

Axial Screw

Enabling Industries Through Speed



Motivation and Relevance

- Low material deposition rate and high material costs of filament-based material extrusion oppose technology potential for large-scale components
- Relevant for technology users and service providers

Approach

- Development of an innovative extrusion unit (inter alia axial screw) for the transition to granule-based material extrusion
- Iterative development focusing on weight reduction whilst keeping axis system, nozzle diameter & feeding accuracy
- Axial screw manufactured by laser powder bed fusion

Results

- Functionally optimized and operable extrusion system
- Increase of print speed by factor ten
- Decrease of material costs by using pellets

Machine Productivity



Lower Production Costs



Shortened Product Development



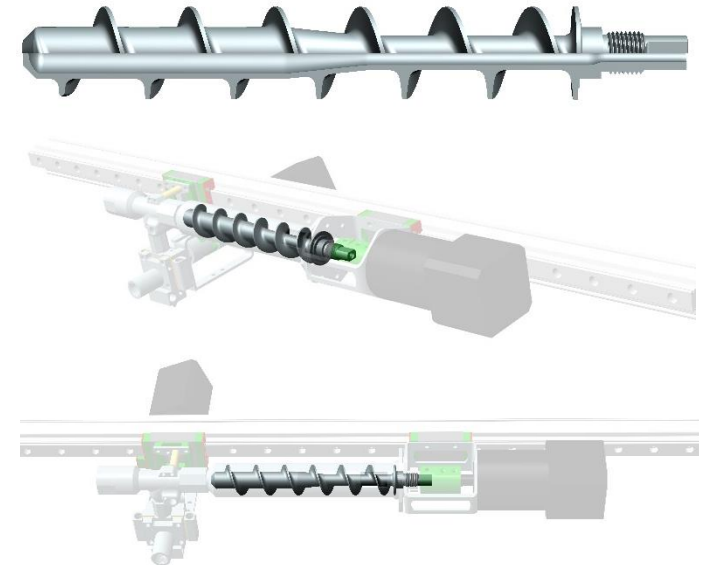
Research Area

- Productivity in polymer-based material extrusion

Partners

exafuse

Picture



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