AMMO WG Teleconference Minutes – 2 March 2022

On 2 March 2022, the Additive Manufacturing Maintenance Operations (AMMO) working group conducted a teleconference with approximately 50 participants. A summary follows:

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

**Expeditionary Additive Manufacturing for Sustainment and the Australian Defense Trials** – Jim Monroe and Steve Camilleri, Spee3D, discussed using expeditionary 3D printing to reduce supply chain waiting times. The Australian military is conducting trials in on-site and expeditionary environments. The early results prove the equipment is easy to transport and setup and robust enough to work in rough terrain. Over 50 case studies have been performed in the field to include metal parts. Testing and validation of parts in the field was proven possible.

**Cybersecurity for Additive Manufacturing** – William Glodek and Nicole Santos of BreakPoint Labs, described a couple examples of cybersecurity attacks on AM workflow to include file format abuse and ransomware. They then detailed the BISON AM architecture and discussed lessons learned about data sets, practical exploitation scenarios, tools to break AM processes, efforts to verify AM manufactured objects, and Blockchain limitations.

**MxD Cyber Marketplace** – Laura Robb Elan (MxD) described the MxD Cybersecurity Marketplace as a web-based application for cybersecurity self-assessment and readiness preparation that uses a set of curated yes/no questions that map security controls to CMMC requirements. The marketplace offers a low-cost assessment to help manufacturers determine their cyber risk profile and secure their operations. As gaps in cybersecurity coverage are identified, the platform will recommend solutions and vendors than can help.

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

1. Feb 17 meeting discussed JAMWG and DoD AM Workshops. Steve McKee will cover the AM Workshop later in the forum.
2. Kimberly Gibson, the Additive Manufacturing Ecosystem Director at America Makes briefed small business engagement with the DoD. The presentation slides are available to the public and this may be a future AMMO WG forum topic.
3. The meeting also focused on the Rapid Innovation Fund and “Best Practices for Additive Manufacturing Part Families Relating to Product”.
4. America Makes upcoming events:
   1. 22-24 Mar – AM TRX in Salt Lake City. You will be able to see some of the work the institute completed. As they highlight some projects. You can register at America Makes. On the 24th a workshop will assess AM community needs to include a value chain WG and a process WG.
   2. MMX ten-year anniversary moved to Aug in Youngstown.
   3. The next meeting is 17 March.
   4. A survey for America Makes Standardization will be sent out through distribution.

**JAMWG Update** – Brett Connor, OSD(R&E), provided a review of JAMWG activities.

1. 16 Feb Meeting:
   1. Joint Additive Manufacturing Acceptability (JAMA) 2 Task 1: Create a common selection approach for AM Part production selection.
   2. Parts Marking Meeting on 23-24 Feb developed draft policy statements to include:
      1. Follow MILSTD 130
      2. Enable field expedient AM applications
      3. Agreed to pursue adding policy statements as a change to DoDI 5000.93

**AM Workshop** – Steve McKee, OSD(MR) provided an update.

1. Scheduled for 28-29 June at MxD in Chicago
2. The list of recommended topics has been downselected to the following 5 work groups:
   1. DoD Standardization Prioritization
   2. Cybersecurity (wargame) Hack-a-thon & Improving AM in Small and Medium Manufacturers
   3. Assessing Additive Manufacturing Crisis Response & AM Capability to Operate at Speed of War
   4. Additive Manufacturing Portal for Education (AMPED)
   5. Agile Inspection and Testing

**Next Meeting:** - The next AMMO WG call has been pushed one week and is scheduled for 10:30-12:00 am (Eastern Time) on Wednesday, 13 April 2022.

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