ACCESS-3DP
Art & Creative Craft Enterprises for Successful Streaming of 3D Printing

May 2022

Newsletter #3

What have we achieved so far?

access-3DP

Art & Creative Craft Enterprises for Successful Streaming of 3D Printing
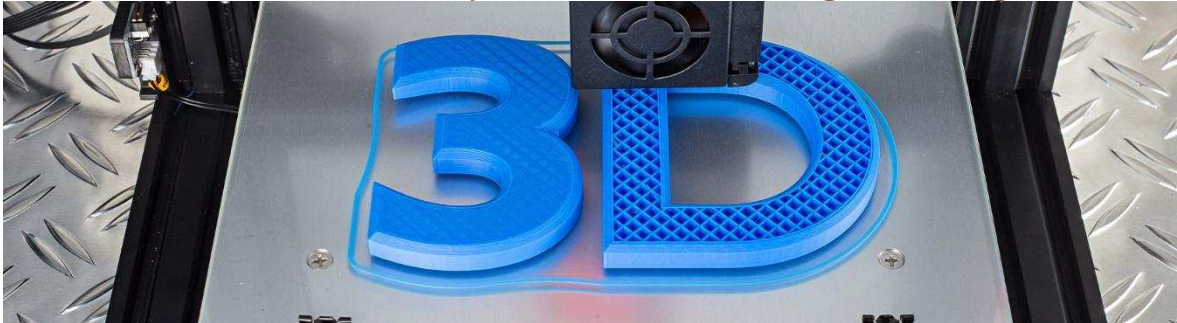
Project ID:

Full name: Art & Creative Craft Enterprises for Successful Streaming of 3D Printing
Programme:
ERASMUS+ KA202 – Strategic Partnerships for vocational education and training
Project duration:
1 October 2020 – 31 March 2023
Total Grant:
346.963,00 EUR
Partnership:

- *Chambre de Métiers et de l'Artisanat Auvergne-Rhône-Alpes Lyon-Rhône*
- *Centro Tecnológico del Mueble y la Madera de la Región de Murcia*
- *Centro Tecnológico do Calçado de Portugal*
- *Štajerski tehnološki park*
- *Technická univerzita v Košiciach*

New technologies, new opportunities

Additive Manufacturing (or 3D Printing) is one of the technologies the European Commission identified as a Key Enabling Technologies (KETs). Creative Industries in the craft sector are usually small businesses but important core elements of the EU economy. They work with clients in sectors that have been traditionally connected to creative industries for some time, using flexibility to add value to products by applying their ability to realise innovative ideas. Increasingly these capacities are becoming more relevant to the European Economy as new sectors find out that they need the skills provided by creative enterprise workers. At the same time, new, often disruptive technologies come to light and require highly skilled creative people to reach their full potential.

This also applies to other Advanced Manufacturing technologies, such as Advanced Industrial Robotics.

ACCESS-3DP brings together an innovative consortium of 5 expert partners and will:

- identify the mismatched skills between creative craft entrepreneurs already using AM and traditional ones potentially interesting in adopting such technology;
- develop VET curricula on 3D Printing tailored to the needs of the craft sector, to the diffusion of the technology, as well as the mobility and employability of creative craftworkers;
- improve competitiveness and efficiency of craft businesses through 3D Printing
- better understand the 3D printing value chain;
- evaluate the impact of tailored training;
- develop recommendations for certification of creative craft stakeholders trained in 3D Printing.

Achievements by May 2022:

A TRAINING MATERIAL NEARLY DEVELOPED AND TO BE IMPLEMENTED ON E-PLATFORM ACCESS-3DP

The course materials, determined by the Joint Training Curriculum, are nearly finalised, and now an integration into the innovative and intuitive MOOC (Massive Open Online Course) is following. The six-module learning course will provide workers, entrepreneurs, students, and other sectors with the essential knowledge, skills, and competencies required to work with 3D Printing successfully.

The ACCESS-3DP project achieved a significant milestone with completion of training materials, elaborated by all five Project partners, covering the topics based on their expertise.

The ACCESS-3DP course is expected to have a total duration of 250 hours, covering six modules, composed of several training units (30 in full) allowing to achieve learning outcomes in terms of knowledge, skills, and competencies are associated:

1. **Innovation process applied in the traditional sector – Design and 3DP**

Unit 1.1. Basics of the Innovation process

Unit 1.2. Stages of the Innovation process

Unit 1.3. Innovation Management and New Product Development

Unit 1.4. Co-innovation concept

2. **Design Thinking & Skills**

Unit 2.1. What is Design Thinking?

