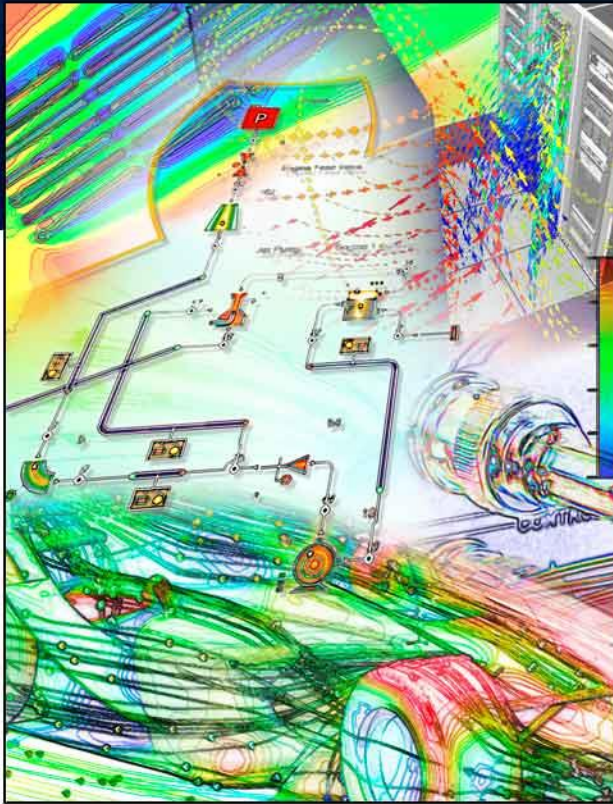


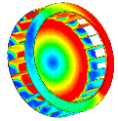
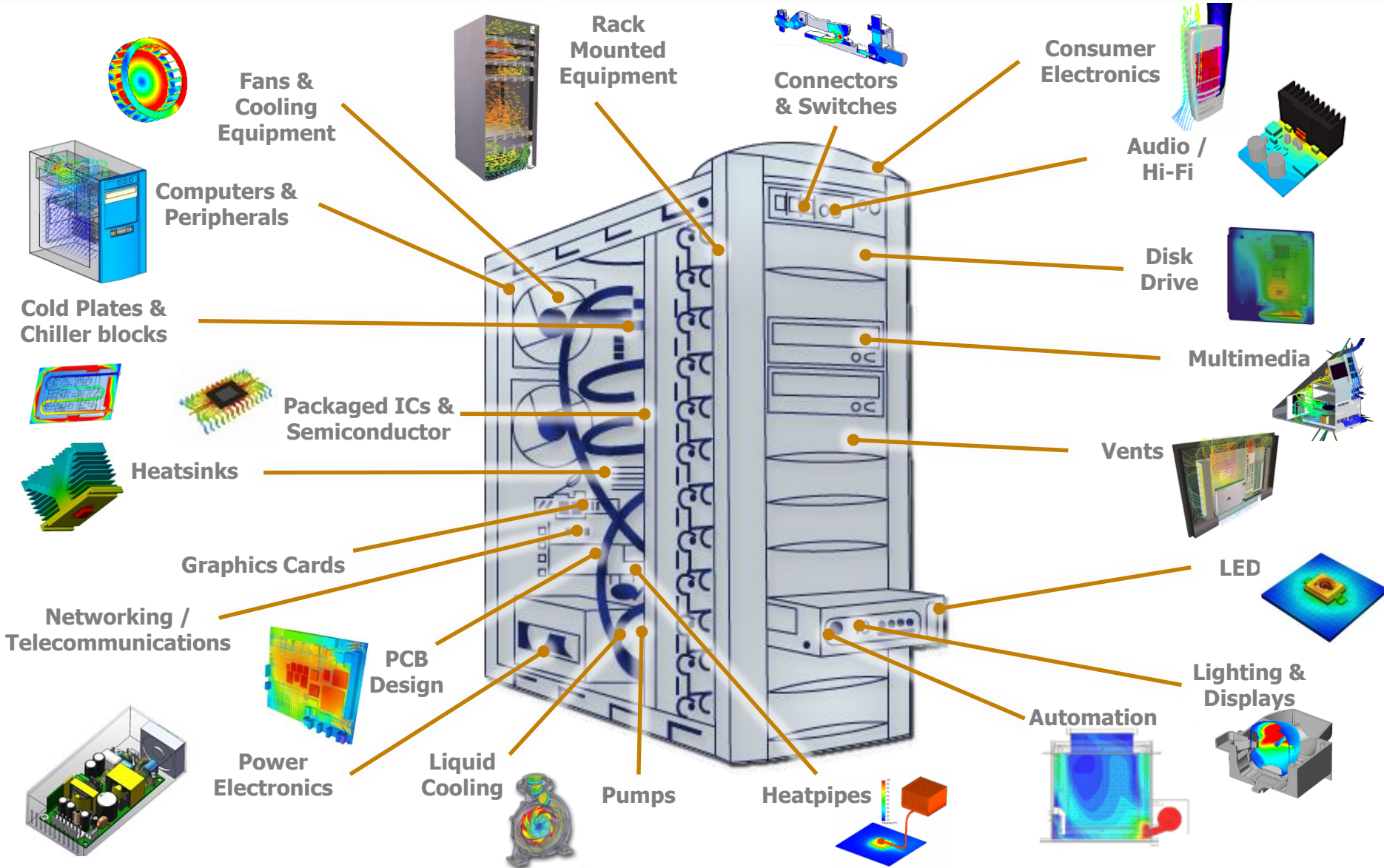
# FloEFD Customer Success Stories: Electronics



