



ADMIRE successfully achieved its goals by

bridging the gap between Additive Manufacturing Industry and Education

ADMIRE Project has developed the first European Metal AM Engineer MSc, with a curriculum that addresses specializations in Metal AM Process Engineering and Metal AM Coordinator, and an AM Hub/Platform designed to promote a continuous connection between Universities, Students and Companies are proof of the importance of connecting these sectors beyond the project's lifecycle.

Porto Salvo, 11 November of 2020 – Additive Manufacturing (AM), commonly known as 3D printing, has been growing significantly in the past decades, and nowadays is a field with high impact on European economic growth, with visible advantages for different socio-economic settings, in line with other Industry 4.0 technologies. The breakthroughs of AM over time brought new challenges to Industry, including the need for highly qualified professionals to deal with them. In addition, AM knowledge was scattered among companies, Universities and Research & Development institutions. There was an urgent need to establish a strong connection between those sectors and to address Higher Education approaches, needs of companies working in AM supply chain, and also innovation and research practices to reply to Industry's needs. Thus, developing and establishing a solid connection between Universities, Research Centers and Companies working in AM was the main purpose of ADMIRE - Alliance for Additive Manufacturing between Industry and Universities.

ADMIRE Results and their implementation

In line with this main objective, ADMIRE project focused on creating an innovative European Metal AM Engineer MSc course, with inputs from major key stakeholders from Industry and Education (within and outside ADMIRE consortium) to reply to the urgent industrial need for highly qualified personnel in Metal AM Process Engineering and Metal AM Coordination. This MSc course and its specializations were designed in line with the lifelong learning approach and are currently ready to be implemented by Universities across Europe. The European Metal AM Engineer MSc, the first MSc that specifically addresses Metal AM with a European scope, is rooted on a modular framework which allows its curriculum, composed by technical and practical Competence Units, to be harmonized and ready to be partially or fully implemented by Universities, in line with Industrial needs and requirements.

In addition, ADMIRE project also designed and developed specific exchange of knowledge strategies focused on promoting connections and collaboration between stakeholders from Industry and Education. Among them are "AM World Café Meetings" and "Knowledge Speed-Datings". ADMIRE partners conducted several sessions in the scope of these strategies towards the improvement of their methodologies, to share them with ADMIRE target-groups so they can also use these strategies within their organizations' activities.

ADMIRE [AM Hub/Platform](#) is also part of these exchange of knowledge strategies. It is an online platform to which all users (Teachers, Students and Company representatives) can access for free and use it to



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collaborate for the solution of Problem-Based Learning assignments (based on real industrial problems) created by Companies, upload and reply to job vacancies, search for material resources available in a specific database and to news on developments and events related to AM, to name a few functionalities.

These results are ready and available to be implemented by Universities and Companies working in AM supply chain. The innovative European Metal AM Engineer MSc curriculum, containing specializations in Metal AM Process Engineering and Metal AM Coordination, is now part of the International Additive Manufacturing Qualification System (IAMQS), managed by project Coordinator EWF. Universities that wish to implement the partial or full MSc curriculum can be part of a consolidated enlarged European Network of AM stakeholders, where collaboration between different European Universities and between them and Companies for the implementation of the European Metal AM Engineer MSc curriculum is promoted. This collaboration can potentially increase professionals' and students' mobility and employability opportunities at European level. With help from a specialized team, Universities can evaluate their own capabilities (i.e. resources and field of expertise) and analyse how can the MSc be integrated on their own educational offer, in line with specific IAMQS requirements.

Plus, Universities and Companies, part of the European Network of AM stakeholders or not, can also benefit from the exchange of knowledge strategies designed in the scope of ADMIRE: AM World Café meetings, Knowledge Speed-Datings methodologies for further implementation are available on [ADMIRE website](#) to be used in the scope of their activities, as well as a link for the AM Hub/Platform, which will be continuously updated beyond ADMIRE project with contents related to AM.

Looking forward, it is expected the graduation of students under the scope of the European Metal AM Engineer MSc, with Metal AM Process Engineering and Metal AM Coordination qualifications that are recognized at a European level, enhance students' and professionals' mobility potential, lifelong learning and easy adjustments to the labor market. Also, it is expected that the exchange of knowledge strategies create joint alliances, products and projects to mainstream the AM industry, ensuring EU AM Industry's global sustainable growth and increasing innovation.

Project Partners

ADMIRE partnership comprises eight partners, connected to Education/Research & Technology and to Industry/Business. They are, respectively: Cranfield University and University of Birmingham (UK), University of Bremen (DE), Instituto Superior Técnico (PT), and GKN Aerospace, MTC - Manufacturing Technology Center (UK) IREPA Laser (FR) and EWF - European Federation for Welding, Joining and Cutting.

About the European Federation for Welding, Joining and Cutting

EWF is a pioneer in implementing a harmonized qualification and certification system for joining professionals. Through European projects EWF has been innovating in training methodologies and involved in the development of new technologies and uses for joining. Through its member organisations, EWF has established a firm link to the local industry, providing knowledge and training as well as participating in research initiatives that address the most pressing questions and challenges in the field of joining technologies.