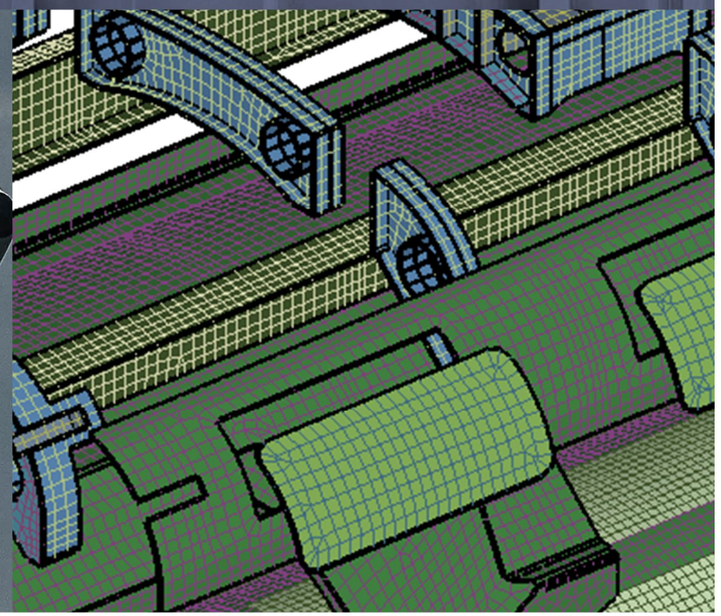
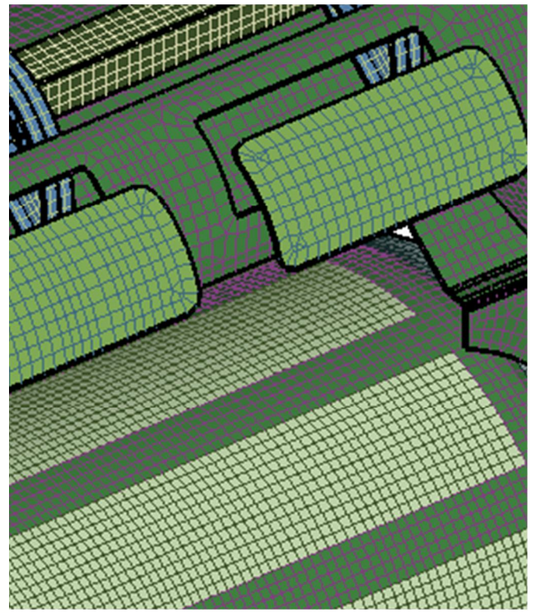
DESIGN – ANALYSIS – SOLUTIONS

ADVANDED STRUCTURAL ENGINEERING
EXPERTISE TO REACH YOUR GOALS

HELPING OUR CUSTOMERS REALIZE THEIR MISSION OBJECTIVES

Magee Technologies, LLC (MTech) is an experienced small business specializing in the design, analysis and certification of aerospace structures for both commercial and DoD customers. MTech provides its customers an enterprise-level structures team with advanced capabilities in structural design, finite element modeling, stress analysis, fatigue analysis, damage tolerance analysis, dynamic fatigue analysis, sonic fatigue analysis and structural certification. Currently under contract with the NAWCAD Air Systems Group, Structures Division, MTech provides subject matter expertise in structural analysis and certification to the U.S. Navy for aircraft throughout the product lifecycle, from writing system requirements to fatigue life extension program development.





Our quality policy:

MTECH IS COMMITTED TO DELIVERING SAFE AND DEFECT-FREE PRODUCTS AND SERVICES WHICH EXCEED ALL CUSTOMER REQUIREMENTS AND EXPECTATIONS. MTECH ACHIEVES THIS THROUGH RIGOROUS APPLICATION OF ITS QUALITY SYSTEM, CONSTANT SURVEILLANCE AND MITIGATION OF RISK, AND CONTINUOUS IMPROVEMENT OF PROCESSES AND POLICIES.

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DESIGN

ANALYSIS

SOLUTIONS

WE HELP OUR CUSTOMERS REACH THEIR GOALS

BY DELIVERING A RAPID RESPONSE WITH SUPERIOR QUALITY PRODUCTS

MTECH
DESIGN | ANALYSIS | SOLUTIONS

OUR ENGINEERS AVERAGE 20 YEARS OF EXPERIENCE AT OEM COMPANIES SUCH AS LOCKHEED, BOEING AND GULFSTREAM

OUR EXPERTISE. YOUR SUCCESS.

ALLOWING OUR CUSTOMERS TO REACH THEIR GOALS

Our experience and expertise ensure our customers will be getting the most cost-effective, optimal solutions in a timely manner. MTech is a one-stop resource to take ideas from conception to production and operation. We leverage our design, analysis, and certification expertise to develop a plan that is right for our clientele. Whether it be an entirely new product design, major repair or modification, analysis of new or existing structure, we have the expertise and tools to deliver.

MTECH DELIVERS ENTERPRISE-LEVEL CAPABILITES AT A SMALL BUSINESS PRICE

PRODUCT DESIGN

Our designers take ideas and turn them into reality. Project details include 3D solid model parts and assemblies, 2D parts, assembly and installation drawings, parametric modeling for easy updates, new designs or product improvements and modifications, as well as repair.

STRUCTURAL SIMULATION (FEM)

We have deep experience in most aspects of advanced Finite Element Modeling (FEM) and Analysis (FEA) on metals and composites, linear and nonlinear statics, buckling, contact analysis, normal modes and non-linear buckling, as well as optimization analyses (property-based and topology). Siemens HEEDS software expertise expands the possibilities of multidisciplinary analysis automation and optimization.

