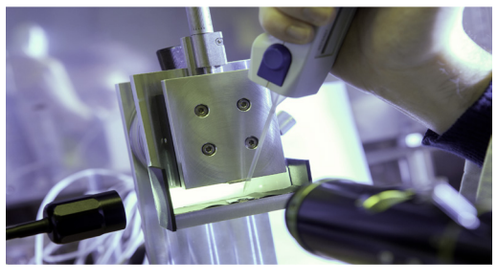

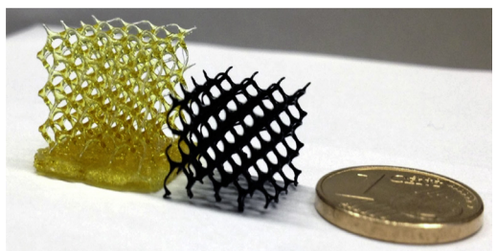

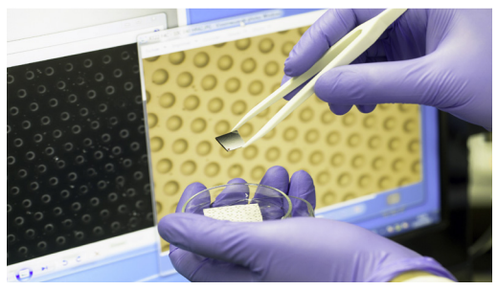

# Consortium

## 11 academic partners

Université de Limoges

**Coordination**

INSA Institut National des Sciences Appliquées Lyon

Politecnico di Torino

Université de Valenciennes et du Hainaut-Cambrésis

Imperial College London

FAU Friedrich-Alexander Universität Erlangen-Nürnberg

Universitat Politècnica de Catalunya BarcelonaTech

BAM Bundesanstalt für Materialforschung und -prüfung

CRIBC member of EMRA

Università degli Studi di Padova

École Mohammadia d'Ingénieurs

## 7 industrial partners

3DCERAM

Saint-Gobain

NORAKER Innovative Biomaterials

Anthogyr Prime Mover in Implantology

BOSCH

H.C.Starck

dz

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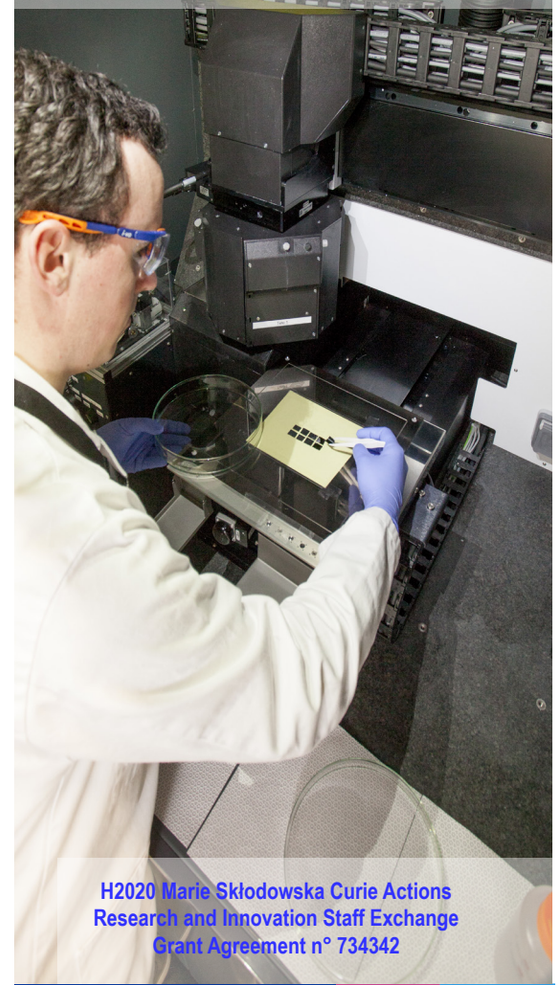
**Web site**
http://www.rise-amitie.eu

# AMITIE

**Additive Manufacturing Initiative For Transnational Innovation In Europe**




H2020 Marie Skłodowska Curie Actions
Research and Innovation Staff Exchange
Grant Agreement n° 734342

# Objectives

3D Additive Manufacturing (AM) technologies and overall numerical fabrication methods have been recognized by stakeholders as the next industrial revolution bringing customers' needs and suppliers' offers closer. AMITIE will:

- reinforce EU capacities in the AM of ceramic-based products through its extensive programme of transnational and intersectoral secondments.

- promote fast technology transfer and enable as well training of AM experts.

