



## Weapons Systems and Military Products

### Hardware Prototype Development

Orbital Research is a high technology engineering firm dedicated to designing and developing innovative solutions for the military, transportation, controls, and medical industries. Our success is based upon the following development process:

- ⇒ **Concept Ideation:** We are highly skilled at developing and communicating a viable concept that will lead to a successful solution for our customers' needs.
- ⇒ **Design Planning:** Our diverse engineering team develops innovative concepts and approaches that facilitate a well planned design. We begin each project with a CAD and 3D mechanical design followed by electronic system and circuit designs.
- ⇒ **Modeling and Simulation:** Orbital Research maintains high performance computing workstations for explicit structural modeling, computational fluid dynamics, rigid body dynamics, and control system simulations. We own ANSYS Mechanical Enterprise and Fluent Premium licenses for high fidelity modeling and simulation capabilities to reduce risk before prototypes are built.
- ⇒ **Prototype Build:** Orbital Research has an extensive electronics lab for prototype assembly and construction. Our tooling is integrated with our CAD software for manufacturing prototypes on our CNC machine.
- ⇒ **Testing and Evaluation:** Prototype testing and evaluation is performed by OTS using HIL (Hardware-in-the-Loop) testing platform that includes software simulations with a proprietary hardware interface. Evaluation of prototype survivability/reliability is performed using custom built testing equipment that provides a broad range of testing conditions compliant with military and industry standards
- ⇒ **Prototype Delivery:** Orbital Research's core advantage over the competition is the value we provide to our customers in terms of scope, scheduling and cost. We take you from conceptualization to working prototype all while adhering to your project goals and timeline.

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