



CAPABILITY STATEMENT

Mission Driven Research, Inc

01 Core Competencies:

Mission Driven Research (MDR) primarily provides technical, engineering, and project management support to the Missile Defense Agency, with significant experience in the following areas:

Threat Missile Engineering

- Intelligence-based & Engineering-based Modeling
- Computer Aided Design (CAD) and Modeling
- Countermeasure Modeling (Design and Implementation)
- Missile Kinematic Concept of Operations (CONOPs) and Development

Missile/Space Vehicle Modeling

- Trajectory modeling at all fidelity levels in all phases of flight
 - 3-Degrees of Freedom (DOF), 3+3-DOF, 6-DOF
- Propulsion modeling (boost, post-boost)
- Endoatmospheric, Exoatmospheric
 - Ballistic, Maneuvering, Air-Breathing
- Modeling and Analysis of Subsonic, Supersonic, Hypersonic and Orbital Bodies
 - Including all objects: RVs, Spent Stages, all Associated Objects (ex. Countermeasures)
- Development of performance envelopes

Flight and Ground Test Design Analysis and Planning

- Operational Realism (Development, Design and Analysis)
- Defense Design Development
- System and System-of-System Requirements Development and Analysis
 - System Performance Analysis (e.g. Radar, Weapon System)
- Mission Timeline Development
- Pre-/post-Flight and Ground Test Data Analysis
- Flight Safety Analysis
- Pre-/post-intercept debris modeling
- Long term Strategic Test Planning
- Test/Event De-confliction of multiple overlapping events

Signature(s) Modeling and Analysis

- Radar Cross Section Models and RF Signatures
- Infrared Signatures (Plume and Hardbody)
- Development of Output Formats suitable for Desktop or High-Fidelity Simulations

Missile Defense System Architecture Analysis

- Defended Area/Launch Area Denied analysis
- Trade Study Development and Analysis (ex. asset placement optimization)

Environmental and Logistical Requirements Support

- Extensive experience in support of federal, state, and local environmental requirements, including NEPA documentation (EIS, EA, FONSI, etc)

Software Development

- Missile Trajectory Kinematic Modeling Tools
- Test Planning and Design Desktop Software

Program Office Support

- Strategic and Enterprise Level Planning and Support
- Independent Contract Oversight and Deliverable(s) Review
- Executive-level Technical and Programmatic Support for:
 - Program Executives
 - Chief Engineers
 - Contracts and Acquisitions Managers
- Integrated Master Schedule (IMS) Development and Support
- Systems Engineering Support and Analysis
 - Development and Implementation of Rigorous Systems Engineering Processes
 - Systems Engineering and Product Development Oversight



Layered Defense Test Design Analysis

03

Differentiators

MDR provides high-caliber, loyal employees that are motivated to exceed customer expectations in technical competence, high ethical standards, and a commitment to finish well. MDR employees are unified by a common mission of serving their customers and the needs of the communities in which they operate, putting the needs of others higher than their own.

Awards

Contender – Best Places to Work 2017-2020

Inc 500, 2017

Inc 5000, 2018 - 2020

Small Business Awards Government Contracting Technology Services Business of the Year Contender, 2017, 2019



Robust Software Development

02 Experience

MDR personnel have played a key role in the design, planning and execution of the successful system and element-level developmental and operational flight tests for all MDA defense systems, including the Aegis BMD, Terminal High Altitude Area Defense (THAAD), and the Ground-based Midcourse Defense (GMD) systems and international partner systems. MDR personnel have led the development of industry-standard trajectory modeling tools and the generation of high-fidelity data of threat, target, and interceptor missiles.

About Us

Mission Driven Research was established in late 2012 with it's first contract supporting the Missile Defense Agency in Huntsville, AL. Since that time, it has grown to include personnel serving throughout MDA, as well as SMDC, MSIC, the Army, and DARPA.

Contact Us

ADDRESS

7500 Memorial Parkway,
Suite 215A
Huntsville, AL 35802

PHONE

(256) 384-0001

EMAIL

info@missiondrivenresearch.com

WEBSITE

missiondrivenresearch.com