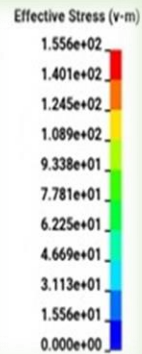
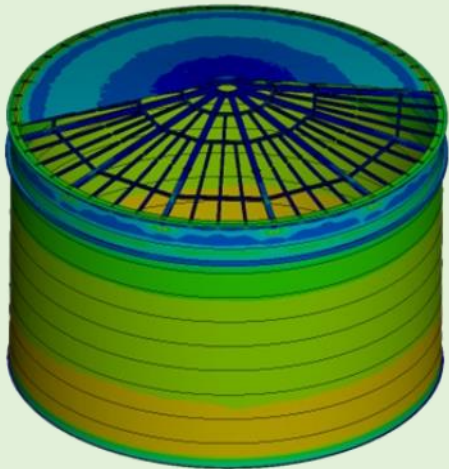


# NIHARIKA COMPUTATIONAL ENGINEERING SOLUTIONS PVT LTD

Company Profile



2023

# About us



**We are** an Engineering Consulting Company founded in the year 2017.



**What we do:** We provide Engineering Services covering Computer Aided Design, Computational Fluid Dynamics (CFD) analysis, Finite Element Analysis (FEA), Thermal solutions for Electronics and Failure Analysis.

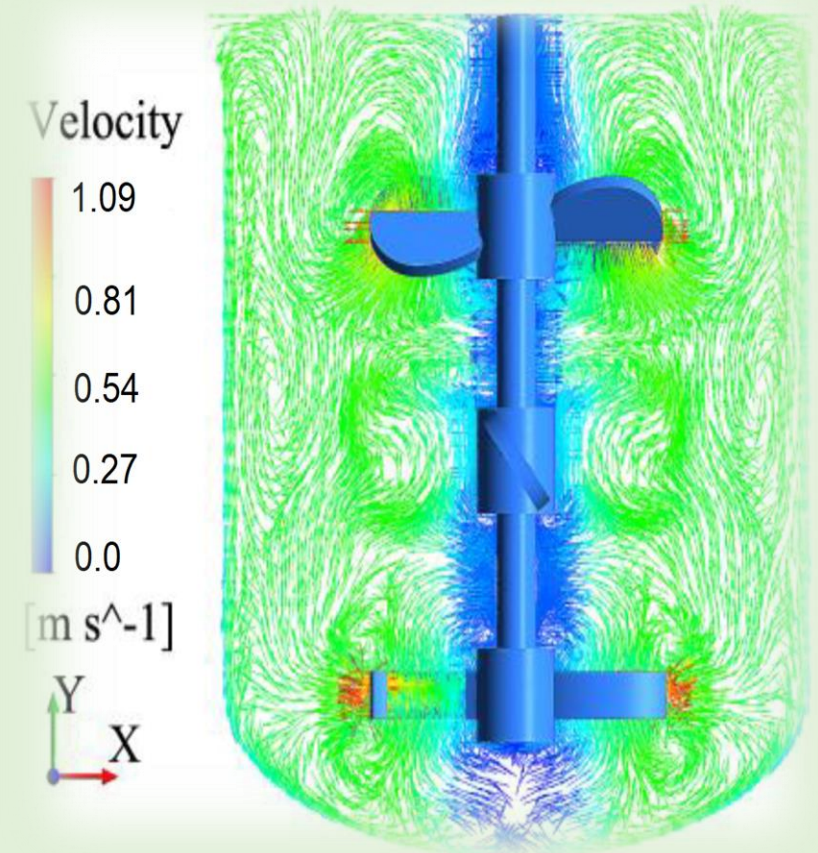


**We worked with** customers from diverse Industry verticals covering Medical devices, Semiconductor, 5G- Telecom, Aerospace and Defence, Heavy Engineering and Energy & Infrastructure.

# Services

## Services: CFD analysis

- ❖ Electronic Cooling CFD Analysis and Thermal Design Optimization
- ❖ Chemical Reactions, Combustion CFD Analysis
- ❖ Multi Phase Flow CFD Analysis
- ❖ Turbo Machinery CFD analysis
- ❖ CFD Analysis services for Data Centre, HVAC and Transportation Tunnel Applications
- ❖ CFD analysis services for Pressure Vessels and Reactors
- ❖ CFD analysis services for Pollutant Dispersion Studies
- ❖ CFD analysis services for Electrical Motors, Power boxes and Power Controller units.

