

COMET PROJECT

WE3D – WIRE-BASED ADDITIVE MANUFACTURING – MATERIALS AND TECHNOLOGIES – FOR 3D METAL STRUCTURES OF THE FUTURE

Main location: Ranshofen (Upper Austria)

Other locations: Graz (Styria), Leoben (Styria), Vienna, Linz (Upper Austria)

Thematic area: Material & production

We3D

Thematic focuses

- Wire- & Arc-based Additive Manufacturing (WAAM) Thematic focus 2
- Wire alloy development
- Process monitoring
- Sensors
- Path planning and process simulation

Planned realisation and outcomes

We3D targets new WAM solutions applied in harsh environments and under constrained positions. New sensors for arc-, weld seam and temperature monitoring will be developed and investigated in We3D, since molten metals are usually difficult to monitor for geometrical and temperature parameters. A database system will be set up for process, sensor and material data collection, data vs. error correlation, and inline repair control.

Goal of We3D is to realize a system that paves the way for fully automated WAM in the future. Furthermore, it is goal to develop a continuously linked software solution providing many of these features integrally. We3D strives to take WAM and the partners to a new level. This by innovative wire materials, process-, sensor-, control-technologies, software tools, and more economic applications for high technology industries.

COMET FACTSHEET

Selected company partners (max. 10):

1. AVL List GmbH
2. Fronius International GmbH
3. Linde Gas GmbH
4. OMV AG
5. Siemens AG
6. voestalpine Metal Forming GmbH
7. SBI GmbH
8. RHP-Technology GmbH
9. SinusPro GmbH
10. INOCON Technologie GmbH

Selected scientific partners (max. 5):

1. Leichtmetallkompetenzzentrum Ranshofen GmbH
2. RECENDT Testing GmbH
3. TU Graz, Institut IMAT
4. University of Leoben, Chair in petroleum deformation technology
5. TU Vienna, Institute for material science and material engineering

Selected international¹ partners (max. 5):

1. pro-beam GmbH & Co. KGaA
2. robotized rm systems GmbH
3. voestalpine Böhler Welding GmbH

Duration: 01.03.2021 - 28.02.2025 (4 years)

Staff employment: 50.5 FTE, thereof 42.10 scientists

Management: Dr. Stephan Ucsnik, Senior Engineer
Matthias Hartmann, Senior Research Engineer

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¹ Partners with headquarters outside Austria