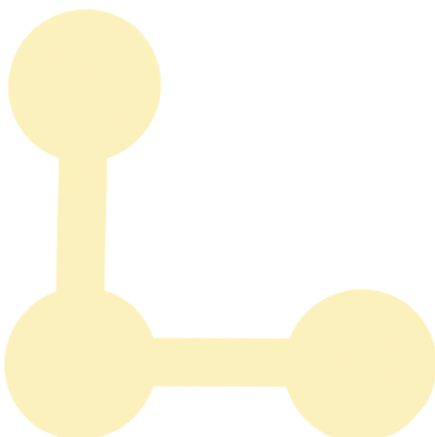
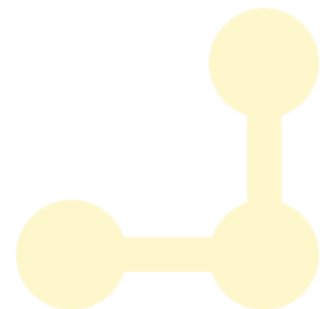


EULEP



**RECOMMENDATIONS FOR THE
DEVELOPMENT OF
TRANSNATIONAL TRAINING
MODULES**

Deliverable 2.2



Co-funded by the European Union



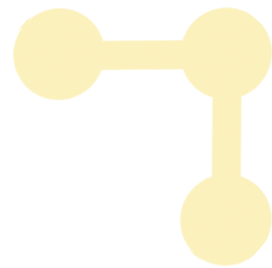
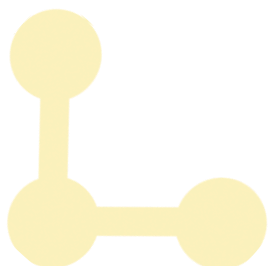
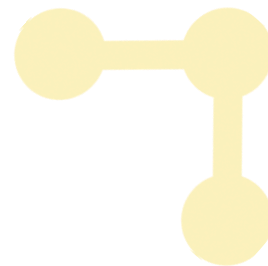


Table of Contents

| | | |
|----------|---|----|
| I. | Introduction | 3 |
| II. | Executive Summary | 4 |
| III. | Methodological Approach | 7 |
| III.1. | Desk Research on existing Training Courses | 8 |
| III.2. | Companies Survey..... | 8 |
| III.2.a. | Online Survey for AI and VR..... | 8 |
| III.2.b. | Focus Groups on SI..... | 9 |
| III.3. | Definition of Learning Persona and Training Persona..... | 10 |
| III.4. | Learning Outcomes for Users and Trainers..... | 12 |
| III.5. | Training Needs Reality Check | 13 |
| III.6. | Definition of Recognition Criteria | 14 |
| IV. | Application of the Methodology in EULEP and its Results..... | 16 |
| IV.1. | Desk Research | 16 |
| IV.2. | Companies Survey..... | 16 |
| IV.2.a. | Online Survey..... | 17 |
| IV.2.b. | Focus Groups..... | 20 |
| IV.3. | The Process And The Definition Of Our Learner Persona And Trainer Persona ... | 22 |
| IV.3.a. | Identifying EULEP Target Audience | 22 |
| IV.3.b. | EULEP Learner Persona Definition | 23 |
| IV.3.c. | Steps used to create Learner Personas..... | 24 |
| IV.4. | EULEP Learning Outcomes For AI,VR And SI | 28 |
| IV.4.a. | End user learning outcomes | 29 |
| IV.4.b. | Trainers Learning Outcomes | 34 |
| IV.5. | Training Needs Reality Check..... | 36 |
| IV.6. | Definition Of Recognition Criteria | 38 |
| IV.6.a. | Country/regional review | 38 |
| IV.6.b. | Project level benchmarking workshop | 39 |





I. Introduction

EULEP is the European Learning Experience Platform. It brings together 20 organisations (Chambers of commerce, VET providers, Higher Education institutions and other Public stakeholders) from 8 countries under the leadership of Eurochambres.

3

The partners work together with the following objectives:

- Make C-VET (continuous vocational education and training) more attractive for lifelong learning;
- Offer businesses new and tailor-made training modules that correspond to their skills needs in innovation-oriented subjects (artificial intelligence (AI), virtual reality (VR) and social innovation (SI));
- Upskill and reskill people with labour market relevant skills and competences in AI, VR and SI;
- Develop innovative learner-centred teaching and learning methodologies for the continuing professional development of VET trainers;
- Establish or reinforce knowledge triangles at regional and national level thanks to the triangulation business - VET provider - European Digital Innovation Hub (EDIH);
- Embed VET in regional economic development strategies and reinforce its governance, putting it on a sustainable path.

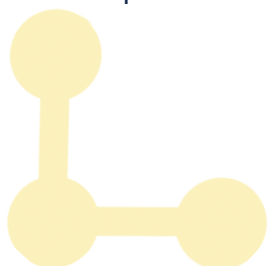
The present report is the outcome of the work done with businesses, with project partners and with VET Councils under Work Package 2, the main objective of which is to lay the basis for the development of the training modules under Work Package 3, following a bottom-up and end user-centred approach.

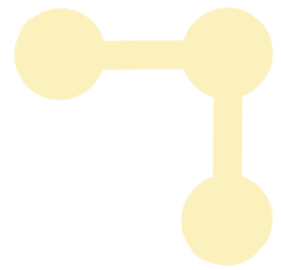
To reach that objective, the project partners engaged in a one-year development process to:

- Identify the level of awareness and training needs of companies in the fields of AI, VR, SI and to transform them into learning outcomes.
- Check the extent to which existing training modules meet companies' training needs and to come up with the best possible training scenario that meets companies' needs.
- Lay the basis for the future recognition of the forthcoming training modules at national level (either as standalone modules or as part of larger curricula).
- Define common quality criteria for the development of transnational VET training modules.

This report presents the process that the EULEP project partners have followed along this year and the final findings and outcomes.

The process is presented from a methodological perspective and includes recommendations for stakeholders who would like to engage in similar activities. The partners final findings and outcomes illustrate the process from a practical perspective.





II. Executive Summary

EULEP is a so-called “Centre of Vocational Excellence” that strives towards enhancing the role of Vocational Education and Training (VET) in lifelong learning. It targets businesses, VET providers, VET governance structures, VET trainers and learners in eight countries.

4

One of its objectives is to offer businesses new and tailor-made training modules that correspond to their skills needs in innovation-oriented subjects (Artificial Intelligence (AI), Virtual Reality (VR) and Social Innovation (SI)).

EULEP is operating in a transnational context and aims to identify commonalities between the participating countries for developing its training activities and modules. The project furthermore wants the training modules to be used in the participating countries also after the project ends.

The present report is the outcome of the fact-finding work that the partners have done for laying the basis of the development of the training modules they will develop for businesses.

This fact-finding work is presented in two parts. First in form of a methodology that will allow parties interested in engaging in similar work to have reference points for their process. The second part of the report presents the application of the methodology in the frame of EULEP, and its results.

In each of the parts, the different steps of the process are indicated and recommendations given to avoid potential pitfalls.

The methodology consists of 6 major steps:

- 1) Desk research
- 2) Companies survey
- 3) Definition of the personas (learner and trainer)
- 4) Definition of the Learning outcomes
- 5) Training needs reality check
- 6) Identification of recognition/ validation criteria

In the frame of EULEP, the overall process lasted about 1 year, yet the length of the process may vary depending on the complexity of the subjects to be tackled, the number of partners involved and the engagement level of stakeholders. Therefore, no recommendations as to the duration of the process are given in the present report.

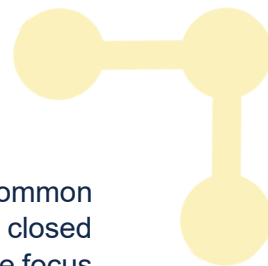
1) Desk research: As a preliminary step, project partners identified in all participating countries the available training courses on Artificial Intelligence (AI), Virtual Reality (VR) and Social Innovation (SI), as part of Higher Education (HE), Initial Vocational Education and Training (IVET), or Continuous Vocational Education and Training (C-VET).

This collection served as a basis to identify possible existing training modules and also to check the existence of training modules for businesses.

This preliminary check allowed the partners to see that there are very few AI and VR training courses for businesses and non-technicians on offer.

2) Companies survey: It was important for the partners to reach out to businesses to get first-hand information on the latter’s skills needs. In order to obtain relevant information from companies on the three subjects, it was decided to use two different tools: an online survey





(for AI and VR) and focus groups (for SI). For both tools, the partners engaged in a common preparation process, preparing a business-oriented online questionnaire with mostly closed questions on one side, and on the other side developing a guidance document for the focus groups that would be used as background information during the discussions.

Partners reached out to companies in their respective languages and sent country level replies for analysis to the work package leader in charge. The country results were analysed and overall skills needs for the three subjects determined.

5

3) Definition of the personas: EULEP aims to contribute to fostering lifelong learning in enterprises around AI, VR and SI. The project has several direct target groups: VET providers, VET teachers and trainers, businesses and C-VET learners. The learner persona methodology was chosen as it provides a deep understanding of the target audience, enabling the creation of targeted training programmes that optimize learning outcomes and learner engagement. In a transnational context, the definition of a common learner persona furthermore allows the project partners to develop a common base for action while being aware of the national/regional differences.

Based on a common template, the partners identified their respective learner personas, taking into account the different points mentioned in the document: role, sector, SME profile, background, motivation, goals, challenges and learner preferences.

A synthesis process allowed the consortium to develop a common EULEP learner persona. The process involved comparing and contrasting segmented personas, looking for patterns, connections, variations and commonalities.

The definition of the trainer persona was done based on a proposed trainer persona that the project partners could comment on. The comments were taken on board and the EULEP trainer persona profile finalised.

4) Definition of the learning outcomes: After having identified the EULEP learner personas (trainers and final users), the identified skills/training needs of companies were transformed into learning outcomes for AI, VR and SI. Learning outcomes were described in the form of knowledge, skills and competences.

The EULEP learning outcomes were linked to the training needs of the agreed EULEP personas, and as such to be considered as a common denominator for the subsequent development of the EULEP training modules in AI, VR and SI.

5) Training needs reality check: the partners reviewed existing training programmes/modules in AI, VR and SI in the participating countries to see whether they could meet the learning outcomes identified under EULEP for the three subjects.

The country reviews were gathered in a common data table and allowed the partners to see the heterogeneous training landscape in the eight EULEP countries. They agreed that they would develop new EULEP specific training modules to avoid language and potential copyright questions.

