

AM within RUAG Space

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Munich, 11-12 October 2017

Together
ahead. **RUAG**

Additive Manufacturing

Why AM for Space?

Additive Manufacturing offers a host of **benefits** on programmatic and performance aspects particularly relevant for space application:

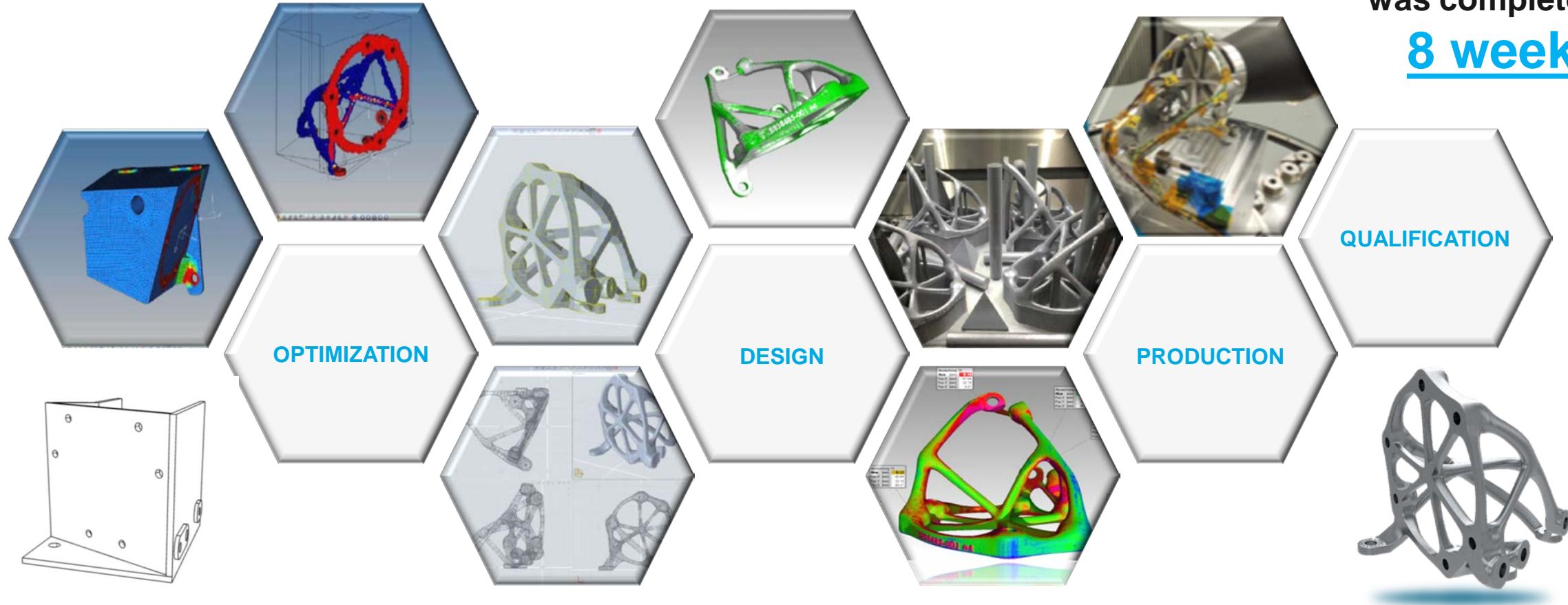
- Shorter lead times
- Mass optimization
- Higher complexity
- Low production rates
- Qualification Models



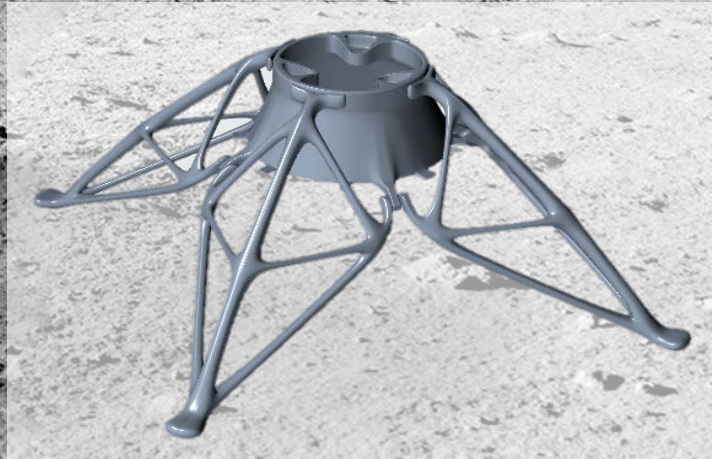
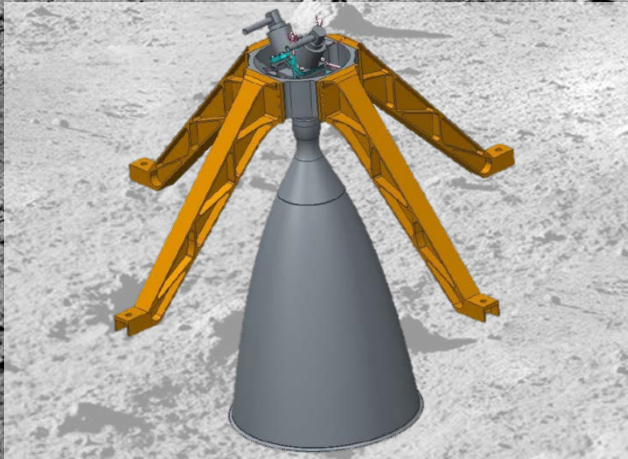
Additive Manufacturing Changing the economics of satellites

