

# **On the Applicability of Additive Manufacturing for Superhero Suit Fabrication**

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Additive manufacturing (AM) is widely gaining acceptance in a broad range of industries – from aerospace to automotive to biomedicine. The processes and materials have matured to a point where critical parts can be rate-produced and confidently adopted into demanding applications. One application area that has been largely overlooked is the fabrication of superhero suits and ancillary technology. While a niche market, the highly demanding and customized nature of this technology space is ideally suited for AM.

This presentation will detail a collaborative project among Colorado School of Mines, a major AM original equipment manufacturer, and a Hollywood production studio focused on creating an AM-fabricated superhero suit for a new television series highlighting examples of “extreme engineering.” The talk will focus on a) how the 3D models developed for computer-generated imagery were converted into AM buildable parts, b) how a 3D body scan was used to fabricate an AM custom support structure for the suit tailored to the superhero’s body, and c) how metal, polymer, and ceramic AM parts were incorporated into the overall design.