

# OLAF - OPEN INNOVATION FOR LARGE SCALE ADDITIVE FABRICATION

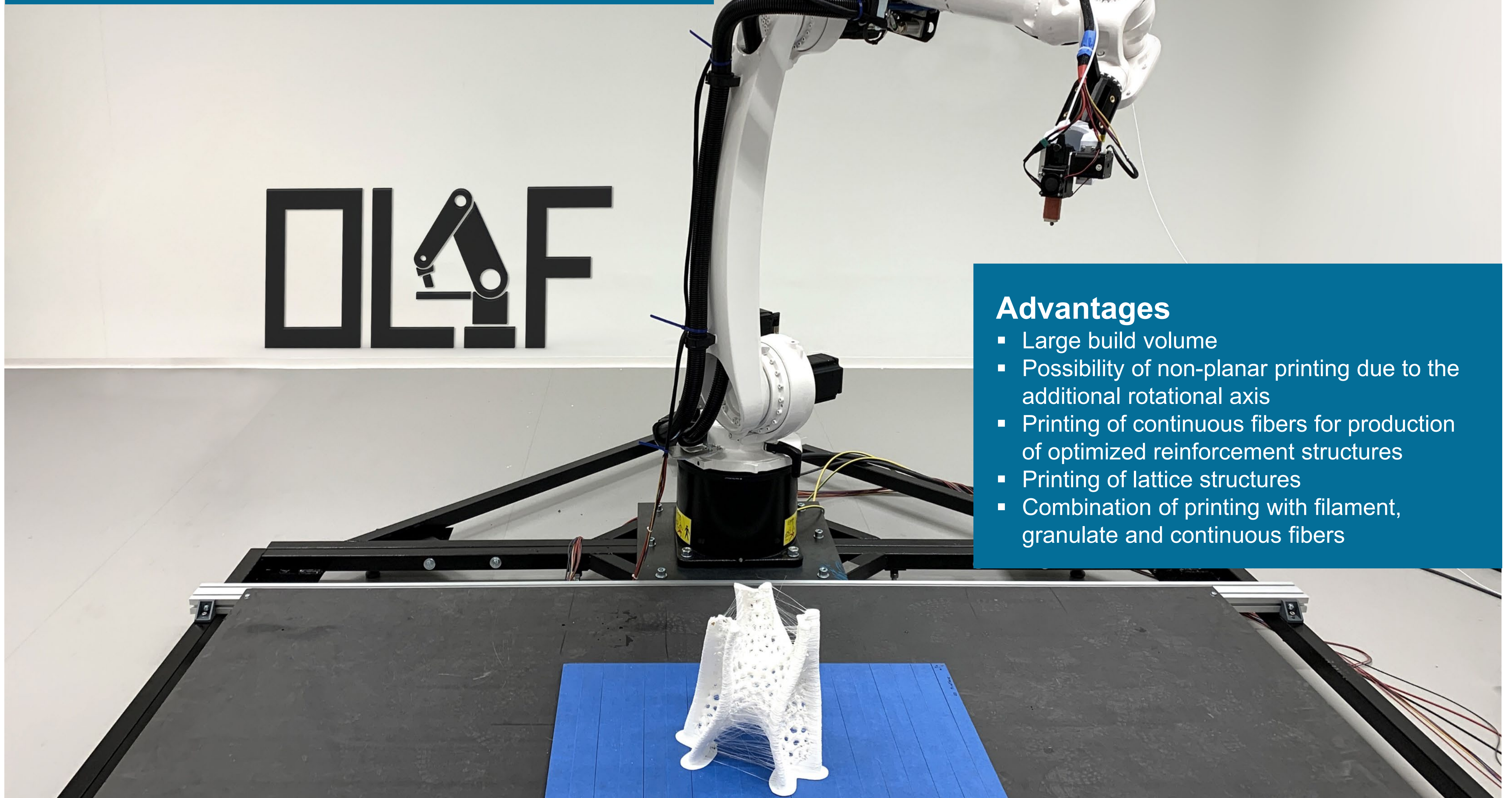
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OLAF is a flexible 6-axis 3D-printing system with interchangeable print heads and a build volume of 3 m x 1 m x 1.5 m. OLAF is based on a KUKA industrial robot.