6) Identification of recognition/validation criteria: bearing in mind that the training modules developed under EULEP are to be used in the participating countries beyond the project duration, it is useful to know what criteria the EULEP training modules need to comply with so that they can be integrated into the national qualification frameworks (NQF) after having been tested with trainers and final users, and adapted to national/local circumstances.





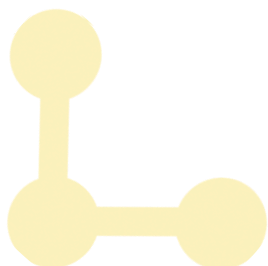
To this effect, the project partners did some research into their respective national/ regional VET systems to find out what quality criteria have to be respected for integrating the modules into the national training framework. Their respective VET governance structures got associated to the exercise.

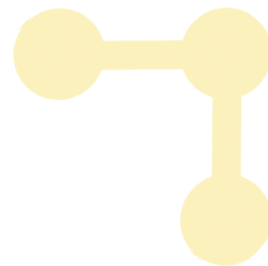
On the occasion of a common meeting, the partners were able to appreciate the differences between the eight national VET systems and validation/recognition criteria. They finally agreed on a list of quality criteria that was inspired by the European Qualifications Framework.

6

For each of the steps of the methodology, several recommendations are made. The main, overarching recommendations are listed hereafter.

- 1) Involvement of target groups and stakeholders: it is advisable to involve target groups and stakeholders from the outset of the activities. By offering them a role to play, the degree of awareness increases and ownership for the subsequent steps may be enhanced. The language and the message that are used should be targeted to the specific group it is meant to reach. For businesses for instance, the language should be clear and concise and the message should allow them to see the benefits for them in taking part.
- 2) Development of transnational learner personas, learning outcomes and quality criteria: it is necessary to build consensus among the project partners on a common objective to be achieved. At the same time, their regional/national differences need to be acknowledged, and mechanisms foreseen that allow them to make adjustments at a later stage of the project. For instance, should the commonly agreed quality criteria not include specific national criteria, then the partners should be given the opportunity to add those criteria at a later stage, when the national adaptation process starts.
- 3) Templates and language: it is essential to provide the partners with templates for the different steps of the process, as the usage of templates will ensure that the results from the participating countries can be gathered in a uniform way and are relatively easy to analyse/compare. The project partners should, whenever possible, be involved in the preparation of the templates, as this will add value to them thanks to the cross fertilisation of ideas. In the case of EULEP, eight countries are involved, and the project has to deal with eight national languages. While the partners agree on a common vehicular language among them, they will reach out in their national language to their respective target groups and stakeholders, and considering this, the templates need translating into the national languages. Attention should be paid that the structure of the templates is not altered when they are translated. For instance for online surveys, the questions numbering should be identical in all language versions.





III. Methodological Approach

With the objective of offering training that is relevant to the end-users, EULEP is engaging in a bottom-up and end user-centred approach. The project wants to make sure that companies' needs, and the participating countries' realities are taken into account.

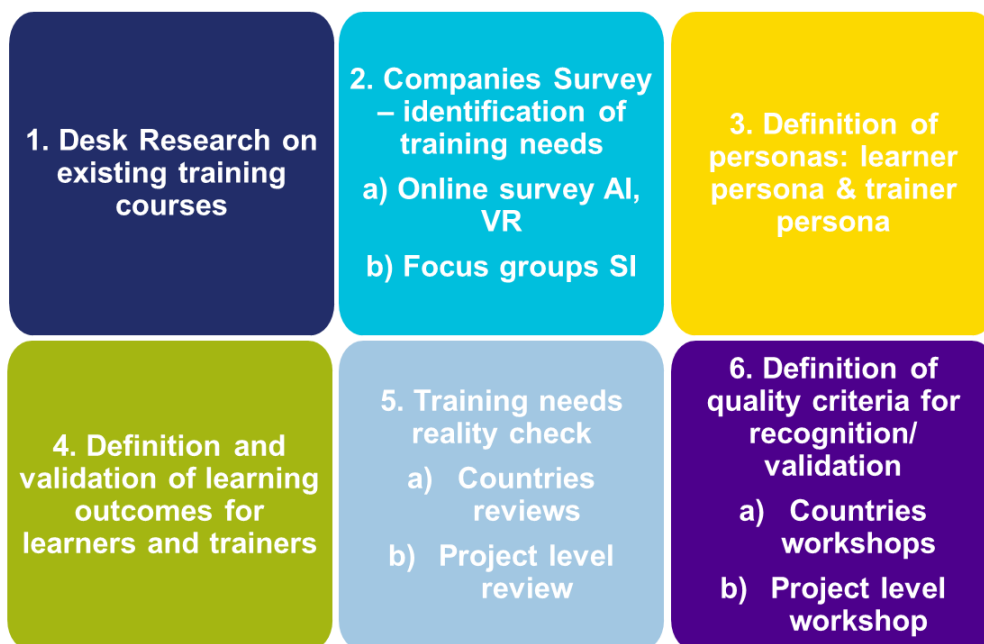
Training needs of companies in the fields of artificial intelligence (AI), virtual reality (VR) and social innovation (SI) were identified thanks to online survey for AI and VR, as well as focus groups in the participating countries for SI. EULEP project partners involved a total of 774 companies (717 in the AI and VR online survey and 57 in SI focus groups).

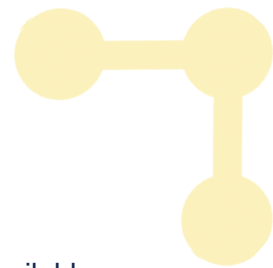
The companies training needs, detected by means of online questionnaire and focus groups, led to findings that helped to define the learner persona and the learning outcomes. Also, existing training modules at national/regional level were detected by partners that are VET providers and HE institutions from the participating countries. This collection was accompanied by an analysis to assess their suitability for meeting the identified training needs of the companies. The results of the country/regional reviews were benchmarked with each other so that partners could define the common elements of EULEP transnational training modules to be developed under WP 3. The VET councils in the participating countries checked the criteria at national level for integrating the modules into the national training frameworks. On the occasion of a common online workshop, they agreed on the criteria to be used for the transnational training modules.

A series of recommendations for the drafting of transnational training modules conclude the activities under WP2 that are described in the present report.

The process, the lessons learnt and the conclusions obtained can be a guide for other VET providers and stakeholders that are planning a similar process as the one in EULEP project.

EULEP's project partners have undertaken a process including several steps that are shown in this section and illustrated in the following graph.





III.1. Desk Research on existing Training Courses

As a preliminary step, project partners identified in all participating countries the available training courses on Artificial Intelligence (AI), Virtual Reality (VR) and Social Innovation (SI), as part of Higher Education (HE), Initial Vocational Education and Training (IVET), or C-VET.

This collection served as a basis to identify possible existing training modules and also to check the existence of training modules for businesses. This preliminary check allowed the partners to see that there are very few AI and VR training courses for businesses and non-technicians on offer.

Recommendations:

The detection of existing training modules in the field will offer valuable information on:

- 1) The type of courses already available in the country and target groups they address.
- 2) Potential skills gaps in training courses.
- 3) The possible development of training modules that could be incorporated into larger existing training courses.
- 4) The possibility of building collaboration bridges with other training providers who offer training modules/courses complementary to those that are foreseen to be developed.

III.2. Companies Survey

One of the project's objectives is to develop training modules in the three subjects that are relevant for businesses, and based on the latter's skills needs. Besides doing desk research on existing trainings, it was important for the partners to reach out to businesses to get first-hand information.

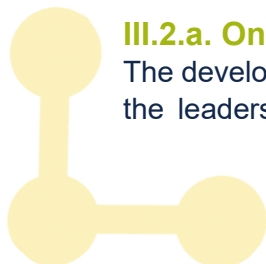
Given the timeframe and the means that the partners had at their disposal for reaching out, and the fact that 8 countries had to be covered by the survey, the partners decided to organise an online survey with businesses.

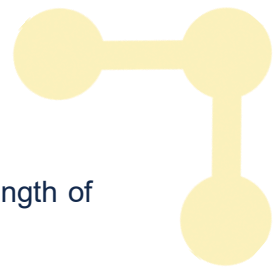
During a preliminary discussion about the kind of information that would be collected via the online survey, it became clear that it would be difficult to gather relevant information on SI via this field research method. Contrary to AI and VR, that are known concepts to businesses, SI is a broad concept that may not always be fully understood by companies. Given the kind of information that was needed from businesses on SI, the partners decided to organise focus groups and not rely on an online questionnaire.

At the same time, they defined the enterprise sample to target, so that relevant information could be obtained.

III.2.a. Online Survey for AI and VR

The development of the questionnaire on AI and VR was a joint effort of the partners, under the leadership of the work package leader, whereby they agreed on the nature of the





questions to be raised (open/closed questions), the content to be collected, the length of the questionnaire and the style of questions.

The questionnaire was translated into the partners languages, and the partners in the countries promoted the survey with businesses from the agreed enterprise sample via electronic means. In order to reach the agreed number of businesses in each country, the survey was extended and relaunched after the initial one-month deadline, and total survey duration went up to 3 months.

The data were collected in a uniform way in the 8 participating countries, and the country data collections were sent to the work package leader for aggregation and further analysis.

A straightforward method was used for the analysis of the data, whereby individual replies were considered at equal level, and the overall results determined based on the aggregation of all individual replies. In a second step, considering that the number of replies varied from country to country, the country results were determined and evaluated against the overall results with the objective of avoiding significant overweight on some countries answers.

The full survey results are available in the report D.2.1. “Workforce Needs for Up and Reskilling in Artificial Intelligence, Virtual Reality and Social Innovation”.

