

Job / Position: Manager – FEA & CFD

Company Name: TEFUGEN Technologies Private Limited

Work Location: Thuvakudy, Trichy.

About TEFUGEN:

TEFUGEN Technologies Private Limited is a global provider of Engineering / IT solutions but not limited to Computational Fluid Dynamics (CFD), Finite Element Analysis (FEA), CAD Modelling, Performance Testing, Field Engineering Services (FES) and Manufacturing, Engineering analysis, Software development & Automation focusing on various industrial domains throughout the world. We continue to expand our reach and capabilities to various industries including aerospace, automobiles, thermal power plants, solar power plants and other energy & power generation industries. We constantly thrive to build our reputation and enabling our clients to recognize TEFUGEN as a company with high standards in offering cutting-edge solutions throughout the world.

Role Summary:

- To carry out Finite Element Analysis (FEA) simulations and Computational Fluid Dynamics analysis, which includes 3D CAD model generation, meshing, problem formulation, solving & post-processing, analyzing the results, preparing report and presenting results.

Responsibilities

FEA

- Developing 3D CAD models from the given 2D drawings of power, automotive, aerospace, and various other industrial components/structures.
- Performing surface cleanup and volume/shell meshing to generate the 3D simulation model from the CAD model.
- Conducting Finite Element simulations involving analysis types such as static, dynamic, linear, non-linear, modal, thermal, etc.
- Validating the Finite Element models with test/field data.
- Performing design optimization using FEA for a wide array of applications and industries, and presenting the optimized solutions.

- Engaging in consulting opportunities with clients to assess their objectives, providing technical guidance by conducting performance and/or detailed FEA simulations.
- Reviewing and interpreting the FEA results, and converting them into design suggestions.
- Conducting applied research and in-depth technical assessments for product development and/or product optimization using computational methods.
- Investigating and troubleshooting plant/process problems.
- Collecting the input data/boundary conditions required for FEA simulation, analysis, improvements, and modifications.
- Coordinating with members from different teams such as commercial, testing, technical, etc.
- Engaging in strategic planning, preparing, and presenting project proposals to technical leaders and clients.
- Assisting our Commercial/Marketing Team during the order acquisition phase by traveling to potential client(s) locations whenever necessary and demonstrating our technical superiority.
- Defining test cases to validate that the component design meets the component requirements.
- Scheduling and coordinating work within tight deadlines and financial budget.
- Executing conceptual studies and other supporting activities required for project execution.
- Promoting our products in seminars and publishing technical papers.
- Documenting the FE methods and processes, including approved working procedures.
- Maintaining integrity while working with any kind of data provided by our clients.

CFD

- Analysing products/processes for fluid mechanics (internal/external flow and heat transfer) and fluid-structure interaction applications.
- Making recommendations and presenting results for a wide array of applications and industries on optimizing design based on simulation findings.
- Assisting our Commercial/Marketing Team during the order acquisition phase by demonstrating technical superiority and traveling to potential client(s) location whenever necessary.

- Conducting applied research and in-depth technical assessments for product development and/or product optimization using computational methods.
- Engaging in consulting opportunities with clients to assess their objectives and present simulation results. Providing technical guidance by conducting performance simulations and/or detailed CFD analyses.
- Interpreting CFD results, apply fundamental V&V (verification and validation) principles to assist in design
- Preparing and presenting the project proposals to technical leaders and clients.
- Collecting data required to make simulation, analysis, improvements and modifications.
- Leveraging CFD simulation capabilities to improve product designs, improve the understanding of products and technologies
- Developing and utilizing complicated simulation software tools
- Using scientific principles related to magnitude, momentum, heat transfer etc.
- Defining test cases to validate that the component design meets the component requirements.
- Ensuring that equipment works to its specification and to appropriate capacities.
- Investigating and troubleshooting plant/process problems.
- Scheduling and co-ordinating work in tight deadlines and within financial budget.
- Executing conceptual studies and other supporting activities required for the project execution
- Supporting tool development efforts in context of CFD analysis and performance modeling
- Maintaining integrity on working with any kind of data provided by clients.
- Promote our products in seminars and publishing technical papers

Qualifications / Requirements:

Experience : 5+ years

Education : B.E / B.Tech / M.E / M.Tech – Mechanical or Chemical Engineering /
M.Sc (Maths)/ M.Sc (Physics)

Industrial Type : Energy / Manufacturing / Industrial/ Production/ Automotive/ Aerospace/
Machinery/ Analysis or Consulting Engineering Company / Analysis
Company

Function Area : Simulation / Analysis

Software Knowledge:

- Openfoam (Much preferred)
- Star CCM+
- ANSYS
- ANSYS Multi Physics
- CFX
- Star CD
- CAD
- Linux
- Bash Scripting

Skills Required:

- ✓ Good knowledge and understanding in Structural Mechanics, Design Principles, Product Design and Finite Element Analysis.
- ✓ Familiar with the steps necessary to analyze a typical component (e.g. model idealization, mesh generation, model/solver setup and post-processing)
- ✓ Knowledge and good understanding in Fluid Dynamics, Fluid Mechanics, Process calculation and Thermodynamics.
- ✓ Familiar with the steps necessary to analyse a typical component (e.g. model idealisation, mesh generation, model/solver setup and post-processing)
- ✓ Familiar with CAD and mesh generation software programs.
- ✓ Practical and passionate in solving real-world industry problems.
- ✓ Comfortable with Linux operating systems and other open-source software applications.
- ✓ Good written and oral communication skills
- ✓ Fluency in English, Tamil & Hindi