

# Additive Manufacturing Infrared Inspection

## Project Manager(s)/Lead(s)

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## Sponsoring Program(s)

Human Exploration and Operations Mission Directorate  
Space Launch System Advanced Development

## Project Description

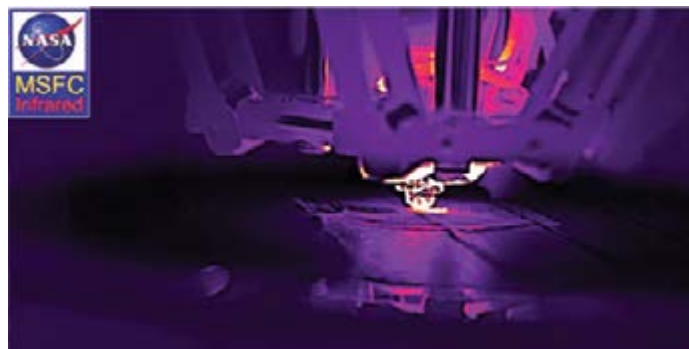
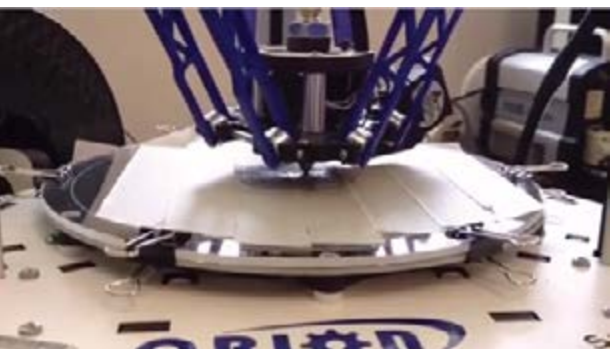
The Additive Manufacturing Infrared Inspection Task started the development of a real-time dimensional inspection technique and digital quality record for the additive manufacturing process using infrared camera imaging and processing techniques. This project will benefit additive manufacturing by providing real-time inspection of internal geometry that is not currently possible and reduce the time and cost of additive manufactured parts with automated real-time dimensional inspections which deletes post-production inspections.

## Notable Accomplishments

The task successfully proved the feasibility of infrared hardware detecting an additive manufacturing process and developed custom software which created 3D geometry files of the additive manufactured part.

## References

Crumbly, C.M.; Bickley, F.P.; and Hueter, U.: "Space Launch System Spacecraft/Payloads Integration and Evolution Office Advanced Development FY 2014 Annual Report," NASA/TM—2015-218201, NASA Marshall Space Flight Center, Huntsville, AL, January 2015.



Orion Delta 3D printer and manufactured part.