Unit 2.2. Principles of Design Thinking

Unit 2.3. Design Thinking process

Unit 2.4. Design Thinking and Business Models

Unit 2.5. Critical Thinking Skills

Unit 2.6. Benefits of Design Thinking

Unit 2.7. 3DP as a tool to adopt the design methodology for craft and entrepreneur

3. **3D Printing & Production Process**

Unit 3.1. History of 3D Printing

Unit 3.2. Description of the Production Process and Available Software

Unit 3.3. Technologies in 3D Printing

Unit 3.4. 3D Printing Materials

Unit 3.5. Risk Management

Unit 3.6. Impact of 3D printing on the supply chain

4. Current processes – Different fields of application

Unit 4.1. 3DP Technologies- Processes, Resolution, Accuracy, Sizes, Security

Unit 4.2. 3DP Technologies – Extract the pieces, post-processes

Unit 4.3. 3DP Technologies- Real-life examples- TRADITIONAL sectors/field

Unit 4.4. 3DP Technologies- Real-life examples- NON TRADITIONAL modern sectors

Unit 4.5. Environmental impact and reusing potential

5. Entrepreneurship and 3D Printing – New business Ideas

Unit 5.1. What is Entrepreneurship?

Unit 5.2. Generating and Developing Business Ideas - 3D Printing Business ideas

Unit 5.3. New Entrepreneurship ideas using 3D printing

6. Advanced Industrial Robotics applied in crafts

Unit 6.1. Principles fundamentals of robotics

Unit 6.2. Programming a robot

Unit 6.3. Criteria for the implementation of a robot

Unit 6.4. Applications of robots

Unit 6.5. Coupling AIR with 3DP, theory and real examples

Upcoming activities:

Since the second part of the 2021 year, the Consortium has been preparing the six modules of the ACCESS-3DP courses. To deploy all the materials ready for the whole system, project partners, led by CETEM, have designed, and developed the software of an e-learning platform, which will be freely available to all the learners interested in the ACCESS-3DP course.

The design and implementation of the e-learning platform and the peculiarities of the target groups were carefully analyzed. The considered users of this e-learning platform are professionals, workers, entrepreneurs, students, VET providers, universities, the unemployed, local education authorities, policymakers, and other relevant stakeholders from traditional sectors. It was also considered that professionals would be using the platform and adults possessing different digital competencies. As a result, e-learning has been delivered to simplify the participation in all available sections of the platform by any user. The platform is open in a few languages to facilitate the navigation: English, French, Portugal, Slovakian, Slovenian and Spanish.
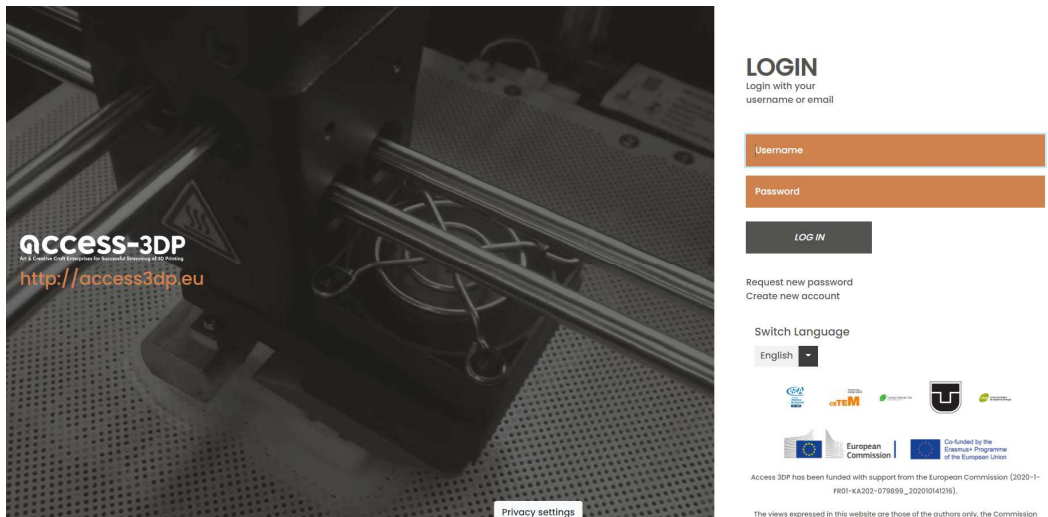
Interested? We invite you to test the demo version of the ACCESS-3DP training course! For more information, please contact the e-learning responsible: Ms. Almudena Muñoz-Puche (a.munoz@cetem.es)

