HARNESSING TALENT PLATFORM

A new boost for EU Regions

Good practice

TF-CC: Teaching Factory Competence Centre

Working Group: Research & Innovation (R&I)

Member State, Region: Greece, Region of Western Greece

Thematic area: Competitiveness and Innovation

Basic project details

Lead organisation:

Laboratory for Manufacturing Systems and Automation, University of Patras LMS - Greece

Partner organisations:

- Sidenor Steel Industry S.A.
- BAZIGOS
- GIZELIS S.A.
- Calpak
- CASP
- Emphasis DigiWorld
- ELVALHALCOR HELLENIC COPPER AND ALUMINIUM INDUSTRY S.A.

Project duration: July 2021 - December 2023

Overview and objectives

The Teaching Factory – Competence Centre (TF-CC) is an innovative approach to interconnect educational institutes and the manufacturing industry on a global scale, providing multiple benefits for students and industry. It aims to enable knowledge sharing among academia and industry, integrate innovative Industry 4.0 technologies in manufacturing, exploit research results towards industrial applicability, and create added value for manufacturing companies through innovative technologies and research activities.

This Good practice is one of the 31 Good practices included in the *Good Practices Catalogue (Volume 1)* developed by the Talent Booster Mechanism Working Groups. *The Catalogue* is available here: https://ec.europa.eu/regional_policy/sources/communication/harnessing-talents/Good_Practices_Catalogue_Volume_1.pdf

Context

The project aimed to address the need for effective interconnection between educational institutes and the manufacturing industry to address the challenges of Industry 4.0. Moreover, the provision of high-tech training to industries has a significant impact on the familiarisation of industries' employees with new technologies.

Target groups

The target groups of the project include students, manufacturing industry professionals, researchers, and production engineers.

Actions

The project's actions include:

- **Training services**: The Teaching Factory Competence Centre supports the implementation of technical services by training professionals on best practices for manufacturing. All members of the competence centre have access to knowledge database which include materials such as documents, technical studies, datasheets, presentations etc.) about the research on technological applications;
- **Technical Services**: These services are oriented in technical support of manufacturing industries aiming to upgrade the manufacturing products and services. This is achieved via the development and optimisation of manufacturing processes, production lines and integration of high efficiency informatics technologies;
- **Consulting Services**: Consulting services of Teaching Factory Competence support production engineers and individuals to upgrade and expand their business activities;
- **"EIT Manufacturing" services**, which include interconnection with EIT Manufacturing for educational and training services. EIT Manufacturing is a public-private partnership, co-funded by the European Union and established in 2019. EIT Manufacturing is one of the nine Knowledge and Innovation Communities (KIC) supported by the European Institute of Innovation and Technology (EIT).

Financial allocation

Total budget: EUR 1 000 000

EU co-funding: Yes

Sources of funding: European Regional Development Fund (ERDF 2021-2027)

Working Group Insights

"In agreement with the other members of the R&I WG, I selected this good practice because TF-CC is oriented on providing education and innovation services to the manufacturing industry. Its mission is to enable the knowledge sharing among the academia and the national industry, to integrate innovative Industry 4.0 technologies in manufacturing, to exploit research results towards industrial applicability and to create

added value for the services and products of manufacturing companies, through innovative technologies and research activities performed by academia. For this purpose, TF-CC provides a set of Learning Services and Innovative Technical Services to their customers aiming to the interdisciplinary learning, research & experimentation and to exploit of research results towards industrial applicability.

By offering tailor-made training and technical services, the project improved knowledge sharing, integration of Industry 4.0 technologies, and creation of added value for manufacturing companies. TF-CC is boosting the local workforce primarily by retaining the highly skilled. The Laboratory for Manufacturing System and Automations (LMS), partner of TF-CC, actively collaborates with European industries and academia or RTOs in the context of European projects. As an outcome of this collaboration, up to date training and technical challenges are transferred to the TF-CC. Accordingly, TF-CC designs and deploys high-tech services based on the emerging challenges of European industrial ecosystems as well as the regional ones. Moreover, graduates from LMS are working part time in TF-CC and eventually, through this process high-skilled persons find employment in the local or regional industry. This is particularly important for the region where the TF-CC is located, given that the Region of Western Greece has a high brain drain. In parallel, through the technical and consulting services and the focus on innovation in the entire value chain, the TF-CC enhances the ability of the manufacturing industry to attract".

IOULIA KONDYLI

Expert in Special Service for the Coordination of Regional Programmes at the National Coordination Authority of the Partnership Agreement, Greek Ministry of Economy and Finance

Results

TF-CC creates an effective connection among academia and companies seeking innovative solutions, lowering the barriers for companies to access the most innovative solutions and competences developed by academia. Under this project, several tangible and intangible results have been achieved. For example, 20+ training services were implemented with 230+ trainees. 15+ cooperations have been provided in B2B projects under this project. A partnership was set up between 1 university and 7 companies, leading to the participation in over 10 Research and Development (R&D) projects with 70 partners, thus contributing to a broader ecosystem and ensuring the quality of services provided by the TF-CC.

Success factors

Success factors for the project include the collaboration between academia and industry, contributing knowledge valorisation and the transfer of innovations from research to the market via the commercialisation of mature research results in 4 fields: a) Robotic Assembly Cell Related services, b) Robotic Handling Cell Related services, c) Additive Manufacturing Cell Related services, and d) Augmented Reality (AR)-based Robotic Cell Related services. Comprehensive tailor-made training and technical services enable the programme participants to gain valuable skills for contributing to finding innovative solutions. The effective use of innovative technologies within the programme allowed for targeted IT support and the direct engagement of participants with new technologies to gain insights into the progress of innovative technologies.

Implementation challenges

The key challenge encountered during the implementation of the project include was to ensure the financial sustainability of the project beyond the project phase. The project overcame this challenge through national and international partnerships, the creation of a successful membership scheme and the participation in international research projects.

The conclusion of our expert Ioulia Kondyli, Expert in Special Service for the Coordination of Regional Programmes at the National Coordination Authority of the Partnership Agreement, Greek Ministry of Economy and Finance

“The unique strength of the Teaching Factory, is the creation of an interconnection between academia and the entire value chain of the manufacturing industry (end-user, manufacturers, machine builders, system integrators and software providers), offering innovative solutions to address Industry 4.0 challenges and in parallel identifying gaps and addressing skills mismatches through the upskilling and reskilling of professionals”.

Useful sources

Official website: https://teachingfactory-cc.eu

https://www.linkedin.com/company/teaching-factory-competence-center/posts/?feedView=all

Contact

E-mail: secretariat@harnessingtalentplatform.eu

Website: https://ec.europa.eu/regional_policy/policy/communities-and-networks/harnessing-talent-platform_en