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NextGEng

Project title	International Cooperation Framework for Next Generation Engineering Students
Project acronym	NextGEng
Project contract no.	2022-1-RO01-KA220-HED-000088365

NextGEng Project

WORK PACKAGE 4

CASES FOR EXPERIENTIAL LEARNING PROJECTS

R4.7 a

Report of CEL1-ISR Project evaluation

May, 2024

TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

jamk

Universidad de Jaén

ISR www.isr.es

Valmet

BOSCH Invented for life

WP4	R4.7.a Report of CEL1-ISR Project evaluation
Authors	Silvia Satorres-Martínez
Short Description	The report includes CEL1 evaluation criteria, agenda for the virtual seminar, summary of the three students' reports, and feedback survey
Status	Final
Distribution level	Public
Date of delivery	28/05/2024
Contributions by:	
Project website	www.nextgeng.eu

Document History

Version	Date	Author/Reviewer	Description
0.1	28/05/2024	Silvia Satorres	First Draft
0.2	25/06/2024	Matti Siistonen	Review
Final	26/06/2024	Silvia Satorres	Final Version

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Table of Contents

1. Introduction

The aim of the report is to detail the evaluation procedure of one of the CEL projects developed during the first round, the CEL1-ISR project. The ISR Company proposed the topic: "Design of an olive quality control system" and it was implemented from February to April 2024. It started with the intensive week (activities detailed in R4.6) where students received tailored seminars and planned the distance working. At the end of April, students presented the result of their work in a virtual seminar. This report summarizes how the assessment of CEL1-ISR project was done. It includes the evaluation criteria, the virtual seminar agenda, a summary of the students reports and their assessment results. Finally, an analysis of the surveys responses for the target groups is also presented.

This report is the result of the activity: A4.7. Reports and first round evaluation. Final presentations, done by the students during the virtual seminar, are included as annexes.

2. CEL1-ISR evaluation criteria

The HEIs supervisors and ISR representatives agreed on the evaluation criteria to be applied during the virtual seminar. The groups of students were assessed according to:

- Reports evaluation: strenghts, weaknessess, general overview.
- Presentation: content, length, development, answer to supervisor questions, general comment.

Previous to the virtual seminar, reports done by the three groups of students were assessed by HEI supervisors (considering the former criteria) and the result of this evaluation was sent to the company representatives together with the student reports. During the virtual seminar supervisors and company representatives assessed the quality of the presentations and how students answered the questions raised by the evaluators. Companies representatives reviewed reports and assessments and considering also the solution with the greatest potential for industrialisation, they selected the winning group.

3. Virtual seminar agenda

The virtual seminar was held on Friday, 19th of April 2024 from 11:30-13:00 (SP time), 12:30-14:00 (FI and RO time). Each university provided the students with a classroom equipped with a camera and microphones. Fig. 1 shows the company representatives together with the UJA supervisors and students. JAMK and TUCN supervisors and students were on-line.

Fig. 1. Virtual seminar at UJA

Each group had 20 minutes for the presentation followed by a question time of around 10 minutes.

4. Summary of the student reports and assessments

During the distance working, the groups of students had three virtual meetings with supervisors and ISR representatives. These meetings were scheduled: 8th of March, 22th of March and 12 of April. Fig. 2 shows the first virtual meeting with group C.

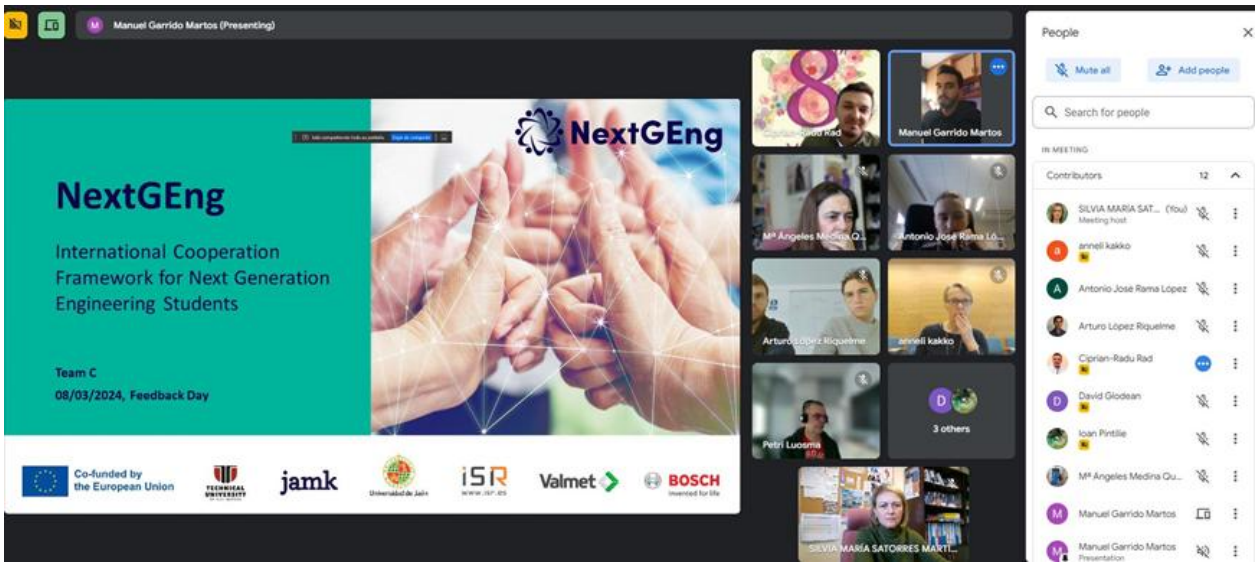


Fig. 2. Virtual meeting with supervisors and ISR representatives

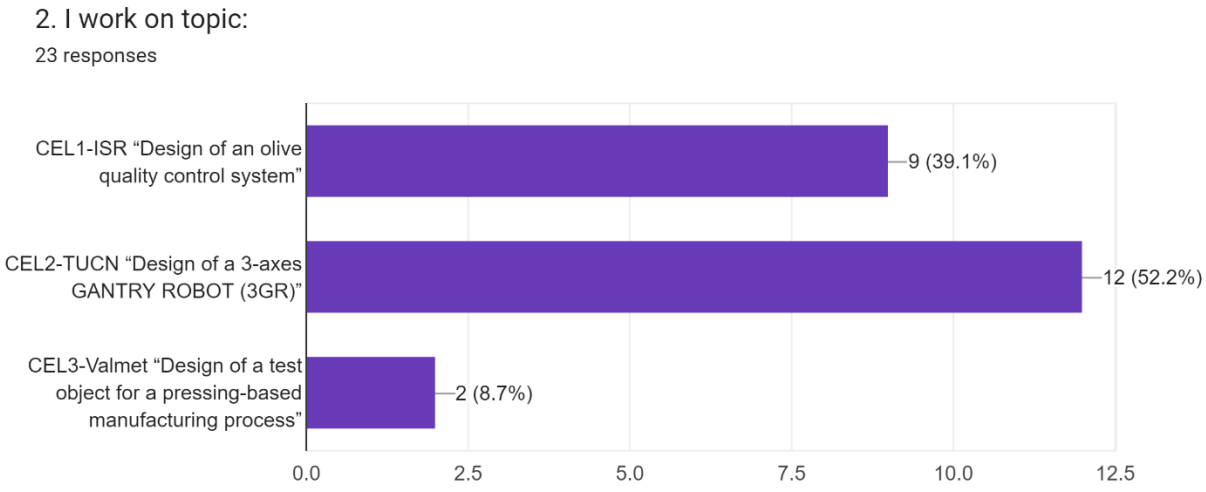
The students' reports were delivered two days before the virtual seminar. All of them are included as annexes to this report. Now, a brief summary of them is presented.

- Group A. They presented how the concept of the olive machine evolved from the initial brainstorm, developed during the intensive week, to the final design. The idea of separate conveyors and cups was well assessed by the company. The automation part was also well developed and they presented the PLC selection together with the programming. For the computer vision part, only the hardware set-up was presented. Computer vision algorithms for defect detection in fruits were not completely developed.
- Group B. The mechanical part of group B proposal was the best considered by supervisors and ISR representatives. Image processing was developed at a high level of abstraction. Clustering methods such as K-means were used for classification (defective and non-defective fruits).
- Group C. This is the best proposal and was chosen as winner group by the company. Materials provided by this group, report and presentation were complete and well developed. They provided mechanical, pneumatic and electrical calculations. They computer vision part was completely developed and good results were provided.