Entire life-cycle
was completed in

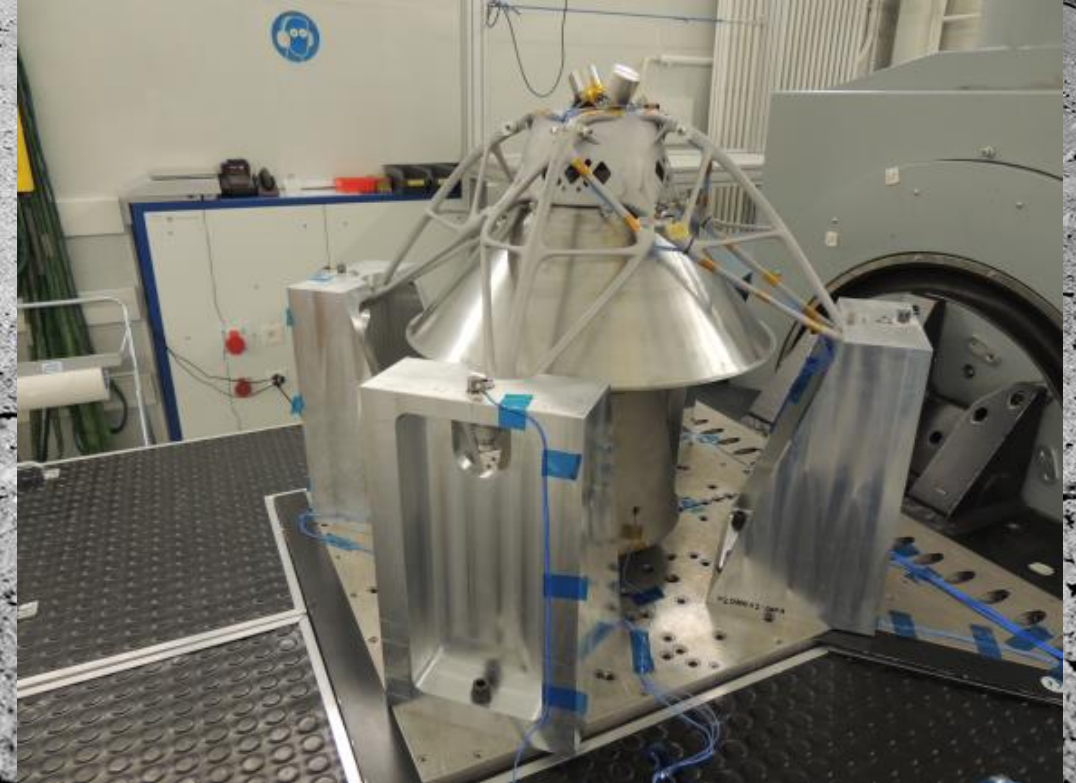
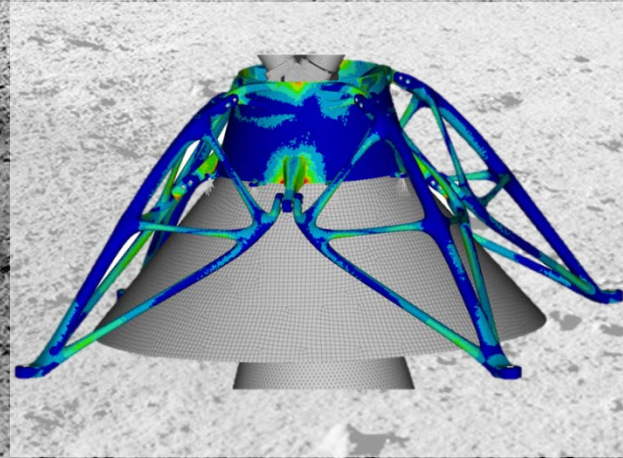
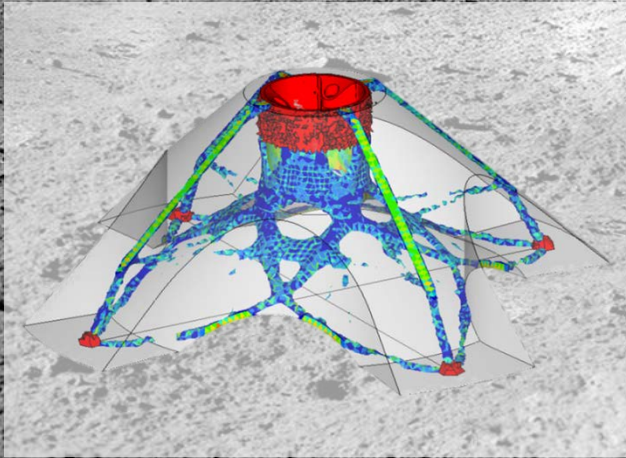
8 weeks



