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

ManuLearn Consortium is currently implementing a series of pilot activities in Lithuania, Greece, Czech Republic and Spain. The knowledge exchange network is established between the activity partners according the ManuLearn methodology and ICT tools.

The focus in these pilot activities are industrial challenges, particularly in the field of digitalization. Teams from all participating Universities and RTOs respond to the cases introduced by companies, and knowledge transfer happened both ways: from industry to academia regarding state of art practices and challenge establishment, and from academia to industry regarding state of art research and potential solutions.

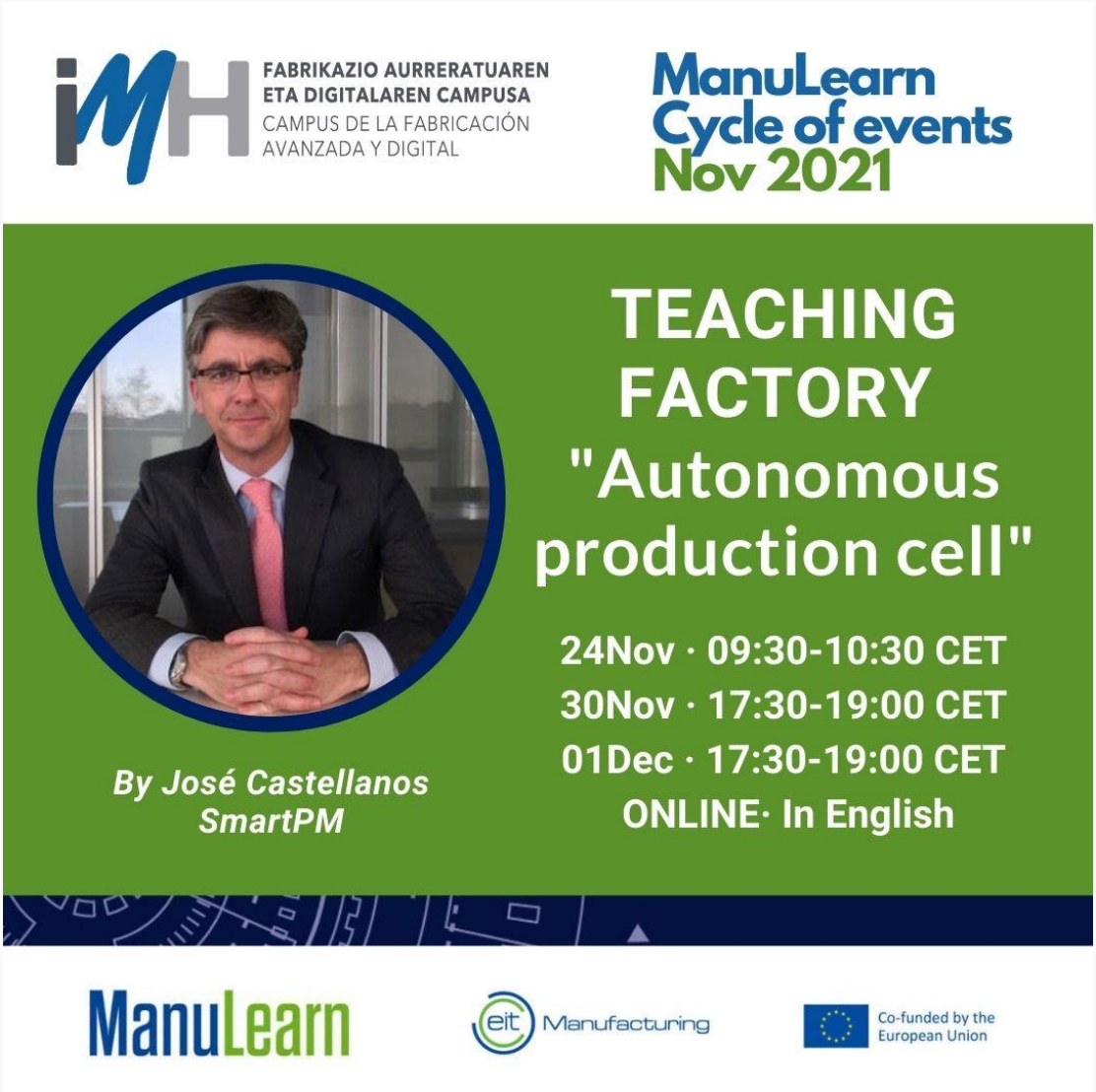
Teaching factory by LMS and LINPRA

The goal of this pilot led by LMS was to upskill personnel regarding AM and Hybrid Manufacturing Technologies in metal parts.

Purpose:

- Increase knowledge on fundamentals, applications and business implications of additive and Hybrid manufacturing.
- Identify and exploit Additive and Hybrid manufacturing business cases - How additive technologies benefit business.
- Explore and learn the additive manufacturing and hybrid manufacturing capabilities.

Teaching Factory by IMH



The cycle of ManuLearn pilot activities was continued by project partners IMH Campus – the educational campus, specializing in advanced and digital manufacturing.

IMH arranged an online ManuLearn Teaching Factory “Autonomous production cell”, where students, researchers and companies worked together to mutually develop skills through co-creating solutions to industrial manufacturing challenges.

This TF was organized in cooperation with Smartpm.es company and consisted of 3 sessions:

- ✔ #1 Company presents a real autonomous production challenge
- ✔ #2 Students get to know more
- ✔ #3 Students present their possible solution