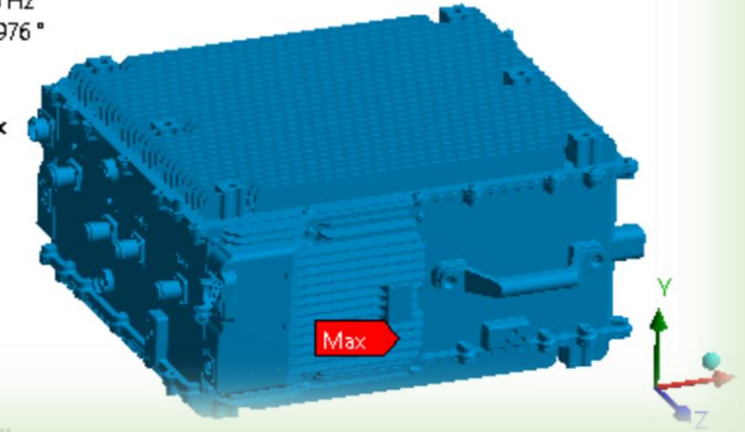


## Services: FEA (Structural Analysis)

- ❖ Static, Dynamic analysis
- ❖ Linear , Non-linear analysis
- ❖ Modal analysis
- ❖ Analysing and validating structural Integrity and Performance
- ❖ Evaluating Vehicle Crashworthiness

Harmonic Response-X (Characteristic)  
Equivalent Stress 3  
Type: Equivalent (von-Mises) Stress  
Frequency: 198.76 Hz  
Phase Angle: -2.7976 °  
Unit: MPa

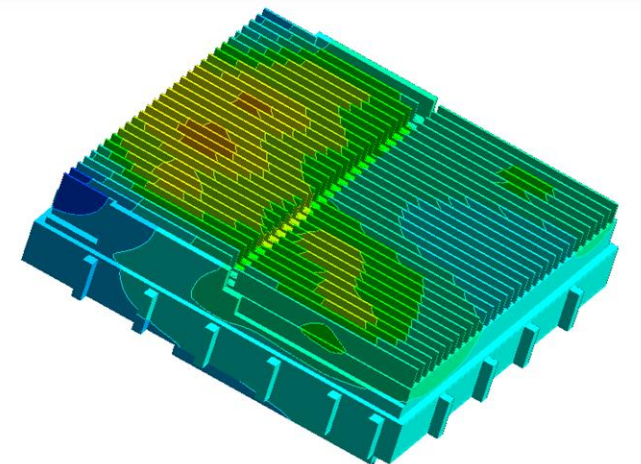
0.49306 Max  
0.43143  
0.3698  
0.30816  
0.24653  
0.1849  
0.12327  
0.061633  
8.5719e-9  
7.5003e-9 Min



## Services: Design of Thermal Systems

- ❖ Turn Key Thermal Design Solutions for Electronic Systems
- ❖ Active and Passive Thermal Systems Design
- ❖ Design of Heat Exchangers as per TEMA Standards
- ❖ Vast Experience in Advanced Thermal and CFD Analysis

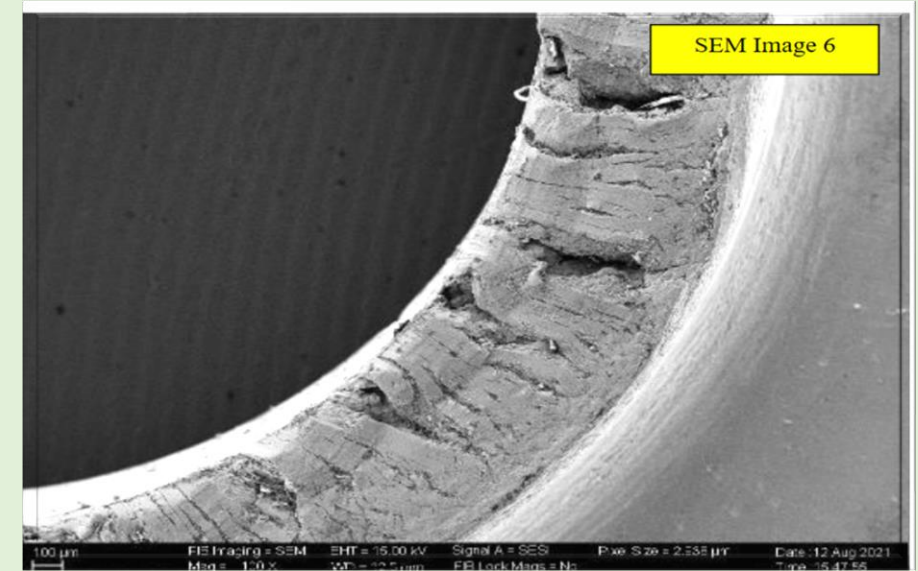
Temperature  
Contour 1  
119.8  
115.2  
110.5  
105.8  
101.1  
96.5  
91.8  
87.1  
82.5  
77.8  
[C]





