

New Data Center Liquid Cooling Process Wins Uptime Institute Award

Collaboration among 3M, Iceotope and University of Leeds Advances Energy Efficiency in Servers and Reduces Waste from Data Center Infrastructure

As the demand for more data and premiums on energy have grown, 3M Company along with Iceotope Research and Development Ltd, and the University of Leeds are working to advance energy efficiency in servers using new data center liquid cooling methodologies. The efforts will be recognized by the Uptime Institute today, which selected the organizations as a Green Enterprise IT (GEIT) Award winner for pioneering projects and innovations that significantly improve energy productivity and use of resources in IT.

The University of Leeds is being recognized in the Facility Product Deployment category of the GEIT Awards for its case study, which details the installation of the Iceotope Solution, a new liquid cooled server system designed and manufactured by Iceotope utilizing 3M™ Novec™ Engineered Fluids, at the University's School of Mechanical Engineering thermofluids laboratory. Iceotope chose Novec fluid for its excellent dielectric heat transfer performance with exceptional environmental properties. The result is a system that can be incorporated into existing data center infrastructure. Additionally, it reduces the energy used to cool IT equipment by up to 97 percent as it eliminates the need for chillers and air conditioning units. Harvested heat from the system is also being reused for heating the laboratory in the case of the University's deployment.

"The team at The University of Leeds and Iceotope are true visionaries for finding innovative ways to respond to sustainability and energy efficiency needs in data centers," said Joe Koch, business director at 3M Electronics Markets Materials Division. "We applaud their dedication and leadership and hope their accomplishments will inspire other industry leaders to come forward in helping to find better ways to address energy efficiency. In addition, the collaboration with our partners is consistent with 3M's longstanding commitment to sustainable development and demonstrates 3M's culture to work with our customers to meet energy-efficiency and sustainability objectives."

While liquid cooling is generally recognized as being more efficient than air cooling, capturing the heat from the myriad of devices within a server has traditionally been challenging. Iceotope's liquid encapsulation technology efficiently captures this heat without complex plumbing networks. Additionally, revolutionary coolants like Novec fluids, which are non-ozone depleting, have wide margins of safety in their intended applications and low global warming potentials, further enable the possibilities.

"As we are recognized for the successful deployment of the University of Leeds system with the GEIT award, we continue to collaborate with 3M to bring our cutting-edge liquid encapsulation cooling technology solution to the U.S. market to address the rising data center energy costs and high-performance computing needs as well as water and space conservation needs in a manner that fully conforms to industry standards," said Peter Hopton, founder and Chief Executive Officer of Iceotope.

Additionally, for the ninth consecutive year, 3M received the ENERGY STAR Sustained Excellence Award from the U.S. Environmental Protection Agency and the U.S. Department of Energy for its comprehensive worldwide energy conservation efforts. The Dow Jones Sustainability Index continues to recognize 3M as a sustainability leader by including the company in its 2010-2011 global sustainability index. When 3M first introduced Novec technology in 1997, the American Chemical Society recognized the company's scientists with a Heroes of Chemistry Award.

Visit 3M's Uptime Symposium booth (#108) to witness the GEIT award-winning parties' collaboration at work. For more information regarding 3M Novec Engineered Fluids visit www.3M.com/Novec or for other 3M branded products log onto www.3M.com/datacenters. Also visit us on [Facebook](#). For more information about 3M's sustainability initiatives visit www.3M.com/sustainability.

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