## Advantages

- Large build volume
- Possibility of non-planar printing due to the additional rotational axis
- Printing of continuous fibers for production of optimized reinforcement structures
- Printing of lattice structures
- Combination of printing with filament, granulate and continuous fibers

## Interchangeable Print Heads

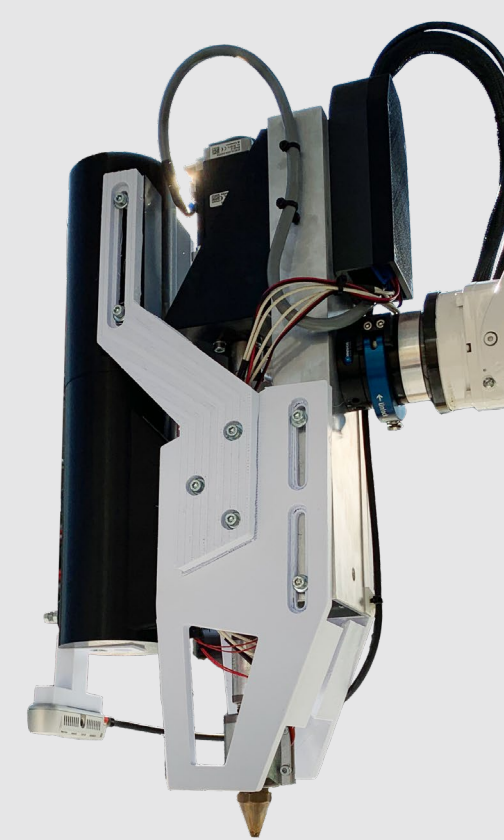
### Filament

FDM print head with a nozzle diameter of 1.5 mm for neat and short fiber reinforced thermoplastic polymers with processing temperatures up to 300 °C.



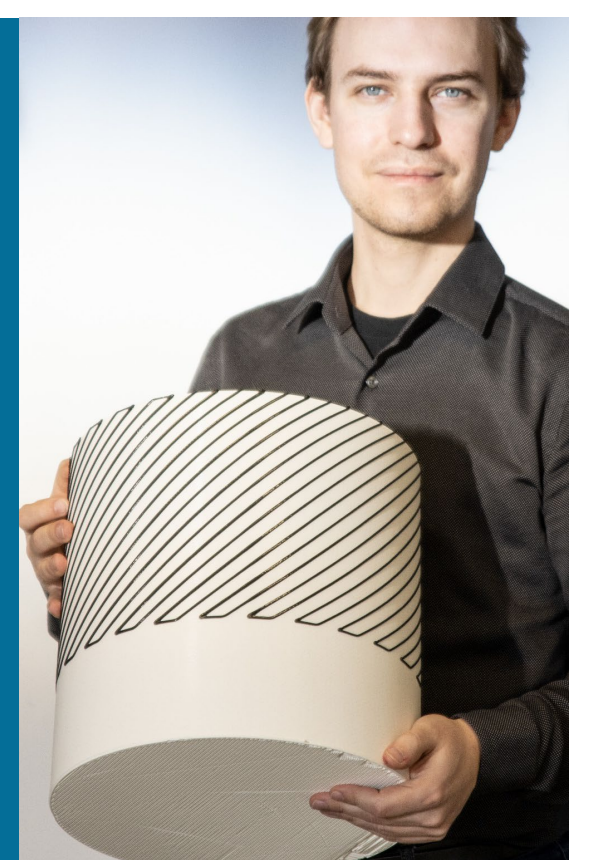
### Granulate

Screw type pellet extruder for standard polymers with a 15 mm screw diameter and a throughput of 1 kg/h.



