

MANUNET III

ERA-NET ON ADVANCED MANUFACTURING TECHNOLOGIES

Finances: European Commission, ERA-NET Co fund

Coordinator: Agencia Vasca de la Innovación-Berrikuntzaren Euskal Agentzia (INNOBASQUE)

## Individual gas turbine rotor blade manufacturing using 3d printing

Acronym 3dBlade

[Call 2018](#)



Participating partners

**COMOTI Romanian Research and Development**

**Turbines** (Romania)

**Grado Zero Innovation S.r.l.** (Puglia, Italy)

**SC INAS SA** (Romania)

Project duration

18 months



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n° 721267.

Total project cost

€ 394.350

3dblade project is dedicated to the implementation of 3d printing for the manufacturing of gas turbine individual rotor blades. The project is focused on the advantages provided by this technology, in terms of time and cost reduction, quality of built parts, novel shapes and geometric complexity not achievable through conventional fabrication techniques, thereby widening the horizon of design in the turbomachinery field by applying new technologies. 3dBlade is structured (18 month duration, 5 technical WPs and one for management) to follow four specific objectives: O1- to conduct technology studies and to formulate a set of requirements for individual gas turbine rotor blades. O2- to select the proper material and to test the resulted mechanical properties in conditions similar to the functional ones (high stress under high temperature). O3- to design the technology and to manufacture individual gas turbine rotor blades having improved performances in comparison to the existing ones (e.g. lower mass, higher durability). O4- to evaluate the proposed technology by validating the manufactured individual rotor blades in laboratory conditions close to the functional ones. <https://www.manUNET.net/success-stories/290-individual-gas-turbine-rotor-blade-manufacturing-using-3d-printing.html>