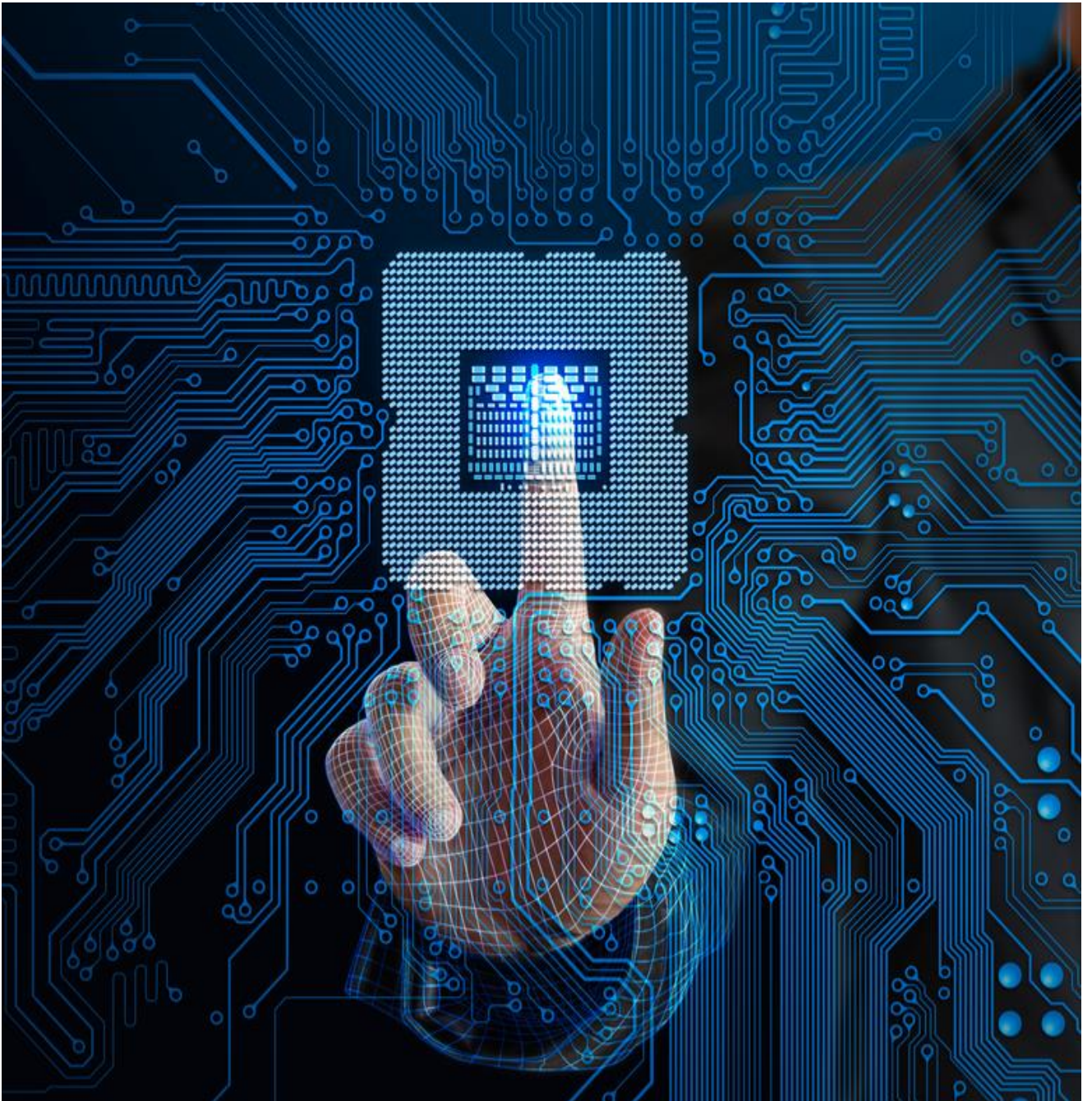




Niharika Computational Engineering
Solutions Pvt Ltd

Semiconductor Industry Vertical

Overview, Services and Key Projects





Overview:

Our Institutional knowledge of thermal and structural solutions for electronic devices is the main factor that makes us distinctively different in the industry.

Our founders bring over 20 years of experience with global Semiconductor and technology companies like Lam Research Corporation, Applied Materials, and ISRO Satellite design centre.

