

A person in a light blue lab coat is working on a complex mechanical system, possibly a rocket engine or a high-pressure fluid system. The system features various pipes, valves, and a green-handled valve. The person is holding a green handle and looking down at a document or manual. The background shows more of the machinery and a control panel with a fan.

National Academies Workshop

Data and Metrics for the DOD SBIR and STTR Programs

December 7–8, 2023

Washington, DC

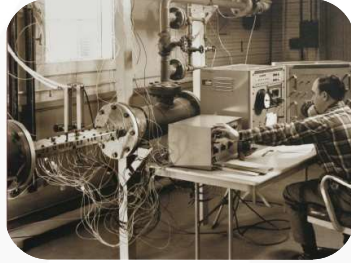


INNOVATIVE TECHNOLOGY AND PRODUCT DEVELOPMENT

ABOUT CREARE



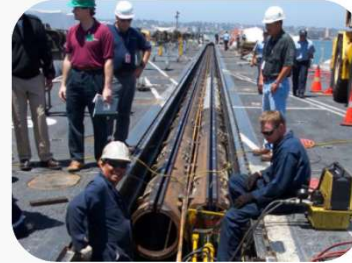
**Innovative
Technology and
Product
Development**



Founded in 1961



Independent



**Industrial and
Federal Client Base**



**Transition and
Commercialization**



MTG-9523

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MISSION

CREARE CREATES
VALUE FOR CLIENTS

SOLVE
their most difficult problems

INNOVATE
to create new technologies

INTEGRATE
into products, processes, and systems

TRANSITION
products or programs

WHY CREARE

Technical Depth

70+ engineers
55% PhD
30% MS
18 years average
experience



Full-Scope Technology Development

Concepts, hardware,
analysis, testing,
and software



Stability & Long-Term Focus

Development
efforts sustained across many
years, programs, and
funding cycles



Broad Experience & Capabilities

Wide range of facilities
to create anything from
space flight hardware
to consumer goods



Proof-of-Concept to Prototype to Product

Sister company
(Edare) transitions
prototypes into
production



Teaming for Successful Transition

Focused technology
development driven
by customer needs
or requirements



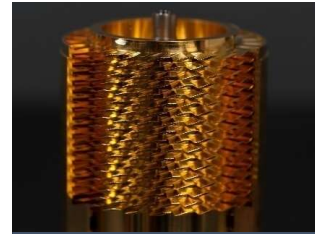
EXPERTISE



**BIOMEDICAL &
HUMAN SYSTEMS**



CRYOGENICS



**FLUID & THERMAL
SYSTEMS**



SENSORS & CONTROLS



**ADVANCED
MANUFACTURING**



POWER SYSTEMS



ELECTRONICS



**SOFTWARE
DEVELOPMENT**

SBIR TECHNOLOGY TRANSITION

3 SPIN-OFF COMPANIES **105** PATENTS

14 LICENSING AGREEMENTS **\$180M** TRANSITION-RELATED
CREARE REVENUE

1,250 JOBS CREATED **\$5.3B** REVENUE AT SPIN-OFFS

SPIN-OFFS



>3000 TOTAL EMPLOYEES
\$1.1B/YEAR TOTAL REVENUES



Contract R&D
and Product
Development
1961

Creare Products

Medical
Instruments
1975



Biotechnology
1978



CFD Software
Products
1988

1969

Plasma Metal
Cutting Torches



1976

Electromechanical
Design Services

Creare Innovations

1986

Inkjet
Printers



2010

Specialized
Production



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DOD TECHNOLOGY TRANSITION – CREARE PRODUCT



Flight Deck Cranial for Carrier Crew



Spacecraft Electronics



Robotic Instrument for Catapult Inspection



Arresting Cable Repair

DOD TECHNOLOGY TRANSITION – LICENSE



MORTORQ® Threaded Fasteners



Cryogenic Machine Tools



Anti-Corrosion Coverings



Wireless Audiometric Headset



Fastener Measurement Tool

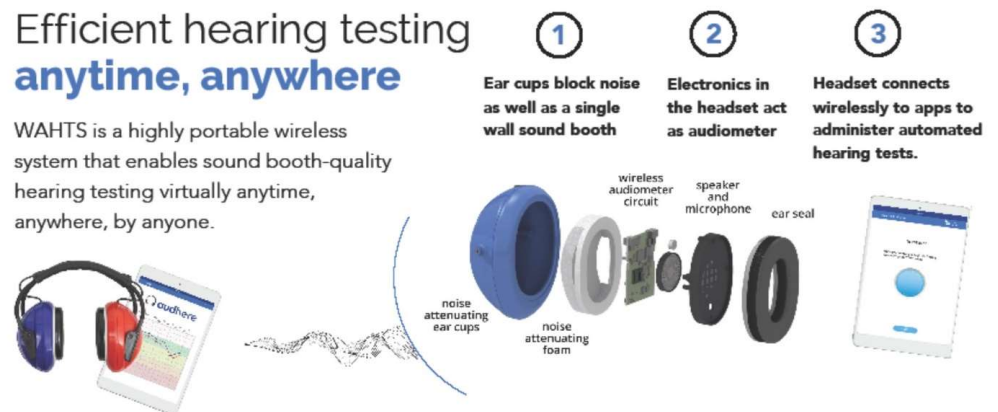


DOD TECHNOLOGY TRANSITION – INDEPENDENT SPIN-OFF



Efficient hearing testing **anytime, anywhere**

WAHTS is a highly portable wireless system that enables sound booth-quality hearing testing virtually anytime, anywhere, by anyone.



HOW DOES DOD USE THE SBIR PROGRAM?

- **Primes and DOD work in sync to utilize SBIR to fill technology needs for critical programs**
- **For new programs, stakeholders identify technology needs early in the relevant stage (Development, Design, Production, Operation, Sustainment) and develop Technology Roadmaps**
- **For existing programs, DOD does the same thing (independently of the Primes)**

CURRENT METRICS TO MEASURE SUCCESS

- **SBIR and STTR “success” metrics focus on the Small Businesses, i.e., Supply Side focus**
- **Phase III (i.e., non-SBIR) Revenue from Programs of Record, Private Industry or Others**
- **Direct Revenue from Product Sales, License Agreements, etc.**
- **Indirect/Third-Party Revenue from:**
 - **Product sales by licensees (minus license fees)**
 - **Spin-off sales tied to the foundational SBIR technology**

WHAT IS MISSING FROM DOD SBIR METRICS?

- **Demand Side Focus: Primes/Government Customer**
- **Many (if not all) DOD SBIR projects are focused on increased efficiency and effectiveness of the warfighter taking the form of:**
 - Reduced cost of production, operation, sustainment
 - Increased operational readiness
 - Man-hour reductions
- **Develop metrics to capture “Demand Side” for transitioned technologies**