

ReTHINK.  
ReFOCUS.  
ReDEFINE.

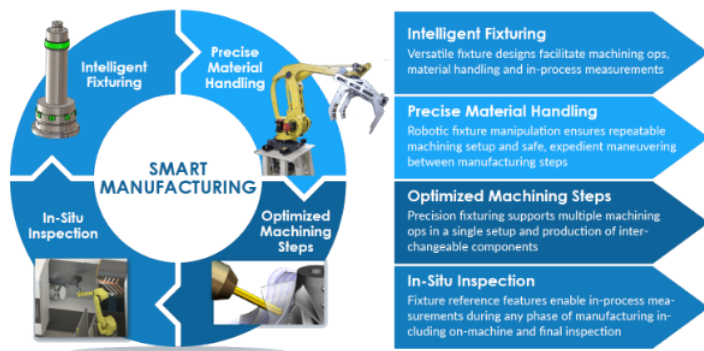


relogicresearch.com

ReLogic Research is an 8(a) certified small business with core competencies in Advanced Manufacturing, Advanced Technology Development and Hypersonic Weapon System Development. With primary focus in the aerospace and defense sector, the ReLogic team supports a variety of Department of Defense customers including: ARMY (CCDC Aviation & Missile Center, PEO Aviation), NAVY (Naval Research Lab, and Office of Naval Intelligence), AIR FORCE (Air Force Research Lab), Missile Defense Agency, and OSD Test Resource Measurement Center. Capabilities include metrology, reverse engineering, manufacturing technology, aircraft weight savings, data system support, hypersonic materials testing, and test facility design. Complementing its core-competencies, ReLogic expanded personnel and capabilities in modeling and simulation, and design of advanced materials and structures. As an agile small business, ReLogic provides affordable and on-time solutions in applied research, product development, and fabrication at the intersection of next-gen materials and advanced methods.

## ADVANCED MANUFACTURING

ReLogic is an industry expert and trusted service provider of Advanced Manufacturing services including 3D scanning and metrology services for inspection, quality control, automation design and implementation, additive manufacturing, and reverse engineering. We use a variety of technology to provide the most efficient and accurate solution for your project.



### • Optical Metrology Services

- Development of inspection protocols for hypersonic weapon systems
- 3D Scanning and Inspection to ASME Y14.5
- Surface Defect and Roughness Characterization

### • Manufacturing Support

- Integration of complex flight test vehicle systems using live assembly and predictive component placement techniques
- Prototype and full rate production optimization
- Digital Twin Generation

### • Depot Support

- Mobile and Onsite Metrology and Modeling Services
- Integrated Measurement for Repair Processes and Sustainment

## ADDITIVE MANUFACTURING

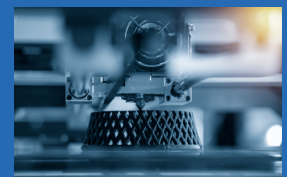
- Design for AM
- Materials Development and Characterization
- Process Simulation
- Process Monitoring and Quality Assurance

- Post Machining for AM
- Metal Powder-Bed Product Development
- Development of Reinforced Composites AM Technology

## AUTOMATION

- NDE Technology Development
- Automated In-Process Measurement & Feedback
- Material Handling

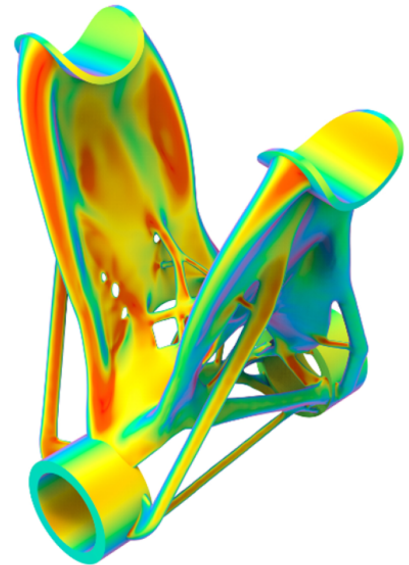
- Adaptive Software Development
- Manufacturing Process Integration
- Automated Measurement Solutions



# ADVANCED TECHNOLOGY DEVELOPMENT

ReLogic is committed to delivering innovative and elegant solutions to tough problems. We provide a unique perspective to customers facing technical and design challenges. Our staff is comprised of advanced degree physicists, multidisciplinary engineers, and technical staff with 30+ years of experience working in the fields of mechanical design and analysis, high temperature materials, optics, power systems, microcontrollers and software development.

- **Reverse Engineering**
- **Tooling/Fixture Design**
- **Multi-Scale Material Modeling for Composites and Metamaterials**
  - Analytical and FE-based methods
  - Thermo, structural, electromagnetic, chemical, & acoustic
- **Design and Optimization of Composite Structures**
  - Discrete and continuous reinforcement
- **Dynamic Analysis of Structures**
  - Progressive damage
  - Shock physics
  - Ballistic/hypervelocity impact
- **Ceramic Matrix Composites Process Modeling**
- **Ultra-High Temperature Composites Process Modeling**
  - Carbon-Carbon, CMCs, etc.



# HYPERSONIC WEAPON SYSTEM DEVELOPMENT

With the growing hypersonic threat to our nation, ReLogic's team of experts strives to advance the standard of manufacturing for Thermal Protection System materials. We work to improve manufacturability and quality of hypersonic flight systems by implementing process automation and integrating advanced optical metrology methods.



- **Hypersonic Thermal Protection System Technology Development**
- **Advanced Nose Tip, Acreage, and Leading Edge Material Design**
- **Aerothermal and thermo-structural ground testing**
- **Hypersonic Flow Field Modeling and Simulation**
- **Full Scale Prototype Fabrication**
- **Advanced Seeker Window Testing and Integration**
- **Weather Encounter Survivability**

## CONTACT INFORMATION

### Chandler Wicks

Chief Executive Officer

chandler.wicks@relogicresearch.com

### Devlin Hayduke

Chief Technologist

devlin.hayduke@relogicresearch.com

### Carter Johnson

Chief Aerothermal Engineer

carter.johnson@relogicresearch.com

### Josh Coffey

VP, Advanced Programs

josh.coffey@relogicresearch.com

DUNS: 079219615 • CAGE: 78FV8 • AS9100 Quality System • Active 8(a) Certification

256.713.7401 | 4950 Corporate Drive Huntsville AL 35805 | relogicresearch.com

