TEFUGEN

Technologies for Future Generation

FINITE ELEMENT ANALYSIS (FEA)

Let us simulate to optimize...

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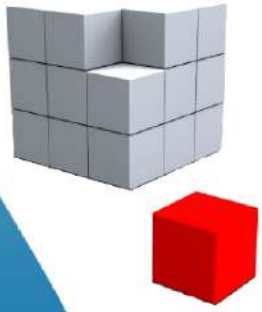
Who we are?

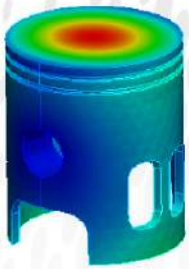
We, "TEFUGEN Technologies Private Limited", a dynamic organization have a major objective to become successful in providing solutions and services all over the world in the best manner. We provide various solutions & services such as CFD analysis, FE analysis, Automation, IT & Security services in open source world to name a few. We are using the most effective techniques for providing solutions to engineering problems. Our main aim is to exceed the expectations of the customers by offering solutions with best practices in a timely manner. We never compromise ourselves in achieving our goals.

Why TEFUGEN is Unique?



We are more passionate and dynamic towards developing innovative computational methods which stands as our unique strength. We are constantly developing and validating our computational methods and set the best practices industry wise, thereby providing the best solutions to our clients. Teaming with young and high spirited professionals having wide experience and knowledge in the area of finite element analysis, we are always able to deliver optimized solutions reliably and efficiently with proven results. We analyze the problems in depth and provide the best possible solutions. We treat the product design of every company as their intellectual right and exercise a high level of confidentiality while working on it.

Finite Element Analysis (FEA)



FEA is a computational program based on numerical methods for evaluation of structures and system. It accurately predicts components response when subjected to thermal and structural loads. It verifies design integrity and identifies critical location on a component without having to build the component.

With the increasing demand for better product quality and reliability, FEA has become a vital tool that enables design engineers to develop and to enhance the product design in a short span and at a reduced cost. It also helps companies to obtain an edge over its competitors and place them ahead in the global markets.

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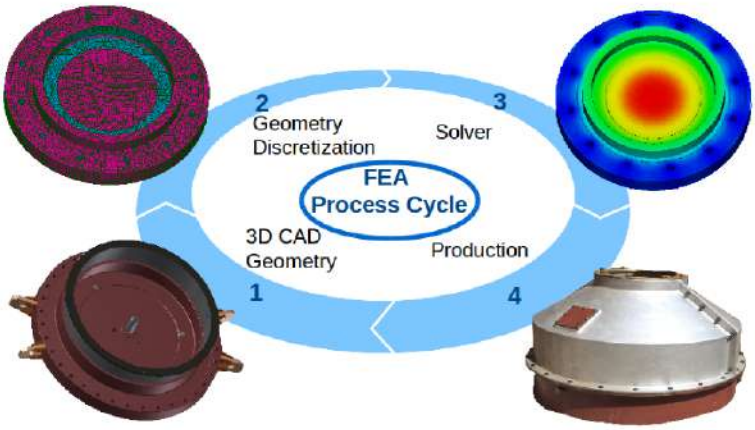
FEA in Product Development Cycle

In modern Engineering Design, FEA has evolved as a powerful tool for computer aided modeling and analysis of structures having complex geometries and variable material properties. It is used extensively in various engineering domains such as Automobile, Aeronautics, Power Plants, Production Engineering, etc. for product optimization leading to better performance.



Advantages of FEA

- Minimization of product development cost
- Reduction of product lead time to market
- Unlimited level of details in the system
- Repeatability of the simulation with different boundary conditions
- Possibility to analyze the experiments which are difficult & dangerous
- Accurate predictability of the components response when subjected to loading

Industries we serve

- Aerospace
- Automotive
- Manufacturing
- Oil & Gas
- Power Sector

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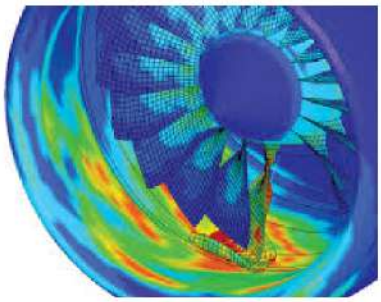
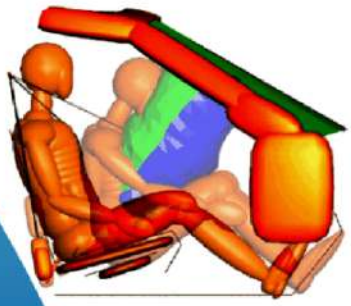
Aerospace



Aerospace industry is always dedicated to deliver safe, reliable, durable and technically superior products. Hence it always chooses and uses very stringent safety and regulatory norms appropriate for their products. The selection of such norms depends upon the performance, safety and quality of the components.