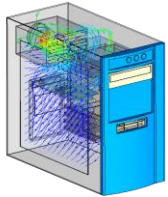
Mechanical Analysis Division

11<sup>th</sup> November 2016

# Mentor Graphics CFD applications in the Electronics Industry

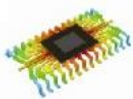
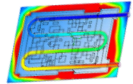


Fans & Cooling Equipment

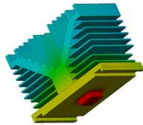


Computers & Peripherals

Cold Plates & Chiller blocks

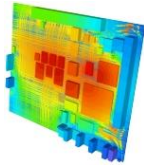


Packaged ICs & Semiconductor



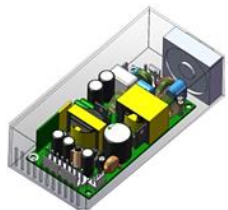
Heatsinks

Graphics Cards



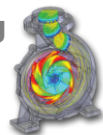
PCB Design

Networking / Telecommunications



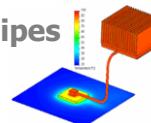
Power Electronics

Liquid Cooling

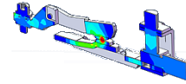


Pumps

Heatpipes

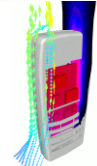


Rack Mounted Equipment

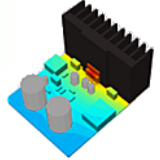


Connectors & Switches

Consumer Electronics



Audio / Hi-Fi

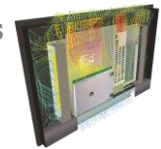


Disk Drive

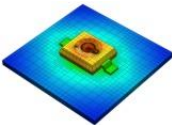
Multimedia



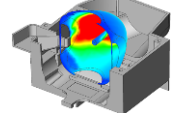
Vents



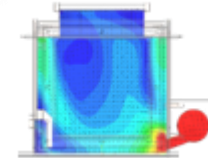
LED



Lighting & Displays



Automation



# Sorrento Networks Optimize Optical Thermal Management Quicker and Cheaper

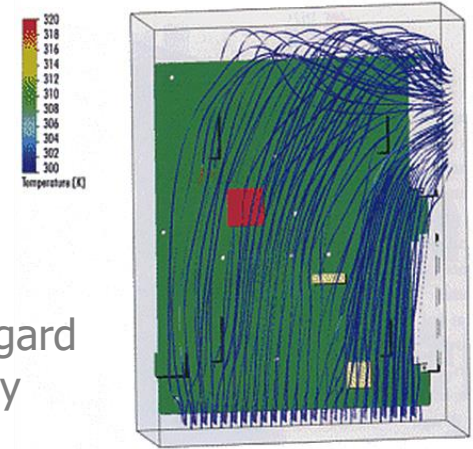
Electronics

- [Sorrento Networks](#) has been a leading supplier of intelligent optical networking solutions for metro and regional applications and builds PCBs and card cage assemblies for their optical networking equipment.

**Challenges:** Thermal analysis of PCB design in assemblies

**Solution:** FloEFD

- Benefits:**
- Optimize PCB layout in card cage assemblies with regard to electrical and thermal requirements simultaneously
  - Save cost by minimizing heat sink and cooling fan requirements
  - Introduce their high quality products to market very fast



*"The most important question a designer or engineer can ask is how can I do my job better and more efficiently?. What new information, process, material technology or IT hardware and software has arrived and obviated whatever came before. For individuals who conduct thermal analysis, the most important new technological advancement has been the continued enhancement of analysis software. Analysis software asch as EFD clearly reveals where the airflow is, where it goes and its flow paternn dramatically helps the engineer."*

Wayne Cottle, Manager of Engineering Services, Sorrento Networks, USA

# FloEFD Ensures Cooling Capacity for NEC SX Series of Supercomputers

- [NEC](#) is a major Japanese electronics company. During the development of the SX Series of Supercomputers with radical cooling needs.

**Challenges:** Ensure adequate cooling in a new design is very compact. Previous effort to use CFD was unsuccessful because analysis was found to be too time consuming and difficult to master

**Solution:** FloEFD

**Benefits:**

- Created an optimal design in record time
- FloEFD's CAD embedding allowed the engineers to do quick multiple "what-if" design studies
- Helped the team better understand how to minimize the temperature rise

*"We want to recognize the direction where our product design must go, and to make changes fast to save time. We have already achieved this goal in one year. We were able to reduce the costs drastically with FloEFD during the prototyping stage because we definitely needed fewer prototypes."*

NEC Engineer

## Computer Hardware