5. Survey and analysis of the CEL1-ISR implementation

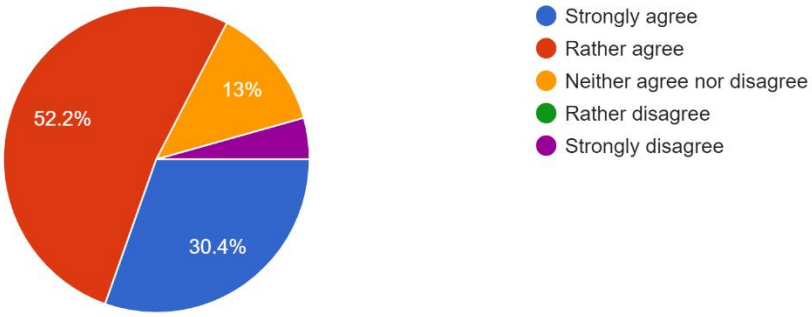
Two surveys were done to collect information about the first round of CEL projects implementation: one for students and other for supervisors and company representatives. The following figures show the students responses and comments:

Student's survey



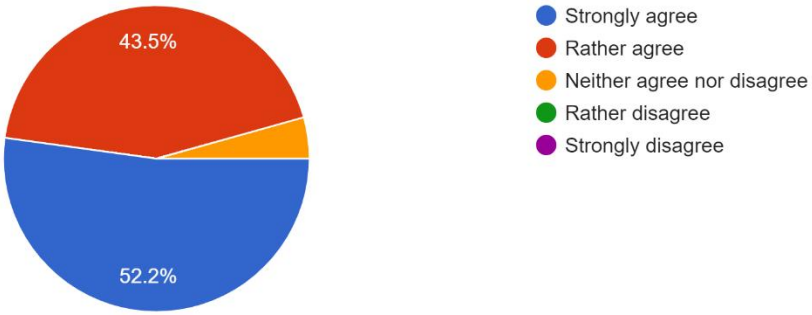
6. The support by the company/research group experts was helpful.

23 responses



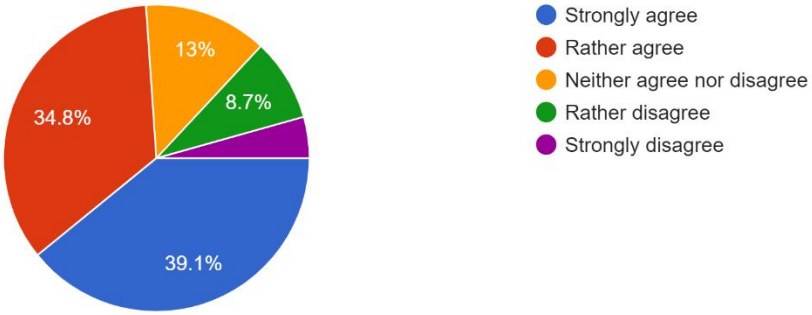
7. The meeting times were sufficient.

23 responses



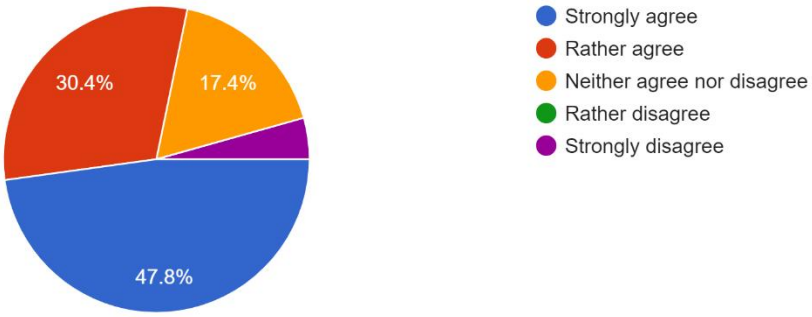
9. The work could be easily split.

23 responses



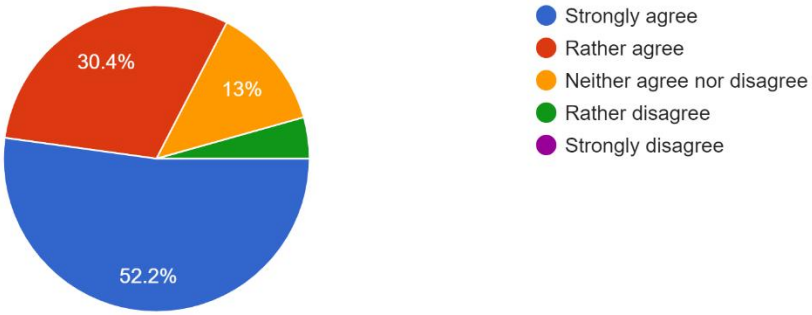
14. I am satisfied with the work of my team

23 responses



15. I would you be part of another project

23 responses



Ideas of improvement of the whole first round project:

- Longer intensive week
- More participants
- Everyone should have partner from their home country and also supervisors could help more with the projects in the beginning. The subject is so wide that tips from the teachers/supervisors would have helped a lot to focus on most important parts in the project. In addition, the atmosphere in the meetings with supervisors and the company could have been more encouraging, now they felt a bit distressing.
- I liked the experience overall
- I felt that one week after the last meeting wasn't enough time to prepare the final report.
- Instructions for the final report were very broad so I instructed my team to write it how I wanted it to be like! :D Moving forwards the final report should have better instructions.

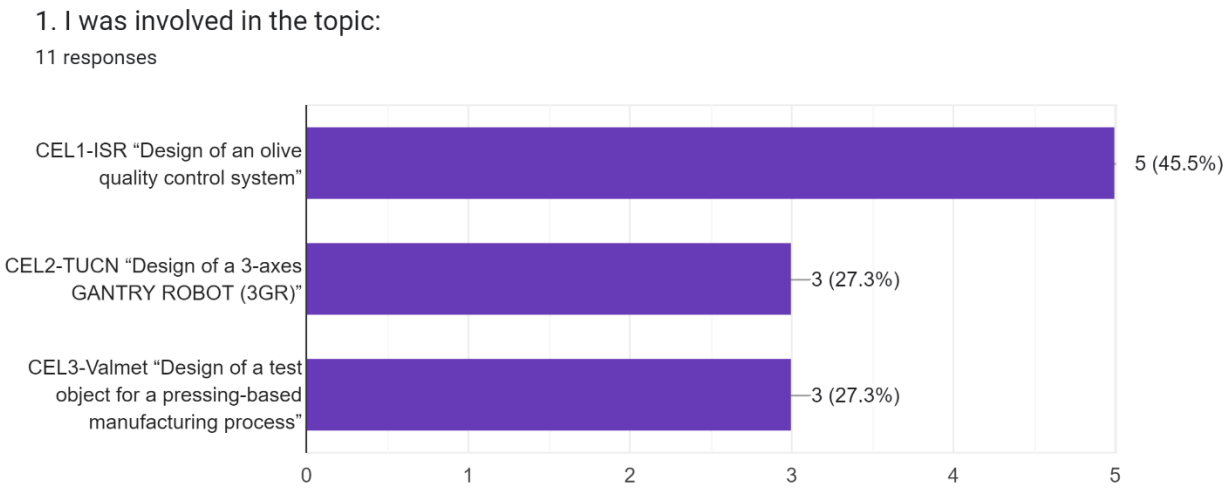
Top-points of what was really good:

- Great way to test your creativity
- Developing soft skills and interdisciplinary topics

- The atmosphere, challenge was greatly organized and had clear information. The intensive weeks phase was also good.
- The intensive week in Cluj was really amazing experience and it was organized really well.
- The meetings were organized well and they were helpful
- Working with international group was amazing learning experience
- The coordinators have done a good job in the intensive week , really showed interest in both the project as well as the experience of the student in Cluj and made it a really pleasant week although we were kind of working intensively
- Meeting new people and learning new stuff
- I really liked the intensive week in Spain, it was really nice to learn new things about mechanical engineering and get to meet new people.
- International work. Interesting project. Professional supervisors.
- International experience, meeting great people, seeing other technical views or perspectives.
- Approaching the real industry, learning about its challenges and it functioning.
- Being able to work with people from abroad, and learn about how university work outside Spain
- To work speaking only English, since most probably it is what most of us will find when we look for a job
- The topic and support by Valmet was good.
- Enthusiastic instructors.
- The communications with Valmet was really good. My team members were amazing and they have huge potential!

