Erasmus+

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SafeEngine - Blended Learning through Innovative Tools for Sustainable and Safety Engineering and Social Inclusion

Erasmus+ Programme Key Action 2
Strategic Partnerships

IMPLEMENTATION PLAN

Project Management

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Key words

Implementation; responsibilities; deadlines; Intellectual Outputs; indicators; meetings; events

1. Introduction

1.1. Project Context

SafeEngine project entitled *Blended Learning through Innovative Tools for Sustainable and Safety Engineering and Social Inclusion* is a transnational project designed to develop and share innovative practices and promote cooperation, peer learning, and exchanges of experiences in the field of higher education.

The project partners are University POLITEHNICA of Bucharest (RO), Romania, University of Malaga (ES), "Lucian Blaga" University of Sibiu (RO) and University of Naples Federico II (IT).

SafeEngine project started with December 1st, 2020, and ended on May30, 2023.

On the project website, more details about the SafeEngine project and its implementation are provided (please visit https://www.safeengine.eu/).

## 1.2. Objectives of the Implementation Plan

The SafeEngine project's implementation phase entails carrying out the project plan (**Figure 1**). In this way, the proposed Implementation Plan (IP) represents the documented steps to be followed by the participants within the project need to take to successfully achieve project implementation pursuits.

The objective of this implementation Plan (IP) is to help in clarifying objectives, assign tasks with deadlines, and designing the chart of the project progress in reaching the established goals.

The outcomes deriving from the use of the proposed Implementation Plan are the following:

- A better clarity of thought and improves of the participants and stakeholders understanding of the project.
- Keeping everyone on track and accountable during the project implementation and ensuring that everyone knows what their roles and responsibilities are.
- Better the cooperation between partners and professors and a better synergy and overall execution.
- Ensuring that the project progress is running smoothly.

The current document provides a list of actions to carry out the expected results of the project. Across the plan is described in detail the implementation phase itself as well as the objectives, deliverables, and activities to be executed in the framework of the SafeEngine project.
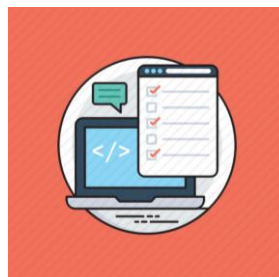
Figure 1. Implementation planning

1.3. Responsible

As mentioned previously, the SafeEngine partnership is made by four different universities: two from Romania (University POLITEHNICA of Bucharest and "Lucian Blaga" University of Sibiu), one from Spain (University of Malaga) and one from Italy (University of Naples Federico II). Consequently, each partner named a responsible for project implementation activities as evidenced in the next table:

Table 1. Responsible for SafeEngine project in the framework of the partnership

Partner	Logo	Name
University POLITEHNICA of Bucharest (UPB), Romania		Diana Mariana Cocârță
Universidad de Malaga (UMA), Spain		Mcruz Lopez Escalante
"Lucian Blaga" University of Sibiu (ULBS), Romania		Lucian-Ionel Cioca
Universita degli Studi di Napoli Federico II (UNINA), Italy		Massimiliano Fabbricino

Responsible indicated in Table 1 are in charge in establishing the working teams representing their institutions in the framework of SafeEngine project.

In the framework of SafeEngine project, also responsible for knowledge transfer and implementation, as well as knowledge transfer direction (from ... to ...), were also agreed among the partners as illustrated in Table 2.

In achieving successful outcomes of the project, since the kick-off meeting, the partners have mutually agreed to develop appropriate tools to ensure the implementation of the project in optimal conditions. In this regard, each partner is having the following responsibilities:

- Implementation Plan - University POLITEHNICA of Bucharest (CO)
- Dissemination Plan - Universidad de Malaga (P1)
- Learning, Meetings and Events Plan - "Lucian Blaga" University of Sibiu (P2)
- Evaluation Plan - Universita degli Studi di Napoli Federico II (P3)

Table 2. Responsible for knowledge transfer and implementation

Partner	Responsible for knowledge transfer	Responsible for implementation	Transfer direction	
University POLITEHNICA of Bucharest (UPB), Romania	Diana Mariana Cocârță	Lăcrămioara Diana Robescu	from CO-UPB	to P1 – UMA to P2 – ULBS to P3 - UNINA
Universidad de Malaga (UMA), Spain	Mcruz Lopez Escalante	F.P. Martín Jiménez	from P1 - CO-UPB	-
"Lucian Blaga" University of Sibiu (ULBS), Romania	Lucian-Ionel Cioca	Mihaela Rotaru	From P2 – ULBS	to CO – UPB to P1 – UMA to P2 – ULBS to P3 - UNINA
Universita degli Studi di Napoli Federico II (UNINA), Italy	Massimiliano Fabbricino	Alessandra Cesaro	From P3 - UNINA	to CO – UPB to P1 – UMA to P2 – ULBS

2 SafeEngine project implementation approach

2.1. SafeEngine project Lifecycle

To establish a proper approach for SafeEngine project implementation the project Lifecycle was considered (Figure 2) as well as the four phases of a project.
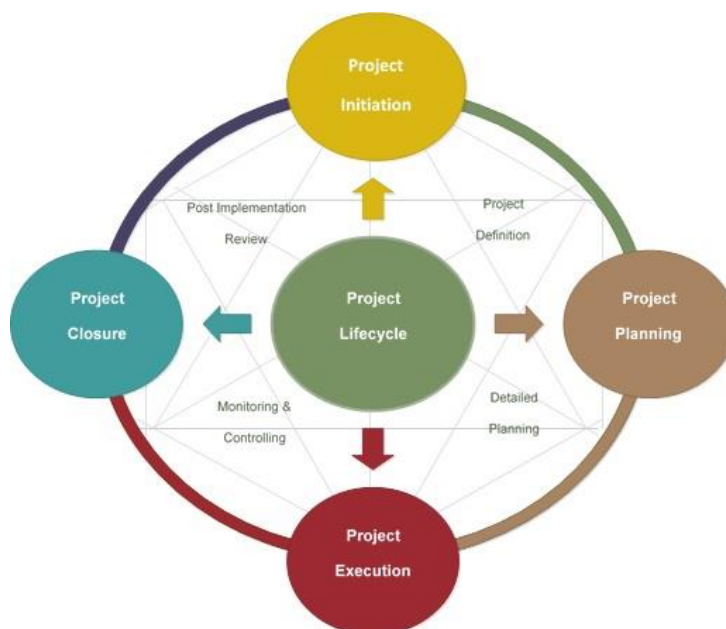
Figure 2. SafeEngine project Lifecycle following the DHERST approach

(source: https://web.dherst.gov.pg/)

The first month of the project was dedicated mainly to administrative activities and other activities as following:

- signing the contract and partnership agreements
- kick-off meeting
- regular meetings/contacts with partners and recording decisions (e.g. assigned tasks and next steps)
- establishment of tasks and setting timeframes
- creating and updating workflows according to the approved activities of the project
- tracking expenses and predicting future costs
- development Implementation Plan; Dissemination Plan; Learning, Meetings and Events Plan and Evaluation Plan
- knowledge of project reporting documents

2.2. Project planning

According to the approved budget as well because the project duration was shortened, the project timetable was updated and agreed with the project partners as illustrated in **Table 3**. The indicated table presents also the main responsible for each activity of Intellectual Output (IO).

