



## About UMA<sup>3</sup>

UMA<sup>3</sup> aims at creating an international excellence centre to reinforce the UNIMI-FMSE (Faculty of Materials Science and Engineering) position in Borsod-Abaúj-Zemplén county and Hungary by enhancing the scientific excellence, knowledge and technology degree of innovation potential for Unique Materials for Advanced Aerospace Applications. The challenge addressed is to use the twinning instrument, i.e. excellence centre, as a trigger to enhance the competitiveness of regional and national SMEs and large companies in the aerospace sector.

The concept of an integrated knowledge centre (Excellent Centre for Advanced Materials, ECAM) in UMA<sup>3</sup>, is based on the creation of a value chain of knowledge of research entities in the scope of Powder Metallurgy, additive manufacturing, PVD (nano)coatings and fully 3D investigations.

The UMA<sup>3</sup> members join forces to develop new material systems and create new solutions, whilst utilizing their competencies (knowledge, human resources, infrastructures) and cooperate in a synergistic manner. The multi-step process of the project (from theoretical elaboration and experimental engineering to computational modelling) will remarkably contribute to the existing know-how, as well as to the concept-driven, market-based innovation and scientific & research progress.



## The Team



**MISKOLCI**  
EGYETEM  
UNIVERSITY OF MISKOLC

**ICAMCYL**  
Centro internacional de materiales de carbono y materiales avanzados  
International center for advanced materials and new materials



**Fraunhofer**  
IFAM



University of Patras  
Laboratory of Technology  
& Strength of Materials



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA

**alTRAN**  
Part of Capgemini

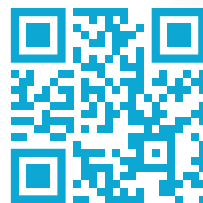


**comet**  
Global Innovation & Commercialization



**easn**  
Technology Innovation Services

Connect with **UMA<sup>3</sup>**



<https://uma3-project.eu>



# UMA<sup>3</sup>

Unique Materials for Advanced  
Aerospace Applications

Spreading Excellence &  
Widening Participation:  
Twinning



This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No 952463.



## Objectives

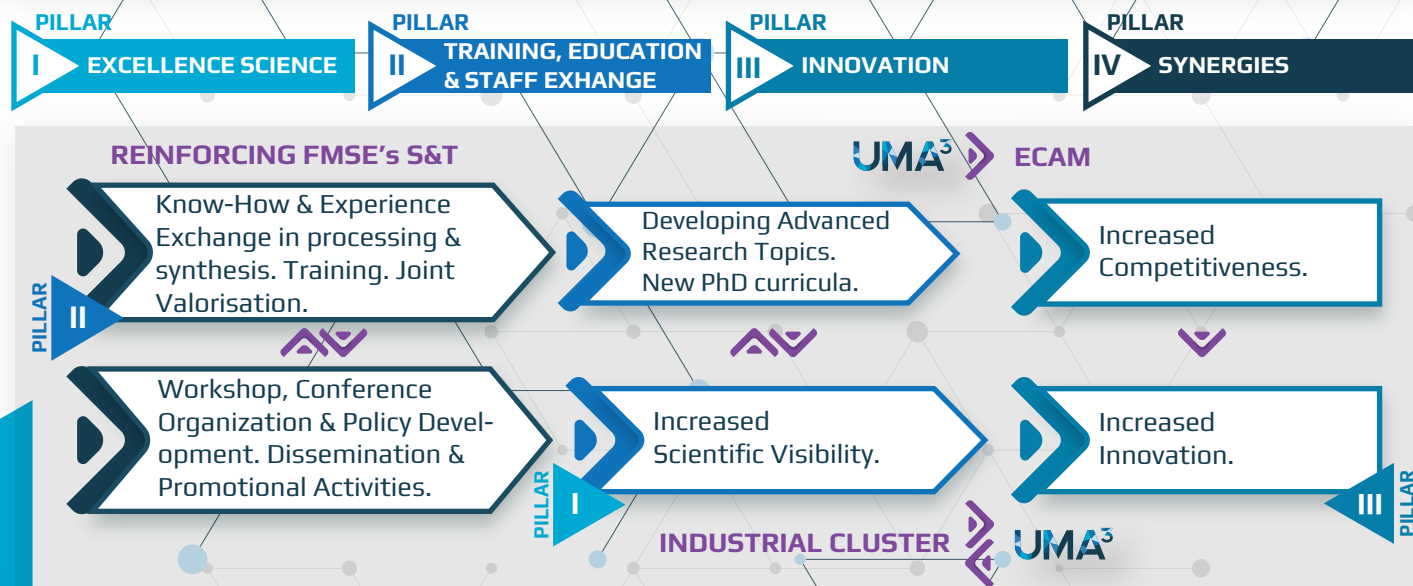
- ✓ Strengthen the UNIMI-FMSE research excellence in advanced aerospace materials solutions.
- ✓ Improve the transfer of knowledge between Academia and Industry by establishing a long term collaboration strategy and sustainable network of partners.
- ✓ Enhance the promotion and preparation of highly trained and skilled young/early stage researchers and engineers in the aeronautical sector.
- ✓ Inspire the R&I activity of UNIMI-FMSE, project partners and Borsod - Abaúj - Zemplén county and North Hungary region.
- ✓ Enhance the mobility of both early stage and experienced researchers within the UMA<sup>3</sup> network.
- ✓ Support research and innovation priorities in synergy with the RIS3 strategies.
- ✓ Strengthen the research management and administration profile of UNIMI-FMSE  
Boost the research profile of UNIMI-FMSE and UMA<sup>3</sup> partners.



## Methodology

To boost the scientific excellence and innovation activities of UNIMI-FMSE, the UMA<sup>3</sup> partners will

implement a proper strategy based on four main pillars:



## Expected Impact

UMA<sup>3</sup> will strengthen the scientific excellence and innovation activities of UniMi-FMSE and boost the capabilities of UniMi-FMSE's researchers to produce breakthrough innovations and technologies with a positive impact on the Hungarian society and economy. UMA<sup>3</sup> is expected to:

- Improve the research excellence of UniMi-FMSE in the field of advanced materials for the aerospace industry.
- Increase the reputation, attractiveness and networking channels of UniMi-FMSE.

- Increase the capability of UniMi-FMSE to compete successfully for national, EU and internationally competitive research funding.

- Improve the expected potential impact of the twinning exercise in UniMi-FMSE and North Hungary based on expected future publications in peer reviewed journals, collaboration agreements with businesses, intellectual property, new innovative products or services.