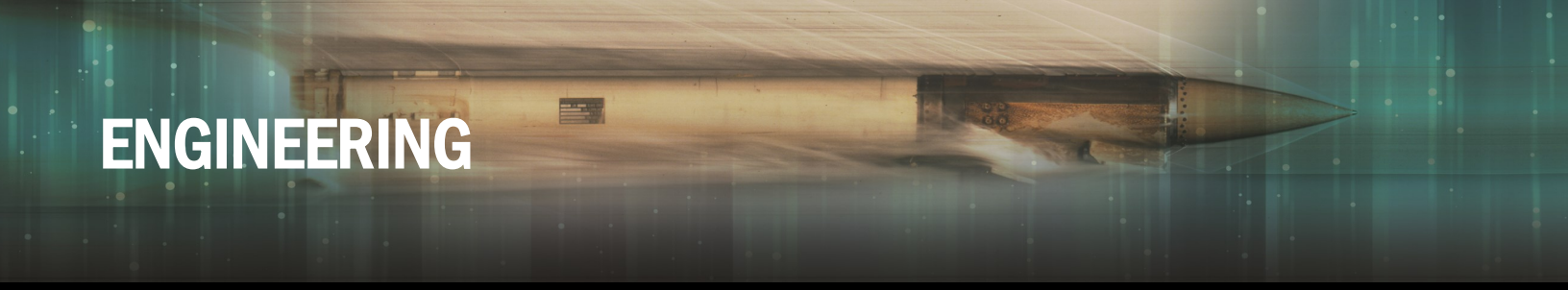


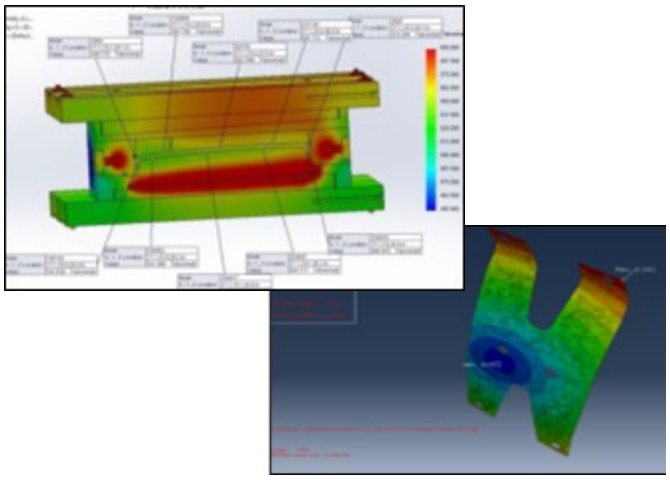
ENGINEERING

ANALYSIS

Mentis Sciences utilizes a number of powerful software packages and employs an experienced staff; this allows for comprehensive design and analysis of complex composite and isotropic materials and structures under complex thermal and mechanical boundary conditions and environments. Mentis' software capabilities include but are not limited to:

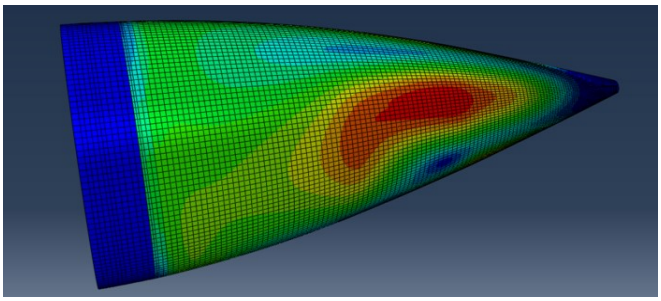
SOLIDWORKS SIMULATION & FLOW SIMULATION

- Structural Analysis
- FEA
- Transient & Steady State Heat Transfer
- Conduction
- Convection
- Basic Radiation
- Dynamic Impact & Structural Response
- Computational Fluid Dynamics (CFD)
- Frequency Analysis



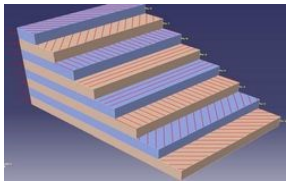
ABAQUS/STANDARD

- Static and Low Speed Dynamic FEA
- Transient and Steady-State Heat Transfer
- Coupled Thermal / Mechanical Stress Analysis
- Laminate Design and FEA of Composite Structures
- Lamina Material Properties
- Ply Layup and Sequencing
- Orthotropic Material Properties



AUTODESK SIMULATION – COMPOSITE DESIGN

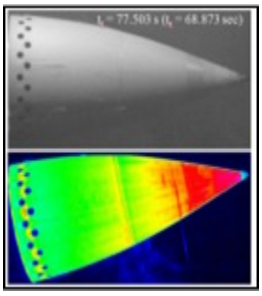
- Laminate design using lamina, constituent material property data
- Micromechanical lamina material properties based on fiber volume fraction
- Stiffness, Compliance and ABD Matrix Prediction



- Stress, Strain, Strength Analysis
- First Ply Failure Predictions
- Estimation of Laminate Failure Envelope

AEROHEATING AND THERMAL ANALYSIS CODE (ATAC-3D)

- Aerothermal Convective Heat Transfer and Transient, In-depth Material Response in:
  - Flight Trajectories
  - Wind Tunnel Test Environments
  - Ballistic Test Ranges
  - Arc Heating Test Environment
- Charring Material Thermal Response and Ablation (CMA) Modeling



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