

DITMEP

Digital Tools for Manufacturing training and Education Programmes

Project number: 2021-1-DE02-KA226-VET-008289

Newsletter Edition 3, January 2023

Project Overview

In the context of current COVID-19 crisis Education and training systems are facing new challenges regarding online learning, for guaranteeing quality and inclusive digital capabilities. Modernisation and digital transformation of education is a main need at European level, and in particular for vocational education and training schemes in manufacturing sectors, based on face-to-face classes and workshops linked to industry.

In particular, **DITMEP** project will focus on risk prevention modules, within the manufacturing of composites training schemes. This sector is of high interest for different industrial sectors at EU level, thus aiming to reinforce skills training for the EU industry.

DITMEP project aims to improve manufacturing training, in particular Risk prevention courses, generating digital capabilities on the methodology (through e-learning, gamification and augmented reality experiences) for educators and trainees. This will support and help the transformation of manufacturing in this current COVID-19 situation.

The main objectives are:

- Training course deployment in an e-learning platform with a core syllabus on Risk Prevention and Health, prepared for its adaptation to the specific countries regulation.
- Deployment of a common gamification methodology for Risk Prevention training modules
- AR mobile application development to support 2 series of learning experiences proposed as part of the core training (virtual spaces signalisation and emergency drills).
- To reinforce learners and teachers with digital capabilities: guides on how to use the materials, how to complement in-presence teaching and to develop on-line trainings. A common structure in English will be translated by the regional partners.
- Providing tools and methodology evaluation through pilot training implementations (3 countries) with included tests for evaluating the procedures from the teachers/learners.

The **DITMEP** project receives funding under the [ERASMUS + programme](#) of the European Union.

Project status

In the area of training courses for occupational safety, we have completed the theoretical training materials. In addition to the theoretical part for each unit, an interactive area for each unit is created on the Moodle platform. The training course consists of the following units, which are divided into 2 blocks:

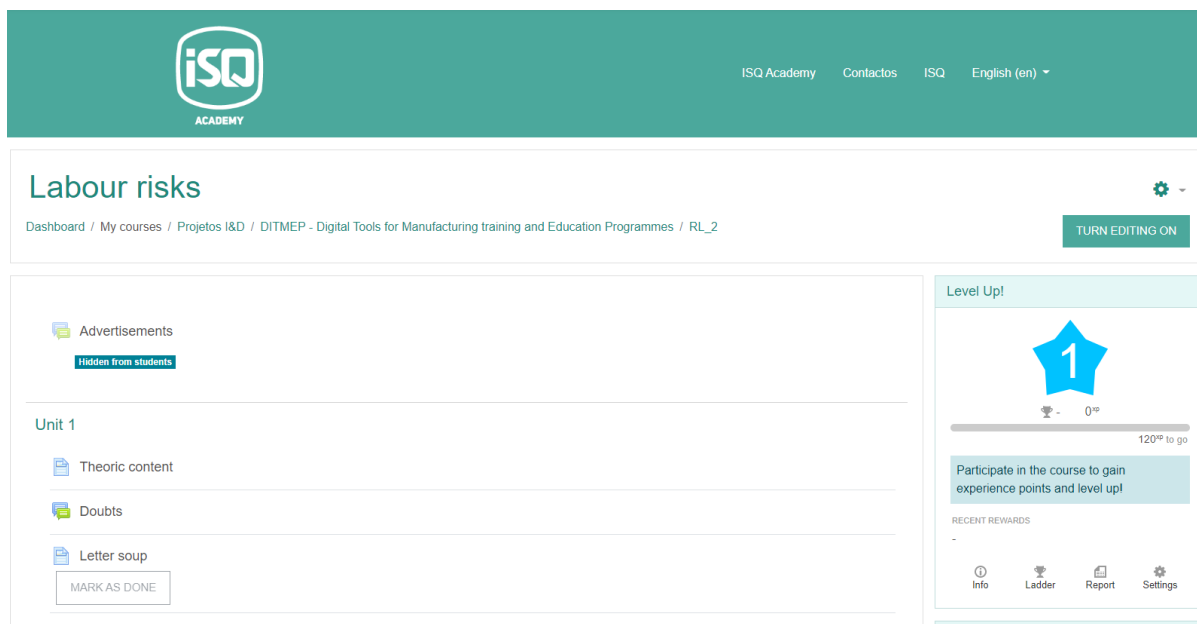
Block 1: General risks

- Unit 1: Basic concepts on safety and health
- Unit 2: General risks and their prevention
- Unit 3: Prevention and safety against COVID 19

Block 2: Specific risks in composite manufacturing

- Unit 4: Risks associated with workplaces and work surfaces
- Unit 5: Risks associated with work equipment
- Unit 6: Risks linked to the use of chemical products
- Unit 7: Personal protection elements (PPEs) and safety clothing
- Unit 8: Signposting a polyester workshop

The complete training course is available in English, Spanish, German and Portuguese language. The Augmented Reality scenarios and the corresponding app is also available in these four languages.