Recommendations:

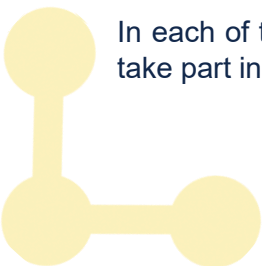
For the **online survey**, several points should be observed for an optimal contribution to research:

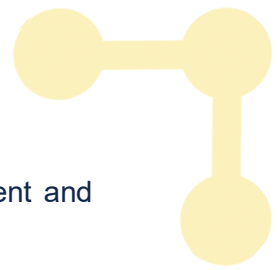
- 1) Check if an online survey is the ideal means for gathering the information you need;
- 2) Define the enterprise sample well (bear in mind that the businesses you survey may become your training customers later on);
- 3) Keep only the questions that are essential to obtain relevant information;
- 4) Try to make the questionnaire as short as possible;
- 5) Formulate the questions in a simple way;
- 6) Use closed questions with multiple choice answers rather than open questions;
- 7) Address the online questionnaire to the right person profile;
- 8) Use reliable online survey software and be compliant with GDPR;
- 9) When you work with different language versions, make sure the questions are all in the same order;
- 10) Be flexible with the survey time and foresee reminders;
- 11) Analyse possible country bias in case there is a substantial difference in the number of answers per country;
- 12) Draft conclusions that are relevant for all countries and underline possible country specific issues.

III.2.b. Focus Groups on SI

After the partners agreed to organise focus groups on SI, they developed a “Guideline and Discussion Questions” document under the leadership of the work package leader.

In each of the participating countries, the partners were asked to gather 10 companies to take part in a guided discussion on SI. The partners had the choice of the mode of meeting





and whether they would translate the guideline and discussions question document and share it with companies prior to the meeting.

Each partner organised either face-to-face or online focus group meetings. The companies participating in the focus groups were SMEs from various sectors, in line with the enterprise sample that had been defined.

The focus group meetings were organised in the partners' languages, and after the meetings, the partners prepared individual focus group reports in English, summarising the outcomes of their discussions.

These reports were sent to the work package leader for analysis. The work package leader gathered the replies from the individual reports in a common excel file and prepared the final outcome of the analysis with the help of the Entrecomp framework, as foreseen by the grant contract.

Recommendations:

- 1) **Clear Objectives:** Before organizing focus groups, clearly define the objectives of the exercise. Determine what specific information you want to gather and how it will be used to address the skills needs in the context of your project or initiative.
- 2) **Structured Guidelines:** Prepare a structured guidelines and discussion questions document and share it with all the participating partners. This will help ensure consistency in the collection of data and facilitate the subsequent analysis.
- 3) **Actionable Insights:** Ensure that the final analysis and outcomes of the focus groups provide actionable insights. Use the information gathered to develop targeted trainings modules or initiatives that address the identified skills needs.
- 4) **Use of existing learning frameworks:** Based on the identified skills needs, and taking the project context into account, check if existing learning frameworks can help determine the adequate learning outcomes. The usage of existing frameworks like EntreComp can help to structure and categorize the identified skill needs and to create a common language for the training modules development.

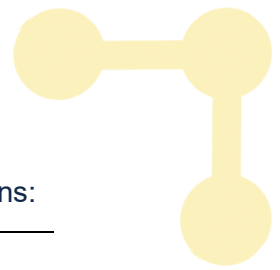
III.3. Definition of Learning Persona and Training Persona

The identified skills/training needs of companies were to be transformed into learning outcomes for AI, VR and SI. The definition of learning persona and training persona were a necessary step in this process, as they allowed the project partners to elaborate a common denominator for the definition of the EULEP learning outcomes.

EULEP aims to contribute to fostering lifelong learning in enterprises around AI, VR and SI. The project has several direct target groups: VET providers, VET teachers and trainers, businesses and C-VET learners.

The learner persona methodology was chosen as it provides a deep understanding of the target audience, enabling the creation of targeted training programmes that optimize learning outcomes and learner engagement.





A template for the learner persona was developed, including the following dimensions:

| Learner Persona Dimension | Description |
|----------------------------------|---|
| 1. Role | Occupational or professional profile or function of learner |
| 2. Sector | Core area of economic activity of learner |
| 3. SME Profile | Characteristics which define SME's in the context of VET training |
| 4. Background | Characterization of previous academic and professional experience |
| 5. Motivation | Characterization of learner motivation for engaging with training activities |
| 6. Goals | Characterization of learner goals for engaging with training activities |
| 7. Challenges | Characterization of challenges learners may face when engaging with training activities |
| 8. Learner Preferences | Characterization of learner preferences when engaging with training activities |

The template was shared with all partners and they got invited to define a learner persona that would be applicable to their respective target audience, in line with the dimensions mentioned in the template.

The partners engaged into research at their respective levels (national, regional or local), using different tools: desk research, surveys, artificial intelligence and large language models, focus groups, as well as analysis of existing labour market research.

All consortium members were encouraged to integrate labour market intelligence from their own context, including, for example, the results from the EULEP Online survey and focus groups into persona development.

As an outcome of the exercise, 8 learner personas were available, each corresponding to the target audience in the participating countries.

Each individual persona was read and analysed to identify commonalities, themes, or patterns that emerged. Learner persona data was categorized and organized following the dimensions in above-mentioned table. The synthesis process involved comparing and contrasting segmented personas, looking for patterns, connections, and variations. Commonalities were identified from the data and a common EULEP learner persona was then developed.

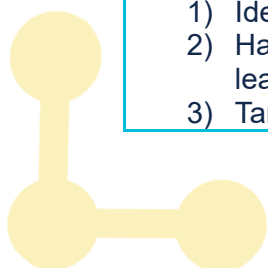
The common EULEP learner persona was presented to the partners on the occasion of an online workshop and its different dimensions discussed and agreed on by the project partners.

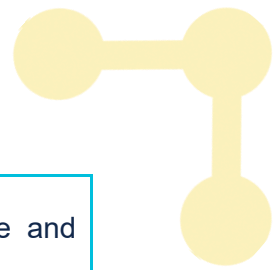
After the learner persona had been agreed on, the consortium proceeded with the definition of a trainer persona.

Recommendations:

In order to define the learning persona there is a need to:

- 1) Identify the target audience: who is going to be trained? Final users? Trainers?
- 2) Have a learner-centred and learning outcome-based approach. Personalize the learning Experience: for each target group, there will be a learning persona.
- 3) Target skills development.





- 4) Actively involve stakeholders in the persona development process.
- 5) Use real data (interviews, surveys or focus groups) whenever possible and engage with AI for gaining insights.
- 6) Consider the goals and motivations of potential learners.
- 7) Incorporate learning preferences (online, synchronous, asynchronous, hands-on training, etc.).
- 8) Define personas for each participating country based on the identified target audience.
- 9) Synthesize all gathered data into one common learner persona description per target group.

A note on engaging with AI for insights: There are a number of reasons to engage with A.I. in the development of learner personas:

(a) enhanced personalization as AI algorithms can analyse vast amounts of data to identify patterns, preferences, and characteristics of learners in specific contexts and regions;

(b) AI-powered systems can also identify the specific skills and knowledge gaps of different learner groups, enabling targeted curriculum development and resource allocation to address those gaps efficiently;

(c) AI can also improve instructional design by analysing learner personas and providing insights into the most effective instructional strategies, including identifying learning outcomes and goals; and finally

(d) AI can also support data-driven decision making as AI algorithms can generate valuable insights from learner persona data, informing decision-making processes in VET development. Institutions can use these insights to refine program offerings, identify emerging trends, and make data-driven decisions to enhance the effectiveness and relevance of their training programs.

III.4. Learning Outcomes for Users and Trainers

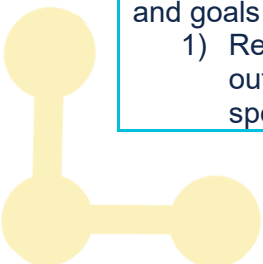
After having identified the EULEP learner personas (trainers and final users), the identified skills/training needs of companies were transformed into learning outcomes for AI, VR and SI. Learning outcomes were described in the form of knowledge, skills and competences. The EULEP learning outcomes were linked to the training needs of the agreed EULEP personas, and as such to be considered as a common denominator for the development of the EULEP training modules in AI, VR and SI.

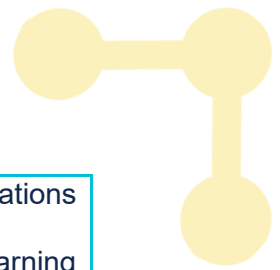
The proposed learning outcomes were shared with partners for review and discussion, and then agreed on during an online meeting. At the same time, partners' attention was drawn to the fact that potential local/regional variations in skills needs/learning outcomes would need to be addressed by the partners in the subsequent project phases.

Recommendations:

Developing learning outcomes after identifying individual training needs involves a systematic process to ensure that the training programme addresses the specific needs and goals of the learners.

- 1) Review the skills needs detected through research: Start by reviewing the outcomes of the training and skills needs research conducted to identify the specific areas where the learners require training and development. This may





include skills gaps, knowledge deficiencies, performance issues, and motivations that were also identified when defining the learner persona.

- 2) Identify clear objectives: Establish clear and specific learning objectives. Learning objectives should be measurable and focused on the outcomes that learners should achieve after completing the training.
- 3) Use action verbs such as "define", "demonstrate", "solve", or "analyse" to make the learning outcomes more actionable.
- 4) Align with transformation and change management needs: Ensure that the learning outcomes align with the transformation/change required in the company. The training should contribute to improving individual and organizational performance.
- 5) Make sure that the identified training needs are reflected in the learning outcomes and that the latter can be transformed into effective training modules, using the most appropriate training methods. This could involve classroom training, e-learning modules, on-the-job training, workshops, coaching, mentoring, or a combination of different methods.

By following these steps, one can develop learning outcomes that are closely aligned with the needs of the learners and the organization, leading to more effective and impactful training programs.

III.5. Training Needs Reality Check

Review of existing training modules to see if they match with the EULEP learning outcomes.

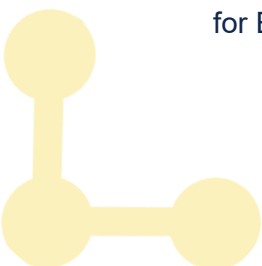
During the initial desk research phase the partners identified training programmes/ modules in AI, VR and SI in the participating countries.

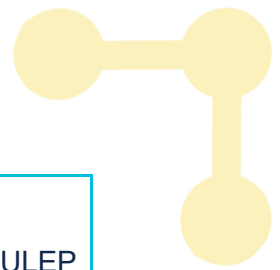
At this stage of the process, they were invited to review if any of the existing courses could meet the learning outcomes identified under EULEP for the three subjects.

This review process was done at country level, and the 8 country analyses were gathered in a common data table and shared with the partners on the occasion of an online meeting.

