

# Push your bike parts to the next level

## Benefit from our 3D printers for serial production and our AM Consulting

### ■ Improved performance

Form follows function: High performance materials and new design options (e.g. topology optimization) enable unmatched part performance

### ■ Lightweight

Removal of unnecessary volume to save weight. Lattice structures and a high variety of infills maintain the part strength and reduce material at the same time.

### ■ Highend materials

Efficient usage of high strength materials like aerospace grade titanium allow completely new applications both for mechanical stress resistance and volume reduction.

### ■ Competitive part costs

In terms of sustainability and additive serial production the TRUMPF TruPrint machines guaranty a highly efficient material usage resulting in attractive part costs.



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TRUMPF



Rethink production  
Push your bike parts to the next level!

Our Additive Manufacturing technology for your Bicycle Application:  
**Laser Metal Fusion (LMF/LPBF)**



## Mountainbike Pedal

Material: Ti6Al4V Gr. 5

### Freedom of design and material variety

- Titanium for combined strength and lightweight
- Reduced wall thickness with high strength
- Integrated bearing seats - no mechanical rework necessary

**EFFECT:** Fast time to market with extraordinary materials

## Brake Lever

Material: Ti Gr. 2

### Lightweight titanium lever for serial production

- Low part costs: appr. 12 - 15€ p.P.
- Lattice structures in the finger area for textured grip
- High stiffness using topology optimization
- Fast time-to-market for custom build design

**EFFECT:** Customizable brake feeling with less weight

## Brake Caliper\*

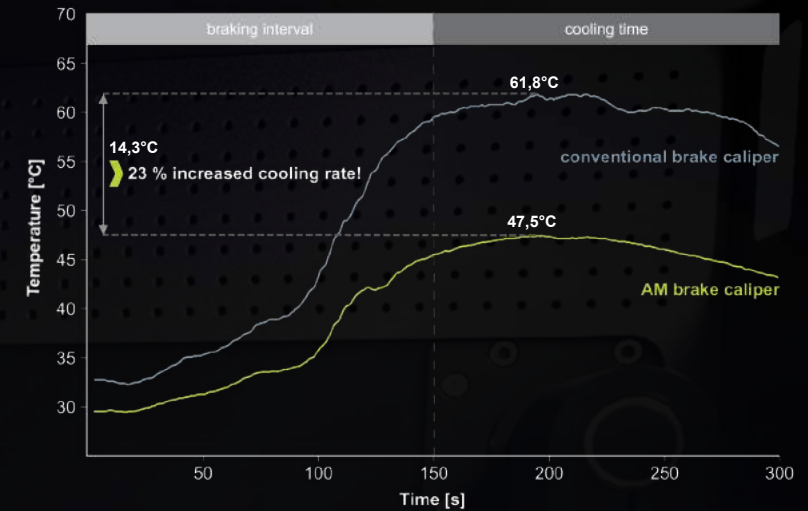
Material: AISI9Cu3

### Integrated cooling structures for optimized efficiency

- Lattices and honeycomb for improved air cooling
- Lightweight through material saving
- Customizable brake designs from quantity one
- No restrictions for inner oil flow design

**EFFECT:** Cooling rate performance increase by 23%

\*Functional design based on conventional caliper



## Additive serial production

Part costs "Brake Caliper" with optimized 3D printing production:

- Machine: TruPrint 3000
- Parts p. a.: 15.000
- Overall build time: 91h
- Parts on platform: 280

Production cost / part:

appr. 15 - 20€

