



Partner Spotlight: ThermoAnalytics

Craig Makens, Vice President at ThermoAnalytics, discusses TAItherm, his company's thermal analysis software.

APA: Why or how was ThermoAnalytics founded? What opportunities were there in the market?

ThermoAnalytics: ThermoAnalytics was founded in 1996 to begin commercializing thermal software developed by the co-founders for the automotive and defense industries. The market opportunity was providing a fast thermal solver that could be used by early in the design cycle to reduce testing and design time.

APA: What are some of the benefits of using TAItherm for thermal analysis?

ThermoAnalytics: TAItherm is extremely fast and efficient at solving complex thermal problems, and is well known for our extremely fast view factors and thermal solver. Our software is also designed to be used throughout the design cycle, covering from early concept component analysis through full model optimization.

APA: What does the future of the thermal analysis industry look like?

The future of CAE thermal analysis is changing rapidly, with users needing CAE software tools that can handle increasing complex models and physics, while reducing simulation time through improved efficiency and cloud simulations. Thermal simulation needs to easily integrate with other CAE software tools to simplify the overall virtual design process.

APA: For what applications is TAItherm intended for?

ThermoAnalytics: TAItherm is used extensively for engine and exhaust thermal management in transportation industries (automotive, aerospace, defense, commercial vehicles, motorsports, ships, trains, etc). TAItherm is also used in other thermal simulation areas, including brakes, HVAC/ECS/cabin comfort, climate chambers, electronics, fire safety, thermal ovens, and many other thermal applications.

APA: What are the major (essential) inputs required from the user?

ThermoAnalytics: An accurate thermal solution is dependent on having good boundary conditions for all 3 modes of heat transfer – radiation, conduction, and convection. TAItherm includes a large database of common materials with thermal properties for conduction, surface properties for radiation exchange, and gas/liquid properties for convection that can be easily applied to a model. For example with an engine model, the engineer would also assign the temperature of some heat source parts based on test measurements, IR imagery, or other simulation models.

APA: What other (optional) inputs required from the user?

ThermoAnalytics: Engineers can easily use their own measurements for any of the material, surface, or fluid properties. Other inputs would be based on the type of simulation model.

APA: How much time is required to learn and start using TAItherm?

ThermoAnalytics: For an engineer who is familiar with CFD or FEA, the learning curve is very short and they can start running cases in less than a day. Our standard training class is completed in two days, and gives users a broad exposure to using advanced features for different applications.

To get started, check out TAI's [on-demand and self paced training page](#).

APA: What's next for ThermoAnalytics...what can we look forward to?

ThermoAnalytics: 2014 will be a busy year at ThermoAnalytics. We have just opened offices in Germany and France and will be hosting our 10th International TAItherm User Group Meeting in Germany on March 26-28. We will have several major releases of TAItherm this year, which will feature our new HPC solver. A full list of upcoming events, webinars, and trainings can be found at: www.thermoanalytics.com/events and technical and training resources are available on our support site at: support.thermoanalytics.com

TAIthermTM

THERMAL ANALYSIS SOFTWARE

