

### WMD CAPABILITIES ENABLED BY ADDITIVE MANUFACTURING

Negotiation Design & Strategy  
Project Lead: Christopher Daase  
FY18

#### ABSTRACT:

Additive Manufacturing (AM) is emerging at a rapid pace. Particularly in the critical fields of metal, ceramics, and ultra-strong polymers, AM's scope has changed significantly over the course of the past 18 months alone. Concern amongst scholars and policy-makers as to AM's relevance with regards the proliferation of Weapons of Mass Destruction (WMD) – though still contested – is growing. So far, studies addressing the issue have largely concentrated on AM's potential impact on nuclear proliferation. What remains underexplored is its growing impact on WMD delivery systems as well as on chemical and biological weapons programs.

This project proposal seeks to highlight recent developments in AM relevant to nuclear proliferation and adds analyses of the impact of AM on delivery systems as well as chemical and biological weapons programs. Focusing on AM developments in both North America and Western Europe, the project would map latest AM developments, project AM development out to 2030, and apply those findings to WMD proliferation pathways. Breaking new ground, project findings would provide experts as well as government officials with a well-supported window into emerging risks and threats as a basis for strategic planning.

*Research in Progress* describes ongoing PASCC research. For more information please contact [INSS@usafa.edu](mailto:INSS@usafa.edu).