During the online meeting, the partners discussed the pros and cons of using existing courses or parts of them for the development of the EULEP training modules and came to the conclusion that it was better to develop new training modules under EULEP for the agreed learning outcomes given that:

- Some of the EULEP learning outcomes were not covered in any of the training courses identified in the participating countries
- There is a language question with existing courses: they are mostly available in the national language, and a considerable translation effort would be needed.
- It is not visible at first sight if the courses on offer are available freely for replication/usage or if there is a license attached to them.
- It is not visible either if existing courses target the learner level that has been defined for EULEP (EQF levels 3-4), and if they are fit for usage in a C-VET context.





Recommendations:

After having identified existing trainings in the chosen subject area (in the case of EULEP AI, VR, SI), those trainings need to be analysed to see if they are fit for purpose in the chosen context.

Questions to be raised are:

- Do existing trainings address all identified learning outcomes? Do they address them partially, or do they not address them?
- What is the teaching language? Can it be used in the chosen context, or does translation have to be foreseen?
- Are the existing training modules freely available, or are there licenses to be paid?
- Are the existing training modules fit for purpose, i.e. do they target the agreed qualification levels (in terms of EQF)?
- Who is offering those trainings? Is it possible to reach out to them and look out for synergies?

III.6. Definition of Recognition Criteria

One of the objectives of EULEP is to develop training materials that can still be used in the participating countries after the project ends. To this effect, it is useful to know what criteria the EULEP training modules need to comply with so that they can be integrated into the national qualification frameworks (NQF) after having been tested with trainers and final users, and adapted to national/local circumstances.

To this effect, the project partners were invited to gather the VET governance structures at their respective level (local/regional/national) and exchange with them on the criteria that have to be respected for integrating the modules into the national training framework. They were invited to check two scenarios: integrating the training modules as standalone courses and integrating them into existing curricula.

A common background questionnaire, elaborated by the project lead, was the basis for discussion with the VET governance structures in the participating countries.

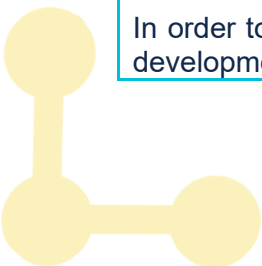
After having discussed the recognition criteria at their respective level, the partners shared the answers to the background questionnaire with the project lead. The answers got analysed and a list of common quality criteria was developed.

The common quality criteria were shared with the partners on the occasion of an online meeting to which VET governance structure representatives from the 8 countries were invited. The quality criteria were discussed during the meeting and partners were given time for written feedback.

The written feedback was considered in the development of the final version of the common quality criteria.

Recommendations:

In order to get a buy-in from local stakeholders, it is useful to involve them early in the development process and make them part of the development process.





Referring to the agreed learning outcomes, the partners in the participating countries discuss with their VET governance structures the criteria for integrating the future training modules into the national qualification frameworks.

To do so, it is advisable to provide them with guiding questions that will help them address the issue adequately, e.g.:

- 1) Identifying the National Qualification Framework and the legal basis for the provision of IVET and CVET.
- 2) Identifying any legal basis for recognition of acquired competences in the framework of CVET.
- 3) Identifying the body in charge of validation/recognition of newly developed curricula. Identify the process of validation/recognition.
- 4) Criteria used for the recognition of updated existing training curricula.

In case of the development of transnational training modules, the guiding questions will also facilitate the cross country analysis and the definition of common criteria afterwards. A discussion with all partners to agree on the common criteria is very useful to create consensus and appropriation.

This list of common criteria is the final outcome of the last part of the process, and it is also included in this report as part of recommendations.

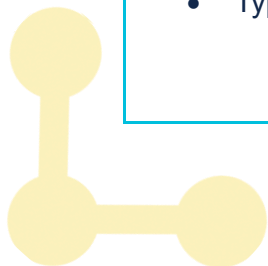
Common Criteria for the Recognition/Validation of Training Modules

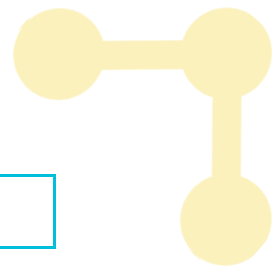
Context related:

- Industry needs that the training addresses.
- Labour market needs addressed by the training.
- Target groups

Training related:

- Language of the training
- Awarding body or competent authority
 - Name and type of the issuing institution
- Learning Outcomes based approach.
- Description of the qualification in terms of knowledge, skills, responsibility & autonomy, competences acquired.
- Credit points/Notional workload needed to achieve the learning outcomes (linked to EQAVET/ECTS if possible)
- Level (and cycle, if applicable) of the learning experience
 - Scope of recognition
- Type of assessment
 - Assessment object
 - Assessment method
- Form of participation in the learning activity (form of teaching)
- Type of quality assurance
 - Internal Quality Assurance processes
 - External Quality Assurance/regulatory body
- Materials and technical base for providing the training
- Type of credential
 - Form of credential
 - Stackability
 - Validation





- Validity of the credential

The following sections will present in detail the methodological and procedural aspects discussed above, as well as the results obtained in EULEP.

IV. Application of the Methodology in EULEP and its Results

IV.1. Desk Research

A very first step in the EULEP process was desk research to detect what kind (if any) training courses currently exist on AI, VR and SI and their target audiences.

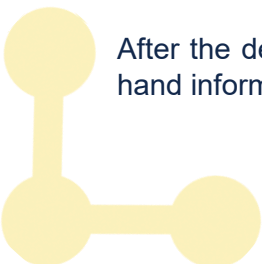
Common terms of reference, in form of a template excel table, were spread among the partners with the objective of gathering information from the 8 participating countries in a uniform way. The excel table included the following criteria:

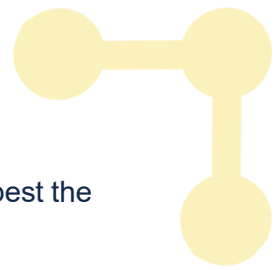
1. Topic: AI, VR, SI.
2. Course Title.
3. Link to website.
4. Course provider
5. Course description.
6. Thematic focus.
7. Delivery mode (online, in person).
8. Language of instruction
9. Duration (hours)
10. ECTS (if relevant).
11. EQF level
12. Assessment.
13. Certification.
14. Other recognition.
15. Pre-requisites.
16. ESCO related Occupations (if relevant)
17. Applicable Industry/sector (if relevant)
18. Target group.

This desk research was really useful to map the existing training offer for the three subjects and it allowed the consortium to see that there are very few AI and VR training courses for businesses and non-technicians on offer. For SI, the overall number of available training courses is very low, compared to the other two subjects.

IV.2. Companies Survey

After the desk research phase, the consortium reached out to businesses to collect first-hand information on the level of businesses' knowledge/awareness of AI, VR and SI.





The consortium decided to organise an online survey with companies, as this fitted best the project requirements.

When discussing the objectives of the survey, it became soon clear that it would not be possible to proceed with an online survey for all three subjects. For AI and VR, mostly quantitative information was going to be collected, while for SI much more qualitative and contextualized information from businesses was needed.

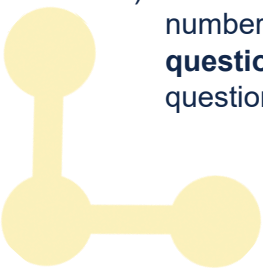
For this reason, the consortium decided to proceed with an online survey on the subjects of AI and VR, and to organise focus groups for SI.

IV.2.a. Online Survey

The objective of the online survey was to detect and understand companies' degree of digital maturity, the adoption level of AI and VR, their staff training, upskilling and re-skilling practices and needs, and an assessment by the respondents about the role of ethics in relation to AI and VR and soft skills.

Survey Design Considerations

- 1) The first question to be decided was about **choosing the sectors and company sizes** we should target. According to the EULEP project specifications, a minimum of 50 answers per country were to be obtained. Considering this, the results would be seen from a qualitative perspective and for information purposes, given that statistical representativeness could not be guaranteed. The partners decided to reach out to the largest possible number of companies of all sizes and in every sector to make the answers' sample as representative as possible. The Chambers of Commerce who are partners to this project used their detailed members' databases, containing data of all types of companies (in terms of sizes and sectors), for the online survey, and thanks to this a good and representative sample of companies could be surveyed.
- 2) A second important decision was to choose the **target person (respondent)** to be addressed in the companies. Depending on the company size, different HR structures are in place. With view to the topics addressed in the survey, it was decided to target SME Owners, IT Directors/Managers and Human Resources Managers. A short explanation of the survey's objectives and target person was heading the online questionnaire, allowing for a smooth forwarding to the right professional profile at the company.
- 3) The third important point to decide about were the survey **topics** and the **type of questions** to be raised. The topics chosen were: business profile, degree of digitalisation, skills and training at the company, and AI and VR adoption and training. The company profile (years of operation, size, geographic activity range, etc.) was to help us see if there were factors related to the company profile that could affect the adoption of AI and VR. In fact there weren't. Rather small companies were sometimes more digitally mature than bigger ones. There was no relationship between digital maturity and sector either. There was sometimes a relationship between digital maturity and country of respondents, but not big enough to distort the general survey conclusions.
- 4) The most challenging work was to obtain the desired information with the minimum number of questions. Thanks to a continuous refining process the **shortest possible questionnaire** was developed, including mostly multiple choice and very few open questions, allowing for a rapid completion of the survey.



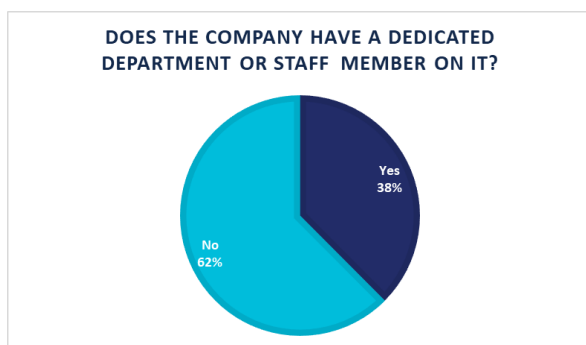


- 5) In order to motivate respondents to complete the survey and not abandon half way through, a **short estimation on the time required to answer** all questions was written in the beginning of the document.
- 6) The online questionnaire was designed and agreed on with project partners in several online meetings. It was then translated into the **languages of all participating countries to facilitate the maximum number of answers from companies**. For France and Belgium, two different French versions were developed to take into account country specific wording.
- 7) Then 8 different online questionnaires were produced, one for each participating country and language. MS Forms was used for the online survey, and no personal data were asked, in compliance with GDPR regulations.
- 8) The use of local language helped to collect more answers, however the reply rate after the first e-mail sending remained low in some countries and a second sending was organised. The second sending had varying success: some countries were able to reach the agreed number of replies, while others remained below the threshold.
- 9) All the replies were gathered for country analyses and a joint analysis. Thanks to the fact that the numbering and order of questions in all language versions was identical, the joint analysis was straightforward for all closed questions. For the open questions, the answers were first translated into English in the country analysis, and then the country results were aggregated in the joint analysis. For the joint analysis, an excel file was used, and it was very helpful to present each question and its corresponding answers on a separate sheet.
- 10) After having determined the overall survey results, they were compared to the country results to avoid country related distortions (given the differing reply numbers from the participating countries).

