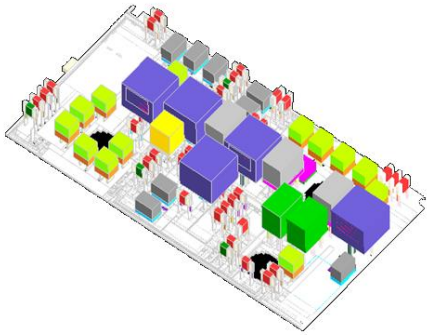
TESuite – Automotive Industry

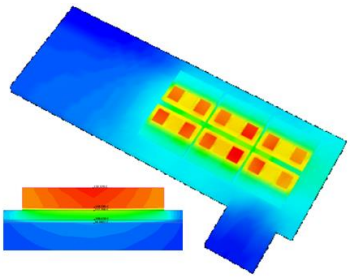
Proper thermal management is absolutely critical and plays a key role in automotive industry. It directly impacts safety, reliability, performance, comfort and fuel economy. TESuite software package is designed to provide the system engineers the most advanced modeling and simulation tool for efficient thermal analysis and assessment of thermal management system capabilities. TESuite is the first package to truly bring together the simplicity of drag and drop system thermal and fluid modeling and the power of 3D CFD and Heat Transfer.

Electronics and Electrical Systems



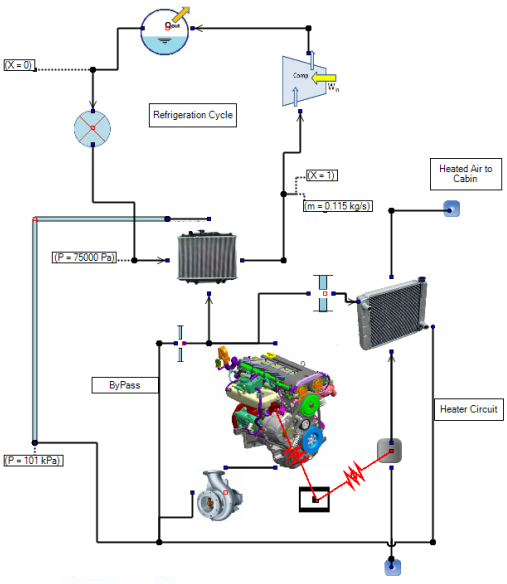
- Designed to address challenging electronics cooling and design issues. It is a CFD based package capable of solving problems involving conduction, natural and forced convection, radiation and conjugate heat transfer with coupled electrical analysis.
- Ideal for the analysis of Electronics Controller Modules (ECMs), Junction boxes , electrical centers and power electronics.
- As the level of model complexity increases the power and efficiency of the software becomes more apparent.

Headlights and LEDs



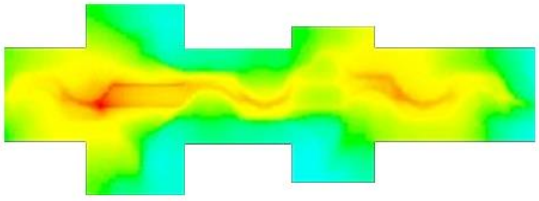
- In most LED applications, nearly all heat produced is conducted through the back side of the chip. Advanced modeling tools are required to resolve the conduction paths through intervening sub-layers beneath the LEDs.
- TESuite offers a complete modeling toolset using Variable Fidelity integrated analysis capabilities, including: 2D solids, thermal resistance planes, integrated RC thermal and electrical networks and embedded liquid cooling channels.

Underhood Thermal Management Systems



- The ultimate environment for the design and analysis of integrated thermal management strategies at the platform, subsystem, and component levels.
- Variable-fidelity approach coupled thermal simulation of propulsion cooling system, A/C system, heater system, battery cooling and high-powered electronics cooling circuits.
- Direct interaction of air, liquid and refrigerant loops with full thermodynamics analysis capabilities.

Electrical self-Heating Circuits



- Analysis of self-heating effects in electrical conductors requires understanding of the Joulian heat dissipation distribution in order to located thermal “bottle-necks”.
- Ideal for the analysis of set-heating and defrost systems.
- The voltage field is solved in parallel but coupled with the temperature field with the updated electrical properties, leading to accurate prediction of self-heating to avoid overdesigns.