Meeting in-person:

CTCP, the project partner from Portugal, organized the second ACCESS-3DP transnational project meeting in-person on 5th and 6th April 2022 in Centro Tecnológico do Calçado de Portugal (Portuguese Footwear Technological Centre) in the city of S. João da Madeira on the first day, and on second day in the premises of APICCAPS – Associação Portuguesa dos Industriais de Calçado, Componentes, Artigos de Peles e seus Sucedâneos (Portuguese Footwear Association).

Source: ACCESS-3DP internal resource

The meeting was attended by all five partners from France, Portugal, Slovakia, Slovenia, and Spain. The main topic of the first-day discussion (5 April 2022) was the presentation of training material developed by all partners and the demonstration of the functionality of the ACCESS-3DP Massive Open- Online Course- e-learning platform.

The second day of the meeting (6 April 2022) was dedicated to presenting the last phase of the project: Pilot validation and mainstreaming of the innovative tools to the target groups (designers, managers, entrepreneurs, technicians from the technology and traditional sector, students,…) and planning of workshop to be conducted in October 2022 (Learning/Training/Teaching activity) to contribute to the validation of the needs and mismatched skills between creative and traditional-craft industries. The communication and quality assurance activities were presented. The meeting concluded with the planning of activities for the following months.

Source: ACCESS-3DP internal resource

Presenting the partner:

The lead partner of IO3 in which the ACCESS-3DP training course and the e-learning platform are being developed is the Technological Centre of Furniture and Wood of the Region of Murcia (CETEM) from Yecla, Spain.

CETEM is a non-profit association whose origin dates back to 1995, thanks to the initiative of private companies with the initial support of the Regional Development Agency, the Spanish Ministry of Industry and the European Union.

CETEM's mission is oriented to improve, favour, foster continuous improvement and transfer any type of innovation to companies, primarily SMEs, while actively contributing to their socioeconomic development through consultancy services, R&D activities, and the organisation of training

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programs tailored to the needs of the industry.

CETEM has developed a long-term collaboration with a vast pool of external experts, organisations and networks, competent for and capable of implementing all the needed support services and practical project work on a regional, national, EU and broader international level. STP staff members have been involved in implementing numerous research and development projects, more than 50 own projects and more than 60 projects financed through different national and EU programs (Interreg FP7, ERASMUS+, Horizon 2020, etc.).

All members of CETEM staff, around 40 professionals, are a qualified and motivated technical team that communicates a high level of satisfaction to its associates and collaborators with the necessary strategic alliances with organisations to further its mission.
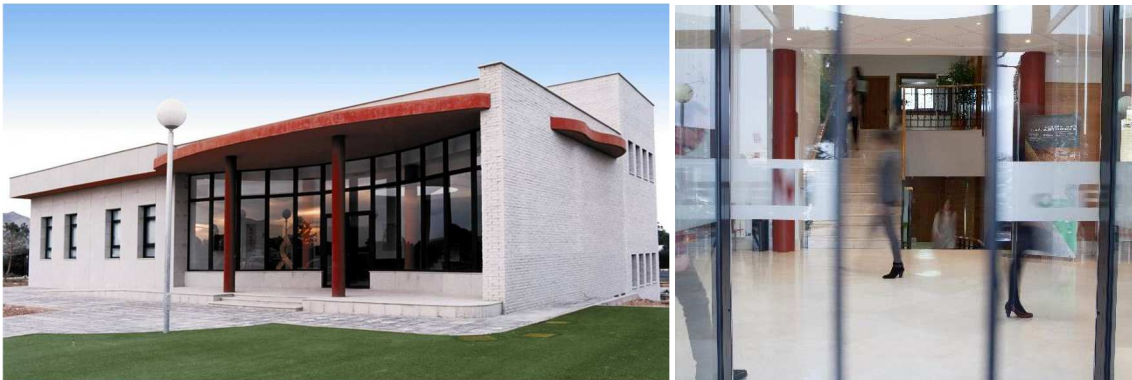
More information: http://www.cetem.es/en

Figure 1: CETEM's facilities. Source: CETEM

Figure 2: Yecla. Source: Guía Repsol