Survey Results and Recommendations

The survey results are presented in the report “Workforce needs for up and reskilling in Artificial Intelligence, Virtual Reality and Social Innovation”.

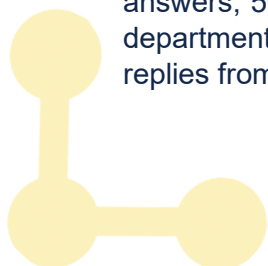
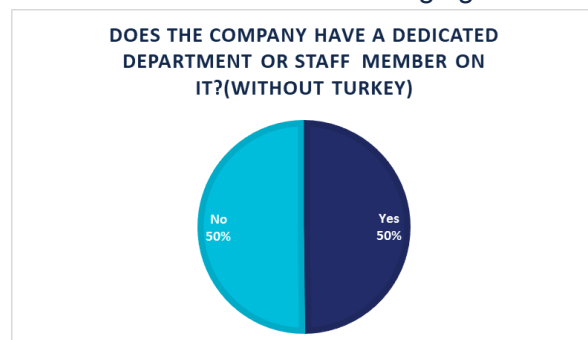
This section presents some of the outcomes from the methodological perspective, as an illustration of the above-mentioned steps.



direction of the overall average, and there was no major distortion of the overall results.

As an example: if we exclude Türkiye answers, 50 % of respondents don't have a department or staff member on IT; with the replies from Türkiye, the share is 62%.

Due to the large number of responses from Turkey (430 out of 717) an analysis was conducted to see if there could be a great bias of the results towards responses from Turkey. The analysis revealed that, although the weight of Türkiye answers had an influence on the average results, all countries answers were converging into the





87 % of respondents were SMEs , without Türkiye, the share of SMEs was 89 %. The Türkiye answers indeed indicated a lower digital maturity than the participating EU countries average, but the degree of digitalization obtained through the above answer and other answers like the investment in IT, and the adoption of other technologies pointed towards a low digital maturity among EU respondents, or, at least, a lack in maturity to adopt more advanced Digital Technologies such as AI or VR.

The overall online questionnaire results support the development of training modules for medium digital maturity manufacturing industry companies (as the main target group) with the objective of preparing the companies and its staff for AI and VR adoption.

Potential AI and VR training content:

1. Adopting new IT technologies at the company and Digital Transformation
2. Introduction to Artificial Intelligence
3. Applications and Benefits of AI in different companies/sectors areas
4. Introduction to Virtual Reality
5. Applications and Benefits of VR in different companies/sectors areas
6. Workplace needs, skills assessments, and employees training
7. Ethics related to AI and VR: Privacy and Data Protection, Trust and Safety, Responsibility/Liability
8. Planning AI and VR employees training
9. Soft Skills for employees in the context of new digital technology adoption (Related to SI Learning Outcomes)

Recommendations for advanced digital technologies adoption and staff training

The adoption of advanced digital technology requires a medium level digital maturity at the company. It also requires having identified clear advantages of the digital technology adoption in terms of productivity, quality assurance, improvements in customer service of loyalty or in terms of improvements in management, production or logistics.

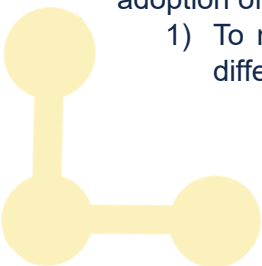
Digital technology must bring an associated benefit and digital technology adoption must be always preceded by a corresponding cost-benefit analysis. The new adopted digital technology must bring improvements to the company's business model or to processes that balance the efforts of change management, staff training or re-skilling, and the impact of the transition from the old technology towards the new technology (including the management of the transition process).

New digital technology is adopted only when it brings solutions to current problems or brings clear improvements that increase the company's competitiveness.

The adoption of new technology can't happen without the involvement and explicit consent of the top management of the company or the top decision making bodies. In the case of SMEs, the decisions are mainly taken by IT managers or staff responsible for IT, or by general managers or owners.

Based on the results we obtained from our survey with businesses, we recommend for the adoption of **advanced digital technologies in businesses**, and especially for AI and VR:

- 1) To make businesses aware of the benefits of AI and VR with clear examples of different types of applications, sectors and situation of companies.



- 2) To target the decision-making managers or owners at companies with this awareness raising.
- 3) To train companies with a medium digital maturity (see [digital maturity assessment tool](#) developed in the framework of European Digital Innovation Hubs (EDIHs)).
- 4) To up- and reskill current employees in line with their workplace skills needs. Not all employees will need the same training modules or the same intensity of training.
- 5) All staff must be aware of or trained to support change management. Soft skills and SI training modules help in this process.

IV.2.b. Focus Groups

Prior to engaging in the focus group work, the project partners clarified the SI concept, to make sure that they would get the most adequate replies from companies.

Starting from the definition of SI at European level stating that '*social innovations*' are *innovations that are social both as to their ends and their means and in particular those which relate to the development and implementation of new ideas (concerning products, services and models), that simultaneously meet social needs and create new social relationships or collaborations, thereby benefiting society and boosting its capacity to act¹*, the concept was adapted to the context of the project.

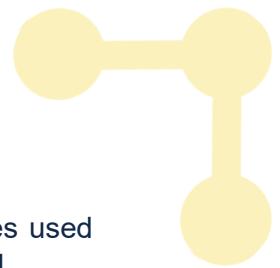
In the context of EULEP, social innovation is being looked at as a tool for accompanying companies in their digital transitions, and particularly in the adoption of AI and VR. The introduction of these new technologies can have a disruptive effect on enterprises human resources structure. Employees will not only have to be trained in the new technologies, they will also be faced with changes in the enterprises structure leading potentially to changes in the workforce structure. Social innovation can help mitigate the effects of the changes and help employees navigate the changes successfully by inventing new forms of cooperation for instance.

Looking at the situation from a different angle, digital technologies are transforming the way we interact with each other. To keep pace with change, people need to develop relevant skills, and transform new ideas into sustainable solutions for the common good. This means becoming entrepreneurial, and transform ideas and opportunities into shared value. EntreComp is the European reference framework for the understanding and development of entrepreneurship as a competence. EntreComp offers a definition of what it takes to be entrepreneurial and puts forward a progression model built on statements of "learning outcomes", organised in 15 competences.

The partners prepared and implemented the focus group sessions, as described in the methodological part of the report. During the focus group meetings, companies' awareness about SI was discussed, as well as the challenges that would prevent them from engaging in SI. Based on these two factors, the skills needs were determined.

The focus group country reports showed that there are very different perceptions about social innovation in the participating countries. Nevertheless, challenges were similar, as were the quoted workforce skills needs.

¹ Regulation (EU) No 1296/2013 and of the European Parliament and the European Council of 11 December 2013



In the common analysis, the challenges were grouped and the most recurring ones used as a reference for further analysis. The workforce skills needs were grouped as well.

“Teamwork” emerged as the most frequently expressed need for developing SI in a company. It was followed by “communication skills” and “digital skills”. From a more general perspective, a need for increasing awareness on SI was detected as well.

In the following step, the skills needs highlighted by the EULEP SI focus groups were matched with the competences defined in the EntreComp Framework (as shown hereafter).

Corresponding EntreComp Competencies

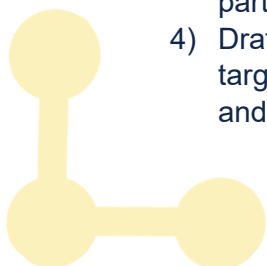


As a result of a consultation process with the project partners, six EntreComp competences were selected to define SI learning outcomes under EULEP:

1. Working with others
2. Mobilizing resources, mobilizing others
3. Taking initiative
4. Creative Thinking
5. Spotting opportunities
6. Ethical and sustainable thinking

Recommendations from the focus groups work:

- 1) Make sure that there is a common understanding among the project partners about the concept.
- 2) Define the enterprise sample to be used for the focus groups as clearly as possible, to make sure that the adequate target audience is reached.
- 3) Define a clear timeframe for the meetings, while leaving the meeting modus to partners' discretion.
- 4) Draft a clear common guidance document that is written in the language of the target group. For instance, for businesses, questions should be short and precise and adapted to their context.





- 5) For the organisation of the meetings, make sure you have a meeting moderator who has excellent listening and moderating skills, and who can adequately report about the outcomes of the meeting.

IV.3. The Process And The Definition Of Our Learner Persona And Trainer Persona

22

IV.3.a. Identifying EULEP Target Audience

The EULEP project is an initiative that is rooted in the needs and aspirations of its partner organisations with the objective of establishing a transnational cooperation platform that helps to foster VET excellence and innovation while addressing regional/national and EU VET policy priorities, such as responding to the digital transformation across different productive sectors.

The **direct target groups** of the project are the following:

VET teachers and trainers:

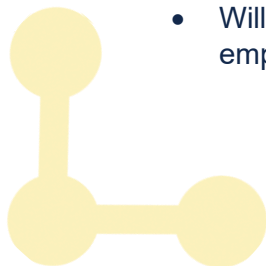
- Will be in the position to deliver up-to-date and business relevant skills to their learners.
- Will benefit from new training modules (AI, VR, SI) in line with European and national quality frameworks.
- Will experience innovative teaching methods thanks to the training via the MOOC and will be able to test them in a first pilot session with peers prior to engaging in the foreseen capacity-building with companies.

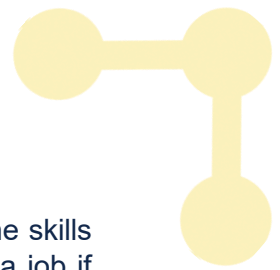
VET providers:

- Will act as multipliers and in-company counsellors.
- Will reinforce their links with business's (business representative organisations), by providing the latter with regular insights into the skills that are needed and contributing to the curricula/modules development, thus creating a virtuous circle of skills training in line with business's needs.
- will be in the position to think forward in terms of skills needed by companies and start the development of relevant training modules/curricula.
- will become more relevant for businesses in terms of skills provision, and thus benefit of a better reputation, leading to a positive knock-on effect on the number of people that will be up- and reskilled thanks to VET, finally increasing the number of people engaging in lifelong learning.