Table 3. SafeEngine Project Timetable – part I

| Name of the project: | Blended Learning through Innovative Tools for Sustainable and Safety Engineering and Social Inclusion/ SafeEngine | | | |

PROJECT TIMETABLE

	2021													2022												2023						
Project activity*	MONTH	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	Responsible	Partners involved
		dec	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	jan	feb	mar	apr	may		
A1. Project management		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	CO	CO (UPB)
M1. Online kick-off meeting for SafeEngine working group		■																														CO	CO, P1,P2,P3
A2. Development of the Training Methodology for Online Learning			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■														P3	CO, P1 (UMA), P2 (ULBS), P3 (UNINA)
O2/A2: Training Methodology for Online Learning			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■														P3	CO, P2,P3
A3. Development of SafeEngine e-learning tools			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	CO	CO, P1, P2,P3
O3/A3: 4 Stackable Modular Open Online Courses			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		CO	CO, P1, P2,P3
O4/A3: eBooks			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	CO	CO, P1, P2,P3
O5/A3: Videos showing practical works correlated with the course modules			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	CO	CO, P1, P2,P3
O10/A3: Evaluation method for Student's Assessment in Teaching and eLearning Activities														■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	P1	CO, P1, P2,P3
M2. Transnational meeting - (P1-UMA)														■																		P1	CO, P1, P2,P3
Short-term joint staff training event: Social Inclusion, Occupational Safety and Environmental Risk Assessment (P2-ULBS)								■																								P2	CO, P1, P2,P3
Short-term joint staff training event: Workshop on Environmental Risk Assessment and Safety in Process (P1-UMA)																		■														P1	CO, P1, P2,P3

Table 3. SafeEngine Project Timetable – part II

Activity			
Short-term joint staff training event: Safe, inclusive, and accepting workplaces built by our engineers (P3-UNINA)		P3	CO, P1,P2,P3
M3. Transnational meeting - (P3-UNINA)		P3	CO, P1,P2,P3
E1. Multiplier Event in Sibiu: Promoting the culture of social inclusion in the workplace and of occupational safety among the engineers		P2	CO, P1,P2,P3
E2. Multiplier Event in Malaga : Promoting the culture of safety in process industries and environmental risk assessment among the engineers		P1	CO, P1,P2,P3
E3. Multiplier Event in Naples: Promoting the culture of social inclusion in the workplace and of environmental risk assessment		P3	CO, P1,P2,P3
M4. Transnational meeting - (P2-ULBS)		P2	CO, P1,P2,P3
A7.4. Long-standing winter school in Naples: Sustainable and Safety Engineering and Workplace Social Inclusion		P3	CO, P1,P2,P3
A8. Information, promotion and dissemination of the project results		P1	CO, P1,P2,P3
M5. Closing project meeting		CO	CO, P1,P2,P3

*Project activity types:

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3 Project Deliverables-specific

In the framework of the SafeEngine project were foreseen different kind of activities having as outcome specific results. Consequently, different categories of activities were developed as follows:

- Project management activities
- Research activities for the Intellectual Outputs development
- Learning/teaching activities
- Transnational meetings
- Multiplier events
- Dissemination activities

3.1. Project management

The activities provided for the project management included the coordination, leadership, systematization, and completion of all activities from SafeEngine project. Preparation and approval of the documents required for the project implementation are also foreseen.

General management of the project was achieved through the development of a complex programme that included all aspects for a proper budget control and time management of the project: coordination, collaboration, planning, laggings, collective work, assignment of responsibilities, financial execution, and deadlines, and through the evaluation of intermediary/final results of project. Throughout the implementation of the project, all the requirements are accurately identified, evidenced, documented, and confirmed with all partners and communicated to all participants involved in project management and implementation activities.

The project manager was responsible for monitoring, planning, and controlling the activities carried out within the project. The project manager was the contact person responsible for the didactic and financial achievements and for contractual aspects specific to the project. He has the responsibility of the technical directions, understanding and accomplishing the stages of the project. The project manager, together with the main responsible from the partner universities contact the potential beneficiaries, associated partners, and competent persons, invited to the working meetings or short-term training staff and winter school. The project manager had the authority to issue instructions and working decisions. In addition, she participated with the team that leads the research for the development of e-learning tools provided as results of the project.

3.2. Research activities for the Intellectual Outputs development

An important issue that was discussed in the framework of the kick-off meeting of SafeEngine project was the development of the intellectual outputs of the project.

Partners discussed and agreed with the following financed intellectual outputs, according to the Erasmus+ agreement:

O2: Training Methodology for Online Learning

O3: 4 Stackable Modular Open Online Courses

O4: eBooks

O5: Videos showing practical works correlated with the course modules

O10: Evaluation method for Student's Assessment in Teaching and eLearning Activities

Along the project implementation, mainly in the first part if the project (in the time of the COVID-19 pandemic), beside the Transnational meetings (organized physically), also online meeting were organised as indicated next and evidenced on the SafeEngine website (https://www.safeengine.eu/approach/):

1. Kick-off meeting (UPB) – December 14, 2020: online meeting
2. TM - Intermediary meeting (UPB) – March 3, 2021: online meeting
3. TM - Intermediary meeting (UPB) – May 17, 2021: online meeting
4. TM - Intermediary meeting (UPB) – October 18, 2021: online meeting
5. **Transnational meeting (UMA) – December 17, 2021: physical meeting**
6. **Transnational meeting (UNINA) – March 1, 2022: physical meeting**
7. **Transnational meeting (ULBS) – December 9, 2022: hybrid meeting**
8. **Transnational meeting (UPB) – May 29, 2022: physical meeting**

The project manager shared specific presentations within the TM framework regarding the ongoing activities and the subsequent steps that the project participants considered to ensure proper project implementation. The meeting agenda was available for each meeting (https://www.safeengine.eu/approach/), and meeting minutes were recorded to keep track of the proceedings.

The researchers working on the development of the IOs began the anticipated activities as soon as the initial organizational tasks were finished.

Next paragraphs are describing the foreseen Intellectual Outputs within the project implementation, as well as specific contributions of the involved partners, while Table 4 illustrates deliverables linked to the IO and the timeline.

O2: Training Methodology for Online Learning

This intellectual output is making available the method aimed to design and implement training. The training methodology is practically a body of practices, procedures and rules used by those who work following a "discipline". Examples of learning approaches used by the professors in the framework of SafeEngine project are lectures, inquiry-based learning, project-based learning, and problem-based learning. In accordance with the field specificity of the learning modules from the project, professors and teaching staff involved in the project implementation jointly established which were the training methodology across the project.

The target group were professors from partner universities from in Romania, Spain, and Italy. Beyond the professors participating in the project, the target group was composed also by the professors from the faculties that are belonging to the involved

universities or universities outside the partnership, from all over the Europe and countries outside Europe. This it is possible since, the resulted Training Methodology for Online Learning will be available on the e-learning platforms.

The distribution regarding the current intellectual output was as follows:

CO-UPB shared their experience in online training methodology achieved across the previously implemented projects on online training. CO-UPB contributed to writing the Training Methodology for Online Learning once that P3-UNINA designed a draft in this regard.

