

# Thin-Walled AlSi10Mg Structures for Satellites

## *Enabling Industries Through HS-DED*



### Motivation and Relevance

- Lightweight construction of Rocket Engine Nozzles and Housings for satellites required for efficient missions
- HS-DED mainly used for coating applications, but potentials for improvement of production times of thin-walled parts
- Printing of thin-walled structures from AlSi10Mg

### Approach

- Process speeds up to 20 m/min to print structure in < 30 min
- Printing of overhang structures support free to certain degree in 3-axis mode
- Wall thickness: 1.3 mm
- Weight:

### Results

- HS-DED process enables fast printing times of large parts to increase development and production time
- Reducing material waste required for manufacturing of Rocket Engine Nozzles and Housings
- Manufacturing of thin-walled structures from Al-alloys

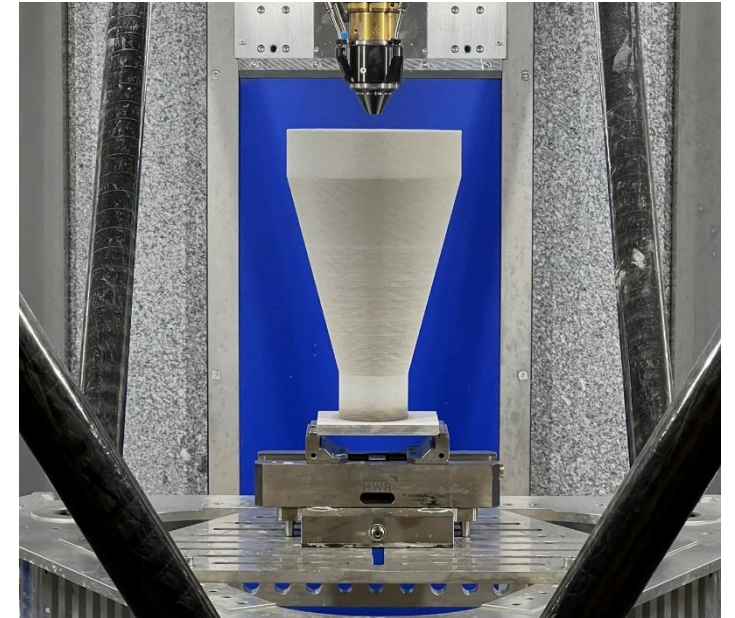
### Research Area

- Aerospace

### Partners

**oerlikon**

### Picture



### Contact



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