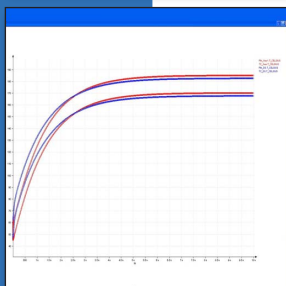


Training Course

THERMAL ANALYSIS OF ELECTRIC MACHINES AND DRIVES

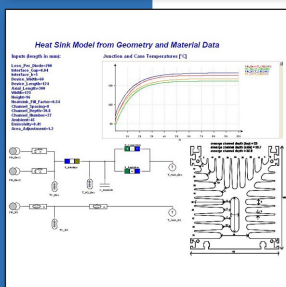


Modern drives feature a high power density that has become possible by use of new magnet materials and the increasing capabilities of power electronic devices. With this background there is always the challenge of efficient power dissipation. Thermal analysis of electric machines and drives is highly demanding due to the variety of influences and the non-linearity of the underlying physics. The programs **Motor-CAD** and **Portunus** by *Motor-Design Ltd.* and *Adapted Solutions* are complementary tools for the analysis of different aspects of heat transfer.



Within the scope of a 3-days training course, the basics of thermal analysis and the features of the software products are explained. The main topics of the training course are:

- Physics of heat transfer, calculation approaches
- Cooling of electrical machines
- Special issues regarding the electrical and thermal analysis of power electronic systems
- Creation of thermal networks based on geometry and material data
- Overview of software solutions covering different steps of the design process



The training course has been developed by *Motor Design Ltd.* and *Adapted Solutions* and will be given by experts from both companies. Practical exercises carried out with **Motor-CAD** and **Portunus** deepen the understanding of the discussed topics. In addition to the course materials, a number of example files are available. Customer-specific modelling problems may be discussed on demand.

