EASTERN EUROPEAN TWINNING ON STRUCTURAL INTEGRITY AND RELIABILITY OF ADVANCED MATERIALS OBTAINED THROUGH ADDITIVE MANUFACTURING (SIRAMM)

Goal of the project

The overall objective of the SIRAMM project is to significantly strengthen research in the Additive Manufacturing (AM) field at the University Politehnica Timisoara. To achieve this aim, SIRAMM will build upon the existing science and innovation base of UPT, creating a network with two internationally-leading counterparts at EU level: Norwegian University of Science and Technology (Norway) and the University of Parma (Italy).

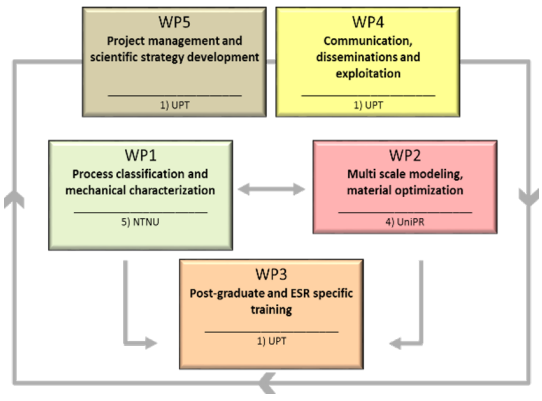
In the long term, the project aims at laying the foundations for creating a pole of excellence on AM in Eastern Europe. For this reason, other two partners from low R&I performing countries, the University of Belgrade (Serbia) and the Institute of Physics of Materials, Academy of Sciences (Czech Republic) also take part in this Twinning project.

Short description of the project

The project will be focused on the implementation of knowledge transfer activities such as workshops and staff exchange, training events (i.e. summer schools, seminars) for early stage researchers, and dissemination and communication actions (i.e. web site, videos, open access publications, public engagement activities) for different audiences.
To keep maintaining the knowledge transfer well beyond the duration of this project, a regular master course on AM technology will be also implemented in the coordinating institution.

Project implemented by

The project work plan has been structured into 5 Work Packages, which address all the key approaches and activities required for the successful achievement of SIRAMM's specific objective.



Implementation period

01.10.2019 – 30.09.2022

Main activities

- Staff exchange between partners
- PhD students exchange
- Seminars for students
- Seminars for companies
- Summer Schools
- Workshops
- International conferences

Results

- Increased research excellence of the coordinating institution and the other widening partners,
- Enhanced reputation, attractiveness and networking channels of the partners,
- Training and professional development of a new generation of scholars,
- Growth of industrial sector,
- Increasing awareness in the general public.

Applicability and transferability of the results

- The proposed novel methodology for integrity and durability will increase the quality assessment methodology of AM components used in automotive, aerospace, and biomedical sectors, due to the higher safety level obtainable and reduced production costs. In particular for the automotive industry, these advances in AM knowledge will create new opportunities in terms of innovative design, resulting in lighter and safer products, with estimated production costs 10-30% lower than the traditional methods.

The project received evidence of interest from Beam-IT, an additive manufacturing company having the biggest machine park in Europe and the corporate Continental, world leader in the mobility sector.

Kick-off meeting, Timișoara, 7-8.11.2019

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Research centre

"St. Nadasan" Research Laboratory for Strength, Integrity and Durability of materials, structures and conductors.

Research team

1. Coordinator: University Politehnica Timisoara (UPT), Romania
2. Faculty of Mechanical Engineering, University of Belgrade (UBG), Serbia
3. Institute of Physics of Materials, Academy of Sciences of the Czech Republic (IPM), Czech Republic
4. University of Parma (UniPR), Italy
5. Norwegian Univ. of Science and Technology (NTNU), Norway

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