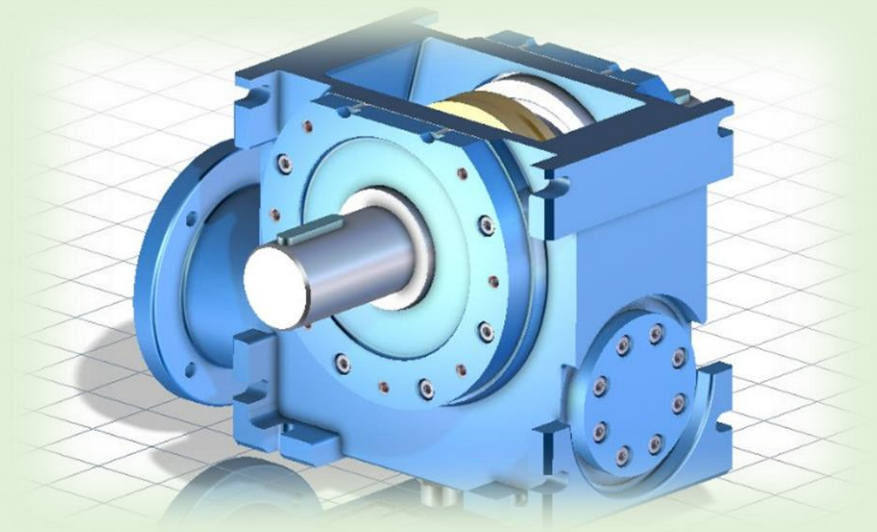
## Services: Failure Analysis

- ❖ Mechanical, Flow Induced Vibrations
- ❖ Mechanical Over Load, Fatigue Failures
- ❖ System – Component Interaction
- ❖ Design Limitations, Thermal Distortion - Stresses
- ❖ Improper Material Selection, Defects in Manufacturing
- ❖ Metallurgical Investigations



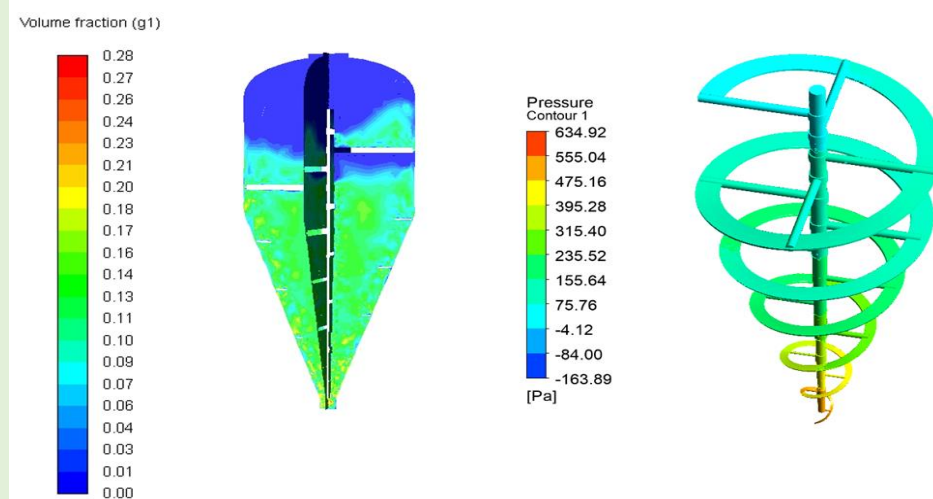
## Services: Mechanical Design

- ❖ Concept – Preliminary Design
- ❖ Material Selection
- ❖ Subsystem Design
- ❖ Detailed Design of Modules
- ❖ Assemblies, GD&T, Manufacturing Drawings

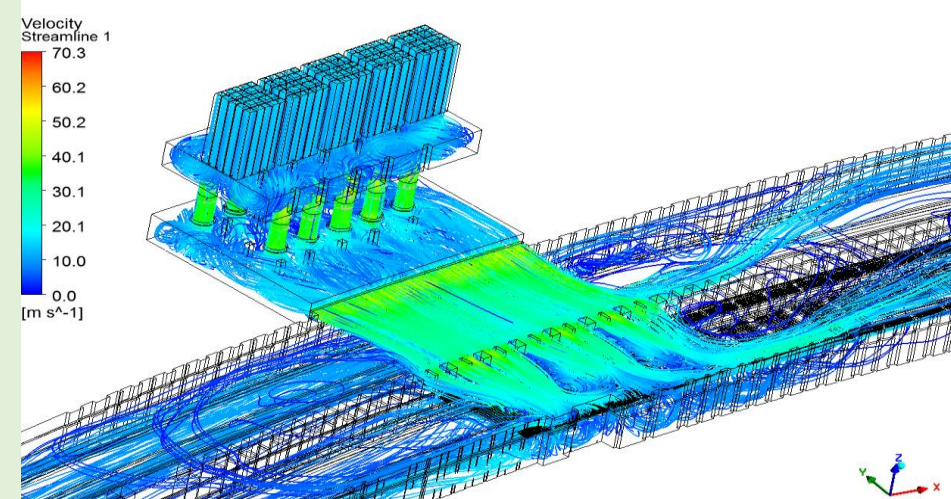


# Key Projects

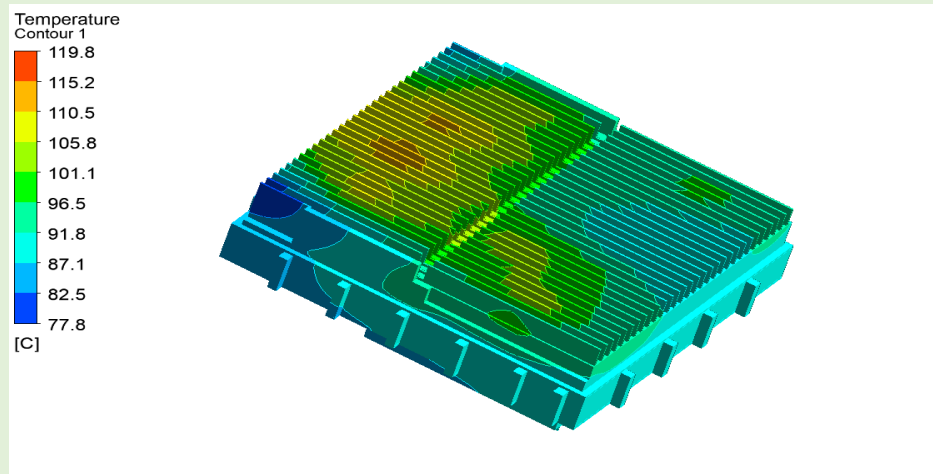
# Key Projects: Computational Fluid Dynamics (CFD) analysis