Businesses:

- Will have the possibility to explore innovation paths and find solutions to the technological challenges they might face in the innovation process.
- Will be involved in the initial context analysis and training modules development and will be beneficiaries of the capacity-building sessions in AI, VR and SI.
- will be assisted in their re- and upskilling process by receiving up-to-date and relevant training, tailored to their needs.
- Will be in the position to plan for and engage in the re- and upskilling of their employees (this is most likely to happen after the project finishes).





VET learners:

- will benefit from up-to-date and relevant training that will equip them with the skills needed on the labour market, and thus enhance their chances for finding a job if they are unemployed, or for being better equipped to deal with adaptation to change as well as with innovative processes in their current professional profiles.

IV.3.b. EULEP Learner Persona Definition

To ensure a successful adaptation of emerging technologies such as AI, VR into different sectors, it is crucial to develop effective training modules that address the specific needs and preferences of diverse learners. In this section, we present the methodological approach used for developing learner persona as an essential step when developing training modules for AI, VR and SI in different sectors.

i. Supporting a Learner-Centred and Learning Outcomes based Approach:

Modern vocational education and training is adopting outcomes based on learner centred approaches. Recognising that, from a transnational perspective, a diverse range of professionals with varying backgrounds, skills, and preferences, is going to be involved, a learner persona methodology enables the customization of training modules to meet their specific needs. By identifying and understanding the characteristics and requirements of the target audience, the methodology helps to create engaging and relevant training content, ensuring a higher level of learner motivation and active participation.

ii. Personalized Learning Experience:

The application of AI, VR and SI into the business operations in different sectors is highly diverse. With such complexity, it is essential to develop training modules that provide a personalized learning experience. The learner persona methodology facilitates the identification of individual learners' goals, challenges, and preferences, among other important insights. This information enables the design of training materials and delivery methods that resonate with learners, fostering greater knowledge retention and practical application of acquired skills.

iii. Targeted Skill Development:

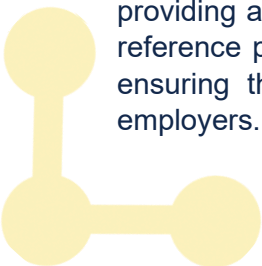
The learner persona methodology enables a granular understanding of the specific skills gaps and training needs within the target population. By analysing the learner personas, the training modules can be developed to address the identified gaps effectively.

iv. Agile Curriculum Development:

Training modules must be adaptable and responsive to evolving industry demands. The learner persona methodology enables a dynamic and agile curriculum development process. By continually assessing the needs and preferences of the learners through learner personas, training modules can be updated and refined to remain aligned with the evolving technology landscape.

v. Stakeholder Engagement and Collaboration:

Involving stakeholders, including VET governance structures, industry experts, and education providers, is crucial for the success of vocational education and training initiatives. The learner persona methodology facilitates stakeholder engagement by providing a clear representation of the target audience. By using personas as a common reference point, stakeholders can collaboratively design and refine the training modules, ensuring that the content meets industry requirements and addresses the needs of employers.





IV.3.c. Steps used to create Learner Personas

The EULEP consortium followed the below steps to create a common, archetypal EULEP Learner Persona.

Conduct research: We started by gathering data and information on the target audience across all consortium partners countries. That gave us general knowledge on the professional profile, function and sector of the learner persona, including training needs. The data gathering included using information from the online survey and desk research that had been carried out in the preceding steps. Data was gathered through desk research, surveys, engaging with artificial intelligence and large language models, focus groups, as well as by analysing existing labour market research.

Use real data: Where possible, we used real data to create learner personas, as data-driven personas are more accurate and reliable.

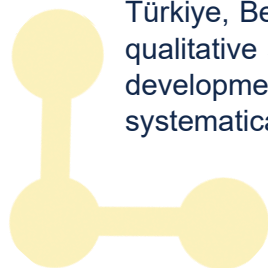
Segment training audience by consortium context: Because of the transnational European scope of EULEP it was necessary to create multiple learner personas to represent different segments within the EULEP target audience across national contexts. Segmenting the population also allowed for the consortium to consider the needs analysis of each region.

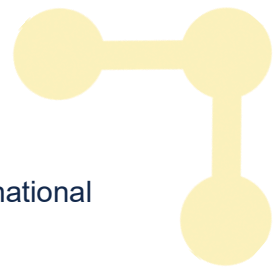
Consider goals and motivations: An emphasis was placed on understanding the goals and motivations of potential learners. We asked what are they trying to achieve through participation in the EULEP training platform? What skills or knowledge do they want to gain? What are their career aspirations? Considering the goals and motivations of potential learners can help the consortium design a training program that aligns with learner needs and expectations when designing a transnational cooperation platform which promotes VET innovation.

Incorporate learning preferences and challenges: An emphasis was also placed on considering the learner preferences of potential users and the challenges they may face. For example, some learners may prefer hands-on, practical classroom-based training, while others may prefer self-paced, distance and online courses. Some may have limited time availability, while others may prefer collaborative learning environments. Understanding learning preferences will help EULEP design training materials and instructional methods that resonate with learners. It's particularly important to understand learner preferences for the target audience of EULEP, active working professionals, or those seeking employment, in the productive sectors from a cross-sectorial perspective.

Use of descriptive narratives: Once data was gathered, each consortium member created segmented descriptive narratives for each learner persona. For example, personas were given names, backgrounds, and characteristics that represent the EULEP target audience. Narrative descriptions help the personas be more relatable and easier to understand for the subsequent development of the training modules and the learning platform.

Qualitative synthesis of segmented personas into a common EULEP persona: In order to meet the goals of the EULEP project, a common persona was developed by synthesizing all of the data and information gathered across partners in Spain, Italy, France, Latvia, Türkiye, Belgium and Austria into one common EULEP persona. The method used was a qualitative synthesis of the different characteristics from each dimension identified for the development of a learner persona, presented in Table 1 below. This process involved systematically analysing and combining learner persona findings to generate broader





insights and develop a common understanding of an archetypal learner in a transnational VET context

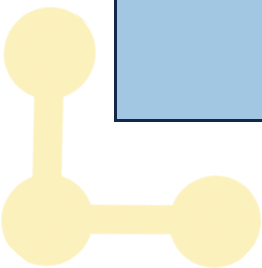
Different dimensions included in a Learner Persona:

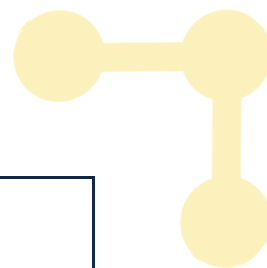
| Learner Persona Dimension | Description |
|----------------------------------|---|
| 1. Role | Occupational or professional profile of learner |
| 2. Sector | Core area of economic activity of learner |
| 3. SME Profile | Characteristics which define SME's in the context of VET training |
| 4. Background | Characterization of previous academic and professional experience |
| 5. Motivation | Characterization of learner motivation for engaging with training activities |
| 6. Goals | Characterization of learner goals for engaging with training activities |
| 7. Challenges | Characterization of challenges learners may face when engaging with training activities |
| 8. Learner Preferences | Characterization of learner preferences when engaging with training activities |

It is important to consider that EULEP learner personas are not static and may need to be updated over time as the EULEP consortium gathers more data and insights about our target training audience. At different phases of the project, regularly reviewing and refining EULEP learner personas can help ensure our consortium's vocational training program remains relevant and effective for targeted learners.

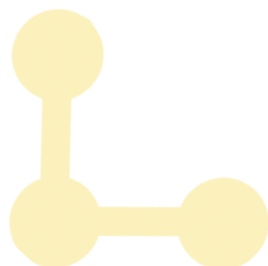
The commonly agreed learner personas for both end users and trainers are presented hereafter.

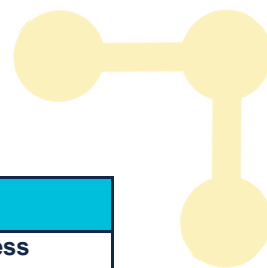
| EULEP Consortium Learner Persona (end-user of training) | |
|--|---|
| 1. Role | SME Owner, Manager or any employee in need of adapting his/her skills to the increasing digitalization of business operations and processes influenced by AI/VR |
| 2. Sector | Manufacturing Sector (with cross-sectoral perspectives) |
| 3.a. SME Profile | <ul style="list-style-type: none"> • SME's account for 99% of all businesses in Europe, representing a diverse mix of industries and sectors; • Manufacturing sector (with cross-sectoral perspective including IT, textile, food, chemistry and plastic, furniture, shoe manufacturing sectors and many others); • Employees between 10 and 249, with a company age of 10 and above, with a turnover of 10 million Euros or less p.a.; • Annual technology investment of 10,000 Euros or less. |
| 3.b. Labour Market Information | <ul style="list-style-type: none"> • In the European labour market, some of the most in demand skills in AI, based on labour market intelligence, are (1) machine learning, (2) data mining, and (3) natural language processing (NPL). • There is increasing demand for AI skills for the following roles: R&D Directors, HR Directors and Personnel specialists. The economic sectors that have the most intensity of demand are: (1) metal production, (2) information specialists and (3) administration activities. • The economic sectors who request the most professionals with AI skills are: (1) programming, (2) information services, (3) management consulting. |