P1-UMA participated to the development of the Training Methodology for Online Learning across the project implementation being mainly focused on how professors engaged and supported students right from the start and for the duration of the course to maintain an effective learning community.

P2-ULBS contributed to the development of the Training Methodology for Online Learning, being focused on creating a supportive learning environment. This was possible by identifying solutions for encouraging both teacher-to-student engagement and student-to-student interaction.

P3-UNINA developed the Training Methodology for Online Learning as they were having important experience in this regard. A special attention was paid to making e-learning content mobile.

O3: 4 Stackable Modular Open Online Courses

Specific knowledge made available throughout the project implementation covered the current gaps of engineers attending the courses of the partner universities. In our society, where the workplace inclusion of people with disabilities has become a pressing issue, negative effects on the environment from industrial activities are increasingly visible, and every year, about 5,500 people are killed in workplace accidents, the main arguments that were considered for their inclusion in engineer training are extremely useful. Consequently, the course modules and the man topics proposed within the project are:

I. Environmental Risk Assessment

The course provides information on the basic concepts of human and ecological risk assessment. Students acquired knowledge about basic concepts and requirements related to human health risk assessment, hazard identification and dose-response assessment. Other important contents of the course are regarding the exposure assessment, modelling and monitoring approaches, conceptual site models, risk characterization, acceptable risk, and risk management.

Students evaluated different components of risk assessment, including human health, environmental, ecological, and managing risk assessments (in case of soil, water, and soil pollution, as well as within the waste management activities). Important case studies were used to illustrate the assessment process. Information provided in the framework of the project improved students' and professor's knowledge and skills relation to framework and procedures of environmental risk assessment.

II. Occupational Health and Safety

Every type of work in a company, at any position level, assumes a certain amount of risk but how you prepare and prevent work accidents is the tipping point of the cost that comes with this. The entrepreneurs and the managers must not only understand the production and the strategic process but also embrace the fact that the ability to prevent work accidents is one of the most critical success factors of any enterprise. This course provides students with an overview of the theory and practice of health and safety management and instruments used in Romania and EU. Students acquired knowledge about a variety of instruments used in Health and Safety. The course trained students and professors how to do a health and safety risk evaluation and plan the prevention methods. The course consists of a mix of short lectures and practical exercises designed to improve awareness and skills in identifying risks.

III. Workplace Social Inclusion refers to rules and principles regarding the respect of the status and rights of all people in a society, who must have the opportunity to participate relevantly in its life and enjoy equal treatment with others.

The course includes information on the planning and conduct of activities specific to the various fields, so that all categories of people who are socially disadvantaged are present (migrants, Roma people, people with disabilities and people from communities affected by poverty).

The course also addresses the key concepts regarding social integration as a process of interaction between the individual or group and the social environment through which a functional balance of the parties is achieved.

Social inclusion promotes and supports the development of active citizenship, social cohesion, and employment. It is based on the principle of active participation through lifelong learning, with the aim of improving knowledge, skills, and competences. Introduced as a tool for combating social exclusion, lifelong learning involves adapting the systems to the needs and requirements of the individual, exceeding the traditional system of employment depending on the level of schooling.

IV. Safety in process industries: the course analyses the possible accidental scenarios in process industries, and identifies the mechanisms associated to their development and to the interventions required to prevent them. The course introduced the students to the knowledge of the following topics: i) thermal stability of chemical substances and thermal explosion ii) safety of chemical reactors iii) fires and explosions iv) ignition sources, auto ignition and minimum energy of auto ignition v) toxicology and industrial hygiene. The course content explained how to evaluate damages due to fires and explosions, and how to identify, evaluate and control the exposition to toxic agents in working places. It explained the procedures for prevention of fires and explosions, and for hazards identification, and introduced the students to the risk analysis (HAZOP and event and fault trees).

Target group: students participating to the online course.

Since the 4 courses were generated mainly by 3 of the four partners of the consortium, the distribution regarding syllabuses was as follows:

CO-UPB made available template agreed with the partners for the Syllabus content. Subsequently, the .txt content, .ppt, and Video Lessons of the module course entitled II. Environmental Risk Assessment were developed.

P1-UMA formulated specific requests related to their interests from CO-UPB and P3-UNINA concerning the courses content developed by these two partners.

P2-ULBS developed Syllabus, .txt content, .ppt and Video Lessons for the module courses entitled I. Workplace Social Inclusion and IV. Occupational Health and Safety. For the development of this module dedicated to measures that could be implemented in the workplace for avoiding the new coronavirus spreading, although P1-ULBS was responsible for the course.

P3-UNINA developed Syllabus, .txt content and Video Lessons for the module course entitled III. Safety in process industries.

Each stackable modular course was characterized by information as following: collection and study of user requirements, context and objectives of the course, course syllabus, courseware elements, course development, the choice of knowledge transfer, tutoring system, evaluation and assessment and understanding via study cases. Professors made available also an abstract of the course, pre-requisites that was need it to be achieved by the students to be able to participate to the course, course requirements, evaluation and grading policy, expectations concerning knowledge that will be acquired by the student at the end of the training session and course calendar. The Stackable Modular Open Online Courses provide Syllabus and Video Lectures for each developed course.

Besides the students targeted for project implementation, as courses provided across the SafeEngine project are stackable modular courses, professors participating in the proposed short-term joint staff training events (workshops), had the opportunity to fill the identified knowledge gaps from different fields. Themes of every single short-term training staff event were already agreed with partners based on the thematic interest that they expressed. Beyond the students participating in the online training and winter school, the target group were also the students who will be future engineers of the partner universities or students who will participate in the future to the master programs of these universities as knowledge from the developed courses will be included the existing courses and/or the entire course will be included in the existing master programmes. This was possible since, each of the partners present in the project have assumed the acquisition of certain information from the courses realized through the project within some courses of the study programs of the universities from which they come.

Elements of innovation are the learning tools that were developed across the project: Video Lectures, e-Books and Videos showing practical works correlated with the course modules that are provided to academic environments where they were not present until now.

Beyond the students, from the target group category, professors from the partner universities who participated in the Short-term joint staff training events were also part.

O4: eBooks

All the 4 themes of the course modules existing within the present project proposal have been agreed with the partners. The E-books content developed in the framework of the project were used by academic staff from the partner universities not only for Long-standing winter schools or Short-term joint staff training in the framework of the project, but also for engineering training programmes that are answering to society

needs and environmental health and workplace safety requirements from their universities. Practically, throughout the project implementation, specific knowledge (occupational health and safety, environmental risk assessment, safety in process industries and social inclusion of people with disabilities in the workplace) is answering the current skills gaps of engineers attending to the courses of the partner universities.

Regarding the division of work, all 4 partners constantly worked on writing the 4 books as follows:

- CO-UPB provided a template for the eBooks writing and developed the E-book entitled "Environmental Risk Assessment".
- P1-UMA gave the inputs of interest for certain study topics to be included in the book made by CO-UPB and P3-UNINA; P1-UMA contributed also to writing the Chapter 4 of the ERA eBook.
- P2-ULBS wrote two books "Workplace Social Inclusion" and "Occupational Health and Safety".
- P3-UNINA was in charge with writing the book "Safety in process industries".

Once the books were finished, before publishing them, for each book, one scientific reviewer with expertise in the field of the book reviewed the book content. The eBooks developed in the framework of SafeEngine project are published with the Bentham Science Publisher Publishing House. Once that the eBooks was accepted by the publishing house, these are/will be accompanied by an ISBN an International Standard Book Number (ISBN).

