

Speed to Production: A Case Study on Automotive Exterior Badging with Metal Binder Jetting

Amy Bray-Cotton ^a, Mattia Forgiarini ^b, Cody Cochran ^c, Adam Campbell ^d

^a Azoth Inc, Ann Arbor, MI 48108, United States - *abraycotton@azoth3d.com*

^b Azoth Inc, Ann Arbor, MI 48108, United States - *mattia@azoth3d.com*

^c Azoth Inc, Ann Arbor, MI 48108, United States - *ccochran@azoth3d.com*

^d General Motors Corp, Warren, MI 48092, United States – *adam.campbell@gm.com*

ABSTRACT

In the race against time to bring a new component to production, efficiency is paramount. Utilizing additive manufacturing has proven itself to rapidly shorten the timeline to bring parts on board. Metal Binder Jetting is a reliable Additive Manufacturing process as it can form complex geometries out of powder metal without significant set-up tooling, thus offering a reduction in lead time. This case study focuses on a real-world partnership between Azoth and General Motors in which additive manufacturing has been used to bring an exterior metal badge from concept to a saleable production approved product in an expedited timeline of just four months.

In this work, Metal Binder Jetting (MBJ) printing is presented as the fabrication production process. This application has passed all Production Part Approval Process (PPAP) quality requirements and has been installed on production vehicles.

The success story illustrates the capabilities of additive manufacturing for production, the reality of product development utilizing MBJ additive manufacturing, and overall value cycle management.