

26th June 2023

Is this the coolest place in Milton Keynes?

While much of England swelters through one of the hottest Junes on record, one Milton Keynes facility is holding steady at minus 80 degrees Centigrade, and the biological samples inside it have never been warmer than a deep Arctic winter.

As temperatures across the UK climbed past 36 degrees this week, with the Met Office issuing red extreme heat warnings for millions, local employer UK Biocentre keeps some of the country's most important biological collections frozen at minus 80, a temperature only seen naturally at the South Pole in winter.

The facility looks after around 35 million biological samples on behalf of major national research studies. Among them are samples from Our Future Health, the largest health research programme the UK has ever run, alongside collections from Genomics England, the NIHR BioResource and others. These are, in many cases, irreplaceable, donated by volunteers to help researchers understand and treat conditions ranging from cancer to heart disease.

"People assume the danger in a heatwave is the freezer itself," said Sam Willett, Director for Operations at UK Biocentre. "Actually it's the air in the room. Once the air around a freezer rises above 25 degrees, the system has to work far harder to hold its temperature. So the real job, on a day like this, is controlling the room temperature, not just the freezer."

Cue the additional bank of air conditioning units that have been arriving at UK Biocentre over the last few weeks, an intervention that Sam and his team predicted and had in place in advance.

With the air now guaranteed to never hit more than 25 degrees Centigrade, the freezers are able to work optimally.

Earlier this month UK Biocentre commissioned a BioArc™ Ultra™, a new automated minus 80 storage system from Azenta Life Sciences. The Ultra will hold 16 million of the centre's 35 million samples and runs on an automated refrigeration-and-pick system with zero ozone depletion and zero global warming potential.

Dr Tony Cox OBE, VP & General Manager at UK Biocentre & SRS Europe. "Automation gives us precise, consistent temperature control across millions of samples. On a week like this, that resilience is absolutely essential for looking after the samples that have been entrusted to us."

The combination of air temperature and latest technology also has a failsafe: temperature monitoring readings taken every seven and a half minutes, a 24-hour on-call team that can reach any sample within the hour, backup power that can carry critical storage through an outage, and a standing list of engineers ready to respond if problems arise.

It is, in short, one of the few places in Milton Keynes where this week's heatwave simply won't be felt.

ENDS

Notes to editors

UK Biocentre is a life sciences organisation based in Milton Keynes, established in 2014. It provides biobanking, high-throughput sample processing and sample management for academic, pharmaceutical and clinical research. UK Biocentre is ISO 9001 and ISO 27001 certified, a UKAS-accredited medical laboratory (No. 20056), and is regulated and licensed by the Human Tissue Authority (HTA). In March 2026 it became part of Azenta Life Sciences. More at www.ukbiocentre.com.

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