

COMET Project

„We3D“



Wire-based additive manufacturing – materials and technologies – for 3D metal structures of the future

- >> **Main location:** 5282 Ranshofen, Upper Austria
- >> **Other locations:** TU Graz, Montanuniversität Leoben, TU Wien
- >> **Thematic focus**

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

- >> **Planned realisation and outcomes**

Wire- & Arc-based Additive Manufacturing (WAAM) is a new technology that uses welding wires to build large 3D parts layer by layer. We3D addresses the 4 objectives: 1) Investigation of market and development of specific WAAM welding wires. 2) WAAM for specific conditions and applications (e.g., constraint WAAM, harsh environments, local reinforcement of endless-continuous profiles). 3) The building of an automated system to collect process, sensor and material data, data correlation vs. error correlation. 4) End-to-end software solution for path planning, robot control and numerical process simulation including validation.

- >> **Selected partners**

Company partners

1. AVL List GmbH
2. Fronius International GmbH
3. hightech metal
ProzessentwicklungsgesellschaftmbH
4. INOCON Technologie GmbH
5. Johann Rohrer GmbH
6. Linde Gas GmbH
7. MatCalc Engineering GmbH
8. OMV AG
9. Plasmo Industrietechnik GmbH
10. RHP-Technology GmbH
11. SBI GmbH
12. Siemens AG

13. SinusPro GmbH
14. voestalpine Metal Forming GmbH
15. x-technik IT & Medien GmbH

Scientific partners

1. LKR Ranshofen GmbH
2. RECENDT Testing GmbH
3. TU Graz Institut IMAT
4. MUL, Lehrstühle Petroleum Umformtechnik
5. TU Wien, Institut für Werkstoffkunde und
Werkstofftechnologien

International partners

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

- >> **Duration of the COMET Project:** 03.2021 – 02.2025 (4 years)
- >> **Number of personnel:** 47,88 FTE, thereof 42,64 scientists

- >> **Leader of consortium**

Dr. Stephan Ucsnik, Senior Engineer, Thematic Coordinator Group „Wire-based AM“

- >> **LKR Leichtmetallkompetenzzentrum Ranshofen GmbH**

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Status 20.11.2020