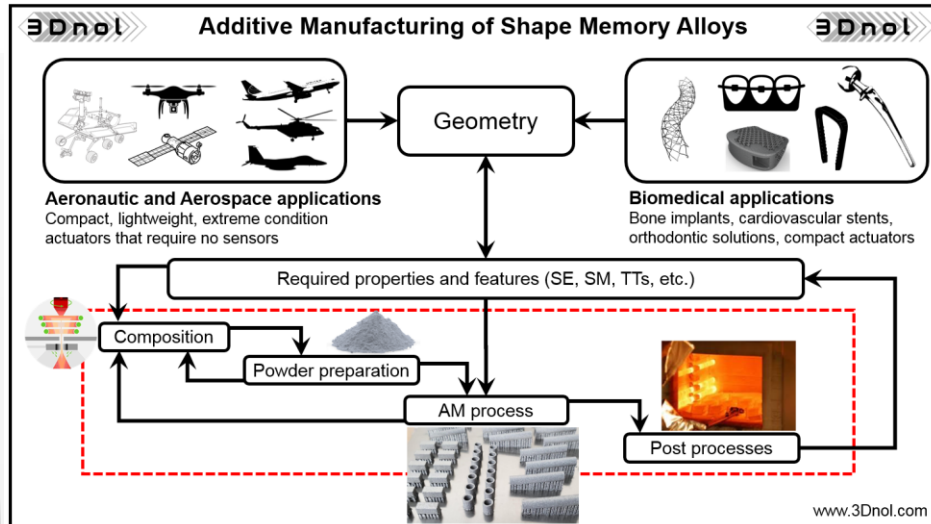


3Dnol: Additive Manufacturing of Shape Memory Alloys

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Description

While shape memory alloys (SMAs) provide unique properties that make them great potential candidates for a wide range of applications, their practical applications have remained limited. 3Dnol will implement additive manufacturing (AM) on a new class of NiTi-based SMAs.

Our team has a successful history of systematically addressing the fabrication difficulties of NiTi and NiTiHf SMAs in AM. We have conducted applied R&D on optimization of the raw material composition and careful control over the overall fabrication process. The ultimate product of the company will be an AM capability to enable solutions that advance a wide range of applications in aerospace, biomedical, defense, and auto industries. (TRL 4-6)

Requirement(s) Benefits, Money Saved, Eliminates What?

SMAs hold a significant promise in simplifying and improving various actuation, biomimetic, damping, and energy harvesting systems. Successful AM simplifies the fabrication procedure for the already-existed applications and enables introduction of innovative applications that cannot be fabricated using conventional methods.

3Dnol has recently received a NASA SBIR Phase 1 award for optimizing the SMA composition for AM. Our team is currently finalizing its business plan, seeking partners in AM, and securing additional funding for the next phases.

Airspace Management

Command & Control

Comms

Power & Energy Storage

Propulsion

Sensors & Awareness

Other