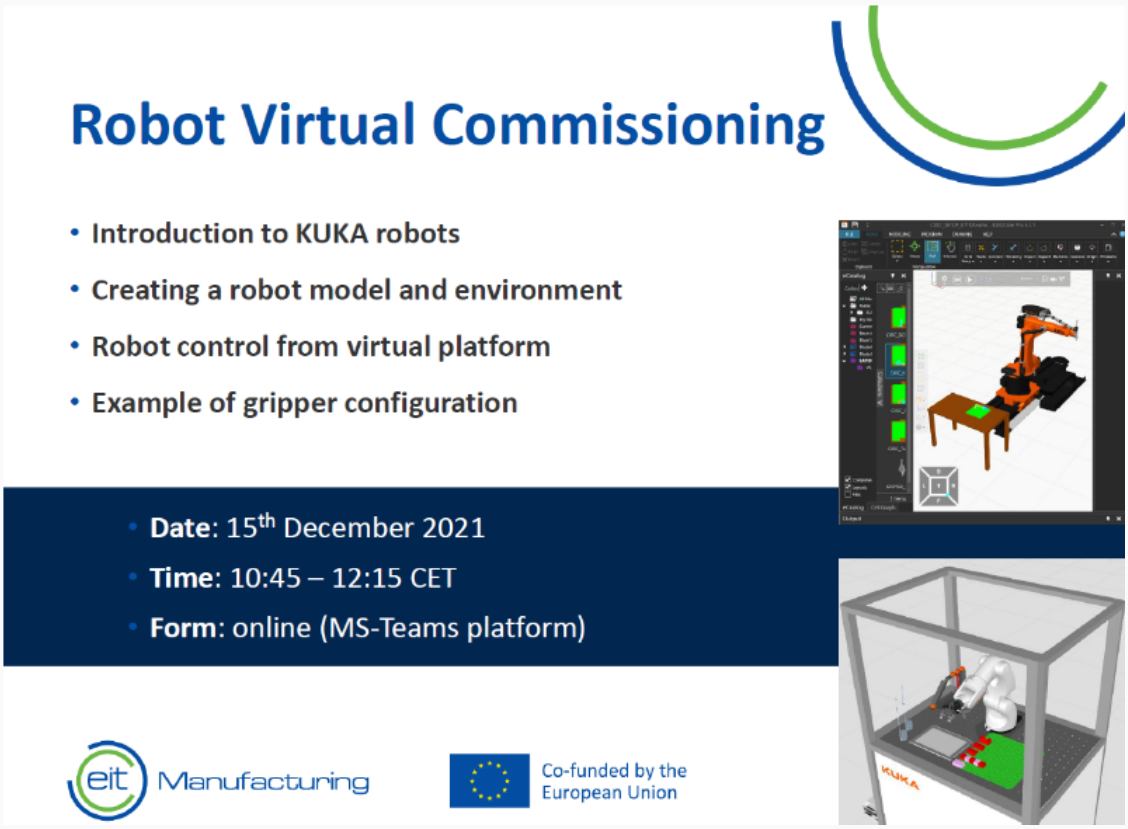
Learning Factory by IMH and Tecnalia

Moving to the next Pilot activity – ManuLearn project had a Learning Factory organized by IMH Campus and Tecnalia. Participants were analyzing and discussing standard communication protocols such as OPC-UA and UMATI, relevant issues for the demanding requirements of Industry 4.0.

With the arrival of the IoT paradigm in the industrial sector, connectivity and the extraction of valuable information from each installed device is a necessity to optimize the performance of industrial processes. Various researches are aiming to standardize communications between the heterogeneous equipment in an industrial plant, ensure that all devices speak the same language.

The content was presented by an expert in theory and in todays practical workshop.