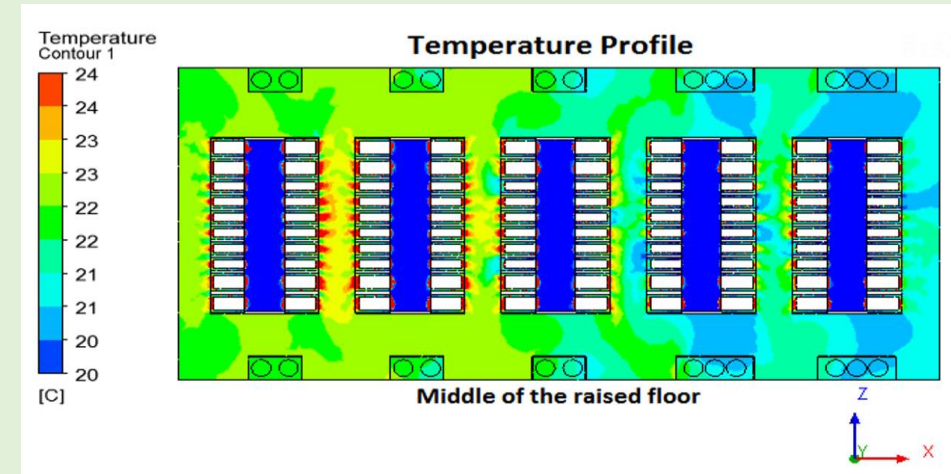
Multiphase Mixing Analysis in Agitator



CFD Analysis for Underground Transport Tunnel



CFD Analysis of Multiband 5G Remote Radio Unit



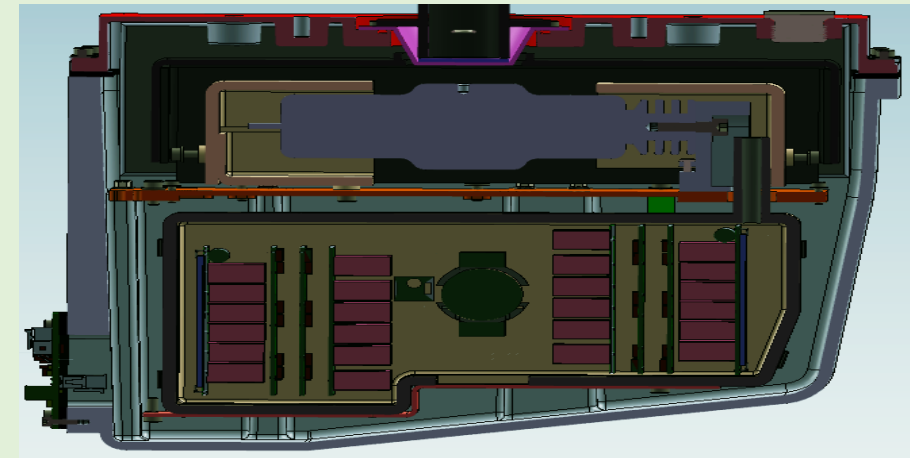
CFD Analysis of Data Centre – Hot and Cold Aisle Containment



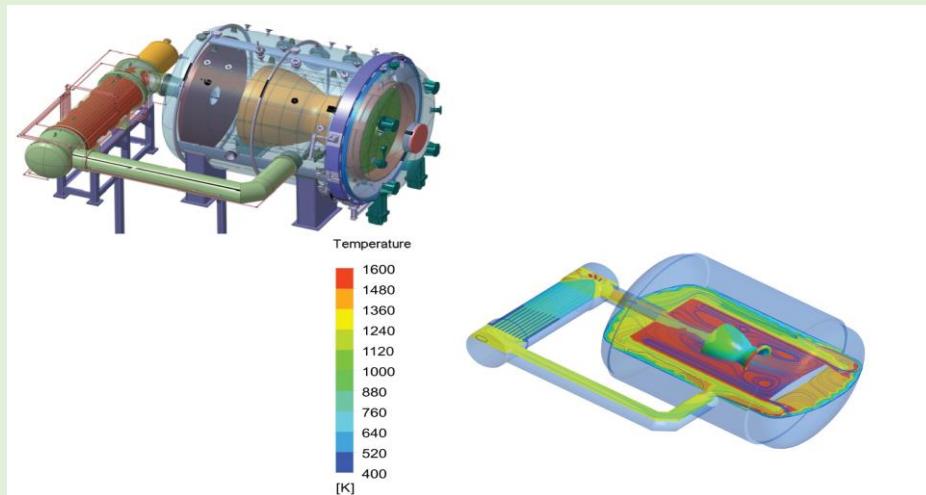
# Key Projects: Computational Fluid Dynamics (CFD) analysis



