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MR Solutions' new preclinical MRI systems overcome helium shortage

LONDON; The global shortage of helium has been risking research projects across the world with experts predicting that the second most common element in the universe may be depleted by the middle of the century¹. A shortage so severe that scientists across the world have been calling for a ban on all but the most essential uses. MR Solutions, a world leader in the development of preclinical MRI systems, has developed the world's first range of high-performance, 3T, using super-conducting magnets, which eliminate the need for liquid helium cooling.

CEO, Dr. David Taylor, commented: "Working with our magnet partner we have been able to dispense with the usual liquid helium cooling system by using a revolutionary magnet design incorporating new superconducting wire. This enables the use of a standard low temperature fridge to cool the magnet to the required 4 degrees Kelvin (minus 269° C)."

Why is there a shortage? Helium needs to be extracted when mining for natural gas or it is simply vented into the atmosphere and into space. In 1996 the US started selling off its strategic holding of helium at low prices, as it was no longer considered a strategic material. This led to a glut with no incentive to collect helium. As the US supply will be exhausted shortly, a shortage was created.

Used extensively in medical scanners such as MRIs, medical MEG scanners and specialist brain imaging equipment; the shortage of helium has created difficulties for many research projects as the scanners can no longer be operated.

Professor Ray Dolan of University College London leads the Wellcome Trust Centre for Neuroimaging, which had to stop taking bookings for its scanner in 2012 because of helium shortages. "We have now had to invest in expensive helium-capture technology to recover some of what is burnt off," he said, "and this decision was driven by a need to insulate ourselves against uncertainty over supply and cost."²

Last year, MEG scanners at the universities of Glasgow, London, Oxford and Cambridge were all affected by shortages of helium. "We are told the problem will only get worse," said Mark Stokes, a cognitive neuroscientist at Oxford's Centre for Human Brain Activity."²

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¹ http://www.energydigital.com/oil_gas/global-helium-shortage-ballooning-out-of-control

² <http://www.independent.co.uk/news/science/a-ballooning-problem-the-great-helium-shortage-8439108.html>