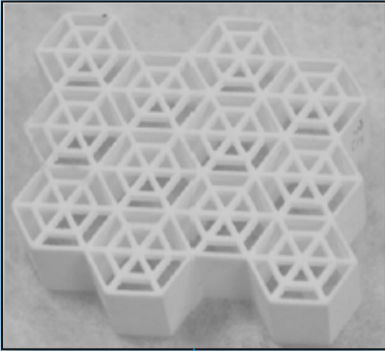
Additive Manufacturing Changing the design of satellites



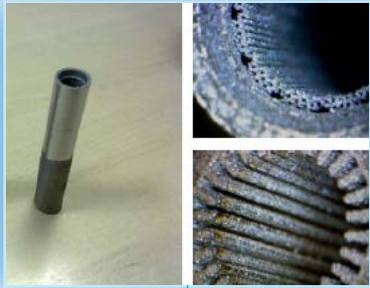
Additive Manufacturing Changing the design of satellites



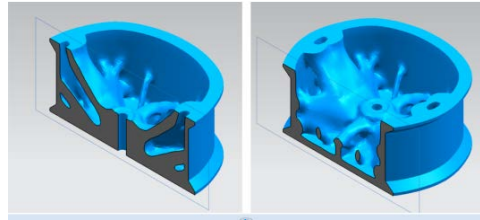
Additive Manufacturing Re-inventing the design of satellites



(source WWW)



(source WWW)



(source RUAG)



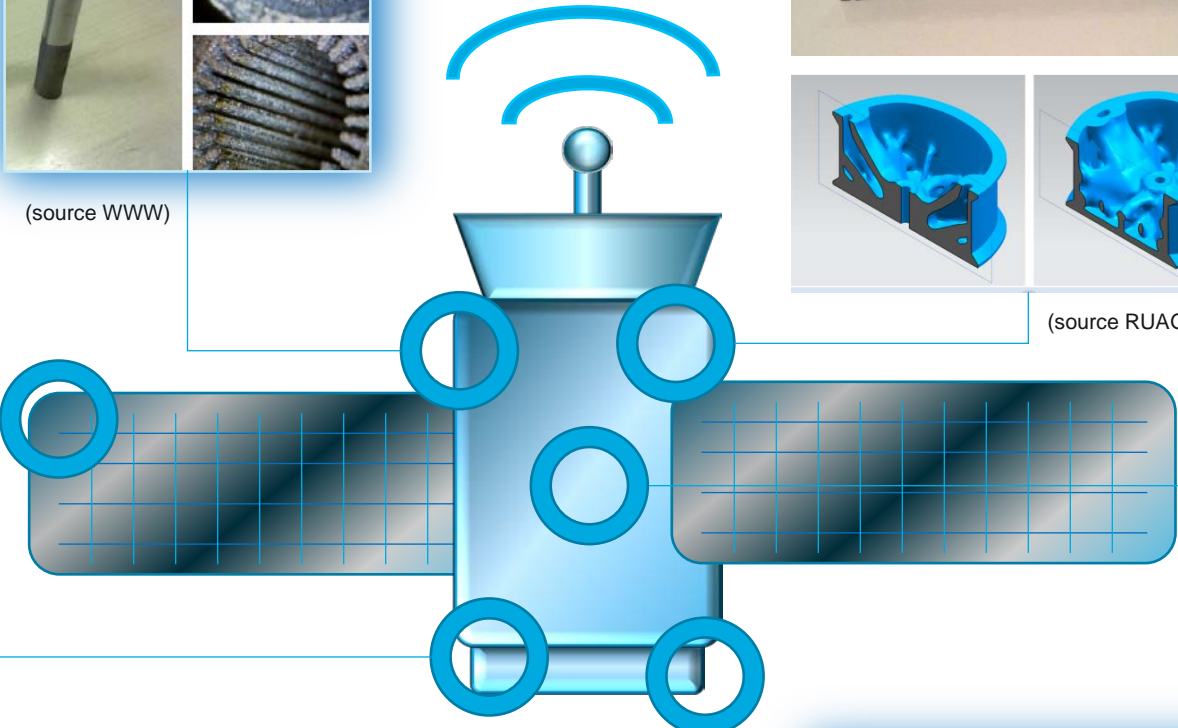
(source WWW)



(source WWW)



(source WWW)



Additive Manufacturing Challenges



- **Development** of the AM production technologies
- **Understanding** of production processes
- **Development** of new materials
- **Qualification** and standardization of materials and processes
- **Development** of new design tools
- **Change of mind** in the development process
- **Acceptance** from Customers and Agencies