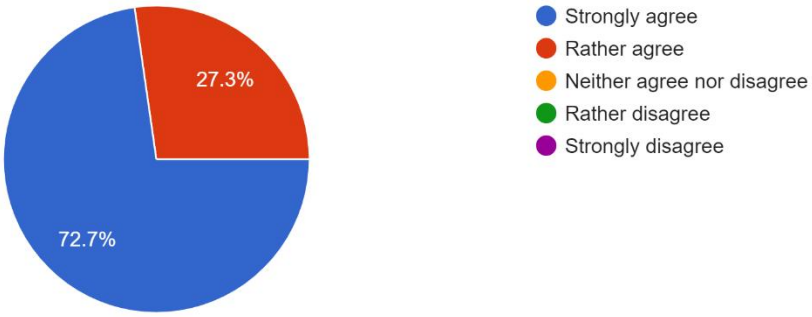
Most of the students agreed on the support of supervisors and company representatives and the meeting times. The following were commented on as suggestions for improvement: longer intensive weeks, more participants should be involved and more help at the beginning of the project, more time and instructions to prepare the final report.

HEI supervisors and company experts' opinions



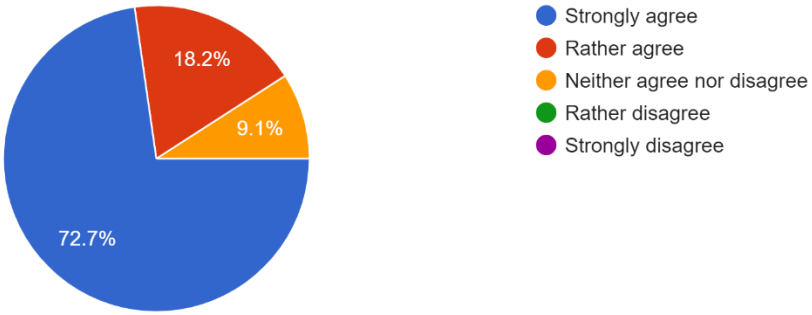
3. The timetable of distance project working was efficient.

11 responses



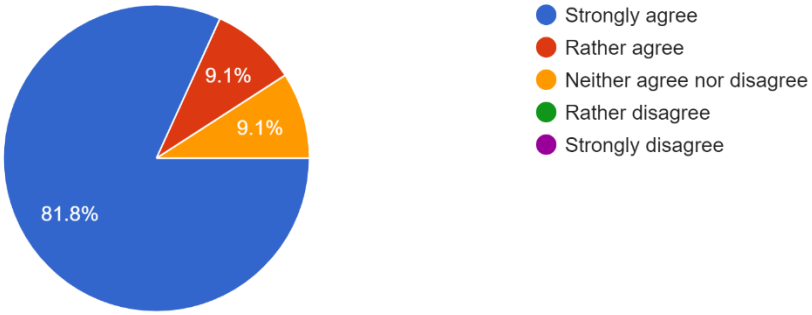
7. Students have improved their soft skills (work in teams, prepare and give presentation).

11 responses



8. Students have improved their technical competences on the project topic.

11 responses



Ideas of improvement of the whole first round project:

- If more days are allocated to intensive week, I estimate an increase in the results produced by the students.
- I have detected in the final reports that students did not include any references (book, electronic manuals, software , etc..) and I consider these information is so important .
- About oral presentations , its contents should be structured and have the following parts: title participants, introduction, methods, results, discussion, conclusions and references. Not ever have been well-organized.
- Some slides showed us too many graphics or grafcet sometimes could not be possible appreciate due to the size or their explanations not enough.

Top-points of what was really good:

- Team working for students from different universities, experience for students and teachers also, technical skills improvement of the students.
- Project topic; intensive week involvement from students and teachers; social activity
- Their written reports have been improved from the first draft to the final ones. Oral presentations have included a good combination of words, pictures, and graphics.
- Finally, the collaborative work is clearly evident that has represent a great perspective to get more experience and knowledge among the members of each group.
- Mixed teams of two students each from the 3 participating countries. Facing the difficulties at working in a collaborative groups.

The main improvement actions proposed by the supervisors and company/research group representatives were: allocate more days to the intensive weeks, include references in the reports, improve the structure of the oral presentations. The positive points were mainly related to the design of CEL projects and how this type of projects strengthen the teamwork in an international context.

6. Conclusion

Activities in the intensive week were implemented as they were planned. Qualitative and quantitative indicators associated with this activity are presented in the Table 2.

Table 2. Indicators and results associated with the activity A4.7.

Indicator code	Qualitative/Quantitative indicators	Result
Q1	- 50% of participant students gave positive feedback on CEL project activities, teachers involvement and company/research group experts interaction	**- achieved 100%** *Details:* - 78.2 % of the students were strong or rather agree about the HEI-supervisors support. - 86.6% were strong or rather agree about the company/research group experts support.

Q2	- 90% of the involved students pass the final CEL project assessment	**- achieved 100%** *Details:* - 100% of the involved students pass the final CEL project assessment
Q3	- 70 % of the students have improved their soft skills (work in teams, prepare and give presentations etc.)	**- achieved 100%** *Details:* - 90.9% of the supervisors were strong or rather agree that students have improved their soft skills (work in teams, prepare and give presentations etc.)
Q4	- 70 % of the students have improved their technical competences on the project topic	**- achieved 100%** *Details:* - 81.8% of the supervisors were strong agree that students have improved their technical competences on the project topic
Q5	- all (100%) participating students have work in international teams	**- achieved 100%** *Details:* - 100% worked international teams
Q6	- 1 report on CEL1-ISR project implementation	**- achieved 100%** *Details:* - **1 report**: R4.7.a Report of CEL1-ISR implementation
Q7	- 1 virtual seminar (3 in total for each CEL in round 1)	**- achieved 100%** *Details:* **- 1 virtual seminar for CEL1 held on 19th of April 2024**

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NextGEng Project

WORK PACKAGE 4

CASES FOR EXPERIENTIAL LEARNING PROJECTS

R4.7 b

Report of CEL2-UTCN Project evaluation

May, 2024

TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

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Valmet

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WP4	R4.7.b Report of CEL2-TUCN Project evaluation
Authors	Ciprian Lapusan
Short Description	The report includes CEL2 evaluation criteria, agenda for the virtual seminar, summary of the three students' reports, and feedback survey
Status	Final
Distribution level	Public
Date of delivery	31/05/2024
Contributions by:	Silvia Satorres-Martínez
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Document History

Version	Date	Author/Reviewer	Description
0.1	30/05/2024	Ciprian Lapusan	First Draft
0.2	08/07/2024	Silvia Satorres	Review
Final	08/07/2024	Ciprian Lapusan	Final Version

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Table of Contents

1. Introduction

The report aims to detail the evaluation procedure of CEL2-TUCN, which is one of the CEL projects developed during the first round of NextGEng CEL Projects. The topic was proposed by the AMRL research group from TUCN. The topic focused on: Design of a 3-axes GANTRY ROBOT (3GR). The project was implemented from February to April 2024. It started with the intensive week (activities detailed in R4.6) where students received tailored seminars and planned the distance working. At the end of April, students presented the results of their work in a virtual seminar. This report summarizes how the assessment of CEL2-TUCN project was done. It includes the evaluation criteria, the virtual seminar agenda, a summary of the students' reports and their assessment results. Finally, an analysis of the survey responses for the target groups is also presented.

This report is the result of the activity: A4.7. Reports and first round evaluation. Final presentations, done by the students during the virtual seminar, are included as annexes.

2. CEL2 evaluation criteria

The evaluation criteria for the students' activity in the TUCN CEL2 project were presented during the intensive week organized by TUCN in Feb 2024. The evaluation criteria are as follows:

- **Criterion 1**: Number of motors (Nm)

$$\mathbf{C_1 = \frac{3}{N_m} \cdot 20}$$

- **Criterion 2**: Number of mobile motors (Nmm)

$$\mathbf{C_2 = 30 - 10 \cdot N_{mm}}$$

- **Criterion 3**: Number of transmission elements (Nt)

$$\mathbf{C_3 = \frac{1}{N_t} \cdot 20}$$

- **Criterion 4**: Advantages, drawbacks and limitations

$$\mathbf{C_4 = \frac{P_1+P_2+P_3+P_4+P_5+P_6+P_7}{7}}$$

$$\mathbf{P = C_1 + C_2 + C_3 + C_4}$$ (max 100 points)

The first criterion C1 could have a max 20 points. It takes into account the total number of motors used in the students' proposed concept (The minimum number is three (one motor for each DOF)). By adding more than 3 motors the students received a lower score.

The second criterion C2 could have a max 30 points. It takes into account the number of mobile (unfixed) motors. 10 points are deducted for each mobile motor.

The third criterion C3 could have a max 20 points. It takes into account the number of main transmission elements in the proposed students' system (timing belts, ball/lead screws, racks, cables (wires)). The minimum number is one: one belt or one cable, etc.

The fourth criterion C4 could have a max 30 points. In this case the points are awarded by the coordinating professors (seven) based on the advantages, disadvantages and limitations of the proposed system compared to conventional ones.