The screenshot shows the Moodle course interface for 'Labour risks'. The top navigation bar is teal with the ISQ Academy logo and links for 'ISQ Academy', 'Contactos', 'ISQ', and 'English (en)'. The course title 'Labour risks' is displayed in teal, with a breadcrumb trail: 'Dashboard / My courses / Projetos I&D / DITMEP - Digital Tools for Manufacturing training and Education Programmes / RL_2'. A 'TURN EDITING ON' button is visible in the top right. The main content area is divided into two columns. The left column contains a list of items for 'Unit 1': 'Theoric content', 'Doubts', and 'Letter soup', with a 'MARK AS DONE' button under 'Letter soup'. The right column features a 'Level Up!' notification with a large blue star containing the number '1', a progress bar showing '0%' and '120% to go', and a message: 'Participate in the course to gain experience points and level up!'. Below this is a 'RECENT REWARDS' section and a navigation menu with icons for 'Info', 'Ladder', 'Report', and 'Settings'.

The **DITMEP** project tries to fulfill the need for a digital way of teaching and learning, especially after the Covid-19 pandemic. Its general objective is to deploy a training course in an e-learning platform with a core syllabus on risk prevention and health: “To reinforce learners and teachers with digital capabilities: guides on how to use the materials, how to complement in-presence teaching and to develop on-line training.”

All the materials of the project are integrated in an Moodle-based e-learning platform. ISQ (Portugal), through the ISQ Academy, supports this e-learning space implemented in their Moodle platform.

This Moodle course is the result of the work done by USC regarding space design and configuration, ISQ that through the experience in training through its Moodle platform, ensures accessibility, usability, and support to the implementation of the tools developed, and all of the consortium that participated in the development of the content and activities.

CETMAR is at present testing the course “Prevention of Occupational Hazards in Composite Manufacturing” with the students of “A Aixola” training Centre, which offers VET (Vocational Education and Training) in the fields of timber, composites, electricity and mechanics on-board, sails, pneumatic boats and net construction. All training actions have a practical orientation focusing on work-based learning by developing projects arising from real needs, and therefore all of them start preparing their students in risk prevention. A selection of training units from the **DITMEP** Course has been proposed to be tested in all the Aixola trainings. In particular they will access to the unit 1 related to Basic concepts about security and health; the unit 2 about General risks and their prevention; the unit 8 about Personal protective equipment’s and finally the unit 9 about Signposting in a polyester workshop.

Besides, the courses addressing composite manufacturing – as Polyester Manual Modeler - will test all the units of the **DITMEP** course, including the Augmented Reality materials addressing a workshop signalization and the selection of personal protective equipment for different tasks. The students completing the whole course will get a certificate.

Our next steps

The next steps will be the following:

- After the Moodle Platform is completed, the training course and the app will be tested by the individual project partners in their own training courses
- With the knowledge gained from the test runs, we will continue to improve and finalize the training course and the app
- In collaboration with the University of Santiago de Compostela, CETMAR is also organising an event to present the **DITMEP** main deliverables. It will be featured as a workshop in Aixola on the 24th March, in which more than 30 participants will be invited to try the reality augmented tool and visit the facilities of the center. By developing this activity, we will promote the transfer of the project main results among the most relevant regional stakeholders in the fields of activity of the **DITMEP** project, which include the composite manufacturing, training on risk prevention, development of innovative training materials for blended learning and use of augmented Reality

Project meetings

Third Transnational Project Meeting

Our third transnational project meeting as part of the DITMEP project took place on September 13th and 14th in Lisbon at our project partner ISQ. After talking about the general status of the project at the beginning of our meeting, we quickly went into detail afterwards. Our training course developed as part of the project consists of two blocks. The first block deals with general risks and how to avoid them in the workplace. We have agreed that European law should first be looked at before the respective national regulations of the partner countries are considered. In the second block, specific risks of composite production are considered. These are risks associated with the workplace and surfaces, with the use of tool, with machinery and with the use of products. There is

also a unit on personal protective equipment and on workplace signalization. We then talked about the implementation of the individual units in our newly developed augmented reality tool to guarantee innovative blended learning methods in risk prevention training. Last point of the day were the guidelines for implementation of the blended learning in risk prevention courses and the use cases for testing the new risk prevention digital training module. We had intensive discussions that day which we finished off with a mutual dinner in a restaurant next to the sea.



On the second day we talked about the general issues of the project like project budget analysis, management and reporting. We ended the meeting with one of the most important points for European funding project, promotion, dissemination and exploitation of the results.

Dissemination and Exploitation of project results

On the project website www.ditmep.eu, all results will be published. There will be also published 4 newsletters during the project. If you are interested in this newsletters, you can register in our database through the link on our website.

Finally the project is located on LinkedIn. Follow „[DITMEP Erasmus+ Project](#) “ and you will be informed about the current project status.

Project Consortium

Universities and training centres from three countries come together, to improve manufacturing learning, in particular Risk Prevention courses, generating digital capabilities on the methodology (through e-learning, gamification and augmented reality experiences) for educators and trainees.

Project Leader:

Renewable Skills & Consultant GmbH



Project Partners