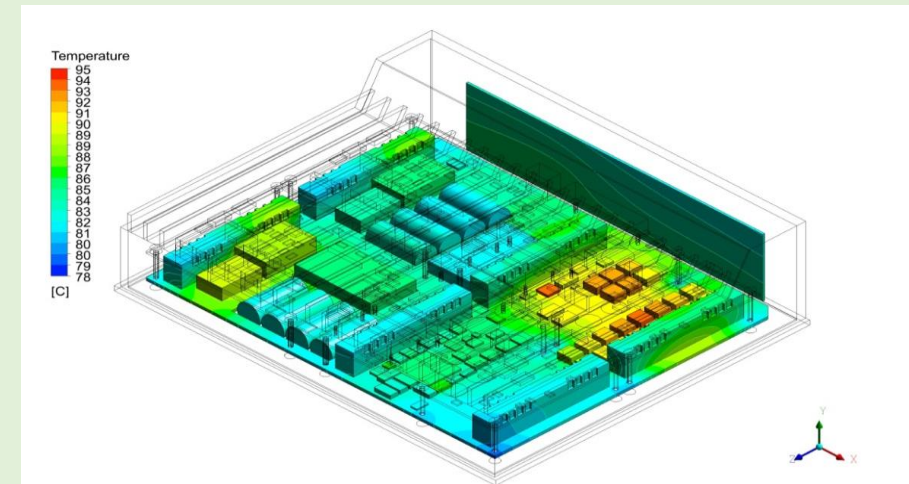
CFD Analysis for Closed Loop Anaesthesia Delivery System (CLADS)



Thermal Analysis of Surgical Fluoroscopy Device (High Voltage Surgical X-Ray Device)

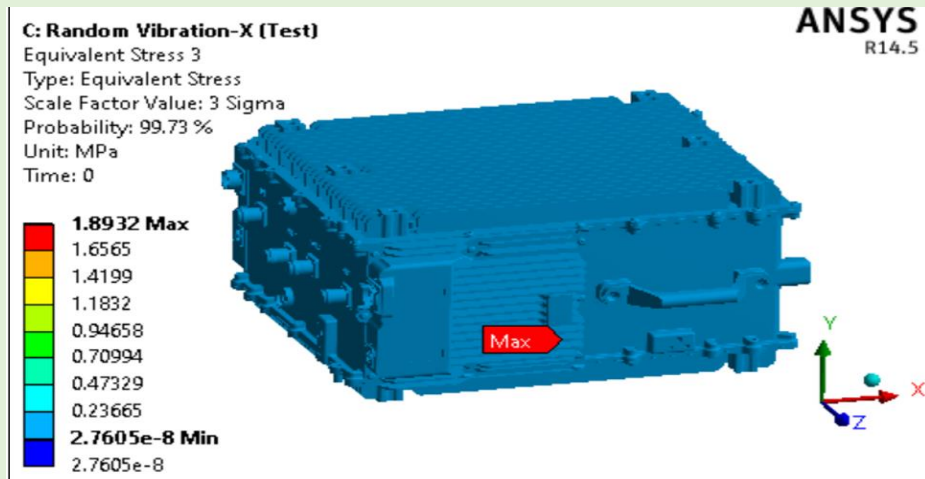


CFD Analysis of Rotary Vacuum Brazing Furnace

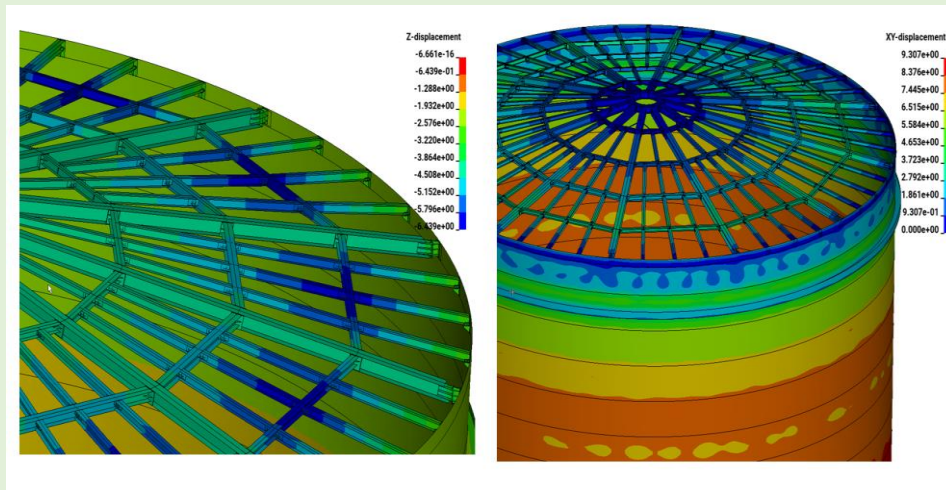


CFD Analysis of Aircraft Digital Engine Controller (FADEC)

