Sandia National Laboratories
U.S. DEPARTMENT OF ENERGY
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Sandia Brings Home a Record Five Regional Tech-Transfer Awards

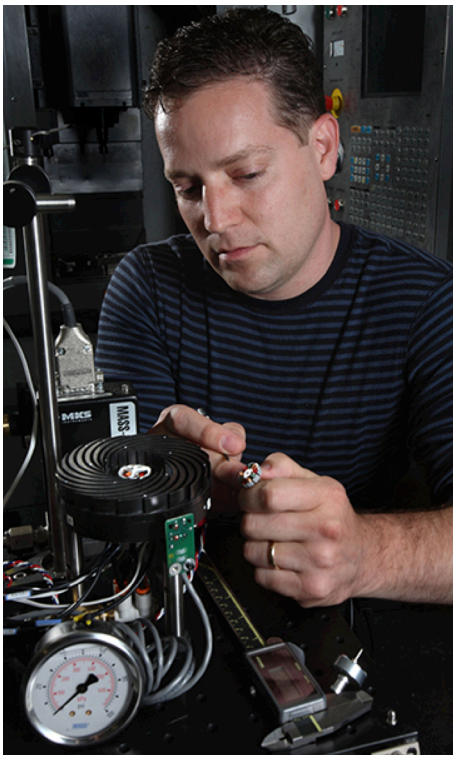
Sandia won five regional awards from the Federal Laboratory Consortium (FLC) for its work to develop and commercialize innovative technologies. It was the most FLC regional awards Sandia has won at one time.

The FLC's Far West/Mid-Continent regions recognized the Labs' SpinDX, Sandia Cooler, and Self-Assembled Multifunctional Optical Coatings (SAMOC) with "Outstanding and Notable Technology Development" awards. "Outstanding Regional Partnership" awards were given to Sandia and the University of New Mexico Health Sciences Center (UNM HSC) for their work on protocell research and SPAWAR Systems Center Pacific (SSC Pacific), Department of Homeland Security (DHS), and Sandia for the development of cargo-container security technologies.

"It's quite an honor to receive recognition for our technology development and technology transfer work," says Jackie Kerby Moore, manager of Technology and Economic Development Dept. and Sandia's representative to the FLC. "It's especially gratifying when we are recognized alongside our partners."

The FLC is a nationwide network of more than 300 members that provides the forum to develop strategies and opportunities for linking laboratory mission technologies and expertise with the marketplace.

The FLC Awards Program annually recognizes federal laboratories and their industry partners for outstanding technology transfer efforts. Since its establishment in 1984 the FLC has presented awards to nearly 200 federal laboratories, becoming one of the most prestigious honors in technology transfer.



Sandia's Jeff Koplow makes an adjustment to an earlier prototype of his Air Bearing Heat Exchanger invention. The technology, as known as the "Sandia Cooler," will significantly reduce the energy needed to cool the processor chips in data centers and large-scale computing environments. (Photo by Dino Vournas)

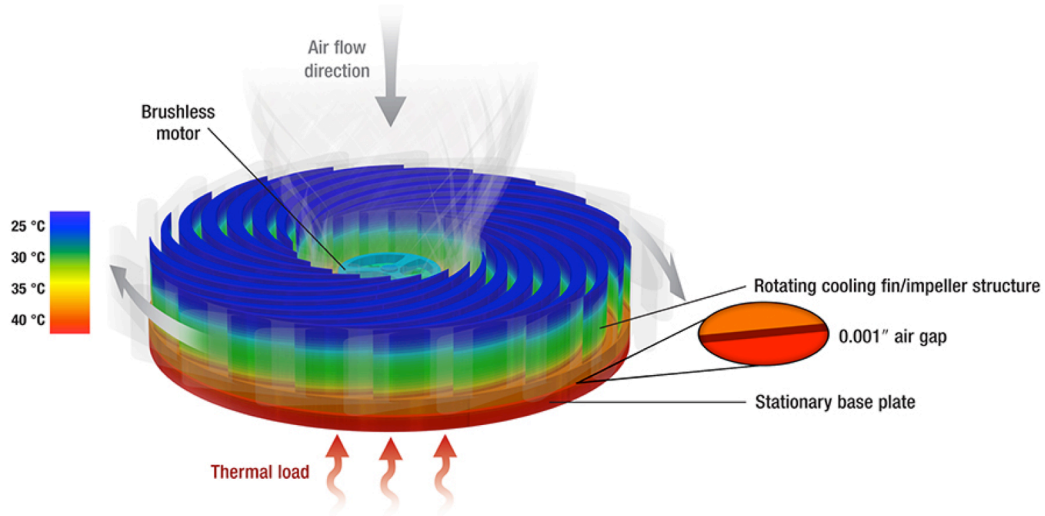
Sandia Cooler: Cutting Power Consumption

The Sandia Cooler reduces the energy needed to cool processor chips in data centers and large-scale computing environments, says Sandia researcher Jeff Koplow (in Sandia's Energy Systems Engineering and Analysis Dept.). The technology has the potential to decrease overall electrical power consumption in the U.S. by more than 7%.

The Sandia Cooler takes heat from a conventional CPU cooler and efficiently transfers it across a narrow air gap from a stationary base to a rotating structure. The normally stagnant boundary layer of air enveloping the cooling fins is subjected to a powerful centrifugal pumping effect, causing the boundary layer thickness to be reduced to 10 times thinner than normal.

Exceptional Service in the National Interest

The cooler offers benefits in other applications where thermal management and energy efficiency are important, particularly heating, ventilation, and air conditioning (HVAC). It won an R&D 100 Award in 2012. One license has been issued and about a dozen companies are interested in the technology. Prototypes are being developed for the interested parties.



In this diagram of the Sandia Cooler, heat is transferred to the rotating cooling fins. Rotation of the cooling fins eliminates the thermal bottleneck typically associated with a conventional CPU cooler. (Diagram courtesy of Jeff Koplow)

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