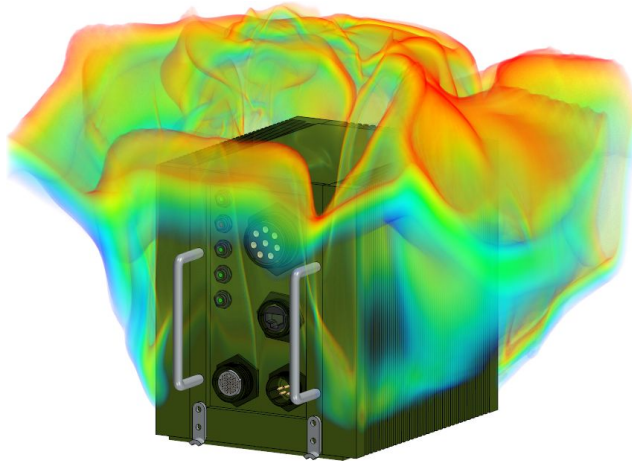




As demand for increasing power-density in electronics systems continues to grow, greater regard to thermal performance in design must be put forth in order to sustain reliable operation and ensure longevity.



Orion is staying ahead of the game by employing advanced computational fluid dynamics (CFD) software to both characterize and optimize thermal performance of our products. To ensure the most robust results of full system simulations, down to board-level analyses, we turned to a globally-recognized name in engineering simulation, CD-adapco and their product STAR-CCM+. As a result, our engineers gained detailed insight into thermal performance of all our products,

creating an avenue for optimization. Examples of optimization studies performed at Orion have included finned arrays, discrete heat generation arrangements, and flow path losses.

Conjugate heat transfer simulations are most common at Orion, incorporating either free convection, forced convection, and/or radiation heat transfer to resolve variations in temperature within solids and fluids. STAR-CCM+ is capable of handling complex assemblies composed of many parts, meaning our engineers are able to retain detailed geometric representations in all simulations. Other features such as adding contact resistance, varying thermophysical properties, and application of fan performance data are just a few examples of the uncompromising level of detail that Orion can incorporate, leading to the most accurate solutions.

This resource is not only limited to improving our product line and future customer-specific products, but is also open as a service to you. Process automation has been adopted for certain aspects of the analysis procedure to help save time and offer the quickest turn-around possible. If you have a product in need of thorough analysis of heat transfer, fluid flow, etc., let us know.

