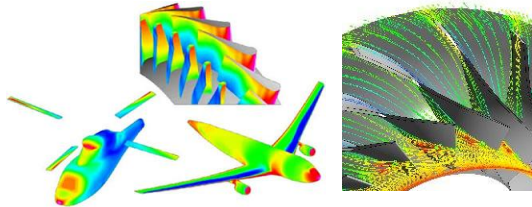


Aerospace Service Overview

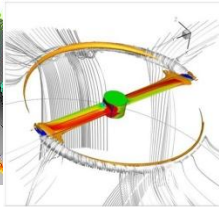
Internal and External Aerodynamics

- Lift and Drag Calculation
- Design and Optimisation of High Lift devices
- Aerofoil selection and shape optimisation
- Control surface design
- Stability and Control Calculations
- Shock and boundary layer effects



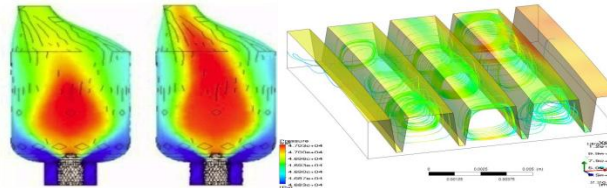
Aero-structures

- Material modelling of multi-laminate composite s
- Ply failure analysis
- Fatigue and Creep characterisation
- Component life prediction
- Cavity Acoustics Calculation
- Landing gear noise calculation



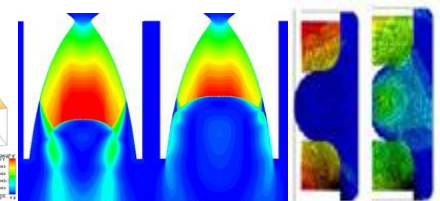
Turbo-machinery /Propeller

- Fatigue/Creep/Life time estimation for Turbo-machinery components
- Efficiency Calculation of Turbo-machinery component
- Flow induced vibration of sealing components
- Modelling wake propagation
- Rotor-Airframe Interaction



Thermal Management

- Heat Sink design
- Thermal contact efficiency calculation
- Predict maximum/minimum oil temperature during service
- Derive response curves for heat exchange cycles
- Estimate net pressure drops during heat exchange



Actuation Systems and Sealing Systems

- Hydraulic network design and simulation
- Performance characterisation of Components
- Nano-Coatings for Landing Gears
- Design of precision seals
- Seal life prediction

Fluid Distribution Systems

- Air management system design
- Tank Sloshing
- Predict flow rates, pressures and flow distribution in multiple fuel tank systems
- Predict CG shift during refueling and defueling
- Component sizing & performance calculations

Combustion Modelling

- Combustion Efficiency Calculation
- Combustion Stoichiometry
- Injector design Plume Analysis
- Modelling Film cooling process

Rockets and Missiles

- Store separation Analysis
- Thruster performance calculation
- Exhaust Nozzle design and Optimisation
- Modelling Launch Mechanism

Modeling Techniques

- Potential flow Modelling
- Turbulence Modelling
- Linear and Non-linear Finite Element Methods

- Modal analysis
- Harmonic response analysis
- Multi-Field Simulation
- Multiphase flow modelling

- Free Surface Modelling
- Volume of Fluid
- Aero-elasticity
- Computational Fluid-Structure Interaction

- Computational Aero Acoustics
- Thermo-fluid Dynamics
- Hydrodynamics
- Elasto-Hydro dynamics