Rocket Boattail

Enabling Industries Through Lightweighting and Function Integration

Motivation and Relevance

- Rockets and aircrafts benefit from lightweight construction because it leads to lower fuel consumption and lower costs
- Developers and parts suppliers can learn and profit from new and more efficient design methodologies

Approach

- Honeycomb Lattices were integrated into a boattail of a student rocket with PTC Creo
- The redesign aimed for weight decrease and an additional safety feature in terms of a larger crash zone
- The part was manufactured from AlSi10Mg by PBF-LB/M

Results

- Decrease of weight by 23%
- Function Integration of safety feature „Crushed Core“
- Successful flight test with additive manufactured component

Research Area

- Light weighting
- Function Integration
- Education

Partners

creo®

Space Team Aachen

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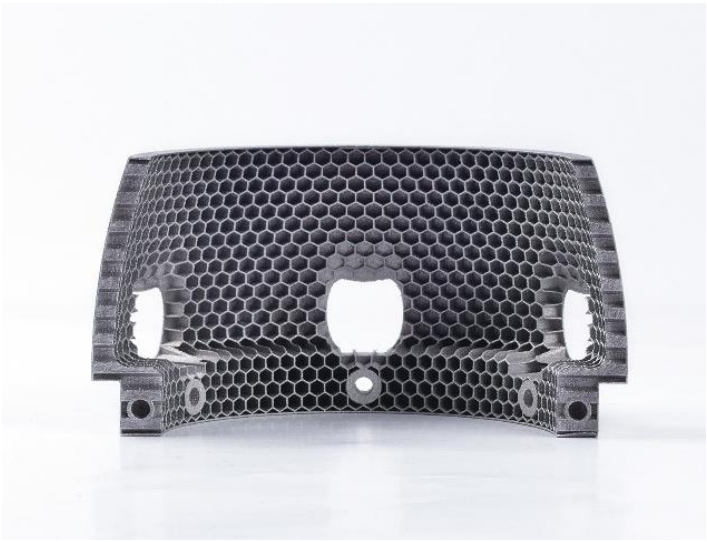
Picture



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