

America Makes Laser Powder Feed Directed Energy Deposition (LPFDED) Repair “Reborn” Project

Program Management



Task 0 – Establish a Database



Task 1.0 – Powder Characteristics Optimization



Task 2.1 – Process Development



Task 2.2 – Process Monitoring and Control



Task 2.3 – Part Measurement



Task 2.4 – Non-Destructive Evaluation



Task 3.0 – Design Allowables Guide



Task 4.1 – Parts Repair and Sustainment Study



Task 4.2 – Post Processing



OEM Participation



Optomec Proprietary

“Reborn” Project Summary

- ▶ Focus is on Ti-64 repairs that:
 - restore functionality
 - low risk, non-structural
 - originally part-specific goal, but now generic
- ▶ Deliverables:
 - “infant” data collection DEDatabase for repairs
 - populated with limited microstructural, tensile and fatigue data
 - “best practices” for testing procedures and full repair process related to Ti-64

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