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To these aims, AMITIE brings together leading academic and industrial players in the fields of materials science, processes, materials characterizations, AM technologies and associated numerical simulations.

11 academic partners:
- University of Limoges (UNILIM)
- National Institute of Applied Science (INSA)
- University of Valenciennes (UVHC)
- University of Erlangen-Nuremberg (FAU)
- Federal Institute for Materials Research & Testing (BAM)
- University of Padova (UPD)
- Polytechnical University of Torino (POLITO)
- Imperial College London (IC)
- Technical University of Catalonia (UPC)
- Belgian Ceramic Research Center (BCRC)
- Mohammadia Engineering School (EMI)

7 industrial partners:
- 3D CERAM
- SAINT-GOBAIN
- NORAKER
- ANTHOGYR
- BOSCH
- H.C. STARCK
- DESAMANERA

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Those players will develop a concept of smart factory based on 3D AM technologies and their hybridization. It will allow for the production of parts whose dimensions, shapes, functionality and assembly strategies may be tailored to address key technological issues of the fabrication of high added value objects following a combinatorial route.

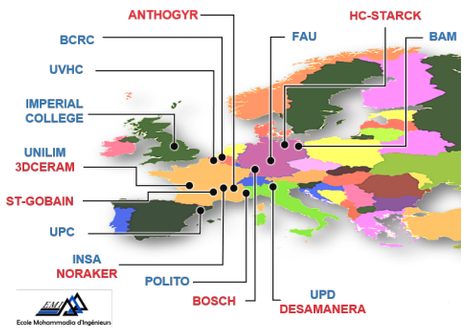
# Workpackages

**WP1 - Management and results exploitation**
**WP8 - Ethics requirements**
**WP Leader: UNILIM**

**WP2 - Specifications and needs of end-users**
Definition of the industrial specifications for all targeted applications (i.e. energy, transport, Information and Communication Technologies, biomaterials) on the basis of the state of the art.
**WP Leader: ANTHOGYR**

**WP3 - Feedstocks development**
Development of feedstocks to be used for the various ceramic AM methods of WP4. WP3 involves essentially the academics but it is highly connected to technological developments performed in WP4 by the industrials. Feedstocks have to obey specifications given by the AM machine manufacturers. Feedstocks include specialty powders and precursors, aerosols, pastes, inks and ceramic slurries.
**WP Leader: IMPERIAL COLLEGE**

**WP4 - AM technologies and hybridization**
Development of indirect (stereolithography, robocasting, etc.) and direct (IJP, aerosol deposition, etc.) AM methodologies. Another objective of WP4 is the development of hybridized AM methods (and/or hybridization with subtractive methods) to be capable to fabricate complex multimaterial parts with architectures and microstructures controlled at all scales.
**WP Leader: H.C. STARCK**

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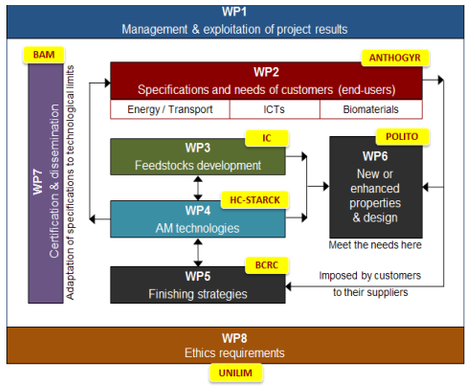
This project started on the 1st of March 2017 (duration of 4 years).
It received funding from EU H2020 Research & Innovation Programme under the Marie Skłodowska Curie Grant Agreement n° 734342




**WP5 - Finishing strategies**
Application of post-treatments after shaping by AM, to give the parts the necessary mechanical integrity, right dimensions and surface states, according to the specifications. Development and optimization of post-treatments, like CNC machining, robotic polishing and laser ablation (tested on parts before and after sintering) in a logic of hybridization with AM technologies.
**WP Leader: BCRC**

**WP6 – Advanced properties characterization**
Characterization of properties at length scales that are fully representative of the architectures and microstructures. Establishment of properties- structures relationships through fine analyses (SEM, TEM, tomography, etc.) and modelling (FEM/DEM, etc.). Functional properties (biological properties, RF, etc.).will be characterized as well and correlated with the material architectures.
**WP Leader: POLITO**

**WP7 - Certification and dissemination**
Dissemination activities to targeted stakeholders, AMITIE community, different AM networks, overall scientific community and general public notably students and secondary schools. Priority will be given to open access ressources for dissemination and to the definition of new standards to leverage the current AM methods.
**WP Leader: BAM**

European Commission