AMMO WG Teleconference Minutes – 6 October 2021

On 6 October 2021, the Additive Manufacturing Maintenance Operations (AMMO) working group conducted a teleconference with approximately 65 participants. A summary follows:

**Introduction:** Debbie Lilu (NCMS) welcomed the group, discussed administrative protocol, and provided an overview of the agenda.

**Additive Composites for High Performance Mold-Free Sustainment** – Ryan Dunn, Mantis Composites discussed “Mantis Composites” created by using carbon fiber laminates and metal 3DP with a custom designed 5-axis machine to create high strength to weight ratios. Potential DoD applications include weapon mounts and landing gear components. Mantis is also developing software that will allow them to both predict and verify final part performance before the part ever leaves their facility.

**America Makes Mx and Sustainment Advisory Group (AMMSAG) Update** - Marilyn Gaska (LMCO) provided an update that included the following:

1. The AMMSAG meeting focused topic was a presentation from Karla O’Conner, DAU, on fuel efforts and also a CAPE study on AM learning aspects. You can reach out to her for the brief.
2. America Makes upcoming events:
   1. No in-person MMX in Oct. (Virtual instead). Moving in-person to December. The virtual agenda is at the following link: <https://www.americamakes.us/mmx/>
   2. The AMMSAG is still meeting Oct 21st.
3. There was an AM panel at the Aircraft Airworthiness & Sustainment Conference.
4. America Makes was engaged in 2 of the 5 winners submitted to the DMC.

**MxD Update** – Federico Sciammarello provided an update on Pathfinder Phase II which covers the implementation and evaluation of security measures identified during assessment of a Fused Deposition Modeling (FDM) system in a DoD-like environment.

**Additive Manufacture of Elastomers for Personally Fitted Respirators** – Lawrence Hancock, Akita Innovations, discussed how Akita and Adaptive 3D develop feedstock materials and methods for the AM of soft elastomers that show resistance to the permeation of chemical agents. This capability could enable personalized manufacture of respirators to individual people.

**Multi Metallic Structures Using Cold Spray** - Doug Frietag of Triton Systems talked about using cold spray to create multi-metallic structures without size limitations. The build volume is easily scaled with no thickness limit and achieved with a high powder deposition rate. The largest item built to date is a 288 lb. steel part.

**Next Meeting:** - The next AMMO WG call is scheduled for 10:30-12:00 am (Eastern Time) on Wednesday, 3 November 2021.

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