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**Addendum to “Mapping the Multi-Layered Additive Manufacturing (AM) Community: Understanding the Future Landscape and Implications for National Security”**

**Appendix: “Deliverables”**

This project enhances both our understanding of additive manufacturing and counter-proliferation and our broader ability to identify, track, and engage with disruptive communities of innovation (COIs) in general.

InnovateNET’s mission and development tie in with broader funding streams and research efforts. The InnovateNET project itself is also being funded by the State Department [blah blah, some stuff about State here?]

InnovateNET is also partnering with another institution in Defense Analysis, the Coalition for Open-Source Defense Analysis (CODA). CODA is funded by a range of institutions including USSOCOM, TRADOC, JWAC, and MARFORCYBER, who have expressed a keen interest in big-data analysis of ideological, spatial, and discoursive communities for security applications. Jesse Hammond is co-PI with CODA’s leader, Dr. Camber Warren, on a project application being developed through the Naval Postgraduate School Foundation that has already received initial seed funding. If fully funded, this joint effort will develop large-scale machine-learning algorithms used to analyze community network structures and identify early signs of disruption, emergent sub-communities and coalitions, and other dynamical aspects of COI networks.

Outside of the NPS campus, the InnovateNET program synergizes directly with the mission area of SOFWERX [funded by USSOCOM and the Doolittle Institute], focusing on the near-term trajectory of emerging technology through direct engagement with the hacker/maker community. InnovateNET contributes to this effort in two ways. First, it provides a higher-level analytic platform to augment SOFWERX’ “human intelligence” approach through large-scale structural analysis. Second, the dynamic community analysis InnovateNET provides will help identify key actors, institutions, and sub-communities for outreach and engagement by SOFWERX.

Although the current effort applies InnovateNET to construct and analyze the COI structure of additive manufacturing, this is only one use case for this tool. Because InnovateNET is a query-based platform, users can tailor new queries to analyze COIs in other areas. A logical extension of this initial funding effort is to use InnovateNET to analyze additional communities of innovation such as biotechnology, drone development, or alternative fuels research.

Outside of the CWMD effort, the potential user base for InnovateNET is extremely broad. The USG has a vested interest in understanding the explosive evolution of revolutionary technology from both security and economic standpoints. Potential end users include [anyone affected by radical supply chain disruption], [agencies that want to buy, license, or control newly developed tech], [agencies that want to fund or connect promising research], [etc… ]

The preliminary InnovateNET platform will take the form of a command-line console tool, likely run through a central Python script. With additional funding and time, we would be able to hire software development expertise to turn the platform into a simple but functional “point and click” program useable by a broader user base. After an initial proof-of-concept stage, this second round of development would be the basis to justify further funding [???]

Deliverables:

* Initial version of InnovateNET platform
* Public-facing InnovateNET web site and Github repository to host open-source code and data, along with blog-style posts with recent analyses and discussion
* Presentation and demonstration to be held at CWMD Systems (or other venue(s) according to the sponsor’s needs)
* Presentation at special DoD-focused satellite session at the annual NetSci conference (largest international network science conference)
* Proof of concept report focused on a portion of the AM innovation domain (scoped using detailed analysis and guidance provided by MITRE team) provided without restriction both to CWMD Systems and to the public-facing InnovateNET web site