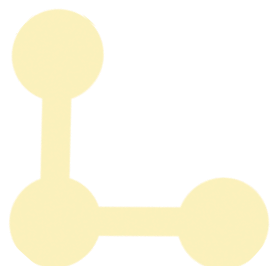


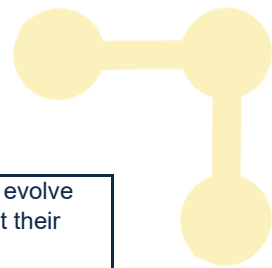
| | |
|-------------------------------|---|
| 4. Background | <ul style="list-style-type: none"> • Age: between 35-45 years old; • Professional Background with 10-15 years of business experience; • has seen the benefits of using digital technology in business contexts, such as automating certain processes, but has limited knowledge about the latest developments in AI and VR. |
| 5. Motivation | <ul style="list-style-type: none"> • motivated to incorporate AI/VR/SI into business operations to increase efficiency, improved customer experiences and new revenue opportunities. • lacks the specific skills and knowledge required to implement these technologies effectively. • believes strongly that their company needs to reskill and upskill current employees to take advantage of these emerging technologies. • essential for employees/staff to lead the digital transformation of their company to stay competitive in an international market. |
| 6. Goals | <p>Primary goals are:</p> <ul style="list-style-type: none"> • to understand how AI, VR and SI can be applied to their companies' operations to stay competitive in the market and transform business processes; • to learn practical strategies for implementing AI and VR technologies, including data analysis, machine learning, and virtual reality applications; • to explore ethical considerations and best practices related to using AI and VR in business and manufacturing settings; • to develop the ability to communicate the benefits and risks of AI and VR solutions to both technical and non-technical stakeholders inside and outside their company; • to use SI to successfully manage the transition processes that the implementation of AI and VR technologies will generate within the company. |
| 7. Challenges | <ul style="list-style-type: none"> • Lack of digital skills: Many SME business owners may lack the necessary digital skills and knowledge required to successfully implement digital transformation initiatives, including AI and VR technologies. • Lack of resources: SMEs may have limited financial resources and may find it challenging to invest in new technologies, infrastructure, and training for employees. • Resistance to change: Some employees and stakeholders may be resistant to change and may prefer to stick with traditional business practices, making it difficult to implement new technologies and processes. • Data privacy and security: As with any technology that collects and processes data, SMEs must ensure that they comply with data privacy and security regulations, which can be challenging for smaller businesses with limited resources. • Integration with existing systems: Integrating new technologies with existing systems and processes can be challenging, particularly if there are legacy systems in place that are difficult to upgrade or replace. • Access to skilled labour: SMEs may struggle to attract and retain skilled employees with the necessary digital skills and knowledge, particularly regarding the shortage of skilled labour. • Limited knowledge of available resources: Some SMEs may be unaware of the available resources, such as government grants, that can help support digital transformation initiatives. |
| 8. Learner Preferences | <ul style="list-style-type: none"> • Flexible, hybrid learning options that allow to balance responsibilities as a manager/employee with training. • Prefers online, asynchronous and self-paced learning, as it allows to learn at own pace and fit the training into busy schedule. • Would prefer to exchange experiences/network with other representatives from different companies of the same sector that are already implementing AI and/or VR solutions. • Values practical, hands-on learning experiences that are directly applicable to their business, with hands-on, real-world examples and case studies that are relevant and applicable to SMEs in the manufacturing sector. |





| Consortium Trainer Persona | |
|--------------------------------|---|
| 1. Role | C-VET Trainer with experience in Digital Transformation processes in Business sectors. |
| 2. Professional Context | <p>C-VET Professional Context with an orientation to IT and Digital Transformation</p> <p>The range of contexts for C-VET training are diverse and varied, and may include:</p> <p>a) A Medium and large company that has a HR department or that has internal training or Learning & Development team for upskilling and reskilling of employees including IT.</p> <p>b) A trainer/consultant at IT company dealing with customers in Digital Transformation and IT Tools implementation projects.</p> <p>c) A trainer/consultant in charge of CVET or IT at Chambers of Crafts, Chambers of Commerce and Industry, sectorial Business Associations and organizations responsible for the Training, Digitalization and Digital Transformation services for its members.</p> <p>d) A trainer at C-VET training center that organizes usually training courses on IT or Digital Competences for employees/managers and unemployed.</p> <p>e) A trainer at I-VET/C-VET secondary school focused on IT that would like to be updated with the latest technologies and trends.</p> <p>f) A trainer at a higher education institution focused on lifelong learning through online and distance education, with a particular emphasis on continuous vocational education.</p> |
| 3. Background | <p>C-VET trainers may come from a variety of backgrounds, however most have between 5-15 years of training experience. Many have experience in training for digital transformation initiatives, including planning and designing implementation roadmaps with new and emerging technologies (such as business intelligence, AI and VR).</p> <p>Trainers may have a variety of educational backgrounds, with a basic undergraduate degree in business or IT, and some have further degrees from a Masters to a PhD. Trainers have extensive experience working with Subject Matter Experts in order to design training solutions for enterprise.</p> |
| 4. Motivation | <ul style="list-style-type: none"> • Trainers recognize the importance of staying up-to-date with the latest advancements in technology and innovation. • Are motivated by the need to have a clear and appropriate understanding of AI, VR, and social innovation and their potential applications in the workplace. • Are motivated to learn about the benefits of these technologies and how they can be used to improve training programmes for professionals in different sectors/industries. • Are motivated by the belief that lifelong learning and continuous education are a pivotal element for individuals and organisations seeking to stay competitive. • Are motivated by a desire to improve training programmes for professionals and help them succeed in their careers. |
| 5. Goals | <ul style="list-style-type: none"> • Develop a clear understanding of AI, VR, and social innovation and their potential applications in the workplace. • Learn about the benefits of these technologies and how to accompany businesses in the adoption process of AI and VR, using SI. • Enhance their skills in identifying the appropriate areas of expertise in which further education and training is required by professionals, and how to design for these areas by consulting Subject Matter Experts. |





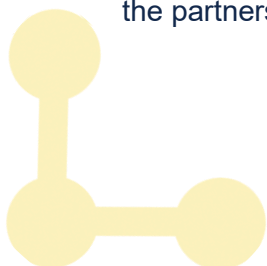
| | |
|--|--|
| <p>6. Challenges</p> | <ul style="list-style-type: none"> • Keeping up with the latest technology: As AI and VR technologies continue to evolve rapidly, trainers need to stay up-to-date with the latest developments to ensure that their training programmes are relevant and effective. • Adapting to different industries and learners: SMEs in different industries may have different needs and requirements when it comes to digital transformation, so trainers need to be able to adapt their training programmes to meet the specific needs of diverse learners in diverse business contexts, offering more flexibilised and personal learning. • Overcoming resistance to change: Some SMEs may be resistant to change and may prefer to stick with traditional business practices. Trainers need to be able to overcome this resistance and help SMEs understand the benefits of digital transformation. • Limited resources: SMEs may have limited financial and human resources to invest in digital transformation. Trainers need to be able to provide training programmes that are affordable, flexible and accessible for small and medium-sized businesses. |
| <p>7. Learner Preferences</p> | <ul style="list-style-type: none"> • Prefers flexible learning options. • Values practical, hands-on learning experiences, with hands-on, real-world examples and case studies that are relevant and applicable to different types of learners and SMEs. • Curious and open to synchronous, asynchronous, face-to-face, remote and hybrid delivery methods, provided that they are “hands-on” in any case. • Interested in hands-on training that allows for practical application of skills and knowledge, including visits to companies that use VR and AI elements • Flexibility in learning schedule to accommodate work responsibilities • Collaborative learning opportunities with other trainers and professionals such as exchange of experiences with other VET institutions (local and international). |
| <p>8. Required Skills and Competencies of the Trainer</p> | <ul style="list-style-type: none"> • Technical competence: trainer needs to have a good understanding of AI and VR technologies, as well as other digital technologies, and how they can be applied in different business contexts. • Communication skills: trainer needs to be able to communicate complex technical concepts in a way that is easy for non-technical learners to understand. • Pedagogical skills: trainer needs to have a strong understanding of instructional design and adult learning principles to develop and deliver effective training programmes. • Analytical skills: trainer needs to be able to analyse business processes, identify inefficiencies, and optimize workflows to help SMEs improve their operations. • Problem-solving skills: trainer needs to be able to identify problems and develop solutions to help SMEs overcome challenges related to digital transformation. |

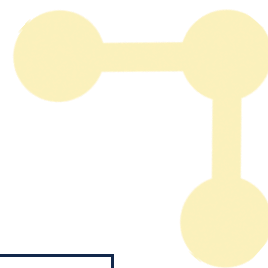
IV.4. EULEP Learning Outcomes For AI,VR And SI

The definition of the EULEP learner personas (end users and trainers) helped the project partners to shape the common learning outcomes for the three subjects that will be the basis for the training modules development.

The skills needs identified thanks to the online survey and focused group work were converted into draft learning outcomes. In a second step, the EULEP learner personas and draft learning outcomes were contrasted with each other, to see if the learning outcomes corresponded to the learner personas' motivations and goals.

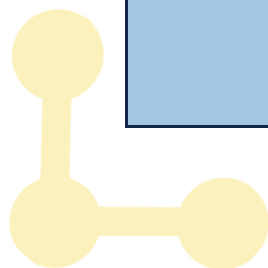
The outcome of that contrasting exercise was presented to the partners during an online meeting, and all partners were invited to give their comments. The comments were integrated into the learning outcomes and the final version of learning outcomes shared with the partners in order to prepare the subsequent step of the process.

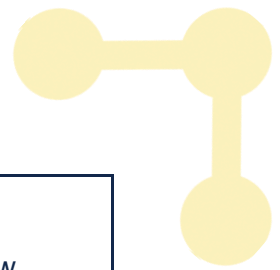




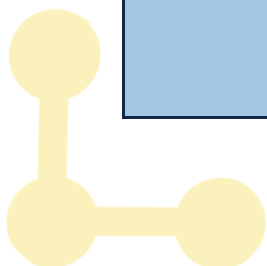
IV.4.a. End user learning outcomes

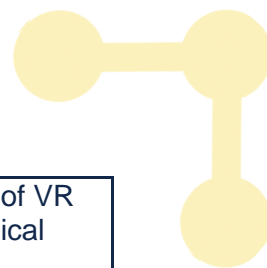
| | |
|------------------------------------|---|
| <p>AI Learning Outcomes</p> | <p>1. Knowledge of AI technologies: Learners should be able to:</p> <ul style="list-style-type: none"> • Demonstrate an understanding of the latest AI technologies and their potential applications in business operations, including their capabilities and limitations. • Demonstrate knowledge of how to use AI technologies to improve customer relations, human resources, digital marketing, and e-commerce processes. <p>2. Analysis of business processes: Learners should be able to:</p> <ul style="list-style-type: none"> • Analyse business processes and operations and to identify opportunities for implementing AI technologies. • Evaluate the potential benefits and risks of implementing AI solutions. • Explore ethical considerations and best practices related to the use of AI in business settings, including regulations, data privacy, security, and bias. <p>3. Implementation of AI technologies: Learners should be able to:</p> <ul style="list-style-type: none"> • Develop an implementation plan for AI technologies in business processes and apply this plan to improve efficiency, reduce costs, and increase revenue, including identifying relevant use cases and creating implementation roadmaps. <p>4. Evaluation of AI technologies: Learners should be able to:</p> <ul style="list-style-type: none"> • Develop criteria and metrics to assess the effectiveness and efficiency of AI technologies in their company/sector. • Design a plan for collecting and analyzing data on key performance indicators (KPIs) to evaluate the impact of AI implementation on productivity, quality, and safety. • Conduct usability testing and user feedback collection to identify areas for improvement and refinement in AI applications. <p>5. Workplace Collaboration and communication: Learners should be able to:</p> <ul style="list-style-type: none"> • Collaborate effectively with peers and communicate the benefits of AI technologies to employees and stakeholders, including both technical and non-technical audiences. • Train and support other members of the workforce, including assessing workplace needs and skills assessments in the use of AI solutions. • Manage and/or lead a team of individuals who are responsible for implementing and maintaining AI solutions, including being able to make decisions on reskilling, upskilling or hiring new employees concerning the competences needed for AI adoption (as users or as producers of technology). |
|------------------------------------|---|



