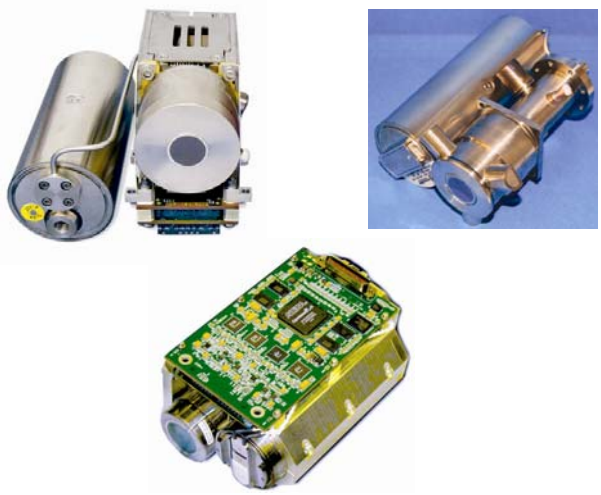
3rd Generation IR Integrated Dewar Cooler Assembly

PROBLEM / OBJECTIVE

The objective of this program was to improve the affordability and producibility of the compact 3rd Gen Infrared Integrated Dewar Cooler Assembly (3rd Gen IR IDCA) with an overall cost reduction goal of 28%. The 3rd Gen IR IDCA provides dual f/#, multispectral (MW/LW) sensor capability designed to meet performance and packaging requirements for future air and ground platforms. The multiple f/# capability is achieved with a critical new component of 3rd Gen IR technology called the Variable Aperture Mechanism (VAM). The focus of the ManTech program was on improved manufacturing processes, precision tooling, and testing to enable an affordable VAM and compact 3rd Gen Dewar. This program supported the strategy of a common 3rd Gen IR IDCA for both air and ground sensor applications.



Compact 3rd Gen IR Integrated Dewar Cooler Assemblies

ACCOMPLISHMENTS / PAYOFF

Process Improvement: The 3rd Generation IR IDCA ManTech program enabled an approximate 42% cost reduction on 3rd Gen VAM and 25% cost reduction on the 3rd Gen IDCA to date. The cost savings were achieved and demonstrated through:

- VAM component manufacturing improvements
- VAM tooling and test station development
- 3rd Gen IDCA fixture & tooling development
- 3rd Gen IDCA manufacturing pilot line

Implementation and Technology Transfer:

The program has transitioned to PM FLIR's 3rd Gen FLIR Engine SDD program. Industry Days were also held to present program status and transition the developed manufacturing technology to industry.

Expected Benefits and Warfighter Impact:

The program directly impacted the Warfighter. As a result of this program, there is an improvement in the manufacturability and affordability of 3rd Gen IR IDCAs to provide:

- Combat Overmatch – Long Range Target ID
- Increased Survivability & First Shot Lethality – Rapid Wide Area Search
- Reduced Crew Burden – Multi-Spectral AiTR
- On-The-Move Capabilities

TIME LINE / MILESTONE

Start Date	August 2006
End Date	December 2010

FUNDING

U.S. Army ManTech	$12.2M

PARTICIPANTS

DRS Sensors & Targeting, Inc. – Dallas, TX
L-3 Cincinnati Electronics – Mason, OH
Raytheon Vision Systems – Goleta, CA