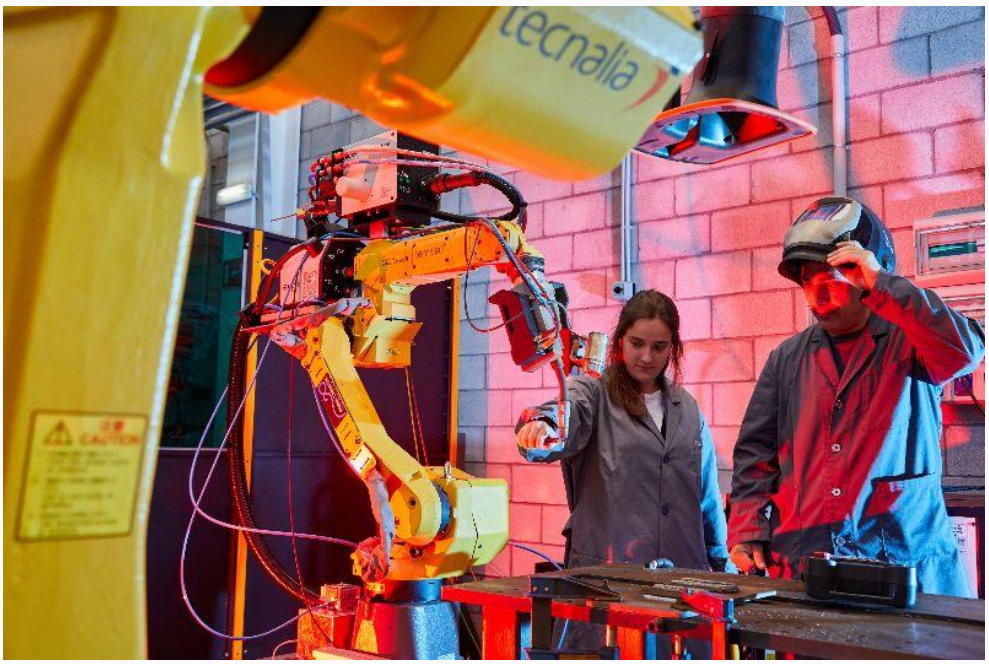
Webinar by CTU and LMS



Some of the last pilot activities of ManuLearn were arranged by Czech Technical University in Prague (CTU) in cooperation with Laboratory for Manufacturing Systems & Automation (LMS), who organized a webinar on the subject "Robot Virtual Commissioning", focusing on KUKA robots.

The webinar provided knowledge of robotics; specifically, the creation of a robot model and its operating environment controlled from a virtual platform. The event was led by expert representatives from CTU and LMS institutes. The presentation was supplemented by practical examples of robot functionality configurations.

Thanks to all participants, teachers and learners!



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