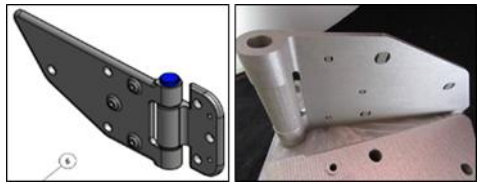
The US Military Use of Additive Technology

December 2018

Additive manufacturing is scalable based on need/requirements

1



Colorado School of Mines:
MRAP Door Hinge

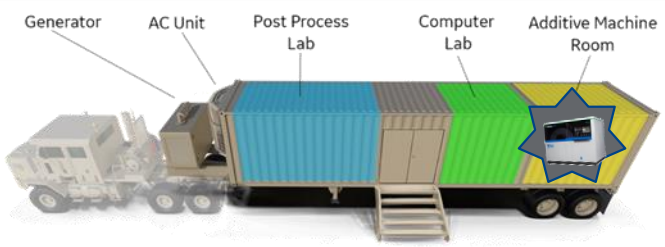
… very limited capability

2

Reverse Engr

Cut-off/Mach

Heat Treat



Expeditionary

3

Design/TDP

Reverse Engr

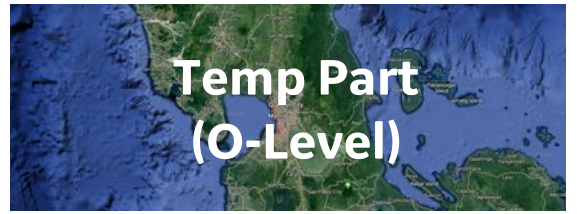
Cut-off/Mach

Powder Handling

Heat Treat

Inspect

Material Properties



4

Design/TDP

Reverse Engr

Cut-off/Mach

Powder Handling

Heat Treat

Inspect

Material Properties

Qualification

AM “Qualified Part” Requires Equal Qualification as Traditional

Materials Qualification

Design Qualification

Machine Qualification

Additive Process Qualification

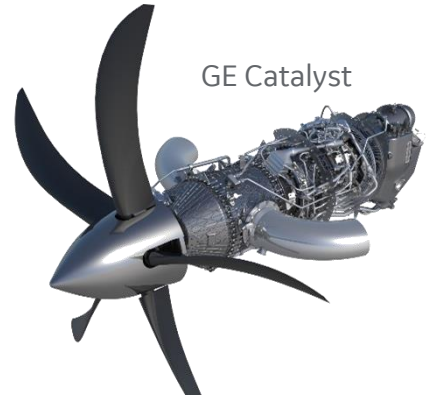
Testing/Final Qualification

GE Commercial Additive Flight Experience

2014: 1 AM Part
(T25 Sensor)

2014: 20 to 1 AM Part
(Fuel Nozzle)

2020: 5 AM Parts
(Flight testing)



2020: 855 to 12 AM Parts
(Ground testing)

Industry Partnership to Maintain Competitive Edge with Additive

1. Significant additive capability has been commercialized by industry
2. Technology development need not be repeated for DoD applications
3. Leverage existing industry TRL readiness
4. New funding should support new additive technology development

Industry is working with DoD to ID AM opportunities

- Readiness
- Modernization