NAVY Transition Assistance Program

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N07-124 - Cornerstone Research Group, Inc.

Conformable, Compact Isolation System for Repairs

NEED & CUSTOMER REQUIREMENT

Need: Composite repair on aircraft is very sensitive to contamination in the form of moisture, sand, airborne debris, etc. A device that enables the maintainer to make effective repairs in austere environments is needed.

Value to the Warfighter: Maintenance costs will be reduced and fleet readiness will be increased if repairs can be made in the field. Eliminating rework due to repair contamination will also help costs and fleet readiness.

Operational Gap: Current isolation devices are hurriedly assembled from plastic sheeting and tape, if anything is used at all. They are clumsy, frustrating to use, and do not adequately protect the repair.

Customer Specifications: The device must be compact for storage and quickly deployed. It must not significantly impede the technician's movement or visibility. The device must conform around curved surfaces and be used on vertical and bottom surfaces.

Technology Description: The system provides an enclosed area for in-field composite repair of aircraft, protecting the repair site from airborne debris. The system readily conforms and seals to almost all repair surfaces and easily collapses for storage. The passage of tools, materials, and technician interaction into the system without compromising the integrity of the work area is achieved using specially designed ports and material passageways. The device also contains harmful dust generated during the repair.

SPONSORSHIP of original SBIR/STTR Topic

SYSCOM: NAVAIR

TPOC Phone Number:
301-757-2326

TECHNOLOGY DEVELOPMENT MILESTONES (SBIR/STTR)

Milestone	TRL	Risk	Measure of Success	TRL Date
Prototype fabricated	5	Low	Working prototype built and delivered to NAVAIR	March 2008
Higher fidelity prototype built	6	Low	Improved prototype delivered to NAVAIR	December 2008
In-field testing by commercial customer	7	Low	Repair company or training facility testing device	Fall 2009
Navy tested on in-service aircraft	8	Low	Device used in actual repair of damaged in-service aircraft	By Nov 2010

Open contract: N68335-09-C-0007 ending Nov 2010

TECHNOLOGY TRANSITION OPPORTUNITIES (PHASE III)

Other Potential Applications:
Other processes associated with repair would benefit from this device. Particles associated with bead blasting could be contained, as well as harmful carbon dust during scarfing. Paint and coatings could be applied within the device to contain overspray and cure the material, particuarly in the case of low-observable coatings. Sensitive electronics could be worked on inside the device.

Business Model:
CRG is working closely with its sister company, CRG Industries, for production of the device. Commercial distribution will be handled by distributors of repair materials. A first generation model will be rushed to market quickly, with subsequent models addressing specific needs coming out at later dates.

Objective:
CRG's objective is for primes/program managers to see the merits of the device and incorporate it into their repair procedures of the aircraft.

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