# Key Projects: Structural (FEA) Analysis



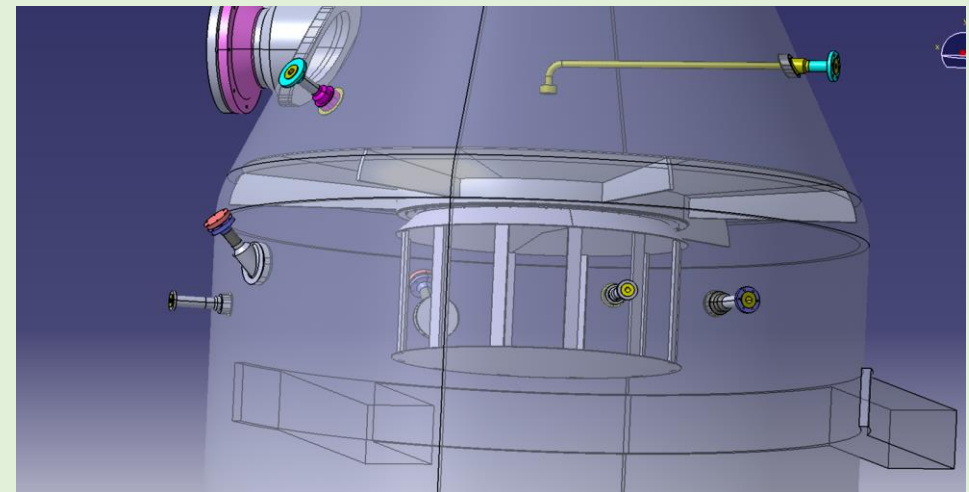
Dynamic FEA : 5G Multiband Radio Unit with Antenna



FEM Analysis of Crude Oil Storage Tank



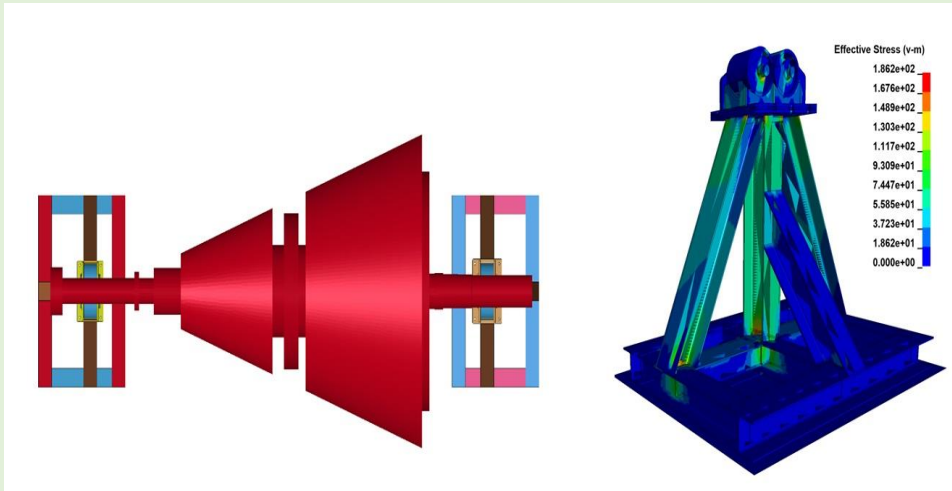
Crack Propagation in Cement Grinding Roller Shaft



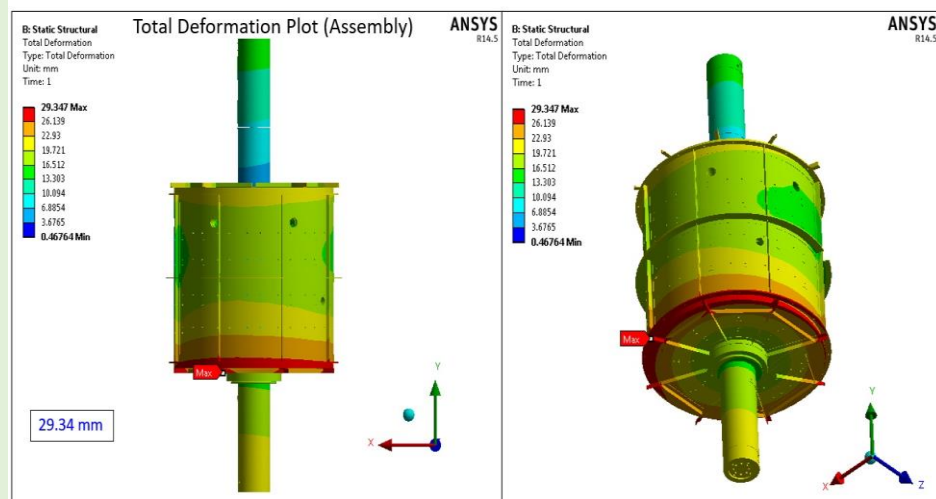
Structural Design and Optimization of Disk Baffle in Side LAO Reactor



