ANSA
PRE PROCESSOR

META
POST PROCESSOR

advanced
pre- & post- processing for
Thermal Analysis
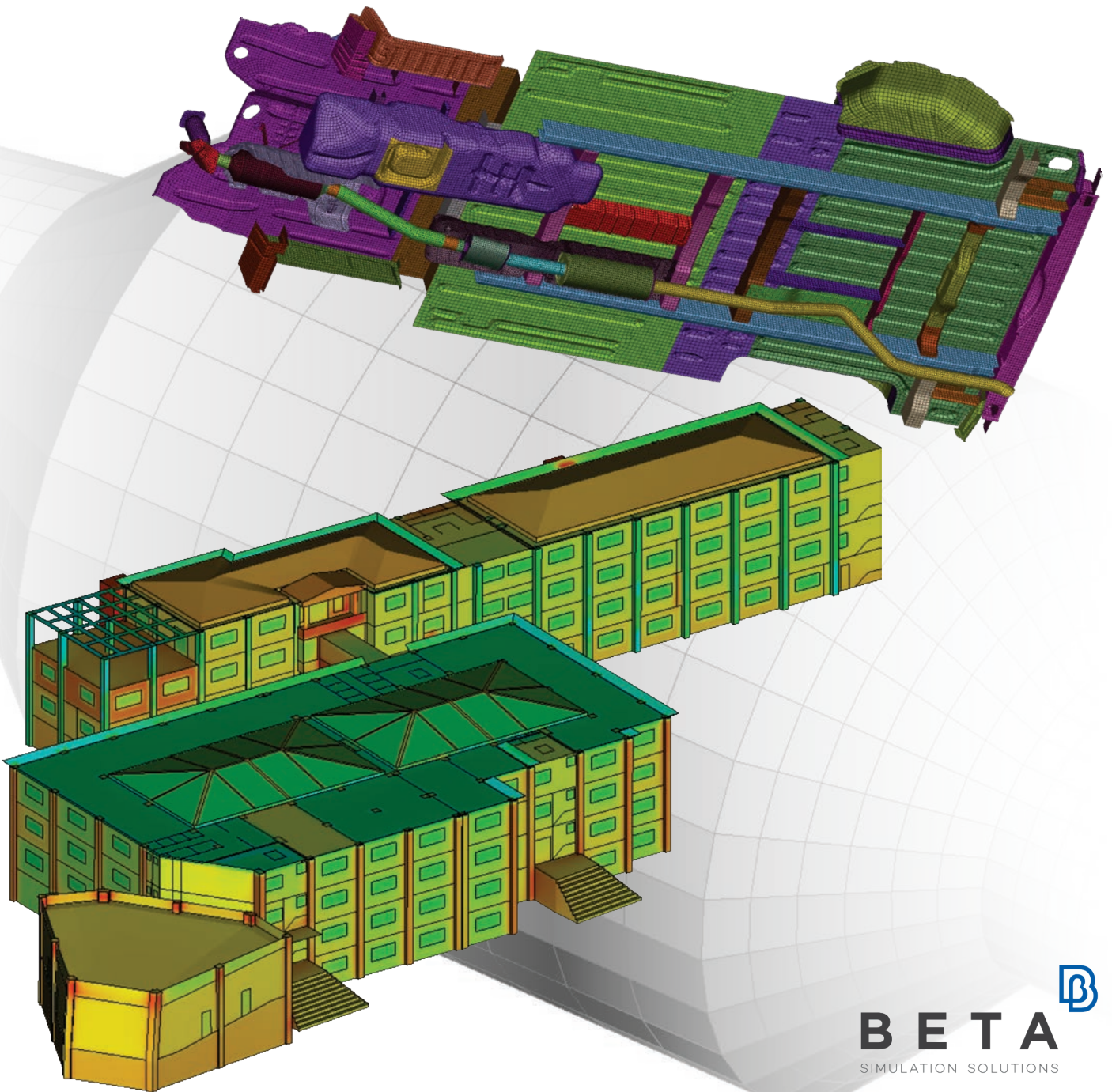
BETA
SIMULATION SOLUTIONS

www.beta-cae.com

ANSA & META offer pre- & post-processing functionality for Thermal Analyses with TAITherm & THESEUS-FE, addressing industries such as automotive, motorsport, architecture, aerospace, defense & electronics.
ANSA offers high quality meshing and modeling capabilities in dedicated interfaces.
META is an advanced post-processor capable of handling and processing extremely large and complex models.

ANSA major features:

-Multi-core, 64-bit, double-precision for maximum speed, memory access and accuracy
-Customized GUI for Thermal Management cases
-Direct I/O of native TAITherm and THESEUS-FE files
-Interface for TAITherm and THESEUS-FE solvers
-Geometry cleanup and watertight preparation tools
-Generation of high quality meshes, (tria & quad elements)
-Batch Mesh tool for meshing automation
-Surface wrapping for complex geometries
-Mesh morphing functionalities

TAITherm Deck notable features

-Materials definition (Fluid, Solid, Anisotropic, Transparent, etc.
-Thickness and material definition for multi-layer parts
-Thermal Links (Generic and Face to Face)
-Fluid Stream boundary conditions
-Assigned and Calculated temperature BCs
-Environment definition (Natural and Bounding Box options)
-Solver settings (Solution Parameters, Convergence Criteria, Weather files)

THESEUS-FE Deck notable features

-Thermal material properties definition for isotropic and anisotropic materials in NASTRAN format (MAT4, MAT5)
-Thickness and material definition for single layer and multi-layer shell elements (PSHELL, PCOMP)
-Material properties definition for groups of bar elements (PBAR, PBEAM, PCOMP)
-Boundary Conditions for convection radiation & sun position
-Main solver settings
-Support of AIRZONE and VOLUME keywords
-Definition of functions as curves

META major features

-Support of all result types and also the calculated normal heat conduction, thermal conductivity, resistance on shells.
- Plot data loading of any solver output, thermal properties on elements and parts, and convergence data.
- Linked manipulation of unsteady element data and all correlating time dependent plots.
- Per layer result handling and reporting of material properties and thicknesses.
- Grouped handling of elements and parts according to Thermal Link connections.
- Comparison between solvers, meshes, models and setups.
- Report capabilities (.html, .pptx or .pdf reports).
- Full automation through session files and scripting.