ManuLearn

ManuLearn II: Learning through manufacturing challenges

ManuLearn is a programme that aims to strengthen the innovation potential of the participating EIT RIS countries, while **enhancing educational framework, developing distance learning** and **boosting digital growth under the concept of Industry 4.0**.

It is designed so that students, researchers, and manufacturing practitioners can work together, combing **Teaching Factories**, **Learning Factories** and other learning practices, to develop skills through co-created solutions to real manufacturing challenges.

Special focus in this year's project activities is given to:

Manufacturing education in the context of COVID-19
Gender balance in manufacturing
Boosting soft skills of engineers

The Research

Participating countries (Czech Republic, Greece, Lithuania and Spain) have made a desk research among academia / educational institutions and industry / manufacturing companies, aiming to:

- Benchmark the current status of manufacturing education in the COVID-19 context
- Needs from supporting tools
- Gender balance in both industry and academia areas
- Digital and soft skill gaps
- Reskilling and upskilling point of views

Main findings

- COVID-19 boosted the use of digital tools and electronic education materials. Academia managed to adapt to using modern means of distant learning. However, it is noticed, that traditional learning in the class cannot be completely replaced by remote methods, especially in technical studies.
- Lack of student motivation and decreasing interest in technical studies could be solved by applying practical exercises, providing more interactive tools and implementing real projects in collaboration with companies e.g., Teaching and Learning Factory models.
- There are still gender stereotypes in engineering schools and manufacturing field, the ratio of women to men varies considerably in all partner countries (Spain and Greece ahead of Lithuania and the Czech Republic). However, numbers of women attracted are slightly increasing.
- Soft skills are extremely important, although their role is often underplayed in relation to financial claims and difficulty to measure.
- Digital skills of the employees are crucial to improve Industry 4.0 process inside the company and employees need to be up to date if they want to remain truly competitive in their sector. technical knowledge is usually valued more highly at technical schools, downplaying the importance of the soft skills.
- Needs for personnel upskilling and reskilling are crucial in dynamic changes in manufacturing under umbrella of Industry.4.0.

Results from these panel researches will be the basis of the Teaching and Learning Factories pilot activities within the project progress.