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Contact: David Marquis,
ERDC public affairs specialist
(c) 603-854-0034

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David.I.Marquis@usace.army.mil

ERDC's Cold Regions Research and Engineering Laboratory, Adaptive Surface Technologies develop new F-35 Lightning II aircraft technology

HANOVER, N.H. — The U.S. Army Engineer Research and Development Center's (ERDC) Cold Regions Research and Engineering Laboratory (CRREL) is working together with Adaptive Surface Technologies Inc. (AST) to develop a specialty coating to reduce frost formation on heat exchangers on the F-35 Lightning II aircraft. This research is funded through a Small Business Innovation Research program contract with the U.S. Air Force.

CRREL's work, which is completely funded by AST, was pursued through a Testing Services Agreement.

To help validate the efficacy of AST's specialty coatings, CRREL and AST are working together to carry out unique icing and frosting experiments in CRREL's specialized cold facilities.

The studies performed at CRREL over the last two years enable AST to transition a new coating technology from development to military and commercial HVAC applications. Research indicates that the coating improvements will increase safety, energy efficiency and operational range of military missions under certain weather conditions.

Based in Hanover, New Hampshire, CRREL is the federal government's only laboratory with a focus on cold regions science and engineering. CRREL leads a wide variety of materials research and testing services at low temperatures, including ice adhesion studies both routine and customized.

Based in Cambridge, Massachusetts, AST produces additives and coatings used for a wide range of industrial, marine and packaging applications. They have developed surface-active polymers and SLIPS® coating systems that repel fluids, contaminants, ice and biological fouling agents.

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