In the past few decades, FEA has become an indispensable tool within aerospace industry. The application of FEA within aerospace industry is widely spread into many areas. It is used towards solving problems like Structural analysis of various aerospace structures, Modal analysis, landing gear analysis, engine & nacelle component analysis, etc.

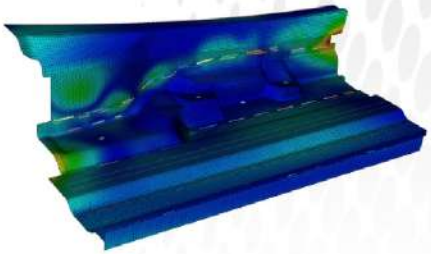
Automotive



FEA is used extensively by Automotive industries in recent times. It is mainly due to the fact that the timescale between concept to prototype development is reduced to even 18 months in certain cases. For a product/model to succeed in the market, reduced lead time with high quality and reliability is the need of the hour along with various other influencing factors.

This is achieved using FEA by virtually predicting the vehicle's response during primitive design and modifying the design before physically validating it through testing. We are capable of doing structural and passenger crash simulations along with other vehicle simulations like NVH, Durability, etc.

Manufacturing



The primary purpose of using FEA within manufacturing sector is for design enhancement, optimization and material weight reduction of various components involved in the manufacturing process including optimization of manufacturing process and its parameters.

Simulation of Manufacturing process using FEA includes Metal joining process like fastening, welding & riveting, Metal forming process like forging, stamping and casting, process tooling design analysis, single and multiple point cutting tool analysis, etc.

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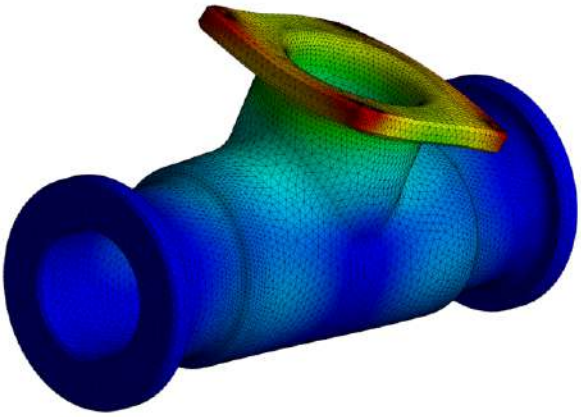
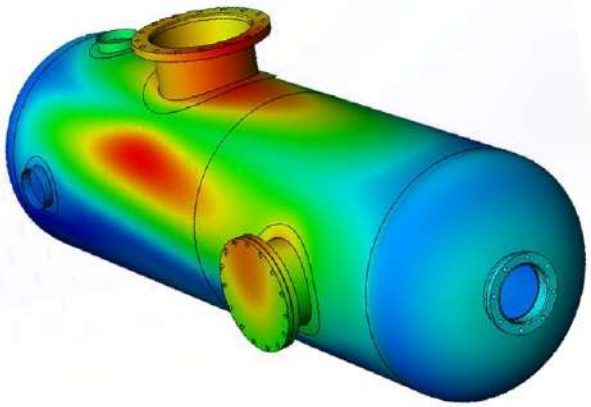
Oil & Gas

Components of oil and gas industry are exposed to harsh environments and will be subjected to a very high structural and thermal loads during its regular operations. In recent times, there is a growing need for oil and gas plants to overcome these engineering challenges in order to ensure safe and reliable operation of the equipments in a cost-effective manner. One such way is to use advanced analysis tools, such as FEA to design, model & simulate oil and gas plant components. FEA allows engineers to design new components and to optimize the existing components, without having to undertake expensive large scale tests. It also helps to obtain a viable and a workable solution at a lesser time.



Power Sector

Power Plant is an assembly of systems or subsystems to generate electricity. The power plant equipments are subjected to fluctuating thermal and mechanical loading during its operations. To ensure optimum performance with high reliability, it is mandatory to accommodate the varying load parameters at the design stage. We offer FEA solutions in Air-Preheater, Electrostatic Precipitator, Pressure Vessel and various other boiler components.



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OUR OTHER SOLUTIONS INCLUDE . . .

- Computational Fluid Dynamics (CFD)
- Engineering Automation
- Open Source Implementation
- Cost Free Server OS
- Laptop Security & Desktop Security
- IT Infrastructure Management
- Web Development
- Office Automation

TEFUGEN TECHNOLOGIES PRIVATE LIMITED

L-2, Electrical & Electronics Industrial Estate,
Thuvakudy, Tiruchirapalli - 620 015.
Tamilnadu, India.

+91 431 2500322 | +91 431 2501134
tefugen@tefugen.com | www.tefugen.com