The total number of points for each team is obtained by summing all C1…C4 criteria. The maximum number of points that could be obtained by a team is 100.

3. Virtual seminar agenda

The virtual seminar (students' final presentation) was held on Thursday, 18th of April 2024 from 15:00-16:30 (FI and RO time), 14:00-15:30 (SP time). The meeting was organized online using MS Teams, each participant used his/her computer to join the meeting. **Error! Reference source not found.** shows print screens during the presentations.

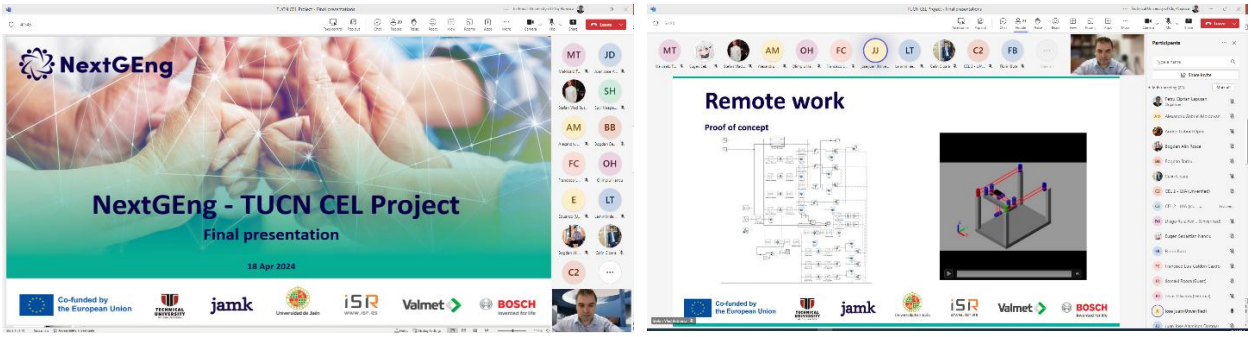


Fig. 1. Images during the students' final presentations (Virtual seminar – 18 Apr 2024)

Each group had 20 minutes for the presentation followed by a question time of around 10 minutes. During the presentation, each student had the opportunity to present his/her contribution to the project.

4. Summary of the student reports

During the distance working period, the groups of students had two virtual meetings with supervisors and TUCN research group representative. These meetings were scheduled: 1th of March and 22th of March. Fig. 1 shows the first virtual meeting with group C.

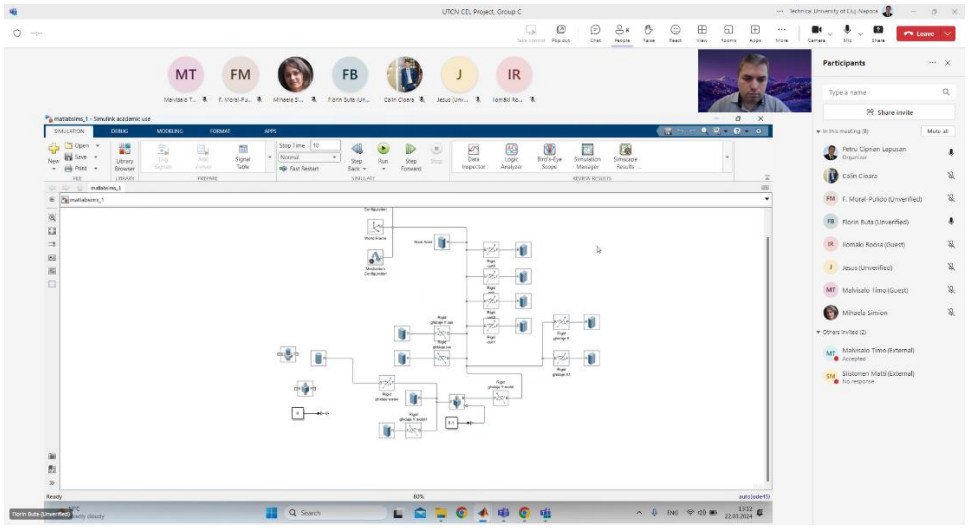


Fig. 1. Virtual meeting with supervisors and TUCN research group representatives

The students' reports were delivered three days after the virtual seminar. All of them are included as annexes to this report. Now, a brief summary of them is presented.

- Group A. The A team presented a concept that integrates a H-shaped robot mechanism for movement along X and Y axis and an additional piston that modifies the position of the belt and indirectly controls the position along the Z axis. They used 3 actuators and all of them are mounted on the fixed frame. The team presented the kinematics of the system and proposed a Matlab model for the simulation of the kinematics. The A team obtained 85.7 points.
- Group B. The team developed a robotic system that integrates a standard H-bot configuration with an additional belt transmission that actuates the Z Axis. They used 3 actuators and all of them are mounted on the fixed frame. The team presented the kinematics of the systems and validated the concept in Matlab. The B team obtained 98.8 points.
- Group C. The team proposed a robotic concept that uses three fixed motors and two belt transmissions arranged on two floors. One first belt transmission is used for the movement on the X and Y axes, and the second one to achieve the movement on the Z axis. The team presented the kinematics of the system and the model implemented in Matlab for simulation. The C team obtained 85.8 points.

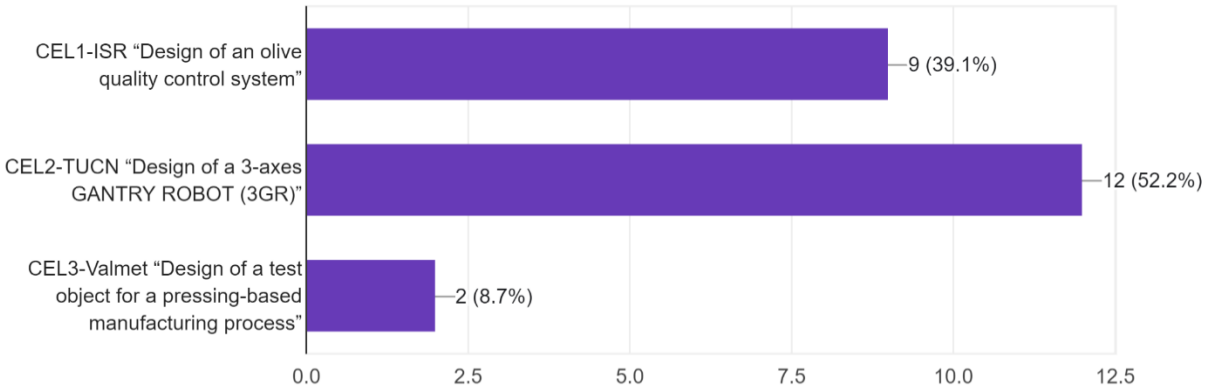
5. Survey and analysis of the CEL2 implementation

Two surveys were done to collect information about the first round of CEL projects implementation: one for students and the other for supervisors and company representatives. The following figures show the students responses and comments:

Student's survey

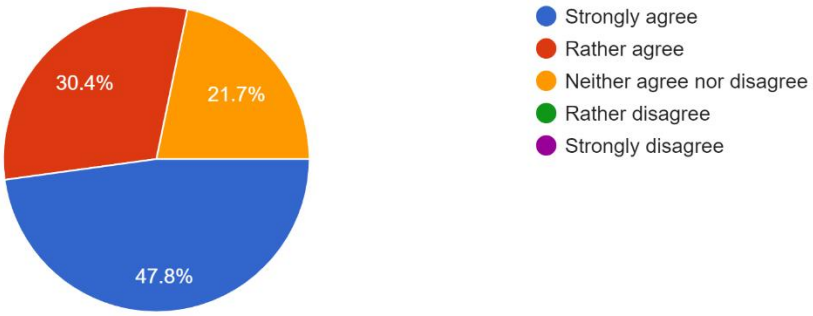
2. I work on topic:

23 responses



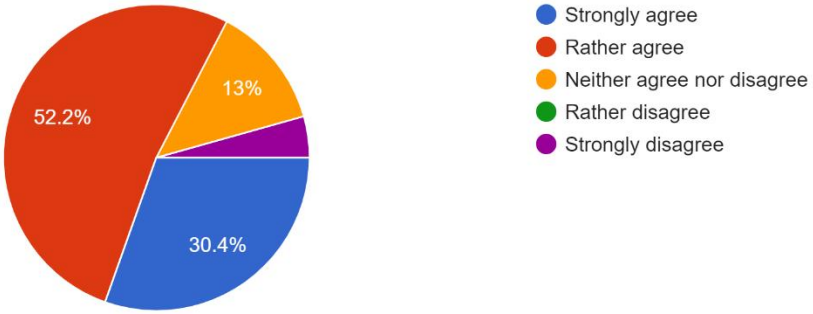
5. The support by HEI-supervisors was helpful.

