



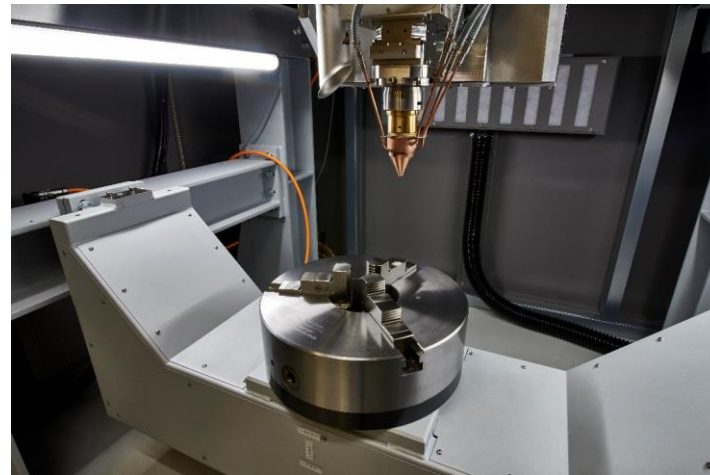
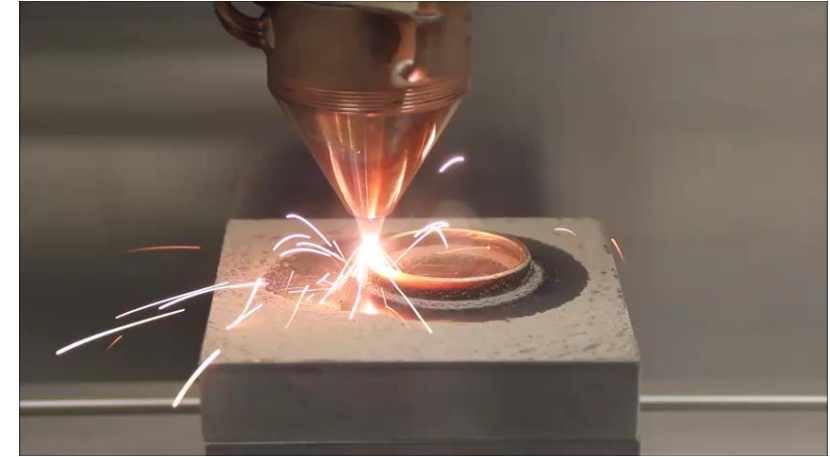
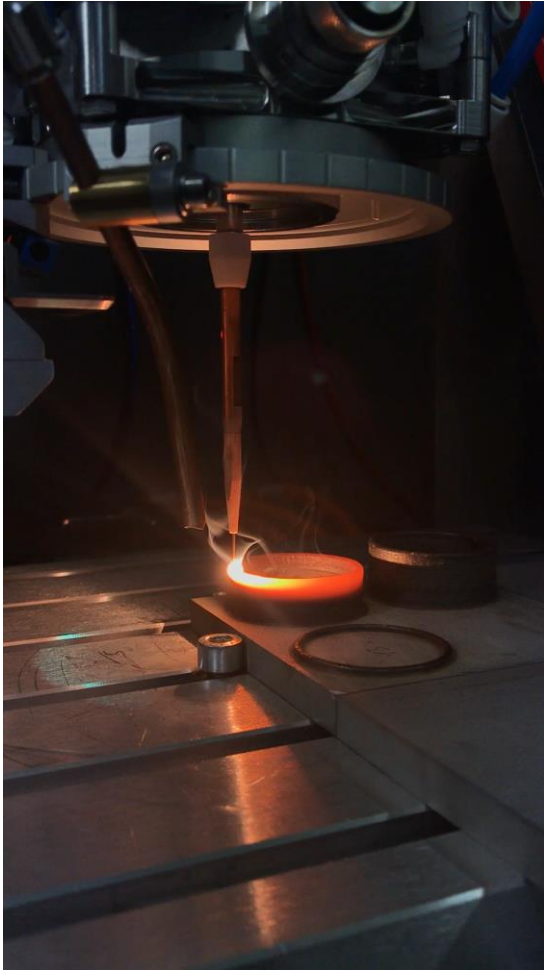
Intelligent Laser Metal Deposition