### Fibers

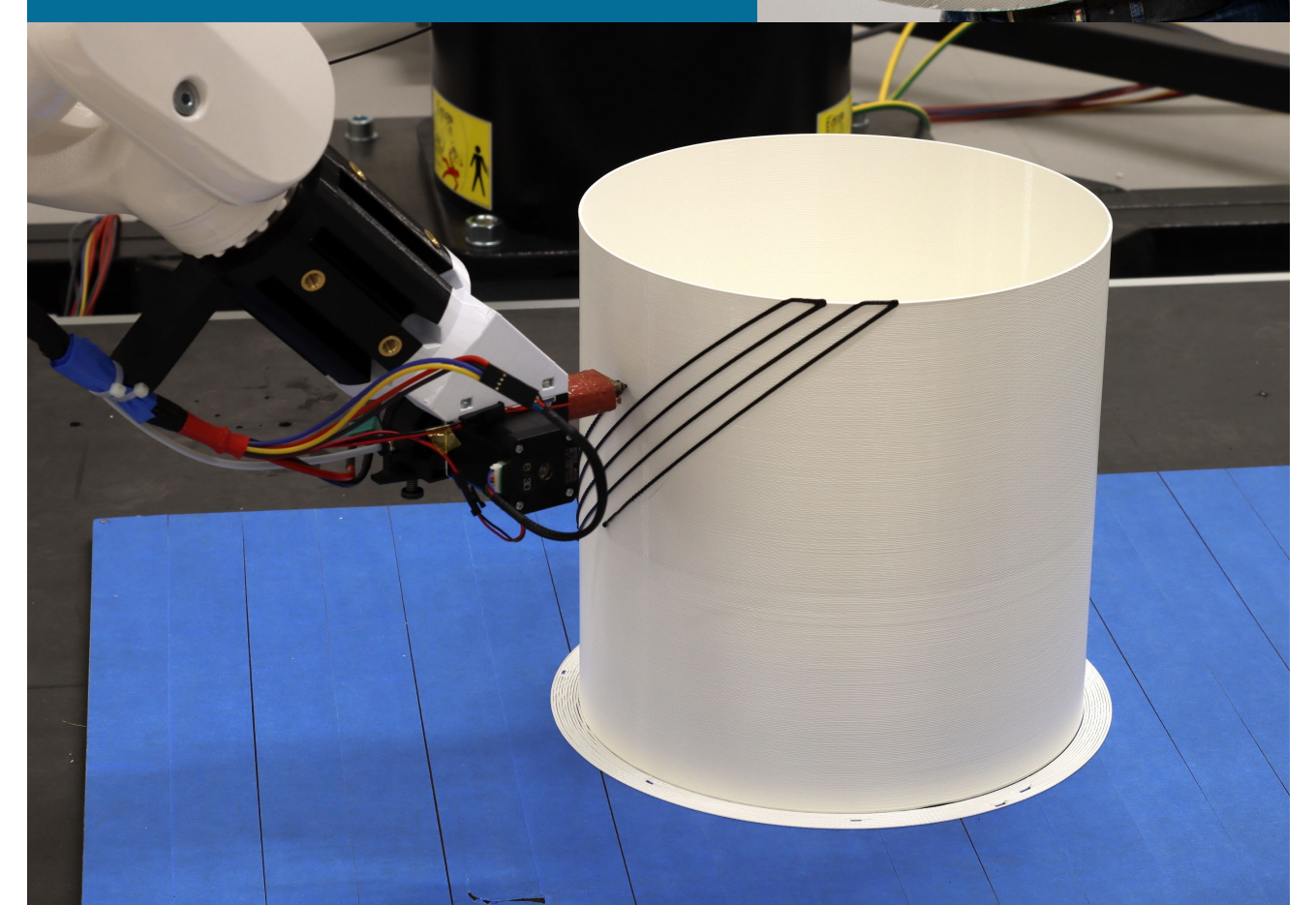
Print head for processing impregnated continuous fiber filaments with a diameter of 1.75 mm (Carbon, Glass or Aramid fibers with PLA, PP, PC matrix).



Topology optimized table made from PLA and wood; Martin Reiter; 2021



Procedural design seat made from PLA; "Wandering Factory"; AEC Festival 2021; Cooperation with Creative Robotics, Univ. of Arts Linz



Component with non-planar printed fiber reinforcement; Sebastian Lämmermann; 2021