23 responses



6. The support by the company/research group experts was helpful.

23 responses



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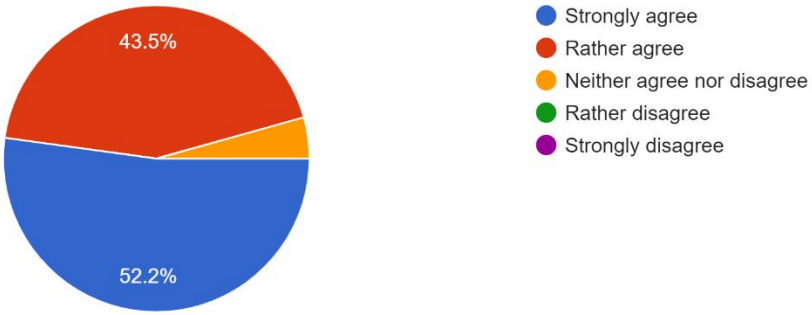
23 responses



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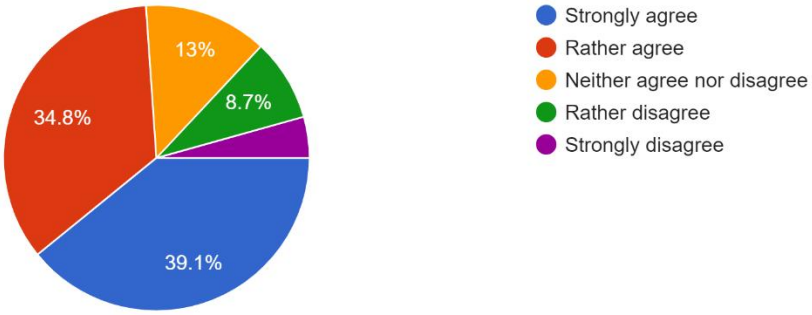
23 responses



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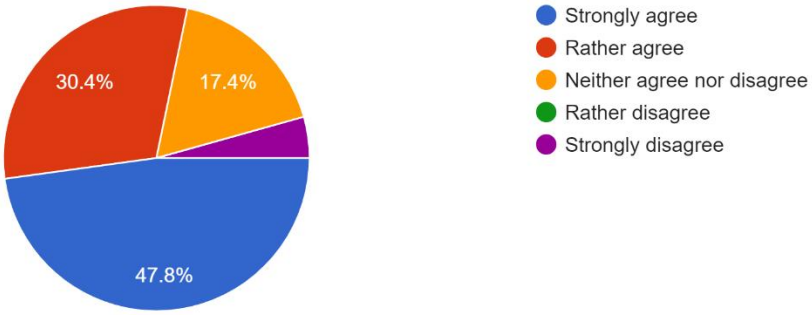

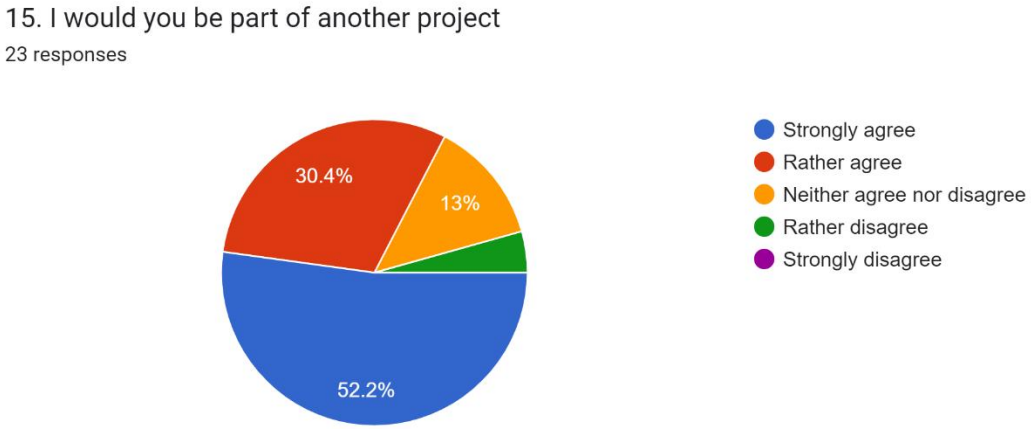

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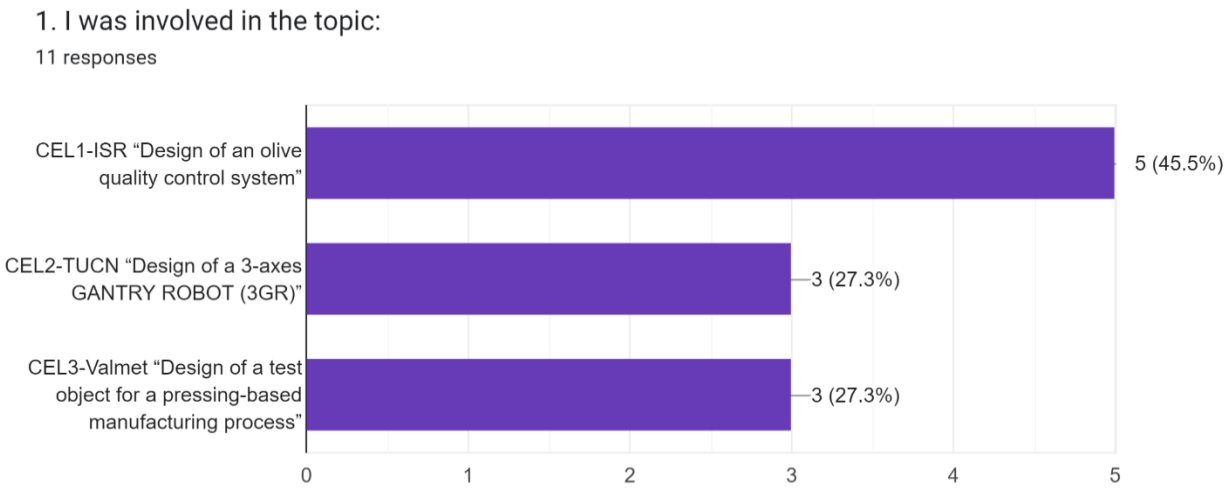
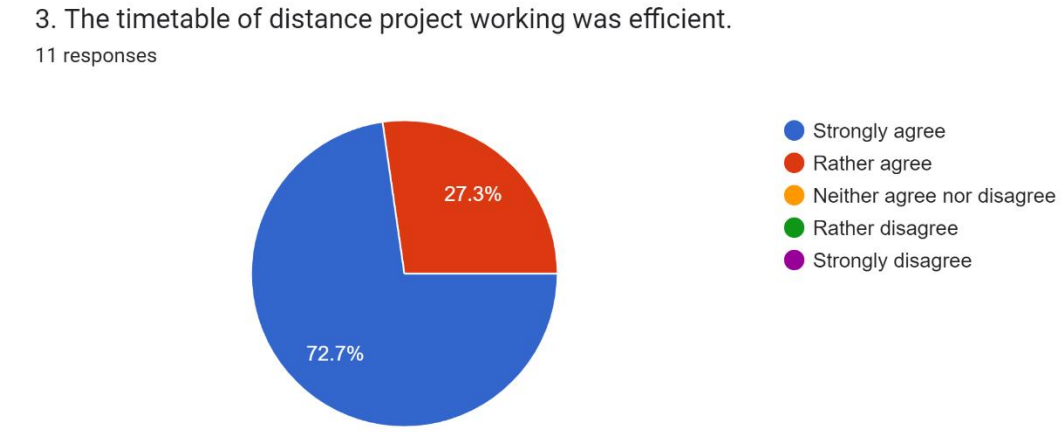
HEI supervisors and company experts' opinions





