosphere. "Working with battery cells of this nature is very delicate work", explains Katherine Smith, Research Supervisor at Sharp Laboratories of Europe.

When looking to scale up their research capability, Sharp Laboratories of Europe was referred to Munters by a colleague who had worked with the company before. After visiting the site and reviewing customer needs, Munters recommended a turnkey solution for the supply and installation of a dry room with temperature and humidity control.

The Munters solution

This solution has increased capacity with fewer limitations. Sharp's personnel also visited the University of Warwick to see a proven Munters turnkey dry room solution in place. Munters expert project team managed the project including the strip out and preparation of the old laboratory, dry room build, installation of ductwork, and installation and commissioning of the system. The temperature within the dry room is controlled using DX technology and the humidity is controlled using a Munters ML1350 dehumidifier.

The ML1350 is a desiccant dehumidifier that efficiently dehumidifies in low moisture applications. It is fitted with built in energy purge and low dewpoint discs complete with an integral thyristor-controlled humidity controller. This temperature and humidity control system has been designed to operate below -20°C dpt at temperature at 21°C. However, since installation, conditions of -30°C dp have consistently been achieved, much to the delight of Sharp's team.

How it works

At the heart of the Munters dehumidifier is the desiccant wheel. The desiccant wheel rotates slowly between two air streams, allowing water vapor to be removed as it passes through the desiccant wheel. This dehumidified air is then delivered to the dry room. The Energy Recovery Purge (ERP) system acts as an energy recovery system, collecting waste heat off the hottest section of the desiccant wheel. This reduces the energy used for the most energy efficient temperature and humidity control.

Inside the dry room a large visual display clearly shows dewpoint conditions and is visible from both inside and outside the room. The dry room has been built to accommodate two occupants. Munters ran the project as a turnkey solution, offering support throughout the project. This not only gave the customer peace of mind but also allowed Munters Engineers to deliver the project on time, ensuring customer needs were met. “Our overall experience of working with Munters has been very positive. The project was completed on time, support throughout has been excellent and the system has run problem-free since the day it was installed”, says Katherine.

Case study

- Sharp Laboratories invests in low dewpoint dry room for battery research

Advantages:

Complete supply and installation of a low dewpoint dry room:

- Achieves low dewpoint of -30°C
- Consistent and accurate control of temperature and humidity
- Turnkey supply of complete dry room
- ML1350 desiccant dehumidifier and energy-efficient

Would you like to find out if Munters has a solution for your company too? If so, please visit our website, www.munters.com