

## ABOUT US



**MARTEQ ENERGY** is an **Aboriginal Indigenous Australian Company**, global presence company with its offices with local presence in Newman, Perth, and Kalgoorlie, Western Australia.

**MARTEQ ENERGY** is a leading Project Delivery, Design, Engineering, Project Management & Engineering Consultancy and Supply Chain servicing mainly the Mining, Oil & Gas and Power Generation sectors.



**Our Vision** - We will build a strong partnership with our customers by delivering effective solutions through our team of empowered and committed individuals, whose behavior and decision making are shaped by our core values.

**Our Mission** - Our mission is to leverage every opportunity to supply services in the Mining, Oil & Gas, and Power generation industries while channeling back for the benefits of Aboriginal community and people can be the drivers of our own destiny.

**Our Values** - Marteq Energy is founded on a strong belief in our Core Values. These Core Values drive our people and underpin our corporate goals. Our values are:

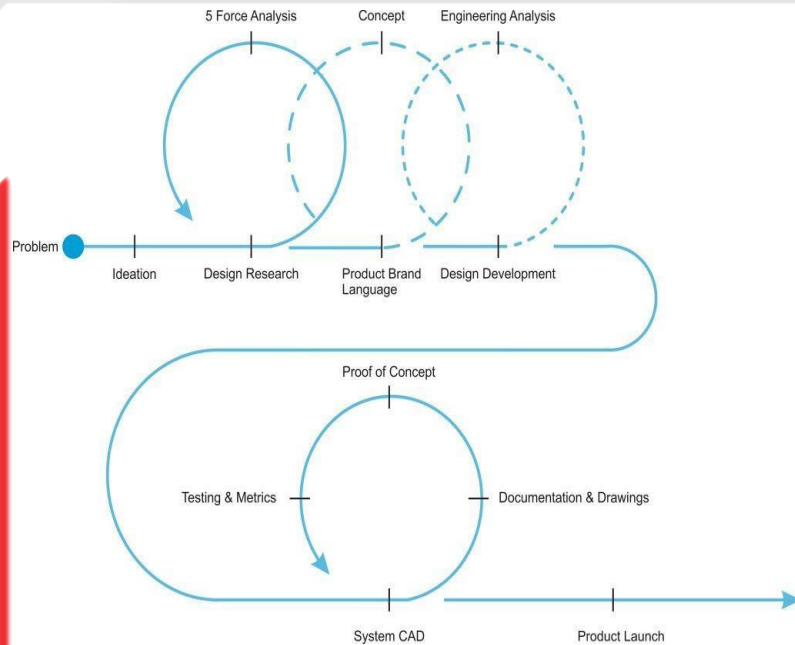
- Provision of a safe, healthy & hazard free workplace
- Our clients are our focus.
- A commitment to innovation and quality
- Our people are our most significant asset.
- We will always act with honesty and integrity.
- Respect for the community and the environment

Our Values support our Vision, “to be a market leader in safe, quality, and cost competitive and timely engineering solutions to the global mineral processing market”.



## Making process simpler

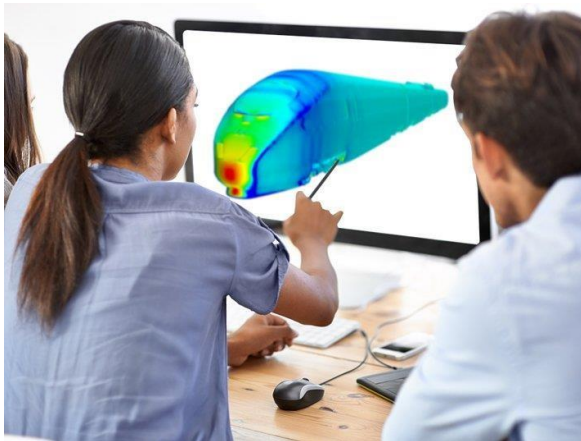
Design and manufacturing are becoming more complex day after day, we identify your design aspects and optimize it with our range of consulting services to make your process simpler and cost effective.



## Making ideas remarkable



Innovation is inevitable for any designer, your ability to bridge the innovation gap during the design phase can make a difference between project acceptance and failure. We live in this space with our clients and offer our custom industrial services for each phase of the process.



## How we approach?

We are agile in our approach in finding what matches our clients scope and objectives. Our customer's market segment decides our product approach, whether B2B or B2C. We leverage different techniques for different types of Users and Market segments.

## What we deliver?

- Project Management Services
- Engineering Management Services
  - Finite element analysis (FEA)
  - Computational fluid dynamics (CFD)
- Design Engineering Services
- Supply Chain, Fabrication, Rental & Hire Services



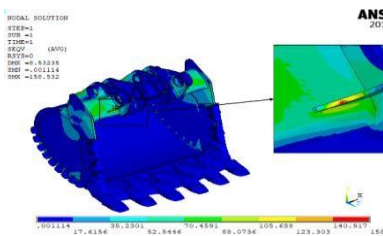
# With an understanding that comes from obsessive attention to detail, our creativity blends in to bring out an effective, be spoke perfectly designed- result

## Finite Element Analysis & Computational Fluid Dynamics Services

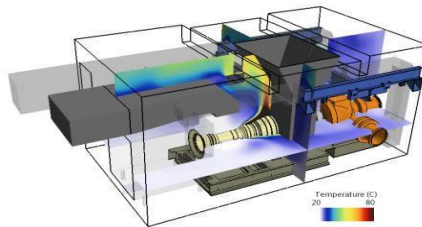
Marteq Energy brings to bear more than 20 years of FEA consulting experience in solving the most difficult mechanical engineering analysis challenges. We are experts in composite analysis from design to progressive ply failure to fracture. Our FEA consulting engineers have direct and validated experience in detailed stress analysis, linear dynamics (normal modes, sin sweep, PSD or seismic analysis), from construction to transportation, nonlinear contact analysis for complicated assemblies and plastic thread design, high-power transmissions and gear assemblies, off-shore oil patch winches, top drives, and many other fields.