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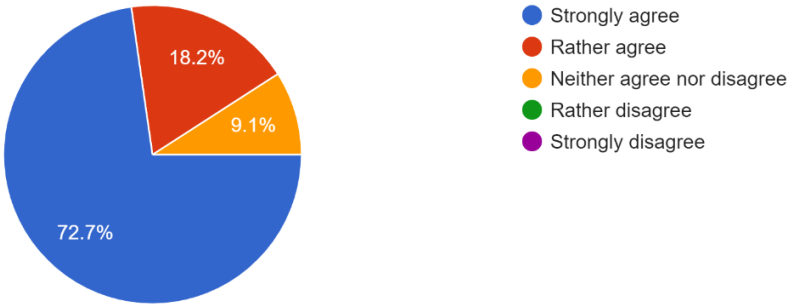
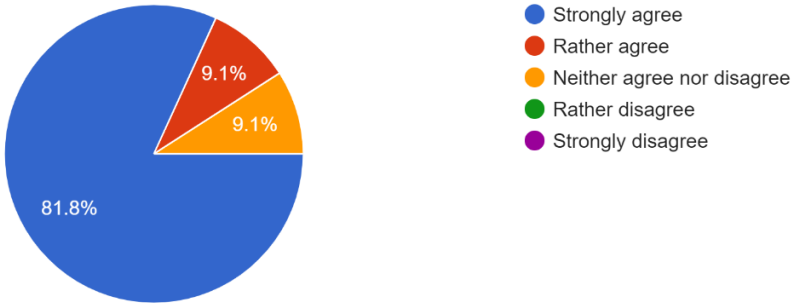
11 responses



8. Students have improved their technical competences on the project topic.

11 responses



Ideas of improvement of the whole first round project:

- If more days are allocated to intensive week, I estimate an increase in the results produced by the students.
- I have detected in the final reports that students did not include any references (book, electronic manuals, software , etc..) and I consider these information is so important.
- About oral presentations, its contents should be structured and have the following parts: title participants, introduction, methods, results, discussion, conclusions and references. Not ever have been well-organized.
- Some slides showed us too many graphics or graphics sometimes could not be possible appreciate due to the size or their explanations not enough.

Top-points of what was really good:

- Team working for students from different universities, experience for students and teachers also, technical skills improvement of the students.
- Project topic; intensive week involvement from students and teachers; social activity
- Their written reports have been improved from the first draft to the final ones. Oral presentations have included a good combination of words, pictures, and graphics.

Finally, the collaborative work is clearly evident that has represent a great perspective to get more experience and knowledge among the members of each group.- achieved 100%

Details:

-
- Mixed teams of two students each from the 3 participating countries. Facing the difficulties of working in collaborative groups.

The main improvement actions proposed by the supervisors and company/research group representatives were: allocate more days to the intensive weeks, include references in the reports, and improve the structure of the oral presentations. The positive points were mainly related to the design of CEL projects and how these types of projects strengthen teamwork in an international context.

6. Conclusion

Activities in the intensive week were implemented as they were planned. Based on the obtained points, taking into account the proposed evaluation criteria, the winning team was Team B. Each student received a certificate for participating in the CEL Project.

Qualitative and quantitative indicators associated with this activity are presented in Table 2.

Table 2. Indicators and results associated with the activity A4.7.

Indicator code	**Qualitative/Quantitative indicators**	**Result**
Q1	- 50% of participant students gave positive feedback on CEL project activities, teachers involvement and company/research group experts interaction	**- achieved 100%** *Details:* - 78.2 % of the students were strong or rather agree about the HEI-supervisors support. - 86.6% were strong or rather agree about the company/research group experts support.
Q2	- 90% of the involved students pass the final CEL project assessment	**- achieved 100%** *Details:* - 100% of the involved students pass the final CEL project assessment
Q3	- 70 % of the students have improved their soft skills (work in teams, prepare and give presentations etc.)	**- achieved 100%** *Details:* - 90.9% of the supervisors were strong or rather agree that students have improved their soft skills (work in teams, prepare and give presentations etc.)
Q4	- 70 % of the students have improved their technical competences on the project topic	**- achieved 100%** *Details:* - 81.8% of the supervisors were strong agree that students have improved their technical competences on the project topic
Q5	- all (100%) participating students have work in international teams	**- achieved 100%** *Details:*

		- 100% worked international teams
Q6	- 1 report on CEL2-TUCN project implementation	**- achieved 100%** *Details:* - **1 report**: R4.7.b Report of CEL2-TUCN implementation
Q7	- 1 virtual seminar (3 in total for each CEL in round 1)	**- achieved 100%** *Details:* **- 1 virtual seminar for CEL2 held on 18th of April 2024**

Co-funded by the European Union

NextGEng

Project title	International Cooperation Framework for Next Generation Engineering Students
Project acronym	NextGEng
Project contract no.	2022-1-RO01-KA220-HED-000088365

NextGEng Project

WORK PACKAGE 4

CASES FOR EXPERIENTIAL LEARNING PROJECTS

R4.7 c

Report of CEL3-Valmet Project evaluation

June, 2024

TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

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Valmet

BOSCH Invented for life

WP4	R4.7.c Report of CEL3-Valmet Project evaluation
Authors	Matti Siistonen
Short Description	The report includes CEL3 evaluation criteria, agenda for the virtual seminar, summary of the three students reports, feedback survey
Status	Final
Distribution level	Confidential
Date of delivery	10/06/2024
Contributions by:	
Project website	www.nextgeng.eu

Document History

Version	Date	Author/Reviewer	Description
0.1	10/06/2024	Matti Siistonen	First Draft
0.2	25/06/2024	Ciprian Lapusan	Review
Final	25/06/2024	Matti Siistonen	Final Version

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Table of Contents

1. Introduction

The aim of the report is to detail the evaluation procedure of one of the CEL projects developed during the first round, the CEL3-Valmet project. Valmet Company proposed the topic: Pressing manufacturing test object with a variety of designed geometries for new, pulp-based manufacturing technology. This object is needed to find the correct process parameters and validate that the machine is working as intended.

The project was implemented from February to April 2024. It started with the intensive week (activities detailed in R4.6) where students received tailored seminars and planned the distance working. At the end of April, students presented the results of their work in a virtual seminar. This report summarizes how the assessment of CEL3-Valmet project was done. It includes the evaluation criteria, the virtual seminar agenda, a summary of the students reports and their assessment results. Finally, an analysis of the surveys responses for the target groups is also presented.

This report is the result of the activity: A4.7. Reports and first round evaluation. Final presentations, done by the students during the virtual seminar, are included as annexes.

2. CEL3 evaluation criteria

The HEIs supervisors and Valmet representatives agreed on the evaluation criteria to be applied during the virtual seminar. The groups of students were assessed according to:

- Innovativeness of the created objects
- Reports evaluation: strenghts, weaknessess, general overview.
- Presentation: content, length, development, answer to supervisor questions, general comment.

After the virtual seminar, reports done by the three groups of students were assessed by Valmet supervisors (considering the former criteria). During the virtual seminar supervisors and company representatives assessed the quality of the presentations and how students answered the questions raised by the evaluators. Companies representatives reviewed reports and assessments and considering also the solution with the greatest potential for industrialisation, they selected the winning group.

3. Virtual seminar agenda

The virtual seminar (students' final presentation) was held on 26th of April 2024 from 13:00-14:30 (FI and RO time), 12:00-13:30 (SP time). The meeting was organized online using Zoom, each participant used his/her computer to join the meeting. Figure 1 shows print screens during the presentations.

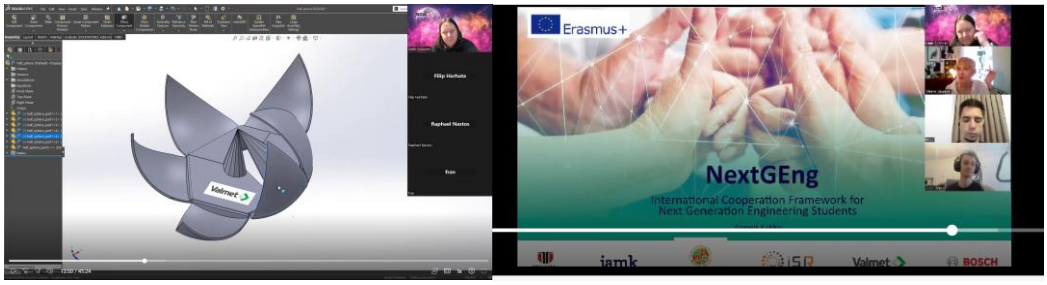


Fig. 1. Images during the students' final presentations (Virtual seminar – 26 Apr 2024)

Each group had 20 minutes for the presentation followed by a question time of around 10 minutes.

4. Summary of the student reports

During the distance working, the groups of students had three Zoom virtual meetings with supervisors and Valmet representatives. These meetings were scheduled:

Zoom meetings with the groups and supervisors.

- week 10 Friday 8.3.2024 13.00-14.00 Finnish and Romanian time
- week 14 Friday 5.4.2024 13.00-14.00 Finnish and Romanian time
- week 16 Friday 19.4.2024 13.00-14.00 Finnish and Romanian time

Fig. 2 shows the second virtual meeting with group C.

