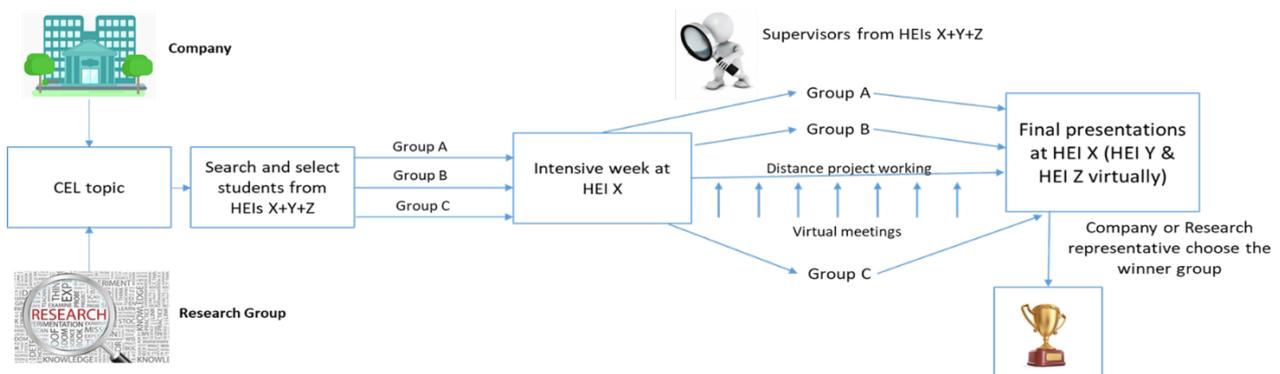NextGEng

5th Press release – The 1st round Cases of Experiential Learning (CEL) projects

March 2024

The International Cooperation Framework for Next Generation Engineering Students (NextGEng) is a three-year Cooperation Partnership project, co-funded by the European Union under the Erasmus+ KA2 program, consisting of a consortium of 3 universities and 3 companies. In the project there are several lines of actions that aim to increase the quality of the pedagogical process in engineering by developing new teaching models, aligned with the European Education Area 2025 and are in accordance with labor market needs.

One of its line of action is the development of new professional project-based learning activities known as Cases of Experiential Learning (CEL) projects. CEL projects are designed in collaboration with companies or HEI research groups and aim to facilitate close cooperation between students, HEI staff and industry experts on real life industrial project or research topics.

The core idea is that students from different study programs and nationalities are brought together to form mixed groups to solve an industry or a research topic. During the implementation of a CEL project, three groups of students compete against each other in solving the proposed topic over one academic semester. The work is supervised by teachers from the participant Higher Education Institutes (HEIs) and representatives from the company or research groups. Here under is the timeline of a CEL project.

CEL project timeline

The CEL project starts with an intensive week, hosted by the university to whom the company partner or research group offered the topic. During this week, students are informed about the details of the project and also participate in tailored seminars to increase their knowledge of the project's subject matter. At the end of the week, students present a planning for the distance working and some ideas about potential solutions. Then, all of them work virtually and at the end of the semester the company or research group tutors select a winning solution based on a final report and the presentation held in a virtual seminar.

In the course of the NextGEng, two rounds of three CEL projects in each will be implemented. A detail of how the participants are distributed in one of these projects is detailed below. Basically, each group consists of
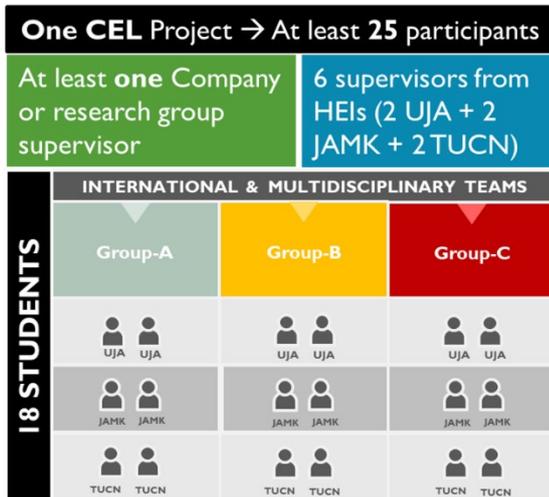
six students from three different universities (two students per university). The project has to be finished in one academic semester and, during the distance project working, the students are supervised by a group of 6 professors from the participating universities.

Participants in a CEL project

During week 7 of 2024, from 12 to 16 February, the three intensive weeks for the first round of CEL projects took place. These weeks were organised in parallel in three countries and the selected topics were:

- CEL1- ISR. The topic was "Design of an olive quality control system" and it was given by the Spanish company Sensory Integration and Robotics (ISR).
- CEL2 - TUCN. The topic was "Design of a 3-axes GANTRY ROBOT (3GR)" and it was given by a research group of the Technical University of Cluj Napoca (Romania).
- CEL3 – VALMET. The topic was "Design of a test object for a pressing-based manufacturing process" and it was given by the Finnish company Valmet Technologies.

Four pictures from the kick-off days of ISR project in Jaen.

Two pictures from the kick-off days of TUCN project in Cluj Napoca.

Four pictures from the kick-off days of VALMET project in Jyväskylä.

Contact

Assoc. Prof. Ciprian Lapusan PhD. Eng., Project Coordinator
Technical University of Cluj-Napoca, Romania
ciprian.lapusan@mdm.utcluj.ro