STRESS AND FATIGUE ANALYSIS

Leveraging classical hand analysis with state-of-the-art finite element solutions, we are uniquely positioned to carry out or consult on any project to meet customer requirements. Project details include strength and stability analysis, DaDT, and safe life and fail-safe analysis. Strong classical techniques instill confidence with approval authorities. They are often the missing component of companies that rely solely on Finite Element Modeling (FEM) results.

TEST DESIGN AND SUPPORT

MTech can design and support flight and ground testing to meet model validation and certification requirements. Our engineers have experience with test design and implementation — static, dynamic, pressure vessel and ground vibration testing and strain correlation.

CERTIFICATION AND AIRWORTHINESS

MTech leverages its suite of competencies to streamline the certification process for both Military and Federal Aviation Administration (FAA) certifications. MTech's affiliated Designated Airworthiness Representatives (DAR)s and Designated Engineering Representatives (DER)s have extensive experience in developing certification plans to meet our clientele's needs. Project details include FAR Part 23 and 25 Airworthiness Certifications.

SOFTWARE DEVELOPMENT

Our software architects work closely with customers and MTech subject matter experts to develop innovative software tools and methods that optimize the engineering workflow.

MTECH'S SUPPORT OF NAVY ENGINEERING

MTech began as a support contractor to the NAWCAD Air Systems Group Structures Division (AIR 4.3.3) providing subject matter expertise in stress, fatigue, damage tolerance, finite element modeling and structural certification. Over the years MTech has expanded to provide design, analysis and certification support for multiple NAWCAD Engineering Teams, NAVAIR Program Offices and Fleet Support Teams.

- AIR VEHICLE CERTIFICATION
  P-8A CH-53K E-2D Triton
- SUSTAINMENT & MODIFICATION
  H-1 V-22 CH-53E C-12
  P-3 T-45 E-6 E-2
- COMMERCIAL CERTIFICATION
  King Air DHC-8 C-130
  737 Cessna 182 BT-67 Basler

In 2017 MTech began leveraging its aircraft expertise in support of NAVSEA when it was awarded a Phase I SBIR under topic N171-059 for Verification and Optimization of Advanced Finite Element Modeling Techniques for Complex Submarine Hull Structures.

FACILITIES AVAILABLE

- **Prototype & Manufacturing Facilities**
  - 5000 ft^2 in California, Maryland
  - Flexible Manufacturing Space for Rapid Prototyping
  - In house fabrication capabilities enhance speed to fleet

SOFTWARE CAPABILITES

- **Computer Aided Design (CAD):**
  - PTC Creo (Formerly Pro/Engineer)
  - SolidWorks
  - CATIA V5
  - AutoDesk AutoCAD
  - Teamcenter PLM
- **FEM & Optimization:**
  - SIEMENS FEMAP
  - MSC Patran, Apex
  - PTC Creo Simulate (Formerly Pro/Mechanica)
  - Nastran
  - NX Nastran
  - MSC Nastran
  - ESRD StressCheck
  - Abaqus
  - TMP SLIM/Vision
  - Altair HyperWorks
  - SIEMENS HEEDS
- **MTech is NIST SP 800-171 and CMMC Level 3 ready**

MARKETS SERVED

Customers include NAVAIR Air Systems Group Structures Division, NAVAIR 4.11 Rapid Prototyping Group, NASA, Air Force Research Lab (AFRL), Lockheed Martin ADP (Skunk Works), Jacobs, NAVSEA and many other large and small businesses. MTech has supported the Federal Government over 8 years with our cadre of skilled engineers. By uniting engineering and manufacturing, we accelerate solutions to our customers.

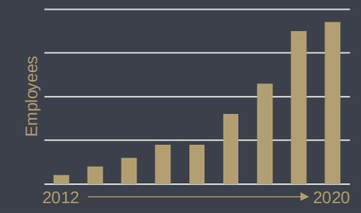
WE'RE READY TO START WORKING FOR YOU

Enterprise Level Operations Staff
Existing DoD Contractor (NAVSEA, NAVAIR, DTIC)
SeaPort-NxG, multiple SBIR Contracts
ISO 9001:2015 and AS9100D Certified.
Secret Facility Clearance (28 Cleared Employees)
NIST and ITAR Compliant Systems
DCAA Approved Accounting System

ISO 9001:2015 • AS9100D CERTIFIED COMPANY
PRI Registrar

OUR SUCCESS IS CATCHING ON

We have been able to expand by consistently meeting our customer's needs, earning their trust, and being rewarded with an expanding portfolio of projects.



NAVSEA SBIR TEAM

MTech in engaged in a Phase II project to develop a Guidance Manual of Finite Element Modeling of Complex Submarine Structures by utilizing:

- *FEM Analysis of complex submarine details such as large hull penetration inserts, tank/hull intersections and bulkhead tapers.*
- *Innovative Pressure Test design and successful FEM correlation experience.*
- *Expert submarine consultants with 40+ years of experience, including the former lead submarine architect of the SSN-23 Jimmy Carter.*
- *Pressure testing and submarine analysis consulting support from Southwest Research Institute (SwRI).*

The MTech team continues to develop NAVSEA FEM methods and is ready to support marine and pressure vessel structural analysis and optimization, including incorporating advanced composites.

"WHEN YOU NEED AN INNOVATIVE SOLUTION, MTECH HAS THE PEOPLE AND EXPERIENCE TO MAKE YOUR IDEAS A REALITY"