UMA³

Unique Materials for Advanced Aerospace Applications

Spreading Excellence & Widening Participation: Twinning

UMA³: Outcomes in a Nutshell

UMA³ has successfully facilitated knowledge transfer between partners and introduced novel advancements in the fields of powder metallurgy, additive manufacturing, composites and high-performance nanocoatings. The project included a wide range of activities that resulted into the following main outcomes:

- Improved the transfer of knowledge between academia and industry,
- Strengthened the UNIMI-FMSE research excellence in advanced aerospace materials solutions,
- Boosted the research profile of UNIMI-FMSE and UMA³ partners,
- Inspired the R&I activity of UNIMI-FMSE and North Hungary region,
- Enhanced the preparation and mobility of both early stage and experienced researchers within the UMA³ network,
- Strengthened the research management and administration profile of UNIMI-FMSE,
- Contributed and supported research and innovation priorities in synergy with the RIS3 strategies.

Significant Achievements

To boost the scientific excellence and innovation activities of UNIMI-FMSE, the UMA³ partners have followed a multi-step process and implemented a specialized strategy based on 4 main pillars:

PILLAR I EXCELLENCE SCIENCE

PILLAR II TRAINING, EDUCATION & STAFF EXHANGE

PILLAR III INNOVATION

PILLAR IV SYNERGIES

Training Activities

- Comprehensive training programs were conducted in the domain of materials & aeronautical materials and processes.
- 2 summer schools were organized, in the field of advanced materials synthesis, with focus on additive manufacturing (e.g. 3D printing), characterization, simulation and application of aerospace & aeronautical materials.
- Short-term staff exchanges allowed researchers to collaborate and learn from experts in different institutions.
- Master's and Ph.D. programs were offered to develop highly skilled professionals in the field.
- Researchers received training in complementary skills, such as intellectual property rights, innovation, entrepreneurship, project management and administration.

Strategic Workshops & Seminars

- 3 strategic workshops were successfully conducted, focusing on project activities and fostering collaboration among researchers and industry professionals.
- Several seminars were organized to share knowledge, insights and research findings within the project.

Synergic cooperation activities

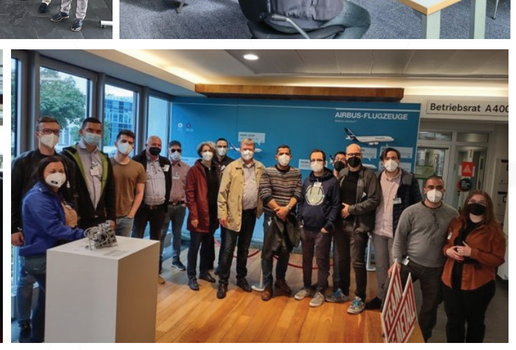
- Hungarian research units, universities, industrial companies and SMEs were actively engaged and participated in the project's activities.
- 2 dedicated workshops were organized, bringing together key stakeholders from the Hungarian and Spanish panorama, aiming to create a fertile ecosystem that would enhance and boost business cooperation, uncover new opportunities and facilitate technology transfer and mutual innovation in advanced manufacturing and aerospace industry technologies in both countries.

Dissemination & promotional activities

- Communications took place with potential end-users to maximize the transfer and promotion of the UMA³ results in Hungary and across the EU.
- UMA³ Researchers presented their work in international conferences and workshops, establishing global connections and sharing their research outcomes.
- Scientific publications were made in open access, highly ranked, peer-reviewed journals, increasing the scientific visibility of UNIMI-FMSE.






The Team

ALMA MATER STUDIORUM UNIVERSITÀ DI BOLOGNA

MISKOLCI EGYETEM UNIVERSITY OF MISKOLC

ICAMCYL Centro internacional de materiales avanzados y materias primas / international center for advanced materials and raw materials

Fraunhofer IFAM

University of Patras Laboratory of Technology & Strength of Materials

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comet Global Innovation

easn Technology Innovation Services

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