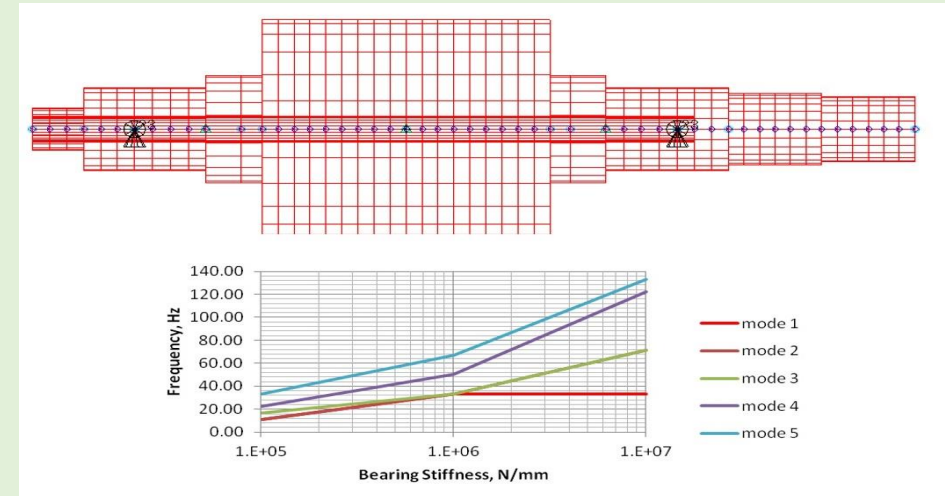
# Key Projects: Structural (FEA) Analysis



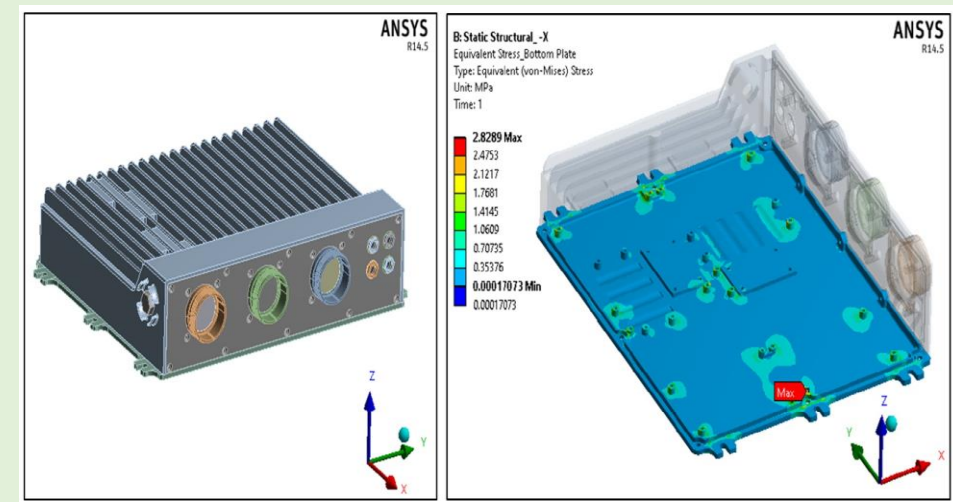
FEA Analysis of Roller Shaft Support System



Structural Analysis of Chemical Vapour Deposition Furnace

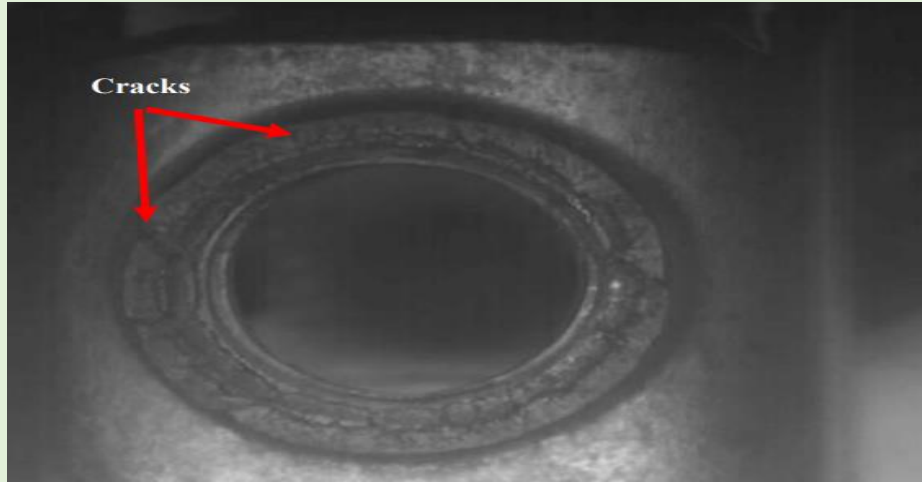


Rotor Dynamics Analysis of Blast Furnace Slag Grinding shaft



Dynamic FEA : Aircraft Engine Digital Controller

# Key Projects: Failure Analysis



Failure Analysis for Electrical Connector (Metal Forming Process)



Failure Analysis of Flange Weld Socket Assembly in a Methanol Plant  
( CNG Leakage at 28 bar Operating Pressure)