Our domain expertise is from ground systems to Satellite subsystems and Integrated Satellite level thermal design and analysis. We worked with almost all leading Organizations in this segment, commencing with the Indian Space Research Organization, Defence Research and Development Organizations, Aeronautical Development Agency, Bharat Electronics Limited, and leading automotive OEM companies in Japan, Europe, and Germany.



Our achievements in Semiconductor Industry Vertical

1) We successfully carried out Thermal and Structural analysis for more than 40 electronic systems for the Indian aerospace and defense industry, employed in,

- Advanced Light Helicopter (ALH)
- Light Combat Aircraft (LCA)
- Naval Vehicles
- Unmanned Aerial Vehicles (UAV)
- Satellite Electronic Subsystems

2) Our team has conducted Computational Fluid Dynamics (CFD) analysis for more than 20 electronic systems with generic applications in Automotive, Medical devices, Industrial designs, and Telecom equipment. Our recommendations have enhanced the cooling performance.

3) Experience with prominent and diverse clients





Services:

Thermal design and Computational Fluid Dynamics analysis

- Thermal design and analysis of Aerospace and Defence Electronic systems, Power Electronics systems, Communication systems, and Embedded systems as per Industry standards.
- Thermal design for subsystem level and Integrated level electronic systems.
- Expertise in Active and Passive thermal control design
- Satellite Thermal control design and analysis – Ground test and Inorbit conditions
- Server room / Data center CFD – Thermal analysis

Structural analysis

- Static structural and Thermal analysis
- Modal analysis
- Vibration: Sine sweep analysis
- Acceleration analysis
- Random vibration analysis, Shock analysis, Seismic analysis
- Wind load analysis, Crash analysis

Mechanical design

- Reverse Engineering
- Concept Design, Sheet Metal Design
- Enclosure & chamber design, 2D to 3D Conversion



List of Key Projects: CFD analysis

SL No	Project title	Customer
1	Development of a turn-key thermal solution for high heat flux power amplifier (GaN RF module) assembly	Bharat Electronics Limited
2	Thermal analysis of FADEC (Full Authority Digital Engine Control Unit)- Flight engine electronic system	Aeronautical Development Agency – Defence R&D Laboratory
3	CFD analysis for Powerbox assembly	Israel client
4	CFD analysis for 5G Multi Band Remote Radio Units (RU)	Saankhya Labs
5	Thermal analysis of Telemetry Power Amplifier	Indian Space Research Organization (ISRO)
6	Thermal analysis of Telemetry Transmitter	Indian Space Research Organization (ISRO)
7	Thermal analysis of Integrated Telemetry Processor	Indian Space Research Organization (ISRO)
8	Thermal analysis and optimization for automotive power controller unit (PCU)	Marelli Corporation, Japan
9	CFD analysis of liquid-cooled (water-Glycol based) electronic cooling system	Sweden-based client
10	CFD analysis of Liquid cooled plate - IGBT module	USA client
11	Thermal analysis of Flight Test Telemetry Unit	Aeronautical Development Agency – Defence R&D Laboratory
12	Thermal analysis of Flight data recorder and cockpit voice recorder	Aeronautical Development Agency – Defence R&D Laboratory
13	CFD analysis of bus bar unit	Schneider Electric



List of Key Projects: **Structural analysis**

SL No	Project title	Customer
1	Dynamic FEM analysis for 5G Multi Band Remote Radio Units (RU) with antenna, covering Modal analysis, Sinusoidal vibration, Random vibration, shock analysis, acceleration analysis, seismic analysis, and wind load analysis	TATA Group company
2	Static and dynamic structural analysis for FADEC (Full Authority Digital Engine Control Unit)- Flight engine electronic system	Aeronautical Development Agency – Defence R&D Laboratory
3	Shock, vibration, and acceleration analysis for Flight data recorder and cockpit voice recorder	Aeronautical Development Agency – Defence R&D Laboratory
4	Acceleration analysis of signal processing actuator control electronic unit	Bharat Electronics Limited
5	Dynamic FEM analysis for the dual-band and tri-band radio unit covering Modal analysis, Sinusoidal vibration, Random vibration, shock analysis, acceleration analysis, seismic analysis, and wind load analysis	Saankhya Labs



Contact us

Name: Mr. Rudresh Ganganna

Designation: Director

Address: JC Plaza, No.716(35), 42nd Cross, Rajajinagar 3rd block,
Karnataka State, India

Telephone: +91 9916266179 , +91 9620000347

Website: www.nicecae.com

e-mail: accounts@nicecae.com rudresh@nicecae.com