Rainer Beccard

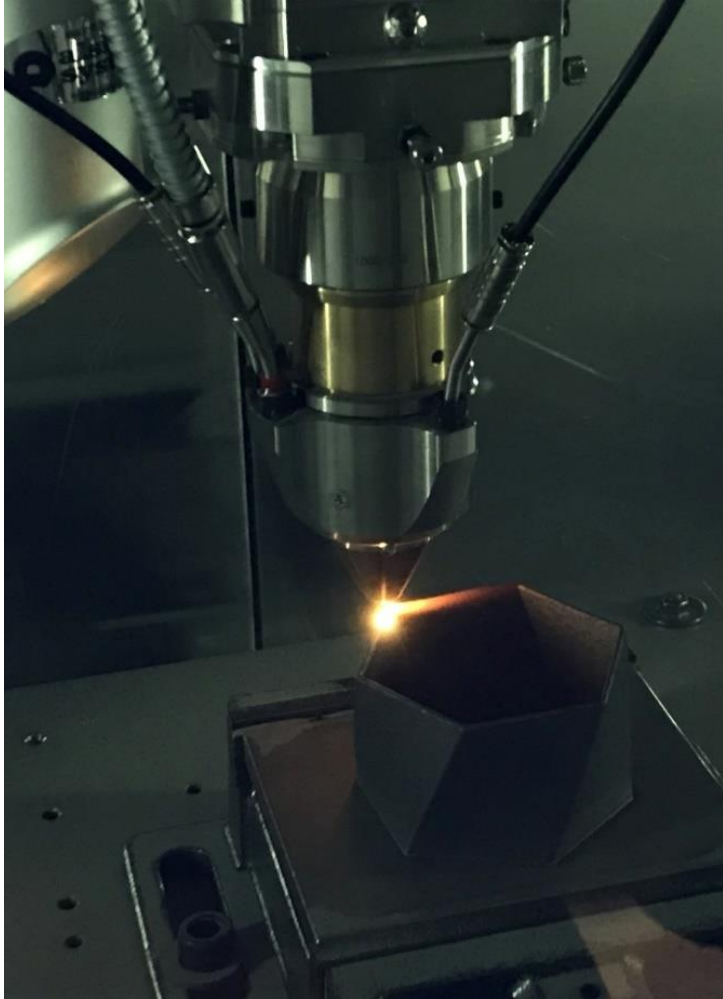
LUNOVU GmbH

EPIC Online Technology Meeting on Additive Manufacturing
of Metal and its Applications

Laser Metal Deposition (LMD / DED) machines



LUNOVU LMD: 3D metal additive manufacturing with powder



- Twisted hexagon
- 500 layers total
- Height 200mm
- Wall thickness 2mm
- Process duration: 90 min

DED WITH COAXIAL WIRE – A NEW APPROACH FOR AM

PRECITEC COAXPRINTER



Advantages of wire vs powder:

- 100% material efficiency
- low feed stock material costs
- hazard-free material and process handling

DED WITH WIRE – PRECITEC COAXPRINTER

COAXPRINTER TYPICAL PROCESS PARAMETERS

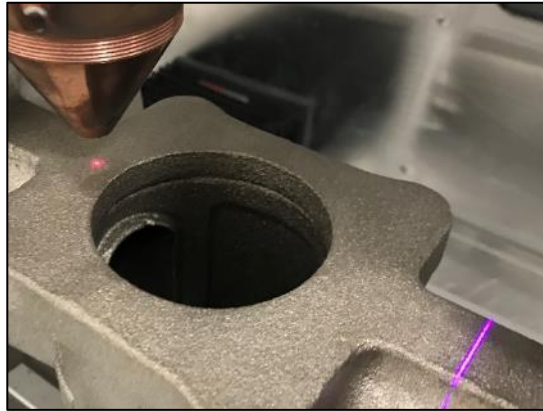
- laser power 1 - 4 kW
- process speed 1 – 5 m/min
- wire feeding speed 0.5 – 8 m/min
- wire diameter 0.8 to 1.6 mm
- build rate 0.5 – 2 kg/h (depending on material)
- stickout 8 – 12 mm
- shielding gas: argon