Books will be used for many purposes, depending on who their users are. First, these were useful to the students who attended the winter school within the project. On the other hand, they will be useful for teachers who implement information from these courses in partner universities, as agreed upon in the formation of the partnership. Finally, but not only, the books will be useful to those interested in retrieving the results obtained within the project for the institutions from which they come for didactic purpose or for learning certain methods / information regarding social inclusion, workplace health and environmental risk assessment.

O5: Videos showing practical works correlated with the course modules

Catering to the specific needs of engineering students, these videos endowed the students of all scientific disciplines existing within the project with the skills they need to work safe, inclusive, and accepting workplaces, built by their selves.

Video developed in the framework of the project are essential resources for all engineers or engineering students who are interested to work in a safety environment at the workplace and for the environment, contributing at the same time to the creation of an inclusive society. These are also ideal for other international engineering universities who did not insert yet this kind of knowledge at their bachelor and master programmes.

The videos' content was mainly realized together with the associated partners that made available presentations of applied research works in the field of social inclusion, preventing and combating the risks of accidents and occupational disease from different industries and will illustrate intervention methodology in case of collective work accidents.

Target groups were:

• students and professors participating to the online learning and summer school

• students and professors from bachelor and master courses from the partner universities and technical universities outside the partnership

• professors participating to the workshops

• stakeholders participating to the multiplier events

• engineers who are already included in the labor market

• public institutions with competences in the fields of the courses realized within the project

The expected impact from the realized videos as well as from the knowledge provided across the SafeEngine project is translated in raising awareness of health and safety at workplace and regarding the human and environmental risks from the industrial activities in which future / current engineers be will part. Through the materials that were developed, and will be available on the online platforms, it will be ensured an increase of the acceptance of future engineers towards social inclusion of people with disabilities in the workplace.

Regarding the division of work, all 4 partners were responsible for the realization of the video materials during the online learning and for the winter school that was organized by P3-UNINA.

The videos are guiding students through each of the key stages involved in environmental risk assessment (linked to soil pollution and waste management – landfilling), occupational safety, or safety in process industries. Inclusive workplace will be another topic that will be the main subject of the developed videos. It was evidenced how social inclusion in the workplace should provide workers with the conditions they need to feel valued in their circumstances. In this way, they students be able to feel their ability to contribute to society without sensing their limitations.

For each of the 4 course modules were illustrated work demonstrations realized in close collaboration with the associated partners of the project who have shown a real interest in this regard (understanding via Case Studies).

O10: Evaluation method for Student's Assessment in Teaching and eLearning Activities

To improve the students' learning within the online learning, professors measured the success of their teaching by linking student performance to specific learning objectives.

Professors made a systematic collection and analysis of information that was arising from student's assessment and in this way, it was evaluated the knowledge accumulated by students during the online learning period.

Target group were students participating to the online training.

This output had also a real contribution in reinforcement of the critically reflective teaching. In this way, student's assessment was also useful for professors in developing the motivation for pedagogical choices in the classroom.

The main responsible for the achievement of this intellectual output was P1-UMA. All the other 3 partners provided to P1-UMA their proposal concerning the student's assessment methodology. P1-UMA collected all the suggestions and provided to the partners a common methodology agreed it within the partnership. An assessment calendar for students for all universities involved in the project was also agreed.

The student's assessment in the online learning activities was a formative one. Consequently, the student's assessment was done throughout an evaluation of student learning over the course of time. In this way, it was possible to estimate students' level of achievement to improve student learning during the online learning process. The assessment methodology was agreed by partners between self-assessment, peer assessment, essays, or individual assessment (exams and time-constrained).

Each student participating to the online learning selected at least 2 courses for being trained and evaluated across the online training and at the end of the course of study. Every professor responsible of the provided course module evaluated results of the assessed student at their own course.

O11: Methodology for Student's Grading

Across the online training the student overseed developing different works and consequently, the student's grading evaluated their works. On the other hand, the grading provided information about student's performance in the framework of the online training. Finally, the grading and reporting on student learning was as a source of motivation to students for continued learning and improvement.

The ranking resulting from the student's grading leaded to the preselection of those who attended the winter school in Naples.

Target group were students participating to the online learning.

The main responsible for the achievement of this intellectual output was P1-UMA. The other 3 partners provided to P1-UMA their proposal concerning the student's grading that was taken into consideration to evaluate the student performance within the online learning and for preselecting the students who participated to the winter schools. P1-UMA collected from each responsible of the course module results achieved by the students and provided to the partners information the results of the students obtained by participating in each course in which the student was involved.

Evaluation of students across the online training sessions was be done electronically, by using electronic evaluation forms. For each of the 4 course modules was elaborated by the course responsible the evaluation form/tests as following:

- CO-UPB for "Environmental Risk Assessment" module course
- P2-ULBS for "Workplace Social Inclusion" and "Occupational Health and Safety" course modules
- P3-UNINA for "Safety in process industries" course module
- Student's Grading was done through quizzes, examinations, essays, or oral presentations in live meetings, as it will be agreed within the partnership.

Table 4. Intellectual Outputs: responsible, deliverables and deadlines

Output code	Output title	Partner involvement				Main responsible	Deliverables	Deadline
		CO UPB	P1 UMA	P2 ULBS	P3 UNINA			
O2	Training Methodology for Online Learning	V		V	V	P3 UNINA	Guideline with the proposed training methodology.	31.06.2022
O3	4 Stackable Modular Open Online Courses	V	V	V	V	CO UPB	1. Syllabuses for 4 courses: i. Workplace Social Inclusion, ii. Environmental Risk Assessment, iii. Safety in process industries and iv. Occupational Health and Safety 2. .txt content for the Lessons of the 4 courses 3. Video Lessons for the 4 courses 4. .ppt content for the Lessons of the courses / according to the necessity decided by the responsible professor	30.04.2023
O4	eBooks	V	V	V	V	CO UPB	4 eBooks: i. Workplace Social Inclusion, ii. Environmental Risk Assessment, iii. Safety in process industries and iv. Occupational Health and Safety	31.05.2023
O5	Videos showing practical works correlated with the course modules	V	V	V	V	CO UPB	4 videos showing practical works for the 4 courses	30.04.2023
O10	Evaluation method for Student's Assessment in Teaching and eLearning Activities	V	V	V	V	P1 UMA	Evaluation method for Student's Assessment	31.05.2023

3.3. Learning, Teaching, Training Activities

Along SafeEngine project implementation both *Short-term joint staff training events* and *Blended mobility of higher education students* were foreseen. The activities developed along the short-term joint staff training events aimed to strengthen cooperation between partners, but also to engage the associated partners from the public or private sector to contribute to the implementation of the project tasks and to support the dissemination and sustainability of the project. The associated partners provided in the project and their role in the project implementation are indicated in the **Table 5**.