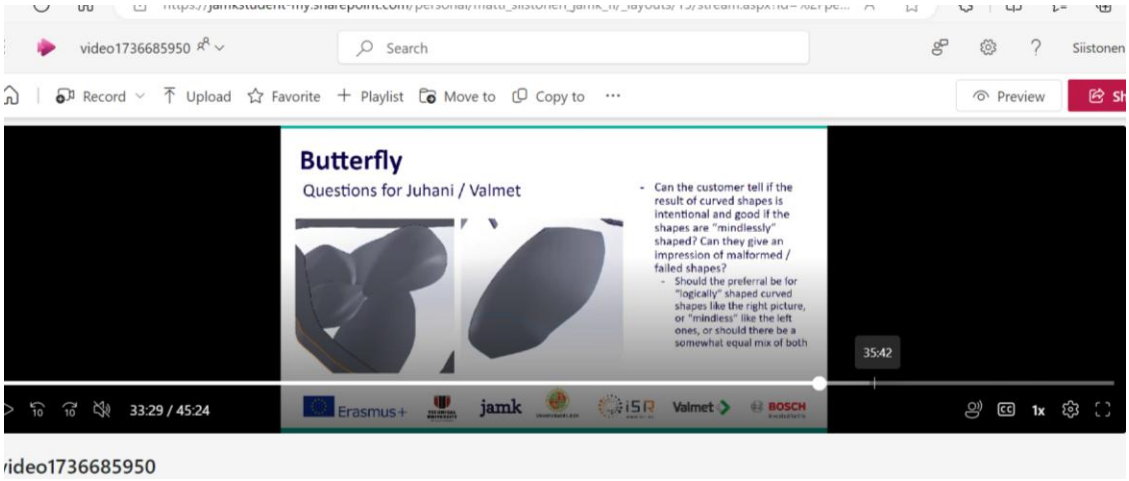


Fig. 1. Virtual meeting with supervisors and Valmet representatives

The students' reports were delivered after the virtual seminar. All of them are included as annexes to this report. Now, a brief summary of them is presented.

- Group 1. Folding Cube. This is a modular design where all 6 sides of the object test for different aspects of the pressing process. The configuration can be easily altered based on individual

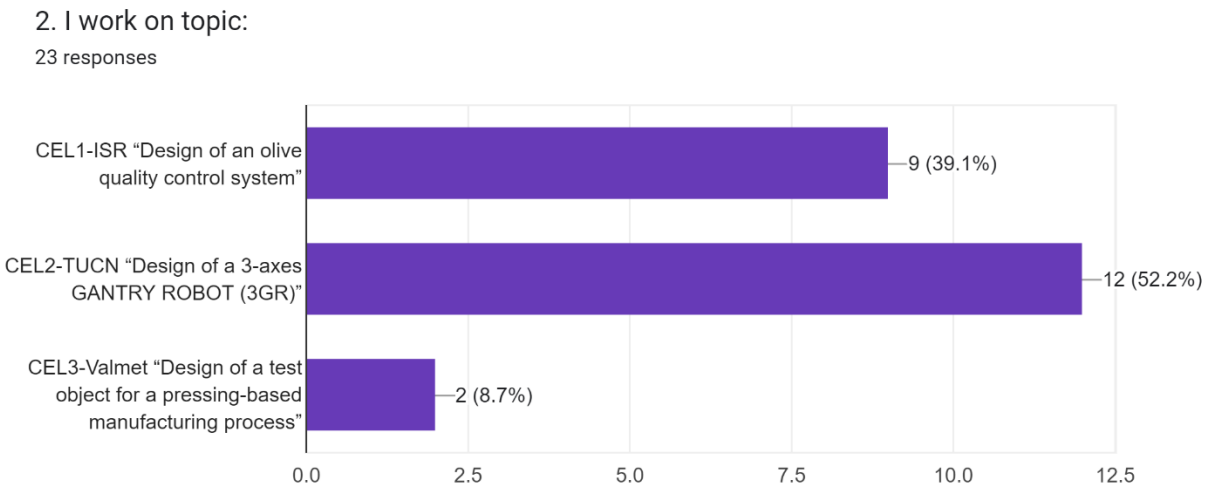
customer requirements. Sides can be folded to form a cube for engagement and to test pivoting functions. Multiple types of different hinges can also be easily included.

- Group 2. This is the best proposal and was chosen as the winning group by the company. A foldable box with large surfaces to represent the scale of typical use case objects, as well as a pivoting action. The insides of the object test for the technical limits of the process. The shape of the object was inspired by the idea of a finger sized “Skate park” for further engagement. An alternative version was a “Children’s playground”
- Group 3. Group created a lot of modules and from these different modules, the group created “Rubik’s Cube” object. It has seven modules that are connected to each other with a hinge. The final concepts of a “Rubik’s Cube” made from individual tiles give the huge benefit of modularity, allowing test pieces to be swapped in and out, in the future when requirements might change.

5. Survey and analysis of the CEL3 implementation

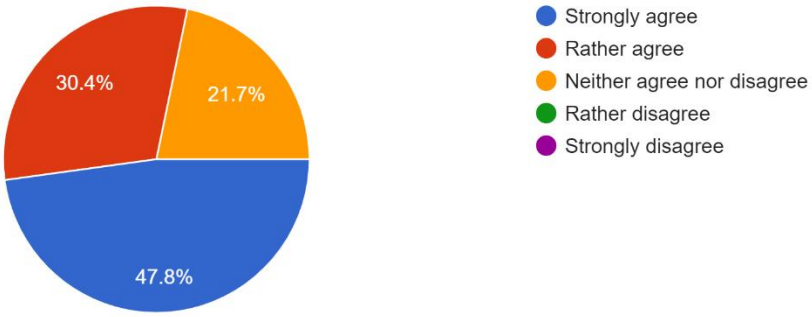
Two surveys were done to collect information about the first round of CEL projects implementation: one for students and the other for supervisors and company representatives. The following figures show the students' responses and comments:

Student’s survey



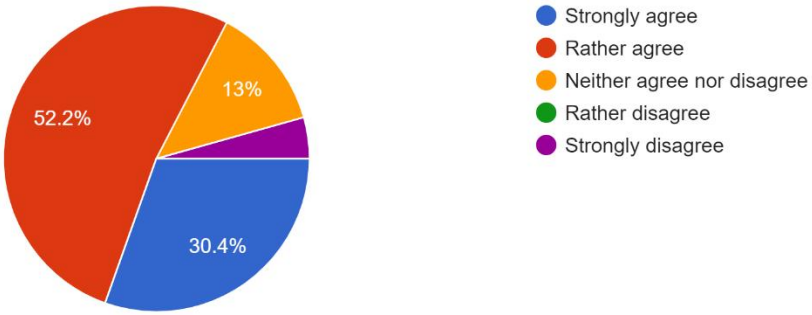
5. The support by HEI-supervisors was helpful.

23 responses



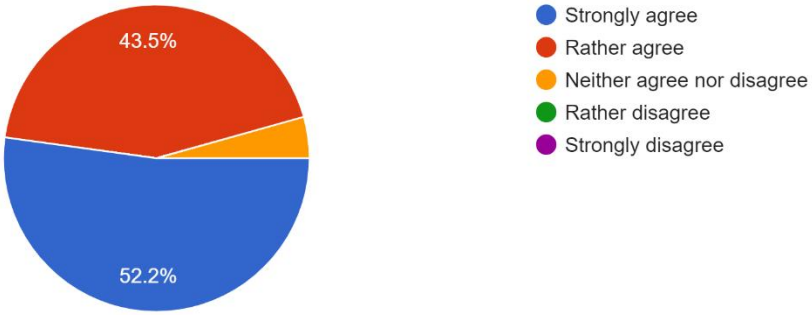
6. The support by the company/research group experts was helpful.

23 responses



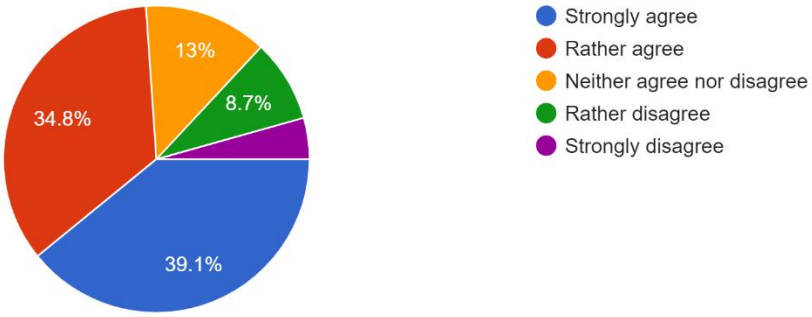
7. The meeting times were sufficient.

