Engineering Research & Development Services
Innovative Technology and Product Development
Creare’s Mission
Creare means “to create”
Creare engineers create value for clients by:

- **Solving** their most difficult problems
- **Innovating** to create new technologies
- **Integrating** new technologies into products, systems and processes
- **Transitioning** technologies to key products or programs

Core Expertise

- Thermal & Fluid Engineering
- Process Modeling, Sub-Scale Testing, Full-Scale Demonstration
- Hardware and Software Development
- Fabrication and Manufacturing Processes

Customers

Commercial: Large and small businesses, both domestic and international
High Performance Heat Exchangers

• Creare develops innovative technology for advanced heat exchangers, based on:
  – Deep understanding of heat transfer and fluid flow
  – Experience using and developing a broad array of fabrication and assembly methods
• Services offered: Design analysis, prototype fabrication, and heat exchanger testing and performance assessment.
• Operating temperatures from near-absolute zero to 2000°F
• Materials span the range from superalloys to plastics

Micromachined silicon recuperator plate for cryogenic cooler

Microchannel recuperator modules for Rolls-Royce M250 turboshaft engine

Heat/mass exchanger for chilling drinking water

Energy recovery heat exchanger for gas turbine exhaust

Creare’s microchannel recuperators for gas turbine engines are built using innovative fabrication techniques to provide high performance at low cost

Microchannel recuperator for 50 hp turboshaft engine
Creare spin-off companies employ over 2,300 people and generate revenues greater than $475M/year.

Technology developed at Creare has been licensed to leading manufacturers.

Creare custom products fulfill critical missions for DOD and NASA.
Creare Facilities

• 80,000 square feet of office, laboratory, and shop space
• Work ranges in scale from microscopic to large outdoor experiments
• Temperatures ranging from liquid helium to that of plasmas,
• Multipurpose labs, chemistry lab, materials lab with SEM, cleanroom, electronics lab, cryogenic test facilities, and outdoor test pads.
• Fabrication facilities support the full spectrum of Creare’s work
• Emphasis on high precision and innovative fabrication techniques
• Machine shops equipped with CNC and manual lathes and mills
• Extensive welding, soldering, and brazing equipment
• Specialized equipment: high-purity vacuum furnace, electroplating, laser machining, precision forming & blanking presses, proprietary custom electric discharge machining centers, sputtering systems and a reactive ion etcher.

Contact:
Dr. Mike Izenson
Principal Engineer
mgizenson@creare.com

Clean assembly and test facilities for space-flight qualified hardware

General laboratory space for a wide variety of hardware testing and development

Precision laser welding facility for assembly of microchannel recuperators