Table 5. Associated partners to SafeEngine project and their role in project implementation

Partner name	Role	Location
"Constantin Angelescu" Institute of Advanced Interdisciplinary Research (ICAI)	Mainly involved in organizing together with ULBS the activities related to the short-term staff training event on social inclusion being main focused on benefits of diversity and inclusion in the workplace, disability discrimination, deepened understanding of social inclusion, unconscious bias and the lived experiences by people with disabilities.	Bucharest, Romania
Research and Development National Institute for Labour Protection Bucharest Romania (INCDPM "Alexandru Darabont")	Was in charge with presenting applied research works in the field of preventing and combating the risks of accidents and occupational disease for chemical, electrical, mechanical, thermal, noise, vibration, radiation, microclimate, or lighting risks. Case studies, all based on real incidents in the workplace with real consequences for the people involved, were illustrated.	Bucharest, Romania
Inspectorate for Emergency Situations "Cpt. Dumitru Croitoru" of Sibiu County (ISU - Sibiu)	The role of presenting the equipment and intervention methodology in case of collective work accidents. In this way, examples of good practices within this area implemented in businesses running in Romania will be illustrated.	Sibiu, Romania
Labor Inspectorate of Sibiu County, Romania (ITM – Sibiu)	ITM – Sibiu will provided information regarding: - regulation in force in the field of work accidents and occupational diseases and concerning ITM attributions in the field of Occupational Health and Safety (OHS); - statistics on work-related accidents and occupational diseases at Sibiu county level; - emerging risks related to the different types of specific industrial activities; - workplace social inclusion.	Sibiu, Romania
SC Marquardt Schaltsysteme SCS	Across the meetings with the Marquardt Schaltsysteme was done also a presentation of the department of initial vocational training in a dual system, with an emphasis on forming a culture of risk prevention among young people.	Sibiu, Romania
Firemen Neapolitan Command, Italy (FNC – Italy)	Provided information regarding the supervisory activities on the application of fire prevention legislation in relation to activities, constructions, plants, equipment and products and concerning their collaboration with the Italian police forces.	Naples, Italy

Table 6 is summarizing the name of the training events organized by partners as well as the, the organizers, number of days and participants and when it was held.

Table 6. Short-term joint staff training events and Blended mobility of higher education students

Event name	Main responsible	No days	No of the participants	Date of the event	Location
C1. Short-term joint staff training: Workplace Social Inclusion, Occupational Safety and Environmental Risk Assessment	P2 - ULBS	3	21 professors/ teaching staff from 4 different universities	2-4 June 2021 (hybrid)	Sibiu, Romania
C2. Short-term joint staff training: Environmental Risk Assessment and Safety in Process Industries	P1 - UMA	3	12 professors/ teaching staff from 4 different universities	25-27 May 2022 (physical)	Malaga, Spain
C3. Short-term joint staff training: Safe, inclusive, and accepting workplaces built by our engineers	P3 - UNINA	3	14 professors/ teaching staff from 4 different universities	20-24 September 2022 (physical)	Naples, Italy
C4. Long-standing winter school in Naples: Sustainable and Safety Engineering and Workplace Social Inclusion	P3 - UNINA	7	25 students from 4 different universities	November 25 – December 3, 2022 (physical)	Naples, Italy

3.4. Multiplier events

Across the SafeEngine project, 3 Multiplier events were held. These were organized in the second part of the project implementation (closed to the end of the project) and were held in each of the countries of origin of the partners involved in the project: Romania, Spain, and Italy. The main aim of the proposed events was to share the experiences gained during the online learning and the short-term staff training events organized along the project and shared results obtained in the project until the date of the event. In the framework these events were also illustrated and discussed new methods and tools for engineering higher education sector to improve learning-outcomes.

The main topic of every single event is indicated in the event title as showed in **Table 7**. Video materials made by the consortium partners together with the associated partners for the online learning were also presented (understanding via Case Studies). The final aim was the increasing of participants' acceptance towards social inclusion of people with disabilities in the workplace and raising awareness of health and safety at workplace among them.

Target groups for the proposed multiplier events were:

• professors from the partner universities who will not participate in the curriculum development but are potential trainers of the new module courses resulted within the project

• students from the engineering universities

• local, regional, and national authorities with leverage in social inclusion in the workplace and occupational safety issues

• representatives of NGO's dealing with education, occupational safety, social inclusion and environmental issues and sustainability

• social entrepreneurs

• educators / trainers

• representatives of higher education institutions

• future employers of engineering students

• civil society organisations interested in the policy-making cycle

3 Multiplier Events were organised with a total number of participants **239 persons beneficiaries** of the activities organized by the project across the multiplier events (as indicated in **Table 7**).

Table 7. Multiplier Events in the framework of SafeEngine project

Event name	Main responsible	No days	Anticipated no of the participants	Attending no of the participants	Date of the event		Location
E1. Multiplier Event in Sibiu: Promoting the culture of social inclusion in the workplace and of occupational safety among the engineers	P2 - ULBS	1	32 local participants		17.02.2023	130	Sibiu, Romania
			3 foreign participants				
E 2. Promoting the culture of safety in process industries and environmental risk assessment among the engineers	P1 - UMA	1	32 local participants		17.03.2023	42	Malaga, Spain
			3 foreign participants				
E 3. Promoting the culture of social inclusion in the workplace and of environmental risk assessment	P3 - UNINA	1	32 local participants		17.04.2023	67	Naples, Italy
			3 foreign participants				

3.5. Transnational meetings

Communication and cooperation with partners across the project were ensured by using different communication tools as phone, Teams, google meet conferences, or emails.

Regular meetings constituted an approach that it was used for having a good communication and cooperation within the project and for supporting the project implementation. In the framework of the project, were organized five transnational meetings (see **Table 8**), and 3 intermediary online meetings, that acted as an indicator of whether targets were being met, but also for planning the ongoing activities of the project. In this way, the partners known in advance which were the immediate and long-term tasks must achieve. Activities were never gone outside the approved scope of the project. Within these meetings was explicitly drawn objectives and deadlines that didn't leave room for interpretation so that the correct line of project development was maintained.

Table 8. Transnational meeting in the framework of SafeEngine project

Event name	Main responsible	No days	No of the participants	Date of the event	Location
M1. Kick-off meeting - online	CO - UPB	1	11	14.12.2020	Zoom Google meeting
M2. Project meeting for organization of the online learning programme within the project and Short-term joint staff training events	P1 - UMA	1	8	17.12.2021	Malaga, Spain
M3. Progress meeting - evaluation of the Multiplier Events and results achieved within the project, and planning of the blended mobility	P3 - UNINA	1	12	01.03.2022	Naples, Italy
M4. Progress meeting - evaluation of the Short-term joint staff training events and establishment of future action plan	P2 - ULBS	1	13	09.12.2022	Sibiu, Romania
M5. Closing project meeting	CO -UPB	1	12	29.05.2023	Bucharest, Romania

Meetings were be held before each annual report and before the final one, but also whenever it was necessary.

