



# 2<sup>nd</sup> Follow up and impact of AM Training Report

## Executive Summary

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This report provides an overview of the results obtained with the follow-up to the participants involved in the 2<sup>nd</sup> stage of SAM piloting activities, six months after the training occurred. These activities cover the implementation of revised training guidelines for the IAMQS (International Additive Manufacturing Qualification System), including its Quality Assurance System integrated in the piloting of the methodology for creating professional profiles and skills.

The SAM piloting courses, conducted under WP5 (5.4 Piloting events of the 2<sup>nd</sup> Stage Real Case Scenarios), addressed the implementation of the following Competence Units (CUs)/Units of Learning Outcomes (LOs): Certification, Qualification and Standardisation (CU63), Business for Additive Manufacturing (CU64), Overview on polymer materials and properties (CU65), Designing Polymers AM Parts (CU66), Post Processing for Polymers (CU67), Design for Material Extrusion (MEX) (CU68), Design for Powder Bed Fusion (PBF) Polymer (CU69), and Design for VAT Photopolymerization (CU70). In total, eight CUs were implemented from June to July 2021. The implementation of the 2<sup>nd</sup> Stage Real Case Scenarios counted with 292 participants, from which 271 students were assessed, with a 77% of the participants successfully approved.

This report compiles the information obtained through the implementation of D2.6 *Kit for tracking students, future employees and job seekers in AM* (developed in Work package 2) as well as some recommendations to improve future training sessions, collected among the participants of the 2<sup>nd</sup> Stage Real Case Scenarios Piloting Events. Despite having 292 participants in the AM pilot courses, only 79 responses were collected with the 6-month follow-up questionnaire.

The findings enable to conclude the following about the IAMQS CU courses:

- **AM course contents were attractive for both workers** (80% of the participants were employed before starting the training) **and unemployed people** (20% of the participants had no current working position);
- Diversity of profiles attending the course and replying to the Survey, being most of the respondents involved in Engineering, Machine Operations, Design, Management and Research activities;
- The training provided had a lower impact as a trigger for enrolling in future training (only 20% mentioned having started another course).
- The training provided had a **positive impact concerning the applicability and transfer of knowledge and skills into the professional activity** (rated in its majority as Good, followed by Very Good).
- In all follow up assessed CUs, participants considered a significantly increasing of their knowledge and skills in all topics, being:
  - **CU66 “Designing Polymers AM”**, followed by **CU65” Overview on polymer materials and properties”** the ones with a higher impact and progression for the participants.

- Although in some CUs [Design for specific Additive Manufacturing (AM) Processes (PBF/MEX/VAT) and Certification, Qualification and Standardisation (CQS) in Additive Manufacturing (AM)], at least one of the participants had relied to maintain the same level of knowledge and skills after training, the majority had replied an increase either to an average or high level of knowledge and skills
- Based on the qualitative feedback provided by participants, there is room for improvement regarding the implementation of CUs through online sessions, namely, to increase either the number of small breaks or introduce more dynamic interactions with participants to ensure engagement in the sessions.
- On the other hand, the use of real case studies is considered by the participants as an added value for the training courses
- Overall, comparing the before and after training applicability of the knowledge and skills, **there was a sustained impact demonstrated by the increased results**, where 86% of the participants found **no barriers in transferring the acquired knowledge and skills to their working practices** and more than 80% considered “Good” and “Very good” the impact of the training for their company’s real needs, their professional career and for their current job.