

# RUDY I METALE nieżelazne

RECYKLING

Rocznik 64 • NR 11–12/2019

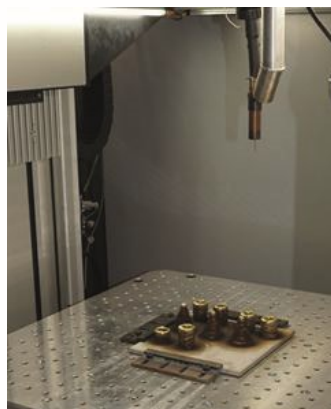
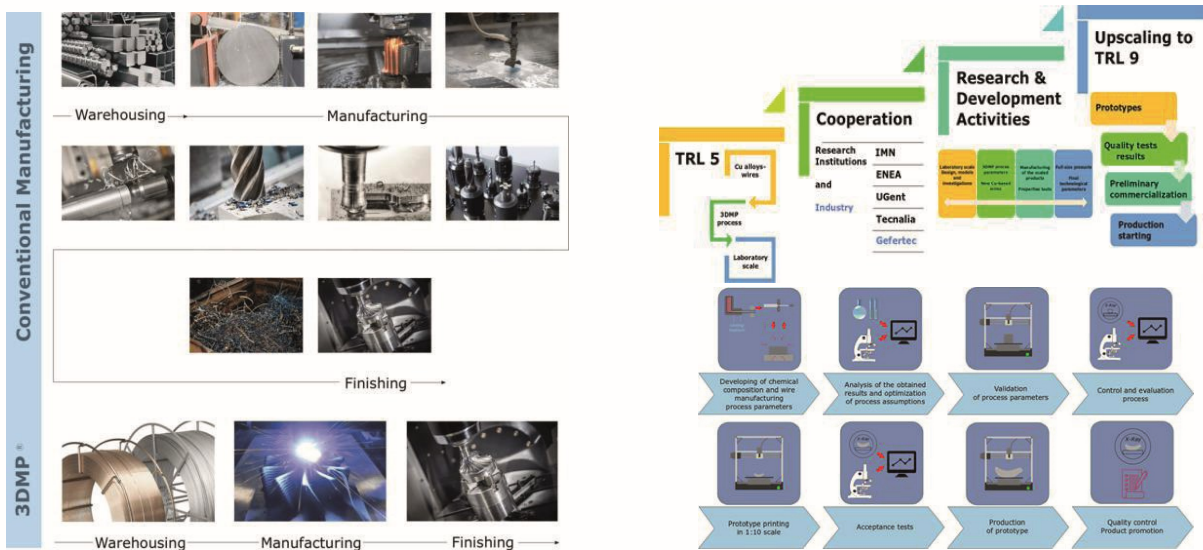
ISSN 0035-9696, e-ISSN 2449-9978  
Cena 32,00 zł ( w tym 8% VAT)  
Miesięcznik



# 3DMPWIRE. Material-efficient Cu wire-based 3D printing technology

**3DMPWIRE**

The main project objective is to develop new Cu-based alloys and production technology of the following components: water turbine propellers, ship propellers, seawater pump elements and other marine equipment. The above-mentioned components will be manufactured by means of 3DMP® process which belongs to the Wire+Arc Additive Manufacturing (WAAM) and is considered the most promising for such applications. The 3D Metal Printing (3DMP®) process will be alternative, competitive and more environmentally friendly to presently used conventional metal processing technologies. The principle of the 3DMP® technology is to make the final product layer-by-layer from the wire as a feedstock material. The development of Cu-based alloys and production technology for seawater corrosion resistant components will be less expensive and will result in longer lifetime due to the extraordinary mechanical properties of the new alloys used to build these elements. The 3DMP® technology enables to build constructions and equipment of lower weight in comparison with the products presently available on the market at lower material loss. The cost reduction of the production process is possible due to shortening production time and using less processes from min. 7 (conventional technologies) to max. 3 (3DMP®). The project will result in ready to implement 3DMP® technology for manufacturing of corrosion resistant components. Moreover, developed materials and production technology can be used to manufacture other products in many branches of the industry.



## Members of the Consortium and Contact:



Instytut  
Metalu Nieżelaznych  
Gliwice

RESEARCH NETWORK  
**ŁUKASIEWICZ**

ŁUKASIEWICZ Research Network – Institute  
of Non-Ferrous Metals  
Joanna Kulasa (joanna.kulasa@imn.gliwice.pl)

**GEFERTEC**

Gefertec GmbH  
Georg Fischer (georg.fischer@gefertec.de)



Tecnalia Research and Innovation,  
Industry and Transport Division  
Patricia Caballero (patricia.caballero@tecnalia.com)



ENEA, Department for Sustainability, Lab. Materials Tech-  
nologies Faenza  
Matteo Scafè (matteo.scafè@enea.it)



Ghent University, Soete Laboratory  
Wim De Waele (wim.dewaele@ugent.be)

## ACKNOWLEDGEMENTS

The project „3DMPWire. Material-efficient Cu wire-based 3D printing technology”, 2019-2021 (Upscaling) is cofunded by EIT RawMaterials.



**RawMaterials**  
Connecting matters



This activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under the Horizon 2020, the EU Framework Programme for Research and Innovation