



MULTI-FUN

ENABLING MULTI-FUNCTIONAL
PERFORMANCE THROUGH
MULTI-MATERIAL ADDITIVE
MANUFACTURING



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 862617 – MULTI-FUN



SPEEDTECH- FORUMS

MIGAL.CO GmbH

Robert Lahnsteiner

5th October 2022

www.multi-fun.eu



Table of Contents

- ✓ Manufacturer of wire electrodes and rods for welding of aluminium alloys
- ✓ Development of a AlMgSi0,5 alloy with the addition of Ti5B1 particles.
- ✓ We are actively engaged in several research projects to develop the perspectives of WAAM.

Expertise & Strengths



**SPEEDTECH-
FORUMS**





**SPEEDTECH-
FORUMS**

Expertise & Strengths



Expertise & Strengths





**SPEEDTECH-
FORUMS**

Expertise & Strengths



Expertise & Strengths





**SPEEDTECH-
FORUMS**

Expertise & Strengths



Expertise & Strengths

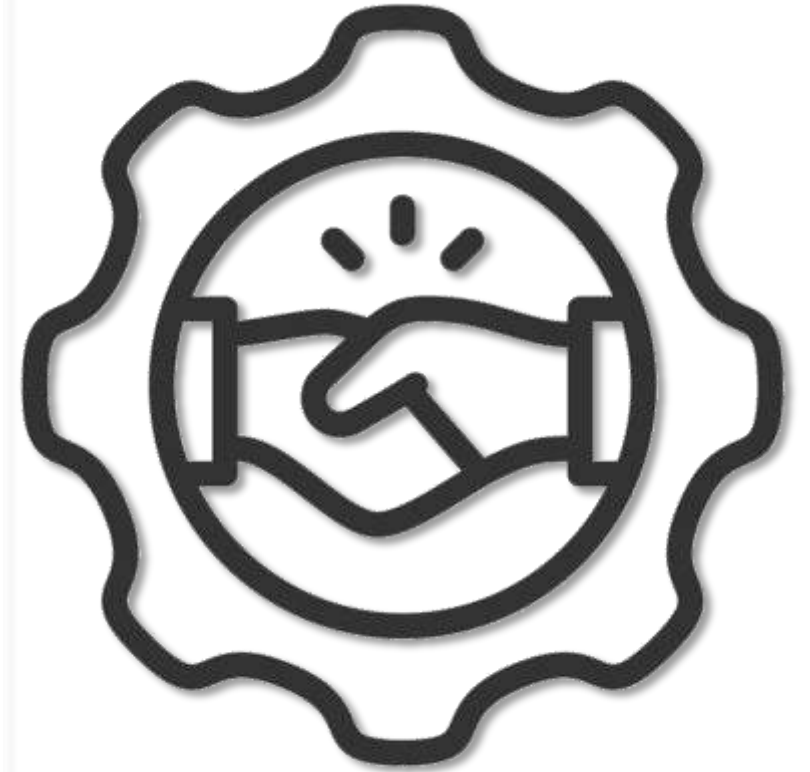


Main Contributions to MULTI-FUN



**SPEEDTECH-
FORUMS**

Development of a AlMgSi0,5 alloy with the addition of Ti5B1 particles. The particles guarantee for a very fine grainstructure to avoid hotcracking. In connection with a T6 heat treatment. MA-6063 can reach a yield strength of 200-260 MPa with an elongation between 6 - 12%.



Innovation Potential



**SPEEDTECH-
FORUMS**

- LightPrint: Energy-efficient lightweight construction concepts through the use of 3D metal printing and novel aluminium alloys.
- AluNanoCore: High strength nano reinforced aluminium powder cored wire for arc based additive layer manufacturing (ALM)
- Multi-Fun: Provide a significant performance & efficiency gain in MAM products by fully INTEGRATED MULTI-FUNCTIONALITIES based on NOVEL ACTIVE MATERIALS. Enable MULTI-MATERIAL design in geometrically complex 3D metal parts WITHOUT SIZE LIMITATION by innovative, cost-effective AM technologies
- MSGeneral: Development of a technology for generative MSG welding of geometries on aluminium die-cast components AiF/IGF 21 541 BR
- Aladdin: Aluminium foam additively shaped by MIG welding (Aladdin) AiF/IGF 22 055 BR
- DEDAluS: Additive manufacturing by means of DED process of aluminium structures
- COAMWELD: Fabrication of advanced metallic components through combination of additive manufacturing and welding



Thank You!

Robert Lahnsteiner
Wattstrasse 2
94405 Landau/Isar
Germany

www.multi-fun.eu