3.6. Different indicators

The quantitative indicators established in the framework of Safe Engine project are corresponding to the project activities and outcomes, as following:

- 4 different course modules and related practical works (IO)
- 2 open web platform re-used and enriched; these are integrating the new developed modules with dedicated innovative learning tools (EnvYJobs and Federica e-learning platforms)
- 4 Open Access Online Courses (IO):

> I. Workplace Social Inclusion (P2-ULBS)
>
> II. Environmental Risk Assessment (CO-UPB)
>
> III. Safety in process industries (P3-UNINA)
>
> IV. Occupational Health and Safety (P2-ULBS)

- 4 e-books in English language corresponding to the developed modules (IO)
- Video Lectures for the developed modules (IO): 20 proposed/44 realised
- Videos showing practical works correlated with the 4 courses content: 4 proposed/15 realised
- 80 trained students from Romania, Spain, and Italy / 118 enrolled students
- professors from UPB, UMA, ULBS and UNINA trained in different fields as environmental risk assessment, workplace social inclusion, safety in process in industries and occupational health and safety / 39 professors participated to the training events
- 3 Workshops: 1 in Romania, 1 in Italy and 1 in Spain
- 1 Winter School in Italy
- 28 students / 25 students participating to the winter school in Italy (7 from each partner)
- 3 Multiplier Events
- 239 persons beneficiaries of the activities organized by the project across the multiplier events
- 1 website for project dissemination and access to the open platform resources

Through long and short-term learning activities, tools and products developed because of the different stages of the project were assessed by proving their functionality and evaluation of the degree of the compliance with project initial specification, quality and relevance and generated impact.

Each member of the partner universities involved in the project was responsible for implementing those activities that fall within its main area of competence. This was done in relation with the information of the project manager. This delimitation of responsibilities didn't exclude the collaboration and support granted by each member of the partner universities to each other whenever this was necessary.

To define the organization system and the operative methodology aimed to assess the correct development of the proposed activities and the efficacy of their implementation, the achievement of the established milestones and the management of the critical events, partners decided the development of an Evaluation Plan. The Evaluation Plan was realised P3 – UNINA and revised and agreed with the consortium main responsible from each university.

3.7. Dissemination

The target groups of the dissemination activities inside the partnership were **students participating to the online learning at the partner universities**, **students** from UPB, UMA, ULBS and UNINA participating to the winter school, and **professors** participating to the organized short-term training staff events.

In addition to the students participating in the online learning and winter school in Naples, the beneficiaries of the project results will be also other students and professors from the partner faculties since, knowledge from the course modules realized in the project will be introduced to master or bachelor courses of the faculties from the partner universities where the knowledge matches the fields of study. So, students and professors from the partner institutions, as well as students and professors outside partnership will be intensively informed about the intellectual outputs developed within the project.

Another important target group for the knowledge transfer achieved in the project are the already working engineers. This was possible as in the framework of the project 3 multiplier events were organised and people from different work fields were invited.

As the innovative learning tools developed within the project can help to future educational policy and practices (especially in the framework of the new context of distance learning, above all from home), target audiences are also higher education institutions, employers, and policy makers at local, regional, national and EU level. These days, the usefulness of the results of such projects is proven more than ever, if we consider that, results of different projects similar with SafeEngine are used to train our students standing at home.

Different institutions/organisations/specialists with competences in the fields of the courses realized within the project were targeted as audiences:

• local, regional, and national authorities with leverage in social inclusion in the workplace and occupational safety issues
• Non-Governmental Organizations (NGO) and Civil Society Organizations (CSO) dealing with education, occupational safety, social inclusion and environmental issues and sustainability
• scientists and researchers in relevant fields
• social entrepreneurs
• representatives of higher education institutions
• civil society organisations interested in the policy-making cycle

As activities serving the dissemination and exploitation of results are a way to showcase the work that has been done as part of the SafeEngine project, the consortium agreed to be developed a specific Dissemination Plan. In this regard, P1 – UMA was in charge for realising the Dissemination Plan that was subsequently revised and approved by the involved partners.

In support of the dissemination activities different templates were generate (templates for designing the brochures, templates for the .ppt presentation, template of the courses presentations in .pdf format).

Different dissemination materials resulted along the project implementation. Some examples in this regard are:

- Website of the project (www.safeengine.eu)
- Promotional video of the project
- Students' Testimonial video with students who participated
- .ppt presentation of SafeEngine project for attracting students to the SafeEngine learning activities
- Promotional video for ERA and SPI courses

The main important reference for the dissemination activities developed along the project implementation is the **SafeEngine Dissemination and Communication Plan** available on the website of the project: https://www.safeengine.eu/events/.

4 Sustainability of the Project

The European engineering institutions, as well as international employers of engineers, are asking to the hired engineers to have some knowledge of their professional tasks for managing risk. On the other hand, the extent to which this information is available in the engineering branches is difficult to quantify or audit. Additionally, the principles and training of health and safety are critical points to the engineering industry. The reality of our days shows that many young engineers are leaving university with an inadequate understanding of concepts regarding health, safety, and social inclusion in the workplace. Testimony to this fact are the statistics concerning the workplace accidents and unemployment rate of persons with disabilities. Specifically, the Internationally Labour Organization estimates that there are around 340 million occupational accidents and 160 million victims of work-related illnesses annually. EUROSTAT shows that the number of fatal accidents at work EU-28 is 1,65 fatal accidents per 100 000 persons employed, rare events if we are considering the EU average, but with the highest incidence rate among the EU Member States recorded in Romania: 4,49 fatal accidents per 100 000 persons employed. Higher rates respect to EU-28 were registered also in Italy with 2,1 and respectively in Spain with 1,99 fatal accidents per 100 000 persons employed.

Even if specific regulation on diversity in the workplace is established at national, European, and international level, people with disabilities still have not the same experience concerning the access to work comparing with their counterparts without disabilities. Statistics of 2017 from the EC show that the percentage of persons with disabilities who participate in the labour market is about 60%, with 22% lower than the percentage of persons without disabilities.

Inclusion of professionals with disabilities in the workplace is a big challenge not only for human resources management, but generally for employers and people who are already integrated at a workplace. These are reluctant to work with persons with disabilities or special needs. Social inclusion in the workplace should provide workers with the conditions they need to feel valued in their circumstances. In this way, they will be able to feel their ability to contribute to society without sensing their limitations.

The engineering industry based on the principles and practice of health and safety, but also on social inclusion, brings changes to welcome all individuals without discrimination, irrespective of employment, leisure, or other daily life situations and to answer the most serious threats that our society must manage like environmental degradation, climate change and unsustainable development. These are important issues if we are considering that environmental and health costs often exceed the gains from economic activity.

The designed Strategic Partnership was concerned on the development of innovative tools for engineering higher education sector, supporting the improvement of some learning outcomes-oriented curricula that better meet the learning needs of students, while also being relevant for the labour market and for the wider society. Consequently, the general objective of the project as the development, test, and implementation of 4 stackable course modules for engineering development training programmes that are answering to society needs and environmental health and workplace safety requirements. Practically, throughout the project implementation, specific knowledge (occupational health and safety, environmental risk assessment,

safety in process industries and social inclusion of peoples with disabilities in the workplace) tackled the current skills gaps of students attending the course of bachelor and master programmes of the partner universities. The knowledge transfer was carried out in most cases bidirectionally, depending on the competences of the professors directly involved in the project (**Figure 3**).

On the other hand, beneficiaries of the results generated by SafeEngine project are not only students and professors who participated to the training activities across the SafeEngine project implementation. Use of the knowledge included in the 4 Stackable Modular Open Online Courses and the e-books developed in the project will increase acceptance of the future engineers towards social inclusion of people with disabilities in the workplace and will raise awareness of health and safety at workplace and regarding the human and environmental risks from the industrial activities in which future / current engineers be will part.