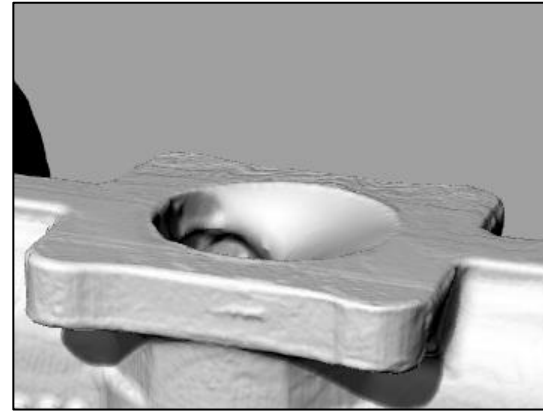
3D LMD/DED on existing 3D parts



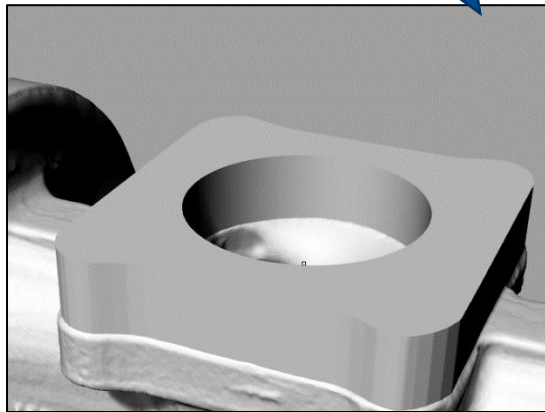
Existing cast part



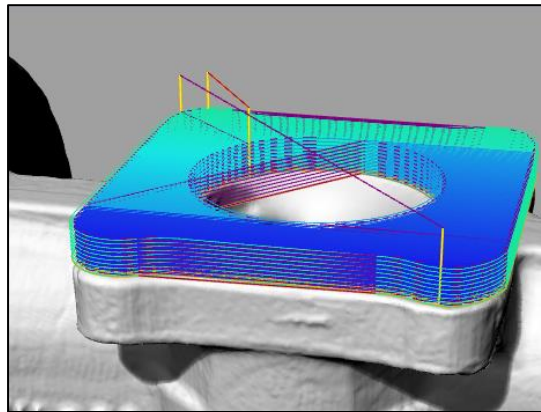
Scanning of the 3D surface



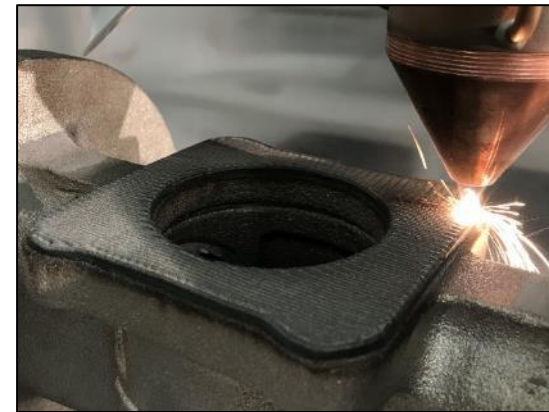
Visualisation on the PC



Loading of additional geometry from CAD data

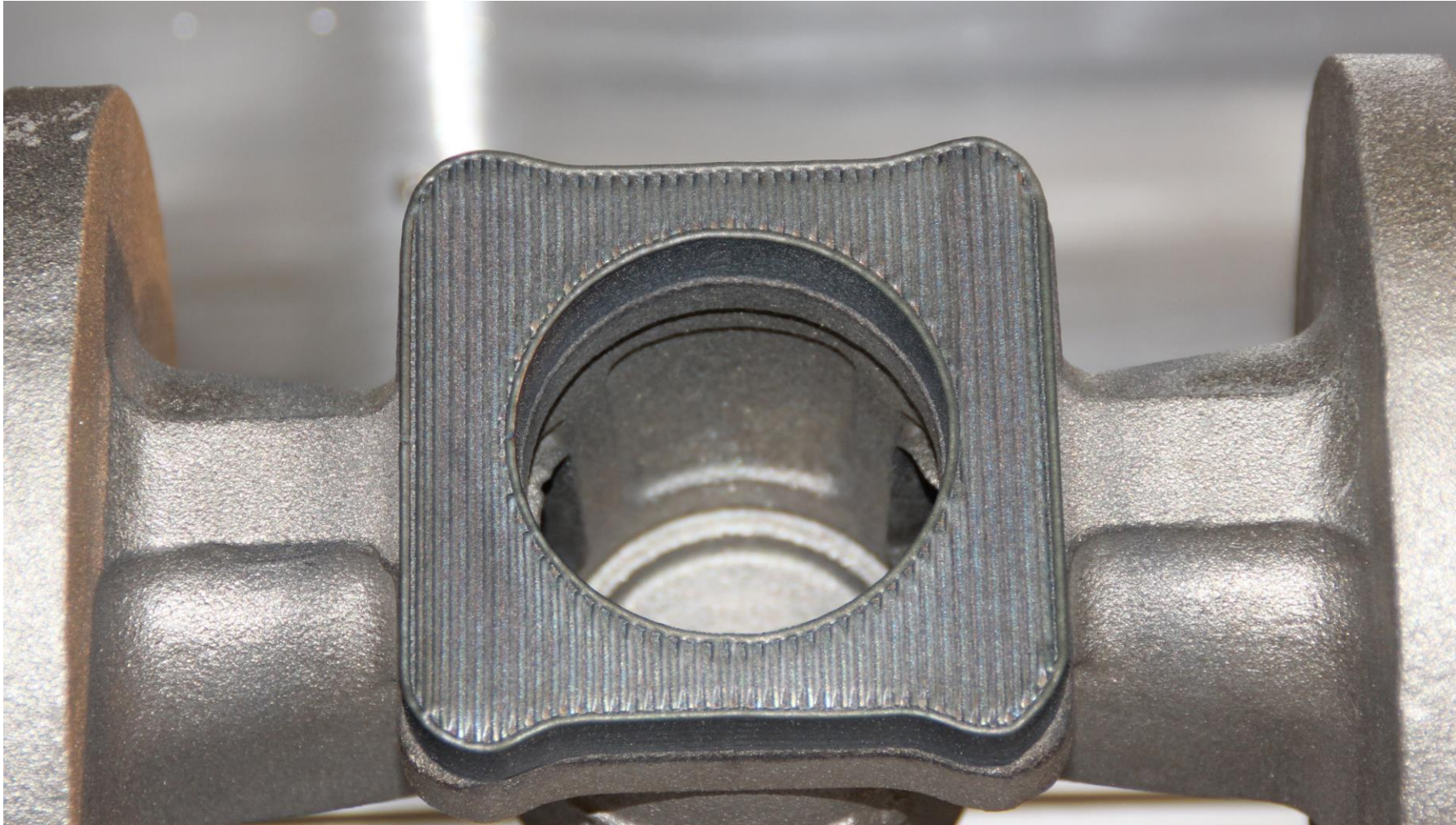


Automatic toolpath calculation

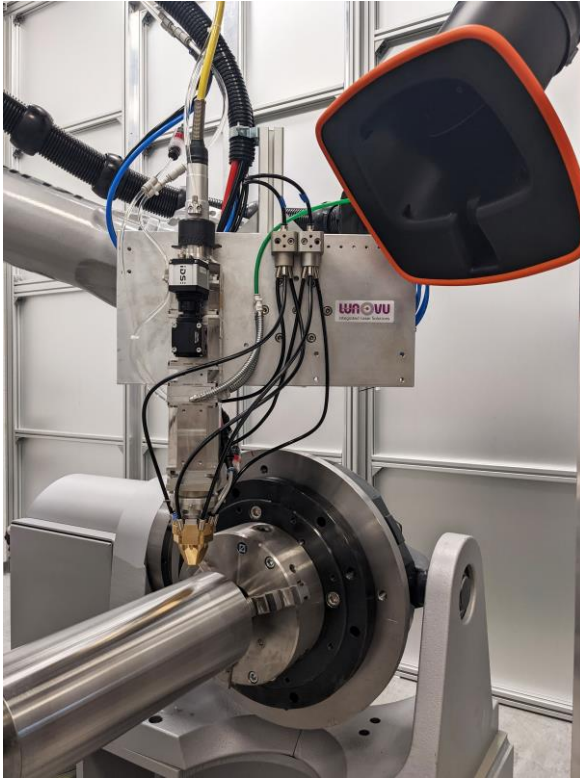


Execution of LMD/DED process

LMD structure on a cast part



Our application center is open to everyone – you are invited!



- Bring your ideas
- Try LMD/DED
- Discuss with experts
- Show us novel applications



The logo features the text 'LUNOVU' in a bold, sans-serif font. The letters 'LUN' and 'VU' are purple, while the 'O' is a grey circle with a white center and a red dot in the middle. A red horizontal line extends from the left edge of the 'O' to the right edge of the 'LUN' group.

LUNOVU

Integrated Laser Solutions