COMPANY OVERVIEW

Founded in 2007, ThermAvant Technologies designs, develops and manufactures high efficiency thermal solutions.

Our expertise and technical innovations allow us to improve the size, weight, power, and cost of technology and energy systems. Specifically, we provide products and services for:

- Electronics cooling
- Power and energy device packaging
- HVAC and heat recovery

Our mission is to provide customers with high-efficiency solutions that offer unique economic and environmental benefits.

INNOVATIVE TECHNOLOGIES

Our solutions are based on innovations in phase-change technologies

- Oscillating Heat Pipes (OHPs)
- Wick-based Heat Pipes
- Ejector Vapor Compressors

TRUSTED SUPPLIER

Our Columbia, Missouri facility earned ISO 9001:2008 certificate in 2014 and continually improves its quality management systems to ensure customer requirements are satisfied.
PROJECTS
With more than $4 million of externally funded Research, Development and Demonstration (RD&D) projects, ThermAvant is able to develop innovative technologies that resolve some of the world’s most pressing energy and technology challenges.

RD&D Sponsors
- California Energy Commission
- Leonard Wood Institute
- National Science Foundation
- State of Missouri
- U.S. Air Force Research Laboratory
- U.S. Army ARDEC
- U.S. Army CERDEC
- U.S. Navy NAVSEA
- U.S. Office of Naval Research

PRODUCTS

Electronics Cooling

Chip-level heat spreaders: Chip carriers made with thin (1-3mm) CTE-matching materials for ultra-low thermal resistance across a wide range of operating conditions

System-level heat sinks: OHP and conventional heat pipe thermal modules for computing, signaling, lighting and other high power density circuit card assemblies

Power & Energy Device Packaging

Air-cooled and liquid-cooled packages: Using solid and two-phase materials, our custom packages safely acquire and transfer unwanted waste heat from batteries, capacitors and power devices

HVAC and Heat Recovery

- Thermally-driven ejector refrigeration
- Heat recovery units
- Dehumidification systems

SERVICES

Our team of PhDs and engineers provide professional services to assess device-level and system-level thermal performance, using the following tools:

- Analytical and numerical modeling
- Computer aided design (CAD)
- Finite Element Analysis (FEA)
- Computational Fluid Dynamics (CFD)

In addition, we offer custom prototyping of thermal solutions from our Columbia, Missouri facility which includes:

- High-speed CNC vertical mill (50k RPM spindle for precision micro-machining)
- TIG, MIG and laser welding centers
- High temperature braze oven
- OHP and Heat Pipe cleaning, charging and sealing stations
- High fidelity thermal testing stations with high heating and cooling capacity power supplies and chillers, high channel-count DAQ systems, and thermal imaging station.