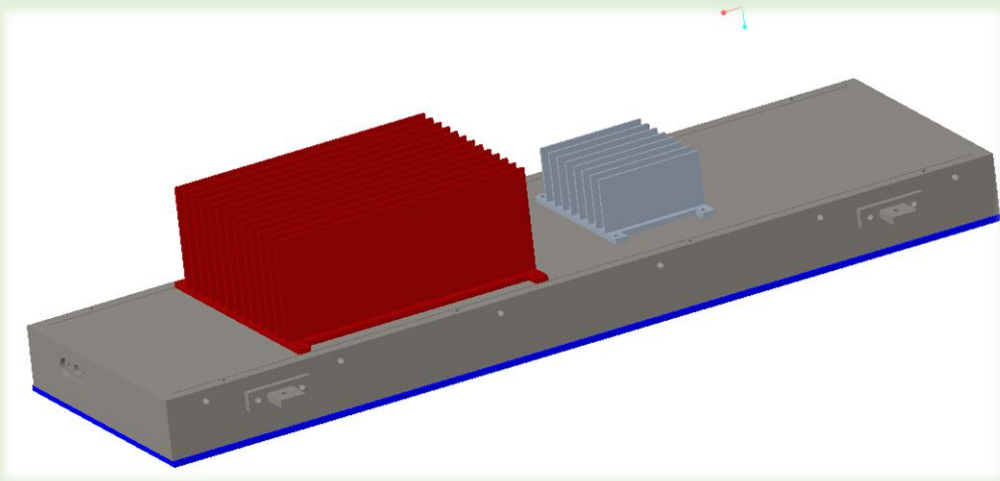
Crack Propagation in Cement Grinding Roller Shaft



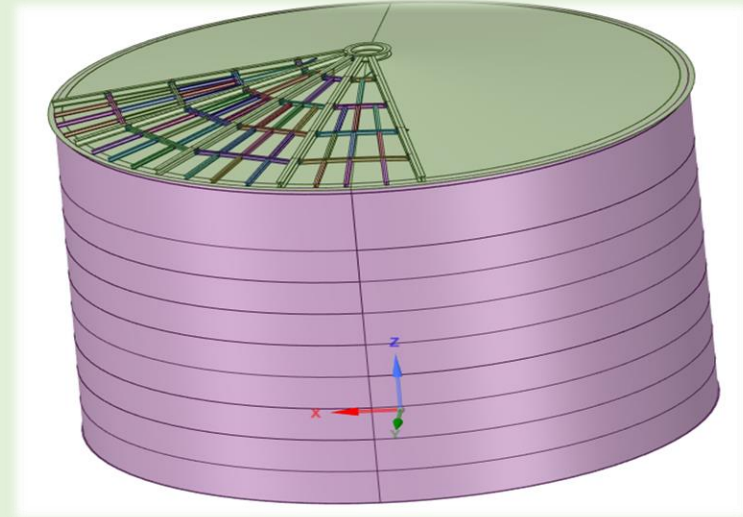
Investigation of Roller Mill Foundation and Base Frame Vibration  
Issues



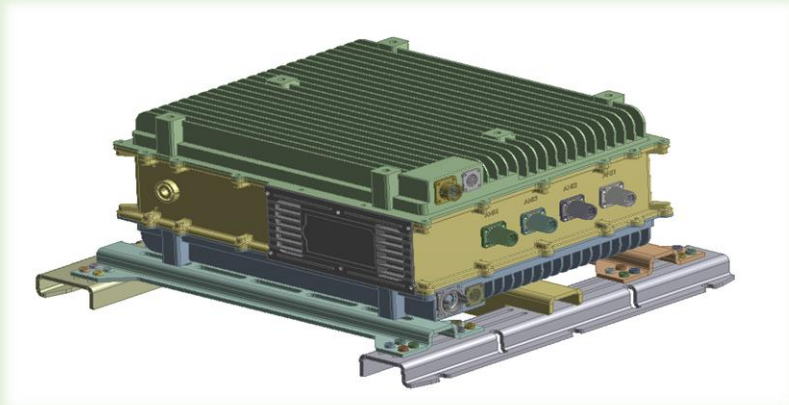
## Key Projects: CAD Design



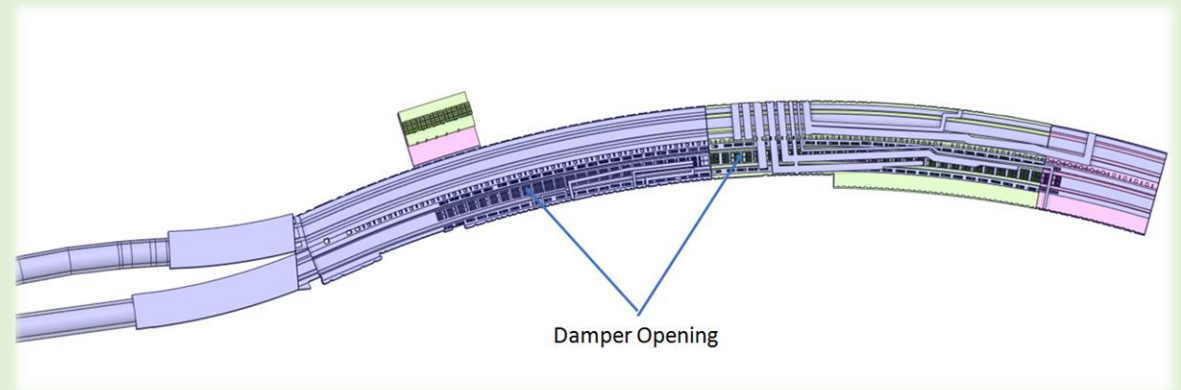
Power Amplifier Unit



100 KL Crude Oil Storage Tank



Multiband 5G Remote Radio Unit – Telecom Product



Underground Transportation Tunnel



# Contact us

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