SING for GREEN

SING FOR GREEN PRESS RELEASE

DEVELOPING SUSTAINABLE SKILLS FOR DESIGNERS IN ADDITIVE MANUFACTURING

The SING for Green project (Developing Sustainable Skills for Designers in Additive Manufacturing) is an Erasmus+ project, co-funded by the European Union, which aims to develop new curricula and freely available, open access educational material in Additive Manufacturing reflecting environmental considerations critical for the acquisition of green skills. The project commenced from December 2023 for a period of 2 years.

This project aligns with the European Union's prioritisation of sustainability, such as the Green Deal and Climate Action. The green transition is not only about protecting our planet by reducing greenhouse gas emissions and achieving climate neutrality by 2050. It is also about boosting the economy and employment of our citizens. The survivability of jobs depends on their adoption of cleaner technologies and greener work processes. Production technologies such as Additive Manufacturing (AM) have a potential to contribute to sustainability in manufacturing, where if properly implemented can reduce energy consumption and utilise less materials.

In AM, the design process can dictate the successful trajectory of the production. Sound decision making at the design phase is important to avoid unnecessary high cost and waste of materials. Therefore, AM designers need to be knowledgeable about sustainable design to ensure the success of the design and the rest of the process. SING for Green explores skills requirements and futures skills demand. The project's impact lies in improving guidance on green jobs and forecasting skills to facilitate the smooth green transition of the sector's employment.

In this context, the SING for Green project intends to develop specific course curriculum matching the needs of the current job market for AM designers. The roadmap of SING for Green towards achieving these goals involves the development of a needs analysis report, which includes the opinions of interviewed experts on the direction of the green transition of AM curricula. Results will then be analysed to direct the creation of a curriculum for sustainable design in AM, the development of open education resources, the creation of the appropriate learning outcomes and assessment methods for students, and the creation of a digital manual for instructors. The needs analysis results will be validated by focus groups comprising of experts.

Once the educational material is ready, trainers will be trained to implement national pilot courses in each partner organisation's location. The pilots and their outcome will be published in a report. Other national and multinational events will push the visibility of the project, capped by a final conference when the project is near completion. Throughout the project, there will be different dissemination activities planned, including active engagement on social media, participating in different events and conferences, organising events for the project, and presenting the progress of SING for Green to the public.

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SING for Green is innovative by creating a new education program that will enable current and new designers to be prepared for the green transition and to be part of it. Specifically, in terms of the course design and its educational material, it will focus on using sustainable learning tools that can be accessed and used in a flexible approach, online on demand, reducing the operational costs and contributing to sustainability from an environmental perspective. Course materials will be developed in the form of tutorial videos and online learning materials to allow learners to choose the amount of content they wish to study based on their availability, allowing them to complete the learning outcomes of each module or Competence Unit, conveniently and effectively.

SING for Green will then actively benefit towards the normalisation of green skills in AM, helping the sector upgrade itself towards the contemporary demands of the labour market. Academics and experts have advocated the need to integrate the design for environment or eco-design into the designing process and for designers and engineers to get training in the utilisation and benefits of sustainability in AM sustainability (Ford and Despeisse, 2016). SING for Green will increase the number of easily accessible, user-friendly open courses on sustainable design for AM.

Overall, SING for Green will support the development of skills for emerging jobs in AM, tackling the rate of unemployment, the mismatch of skills between higher education courses and labour market needs. It includes university students and graduates, as well as adults transitioning in their careers, and promotes the life-long learning approach at higher education level. The educational material developed by the partners will support academics in this new emerging area of skills in terms of AM and sustainable design, and graduate as well as career transitioning job seekers in AM. To find out more, please visit the SING for Green website at: www.singforgreen.eu

Project partners

The partners involved in this project have a broad experience in ERASMUS+ funded projects. The project coordinator is IDONIAL, from Spain, and partners are Brunel University London, from the United Kingdom, the European Federation for Welding Joining and Cutting – EWF, from Portugal, LATTICE, from Slovakia, Favoritanswer - Consultoria em Engenharia, LDA – FAN, from Portugal, and the Metal Centre Cakovev – MCC, from Croatia.

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