After the closure of the project, the transfer of knowledge will continue because most of the information contained in the developed courses, in the e-books and video lessons will be found within the bachelor and master courses of the partner universities. The books and the courses will be uploaded on two e-learning platforms EnvyJobs and Federica and available for other universities with an engineering profile and other stakeholders from public and private companies.

An overview on the implementation of the lessons/modules and/or courses developed in the framework of SafeEngine project that it will be implement at the partner universities are illustrated in **Table 9**.

Figure 3. Knowledge transfer within the SafeEngine project
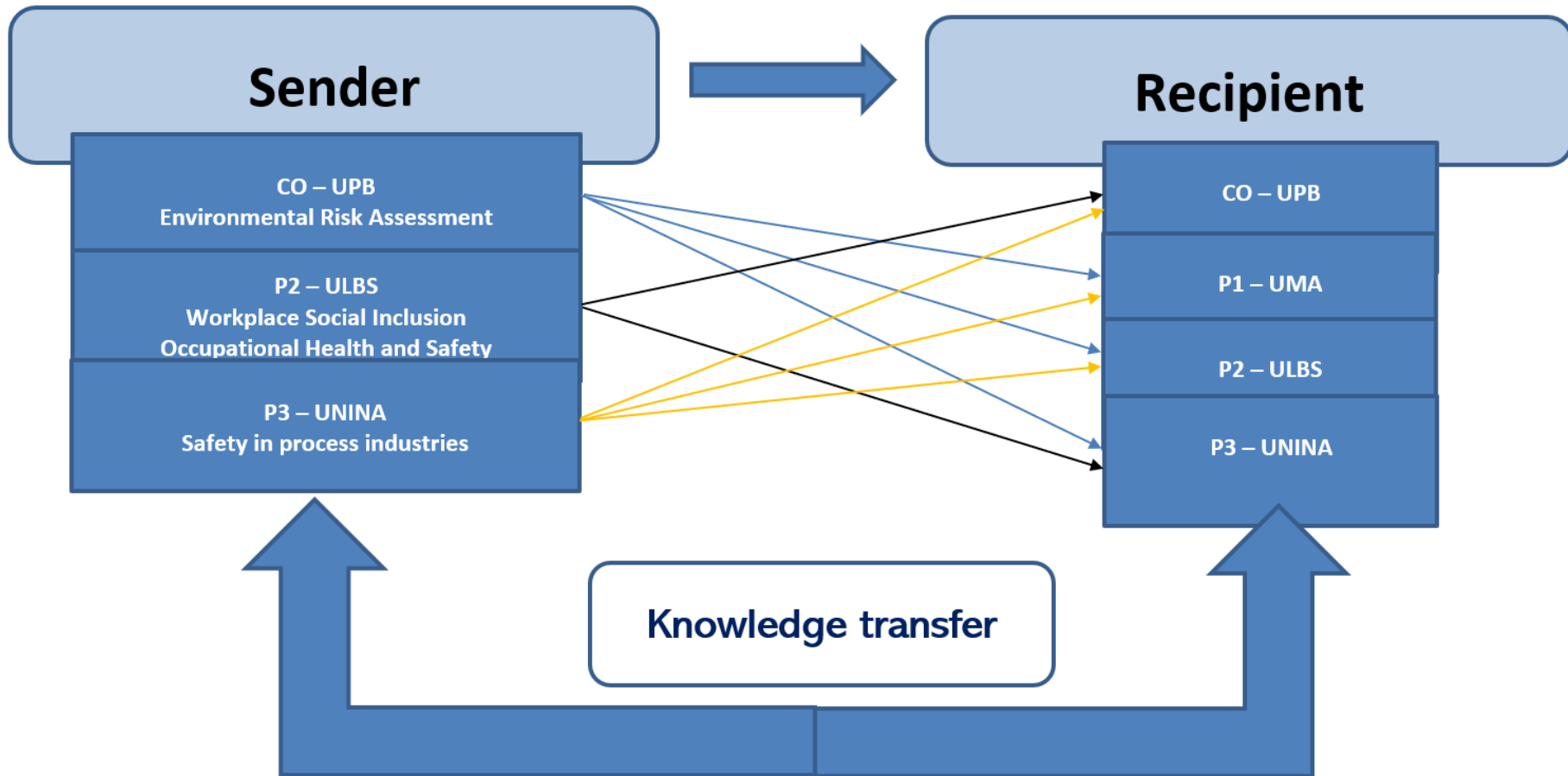
Table 9. Knowledge transfer post implementation of SafeEngine project

Partner name (generated the course)	Course title	ULBS will integrate	Entire course	Only modules	Name of the Department/ Faculty	Name of the Programme	Name of the course that will integrate the module	Person in charge
UPB	Environmental Risk Assessment	x		x	Department of Industrial Engineering and Management/ Faculty of Engineering	Economical Engineering in Mechanical field bachelor's degree	Company organization	Lucian Ionel Cioca, Mihaela Laura Bratu
UPB	Environmental Risk Assessment	x		x	Department of Industrial Engineering and Management/ Faculty of Engineering	Industrial Economical Engineering	Company organization	Lucian Ionel Cioca, Mihaela Laura Bratu
UPB	Environmental Risk Assessment	x		x	Faculty of Agricultural Science Food Industry and Environmental Protection	Engineering and Environmental protection in Agriculture		
UPB	Environmental Risk Assessment	x		x	Department of Industrial Engineering and Management/ Faculty of Engineering	Master Industrial Business Mangement	Risk Evaluation and Occupational Health and Safety Management	Lucian Ionel Cioca
UPB	Environmental Risk Assessment	x		x	Department of Industrial Engineering and Management/ Faculty of Engineering	Master Quality Management	Occupational Health and Safety	Mihai Zerbes, Mihaela Rotaru

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Partner name (generated the course)	Course title	ULBS will integrate	Entire course	Only modules	Name of the Department/ Faculty	Name of the Programme	Name of the course that will integrate the module	Person in charge
							Management Systems	
UPB	Environmental Risk Assessment	x		x	Department of Industrial Machinery and Equipment/ Faculty of Engineering	Bachelor: Industrial Economical Engineering, II-nd and 4-th year	Metrology in textile-leather Textile Structures – Yarns and Machinery Textile Structures – Weaving and Machinery Technology and Equipment for knitted fabric	Dorin VLAD
ULBS	Occupational Health and Safety	x		x	Department of Industrial Engineering and Management/ Faculty of Engineering	Economical Engineering in Mechanical field Bachelor degree	Organizarea intreprinderii, Company organization	Lucian Ionel Cioca, Mihaela Laura Bratu
ULBS	Occupational Health and Safety	x		x	Department of Industrial Engineering and Management/ Faculty of Engineering	Industrial Economical Engineering	Organizarea intreprinderii, Company organization	Lucian Ionel Cioca, Mihaela Laura Bratu
ULBS	Occupational Health and Safety	x		x	Faculty of Agicultural Science Food Industry	Engineering and Environmental		

