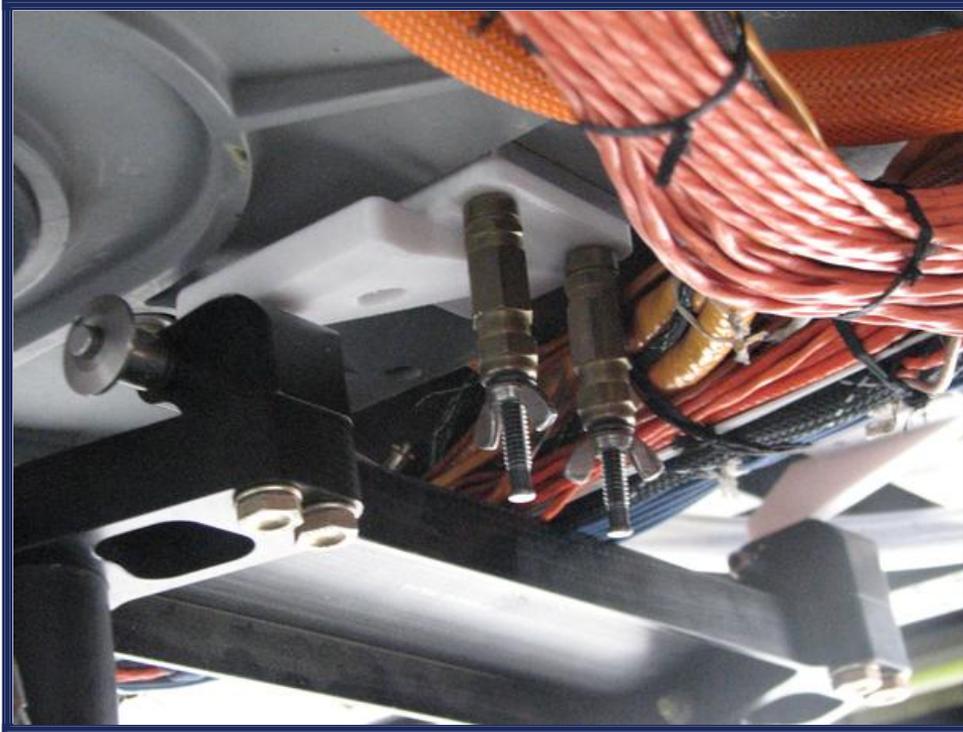




August 11, 2014

NAVAIR partners with industry on 3-D printing, develop a roadmap for the future



A plastic part, printed from a 3-D printer at Naval Air Station Patuxent River, Md., is used as a fit check to install an MH-60R instrumentation operator's seat onto an MH-60S aircraft. The part, which will be replaced by a machined part, is one example of NAVAIR's use of additive manufacturing. (U.S. Navy photo)

NAVAL AIR SYSTEMS COMMAND, PATUXENT RIVER, Md. — The Naval Air Systems Command (NAVAIR) has embraced rapidly evolving 3-D printing technology to deliver superior capabilities to the warfighter — at a rapid pace and a lower cost.

Together, the [NAVAIR](#) team and industry providers focused on developing a roadmap for the future as they discussed the current opportunities and challenges associated with 3-D printing, or additive manufacturing, at the NAVAIR Additive Manufacturing (AM) Industry Day on July 24.

[Vice Adm. David Dunaway](#), NAVAIR's commander, spoke during the event at the Holiday Inn in Solomons, Maryland, where he laid out the goals and the reasons why additive manufacturing will play a part in the command's future.

"Naval aviation is well capitalized. If you look at our production curve, it is going to tremendously decrease by 2018 or 2019," Dunaway said. "We're in the sustainment phase. We're going to have to think about how we apply the limited resources we have. I think additive manufacturing will allow us to optimally use those resources."



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Currently, the [Air Vehicle Modification and Instrumentation \(AVMI\)](#) group is using AM to support naval aircraft flight testing and prototyping projects at Naval Air Station (NAS) Patuxent River, Maryland.

Using their two 3-D printers, engineers at AVMI have fabricated components such as antenna covers, environmental cooling system ducts and mechanical spacers, as well as geometrically-representative models for form and fit checks.

AM technology has advanced well beyond printing plastics, giving users the ability to print metal, explosives, food, compound materials and more. Since NAVAIR does not yet have these capabilities in-house, it plans to leverage industry to acquire them.

“The use of AM in the military aerospace industry is not insignificant,” said Jack Pratt, AVMI chief engineer. “At NAVAIR, we must engage our industry partners and ensure that where AM technology developments benefit the warfighter, NAVAIR’s inputs to industry are clear and part of a well-implemented plan.”

NAVAIR’s AM goals are to build better parts — and more of them — for use on aircraft, and to manage all of the data collection. The Additive Manufacturing Roadmap laid out these goals and identified hurdles to overcome.

“Ultimately, we want to leverage AM to deliver warfighter capability,” said Liz McMichael, NAVAIR’s additive manufacturing integrated product team lead. “To do that, we need to address some key technical challenges, including putting safety-critical AM parts on our aircraft, and making sure we understand how to qualify and certify them. We also need to address the business and acquisition challenges that exist — including contracting, costing, data rights and intellectual property — to enable us to use AM as a standard process.”

There is still a long way to go, but NAVAIR is committed to partnering with industry to accelerate the introduction of AM across the command.

“Our roadmap is intended to focus our activities across NAVAIR and leverage the AM industry base as much as possible,” McMichael said. “We think we can move much faster as a coordinated team.”