We have also developed our expertise in computational fluid dynamics (CFD) consulting with years of CFD project work in Mining, Marine, HVAC and Civil. Our work has been extensively benchmarked by experiments and in-service testing

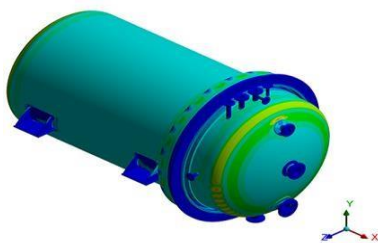
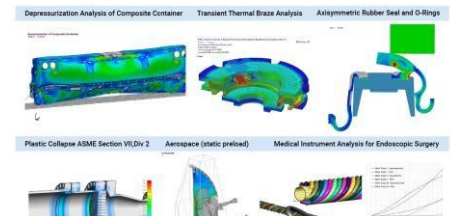
### Finite Element Analysis (FEA) Services



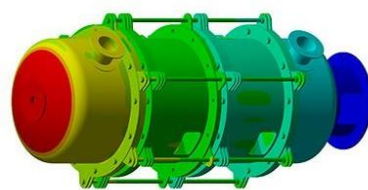
### Computational Fluid Dynamics (CFD) Services



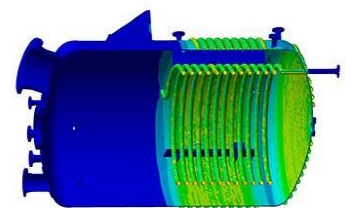
### Nonlinear & Transient Dynamic Analysis Consulting Services



### Fatigue Analysis



### Structural Analysis



### Thermal Analysis

Structural and thermal analysis needs to be performed for an efficient and smooth operation of equipment and systems in the manufacturing plant. Finite element analysis (FEA) conducted by Marteq with the help of sophisticated software and modern tools will help in predicting the capability of systems and structures to withstand the structural and thermal loads along with determining equipment lifecycle. Our team of experts collaborates with you to determine boundary conditions as per the service environment for the equipment and structures and employ powerful tools to suggest solutions and validate simulation. We specialize in offering validated and reliable insights on load limits, a durability of equipment, ideal operating conditions, and failure scenario. With state-of-the-art product testing capabilities and extensive expertise, we ensure safe operation of components and projects.

### Failure Analysis

Experts and analysts at Marte Energy gather insights regarding a failure along with necessary information such as environmental conditions, service life, design considerations, and applications for which a product, system, or machinery used. With multi-faceted experience in analyzing failures occurred in various industries including food & pharma, power, oil & gas, and petrochemical, our holistic approach identifies the root cause of failure. Our experts offer relevant insights and measures to be taken in the future following the thorough analysis of the root cause.

### Mounded Bullet FEA

With adherence to exceptional quality standards and commitment to achieve long-term returns for our clients, Marte offers mounded bullet FEA service as per ASME standards. Following a comprehensive understanding product specifications and code requirements, we conduct analysis for load cases including internal design pressure, the weight of empty & loaded vessels, the pressure of mound on the vessel, loads due to uneven support, and live load. Moreover, our service portfolio includes settlement of ends related to midpoints, settlement of midpoint related to endpoints, and earthquake loads.

### Stress linearization

#### General primary membrane Equivalent Stress (Pm)

Average primary stress across solid section. Excludes discontinuities and concentrations. Produced only by mechanical loads.

#### Local Primary Membrane Equivalent Stress (PL)

Average stress across any solid section. Considers discontinuities not concentrations. Produced only by mechanical loads.

#### Primary Bending Equivalent Stress (Pb)

Component of primary stress proportional to distance from the centroid of solid section. Excludes discontinuities and concentrations. Produced only by mechanical loads.

#### Secondary Membrane plus bending intensity (Q)

Self-equilibrating stress necessary to satisfy continuity of structure. Occurs at structural discontinuities. Can be caused by mechanical load or by differential thermal

### Coupled Analysis

Through the successful collaboration of structural engineers, thermal engineers, designers, and consultants, Marte is instrumental to improve systems and types of machinery of clients by conducting the coupled analysis. With the experience of successful execution of big scale projects, our skilled and experienced workforce devise innovative solutions by conducting various services regarding coupled analysis such as thermal-structural analysis, thermal-electric analysis, thermal-electric-structural analysis, and others.

### Buckling Analysis

- **Static Analysis**
- **Modal Analysis**
  - ❖ We create animated outputs in .gif or .mp4 format of different model shapes
  - ❖ The Modal mass participation factor
  - ❖ Pin-pointing the sweet spots in the system or the structural assembly, helping to show the results clearly
- **Harmonic Analysis**
  - ❖ The probability of resonance due to induced vibration
  - ❖ Fatigue life of the component or assembly
  - ❖ And other effects of Harmonic loads such as Principal stresses and deformations
- **Random Vibrational Analysis**
- **Seismic Analysis**
- **Thermal Analysis**
  - ❖ Thermal induced stress and stress concentrated regions
  - ❖ Thermal induced deformation
  - ❖ Heat flux paths for solids and insulations
- **Non-Linear Analysis**
  - ❖ Geometric Non-linearity
  - ❖ Material Non-linearity
  - ❖ Contact Non-linearity