Partner name (generated the course)	Course title	ULBS will integrate	Entire course	Only modules	Name of the Department/ Faculty	Name of the Programme	Name of the course that will integrate the module	Person in charge
					and Environmental Protection	protection in Agriculture		
ULBS	Occupational Health and Safety	x		x	Department of Industrial Engineering and Management/ Faculty of Engineering	Master Industrial Business Management	Risk Evaluation and and Occupational Health and Safety Management	Lucian Ionel Cioca
ULBS	Occupational Health and Safety	x		x	Department of Industrial Engineering and Management/ Faculty of Engineering	Master Quality Management	Occupational Health and Safety Management Systems	Mihai Zerbes, Mihaela Rotaru
ULBS	Occupational Health and Safety	x		x	Department of Industrial Machinery and Equipment/ Faculty of Engineering	Bachelor: Industrial Economical Engineering, II-nd and 4-th year	Metrology in textile-leather Textile Structures – Yarns and Machinery Textile Structures – Weaving and Machinery Technology and	Dorin VLAD

Partner name (generated the course)	Course title	ULBS will integrate	Entire course	Only modules	Name of the Department/ Faculty	Name of the Programme	Name of the course that will integrate the module	Person in charge
							Equipment for knitted fabric	
ULBS	Occupational Health and Safety	x		x	Department of Industrial Engineering and Management/	Master Industrial Business Management		Lucian-Ionel Cioca and Mihaela Bratu
ULBS	Workplace Social Inclusion	x		x	Department of Industrial Engineering and Management/ Faculty of Engineering	Master Industrial Business Management	Human Capital in Organizations; Inclusive education	Mihaela Bratu Daniel Mara
ULBS	Workplace Social Inclusion	x		x	Department of Industrial Machinery and Equipment/ Faculty of Engineering	Bachelor: Industrial Economical Engineering, II-nd and 4-th year	Metrology in textile-leather Textile Structures – Yarns and Machinery Textile Structures – Weaving and Machinery Technology and Equipment for knitted fabric	Dorin VLAD

Partner name (generated the course)	Course title	ULBS will integrate	Entire course	Only modules	Name of the Department/ Faculty	Name of the Programme	Name of the course that will integrate the module	Person in charge
UNINA	Safety in the Process Industry	x		x	Department of Industrial Engineering and Management/ Faculty of Engineering	Master Quality Management	Occupational Health and Safety Management Systems	Mihai Zerbes, Mihaela Rotaru
UNINA	Safety in the Process Industry	x		x	Department of Industrial Machinery and Equipment/ Faculty of Engineering	Bachelor: Industrial Economical Engineering, II-nd and 4-th year	Metrology in textile-leather Textile Structures – Yarns and Machinery Textile Structures – Weaving and Machinery Technology and Equipment for knitted fabric	Dorin VLAD

Partner name (generated the course)	Course title	UPB will integrate	Entire course	Only modules	Name of the Department/ Faculty	Name of the Programme	Name of the course that will integrate the modules	Person in charge
UPB	Environmental Risk Assessment	X		X	Faculty of Energy Engineering/ UPB	Master Programme: Environmental Management and Sustainable Development	Human Health Risk from Energy Industry	Prof. Diana Cocarta
		x		x	Faculty of Mechanical and Mechatronics Engineering/UPB	Bachelor: economical engineering – third year	Environmental management	Lecturer Marius Bontos
					Transport Faculty/UPB	Master Programme: The Human - Vehicle - Environment Integrated System	Environmental monitoring	Lecturer Marius Bontos
ULBS	Occupational Health and Safety	X		x		Master Programme: Environmental Management and Sustainable Development	Techniques for monitoring air and soil quality	Prof. Diana Cocarta
UNINA	Safety in the Process Industry	X		x		Master Programme: Environmental Management and	Human Health Risk from Energy Industry	Prof. Diana Cocarta

Partner name (generated the course)	Course title	UPB will integrate	Entire course	Only modules	Name of the Department/ Faculty	Name of the Programme	Name of the course that will integrate the modules	Person in charge
						Sustainable Development		
		x		x	Faculty of Energy Engineering/ UPB	Bachelor: Energy and Environmental Technologies – fourth year	Remediation of contaminated sites	Prof. Tiberiu Apostol

Partner name (generated the course)	Course title	UMA will integrate	Entire course	Only modules	Name of the Department/ Faculty	Name of the Programme	Name of the course that will integrate the module	Person in charge
UPB	Environmental Risk Assessment	x		x	Chemical Engineering/Science Faculty	Environmental Science (Bachelor)	Fundamentals of environmental engineering	Francisco de Paula Martín Jiménez
		x		x	Chemical Engineering/Science Faculty	Environmental Science (Bachelor)	Water and soil pollution	María Cruz López Escalante
		x		x	Chemical Engineering/Science Faculty	Chemical Engineering (Master)	Contaminated land assessment and remediation	María Cruz López Escalante
ULBS	Occupational Health and Safety	x		x	Chemical Engineering/Science Faculty	Chemical Engineering (Master)	Safety and Risk Analysis in the Chemical Industry	

Partner name (generated the course)	Course title	UMA will integrate	Entire course	Only modules	Name of the Department/ Faculty	Name of the Programme	Name of the course that will integrate the module	Person in charge
ULBS	Workplace Social Inclusion	x		x	Department of Industrial Machinery and Equipment/ Faculty of Engineering	Bachelor: Industrial Economical Engineering, II-nd and 4-th year	Metrology in textile-leather Textile Structures – Yarns and Machinery Textile Structures – Weaving and Machinery Technology and Equipment for knitted fabric	Dorin VLAD
UNINA	Safety in the Process Industry	x		x	Chemical Engineering/Science Faculty	Chemical Engineering (Bachelor)	Integrated management systems	Carlos Vereda Alonso
		x		x	Chemical Engineering/Science Faculty	Chemical Engineering (Bachelor)	Engineering projects	M.Ángeles Larrubia Vargas
		x		x	Chemical Engineering/Science Faculty	Chemical Engineering (Master)	Safety and risk analysis in industry	M.Ángeles Larrubia Vargas

Partner name (generated the course)	Course title	UNINA	Entire course	Only modules	Name of the Department/ Faculty	Name of the Programme	Name of the course that will integrate the module (if it is about a module)	Person in charge
UPB	Environmental Risk Assessment	X	X		Department of Civil, Architectural and Environmental Engineering	Master Degree in Environmental Engineering	Contaminated soil remediation	Silvio Matassa – Massimiliano Fabbricino
ULBS	Occupational Health and Safety	X		x	Department of Civil, Architectural and Environmental Engineering	Bachelor Degree in Environmental Engineering	Environmental Engineering laboratory	Massimiliano Fabbricino
ULBS	Workplace Social Inclusion	X		x	Department of Civil, Architectural and Environmental Engineering	Bachelor Degree in Environmental Engineering	Environmental Engineering laboratory	Massimiliano Fabbricino
UNINA	Safety in the Process Industry	x	x		Department of Civil, Architectural and Environmental Engineering	Master Degree in Environmental Engineering	Safety in chemical processes	Laura Clarizia – Roberto Andreozzi

4 Conclusions

The present plan has been established to verify the correct development and implementation of the project, considering the strategic objective that agreed with partners since the development of the project proposal. It was intended as a motivation for the continuous improving of the efficacy and effectiveness of the activities undertaken in the different phases of the project evolution, and as a tool for the optimization of future initiatives proposed by the participating institutions.

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List of acronyms

Acronyms	Definitions
MS	Specific Objectives
	Implementation Plan
	Indicators of Performances
	Intellectual Outputs
	Leading Organization