23 responses



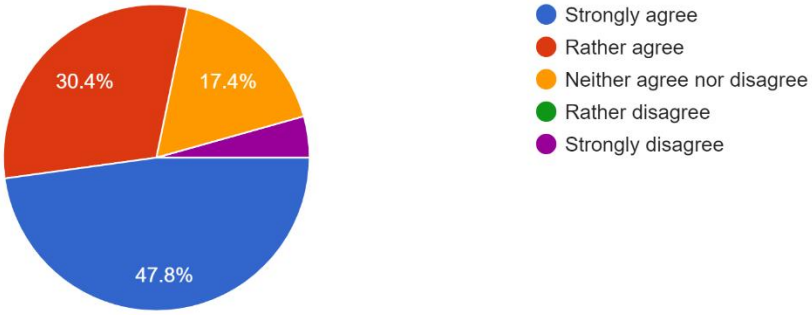
9. The work could be easily split.

23 responses



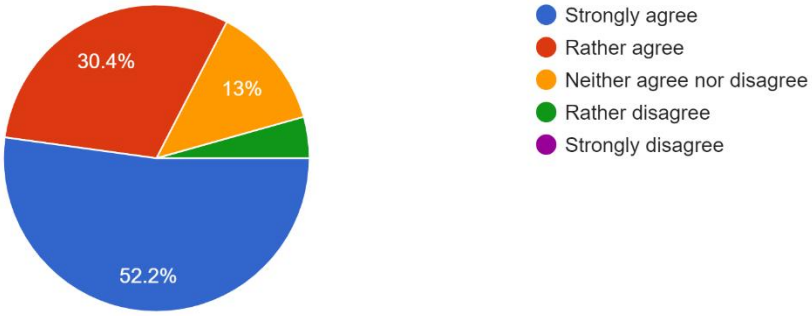
14. I am satisfied with the work of my team

23 responses



15. I would you be part of another project

23 responses



Ideas of improvement of the whole first round project:

- Longer intensive week
- More participants
- Everyone should have partner from their home country and also supervisors could help more with the projects in the beginning. The subject is so wide that tips from the teachers/supervisors would have helped a lot to focus on most important parts in the project. In addition, the atmosphere in the meetings with supervisors and the company could have been more encouraging, now they felt a bit distressing.
- I liked the experience overall
- I felt that one week after the last meeting wasn't enough time to prepare the final report.
- Instructions for the final report were very broad so I instructed my team to write it how I wanted it to be like! :D Moving forwards the final report should have better instructions.

Top-points of what was really good:

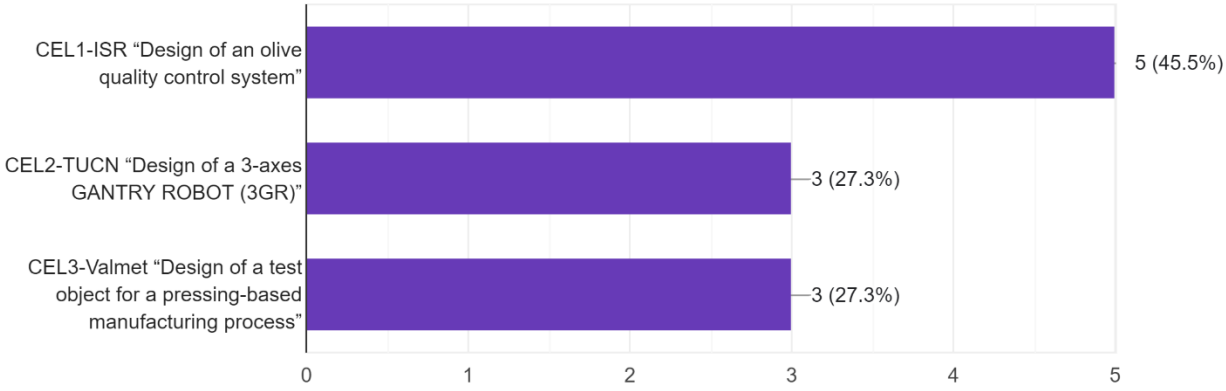
- Great way to test your creativity
- Developing soft skills and interdisciplinary topics
- The atmosphere, challenge was greatly organized and had clear information. The intensive weeks phase was also good.
- The intensive week in Cluj was really amazing experience and it was organized really well.
- The meetings were organized well and they were helpful
- Working with international group was amazing learning experience
- The coordinators have done a good job in the intensive week , really showed interest in both the project as well as the experience of the student in Cluj and made it a really pleasant week although we were kind of working intensively
- Meeting new people and learning new stuff
- I really liked the intensive week in Spain, it was really nice to learn new things about mechanical engineering and get to meet new people.
- International work. Interesting project. Professional supervisors.
- International experience, meeting great people, seeing other technical views or perspectives.
- Approaching the real industry, learning about its challenges and it functioning.
- Being able to work with people from abroad, and learn about how university work outside Spain
- To work speaking only English, since most probably it is what most of us will find when we look for a job
- The topic and support by Valmet was good.
- Enthusiastic instructors.
- The communications with Valmet was really good. My team members were amazing and they have huge potential!

Most of the students agreed on the support of supervisors and company representatives and the meeting times. The following were commented on as suggestions for improvement: longer intensive weeks, more participants should be involved and more help at the beginning of the project, more time and instructions to prepare the final report.

HEI supervisors and company experts' opinions

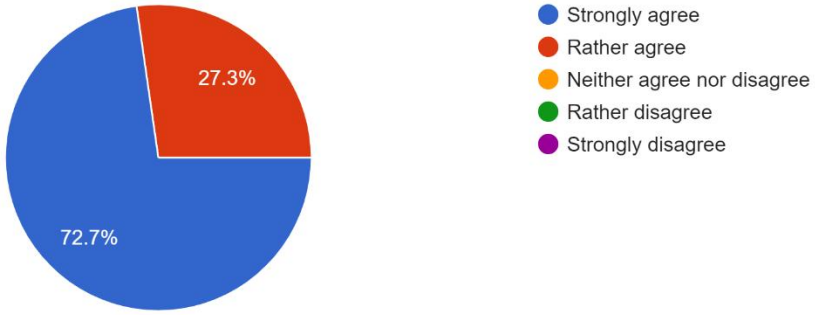
1. I was involved in the topic:

11 responses



3. The timetable of distance project working was efficient.

11 responses



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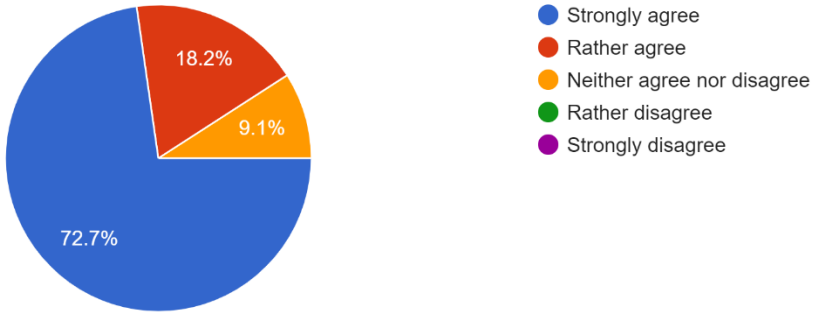

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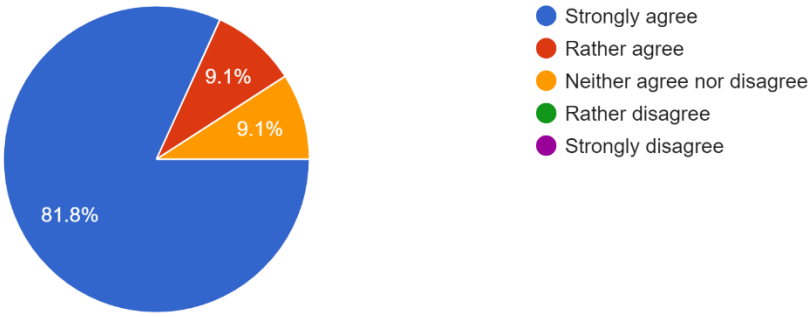

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The main improvement actions proposed by the supervisors and company/research group representatives were: allocate more days to the intensive weeks, include references in the reports, improve the structure of the oral presentations. The positive points were mainly related to the design of CEL projects and how this type of projects strengthen the teamwork in an international context.

6. Conclusion

Activities in the intensive week were implemented as they were planned. Based on the obtained points, taking into account the proposed evaluation criteria, the winning team was Team 2. Each student received a certificate for participating in the CEL Project.

Qualitative and quantitative indicators associated with this activity are presented in Table 2.

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Q7	- 1 virtual seminar (3 in total for each CEL in round 1)	**- achieved 100%** *Details:* **- 1 virtual seminar for CEL3 held on 26th of April 2024**