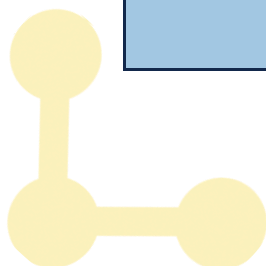


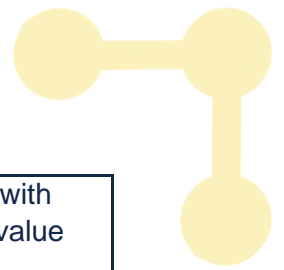
| | |
|------------------------------------|---|
| | <p>6. Adaptation to change: Learners should be able to:</p> <ul style="list-style-type: none"> • Adapt to the changing business environment and incorporate new technologies and practices as needed to remain competitive. • Demonstrate how to adapt and scale AI solutions to fit the unique needs and resources of each learner’s professional context. • Keep up-to-date with the latest advancements in AI technologies, and incorporate them into the company's operations as appropriate. |
| <p>VR Learning Outcomes</p> | <p>1. Knowledge of Virtual Reality technologies: Learners should be able to:</p> <ul style="list-style-type: none"> • Understand the basic concepts and principles of Virtual Reality (VR) technologies. • Identify and explain the potential applications and benefits of VR in their sector. • Apply knowledge of VR technologies to address specific challenges or tasks. <p>2. Analysis of business processes: Learners should be able to:</p> <ul style="list-style-type: none"> • Analyse the existing business processes within their company and identify areas where VR technologies can be implemented and how they would impact processes. • Identify risks, challenges, and opportunities associated with implementing VR technologies in the company (including VR compatibility and integration requirements). • Explore ethical considerations and best practices related to the use of VR in business settings, including regulations, data privacy, security, and bias. <p>3. Implementation of Virtual Reality technologies: Learners should be able to:</p> <ul style="list-style-type: none"> • Plan and execute the implementation of VR technologies in their company. • Identify and select appropriate VR hardware and software solutions based on organizational needs and requirements. • Create and/or adapt VR content and applications to meet specific manufacturing objectives. • Create implementation roadmaps. <p>4. Evaluation of Virtual Reality technologies: Learners should be able to:</p> <ul style="list-style-type: none"> • Develop criteria and metrics to assess the effectiveness and efficiency of VR technologies in the manufacturing sector. • Design a plan for collecting and analysing data on key performance indicators (KPIs) to evaluate the impact of VR implementation on productivity, quality, and safety. • Conduct usability testing and user feedback collection to identify areas for improvement and refinement in VR applications. <p>5. Workplace Collaboration and communication: Learners should be able to:</p> |





| | |
|------------------------------------|---|
| | <ul style="list-style-type: none"> • Collaborate effectively with peers and communicate the benefits of VR technologies to employees and stakeholders, including both technical and non-technical audiences. • Train and support other members of the workforce in the use of VR solutions. • Manage and/or lead a team of individuals who are responsible for implementing and maintaining VR solutions. <p>6. Adaptation to change: Learners should be able to:</p> <ul style="list-style-type: none"> • Demonstrate openness and adaptability to new technologies and changes in their company/sector driven by VR implementation. • Develop strategies for effectively managing and supporting employees through the transition to VR technologies. • Continuously monitor and assess the impact of VR implementation on the organization and make necessary adjustments. • Promote a culture of continuous learning and improvement in relation to VR technologies in their company/sector. |
| <p>SI Learning Outcomes</p> | <p>1. Introduction to Social Innovation as a tool for organisational change Learners should be able to:</p> <ul style="list-style-type: none"> • Understand social innovation and two dimensions of it: one linked to company internal changes related to the introduction of new technologies, and the second linked to company external processes “corporate social responsibility”. • Understand that social innovation is also a tool for accompanying companies in their digital transitions. • Demonstrate an understanding that the introduction/implementation of new technologies can have an effect on enterprises’ human resources structure, leading potentially to changes in the workforce structure and management. • Evaluate how social innovation can help mitigate the effects of the changes and help employees navigate the changes successfully. <p>2. Entrecomp Competencies for Change Management Learners should be able to:</p> <ul style="list-style-type: none"> • Understand and evaluate the need of “change management” for adopting AI and VR in their business and to be innovative. • Develop competencies needed for “change management” internally and for “corporate social responsibility” externally (customers, suppliers, environment etc.). • Acknowledge the value of soft skills for adopting new technologies which is also related to change management. • Understand how and why to develop the selected “Entrecomp” competencies. <p>2.1-Working with others Learners should be able to:</p> |





- Demonstrate competency on working together and co-operating with others to develop ideas, combine different contributions to create value and turn them into action.
- Solve conflicts and face up to competition positively when necessary.
- Value diversity as a possible source of ideas and opportunities.
- Share the ownership of value-creating activities with the members of the team.
- Easily establish new relationships to get the support needed to turn ideas into action, including emotional support (for example, joining a mentor network).
- Integrate lifelong learning in their personal development strategy and career progress.
- Explore strategies to actively listen to the end users of their products and act on their needs.

2.2-Mobilizing resources, mobilizing others

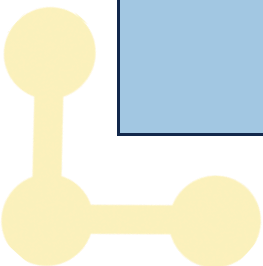
Learners should be able to:

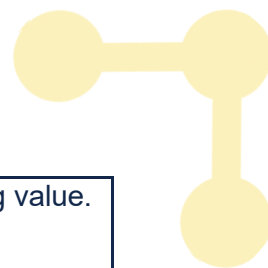
- Demonstrate effective communication, persuasion, negotiation and leadership.
- Inspire and enthuse relevant stakeholders and get the support needed to achieve valuable outcomes.
- Influence opinions in relation to the value-creating activity, through a planned approach to social media.
- Develop a training plan and support other members of the workforce in the use of AI and VR solutions.
- Find and list public and private services to support adopting AI, VR tools to their business (for example, incubator, social enterprise advisors, start-up angels, chamber of commerce).
- Find digital solutions (for example, free, paid for, or open-source) that can help manage their value creating activities efficiently.
- Get and manage the necessary resources to turn ideas into action.
- Manage time effectively, using techniques and tools that makes them and the team productive.
- Develop a plan for dealing with limited resources when setting up AI, VR solutions in the company.
- Use resources responsibly and efficiently (for example, energy, materials in the supply chain or manufacturing process).

2.3-Taking initiative

Learners should be able to:

- Initiate processes that create value. Take up challenges. Act and work independently to achieve goals, stick to intentions and carry out planned tasks.
- Initiate value-creating activities (such as adopting AI, VR technologies in the company) alone and with others.
- Actively face challenges, solve problems and seize opportunities to create value.
- Take action on new ideas and opportunities, which will add value to a new or existing value-creating venture.
- Encourage others to take responsibility in value-creating activities.





- Value others taking the initiative in solving problems and creating value.

2.4-Creative Thinking

Learners should be able to:

- Develop several ideas and opportunities to create value, including better solutions to existing and new challenges.
- Explore and experiment with innovative approaches. Combine knowledge and resources to achieve valuable effects.
- Know how to search for new solutions that improve the value-creating process.
- Create (alone or with others) products or services that solve the company's problems and needs.
- Judge if an idea, product or process is innovative or just new to themselves.

2.5-Spotting opportunities

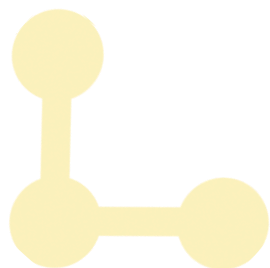
Learners should be able to:

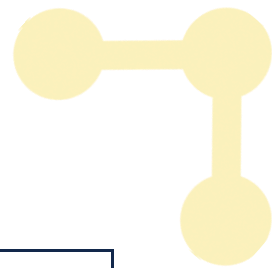
- Identify and seize opportunities to create value (implementing AI/VR solution) by exploring the social, cultural and economic landscape. Identify needs and challenges that need to be met.
- Establish new connections and bring together scattered elements of the landscape to create opportunities to create value by using AI/VR solutions.
- Identify opportunities to solve problems in alternative ways.
- Redefine the description of a challenge, so that alternative opportunities to address it may become apparent.
- Establish which user group, and which needs, they want to tackle through creating value (by using AI/VR solutions).
- Carry out a needs analysis involving relevant stakeholders.
- Identify personal, social and professional opportunities for creating value, both in existing organisations or by setting up new ventures.
- Identify the boundaries of the system that are relevant to the current team of the company.

2.6- Ethical and sustainable thinking

Learners should be able to:

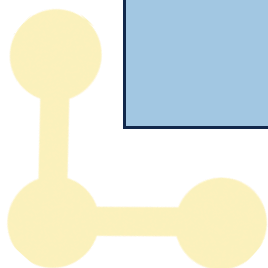
- Assess the consequences of ideas that bring value and the effect of entrepreneurial action on the target community, the market, society and the environment.
- Assess the impact of the activities on society, the environment and future generations.
- Understand and assess "socially responsible innovation".
- Think ethically while integrating AI/VR technologies into business processes.





IV.4.b.Trainers Learning Outcomes:

| | |
|---|---|
| <p>Train the Trainer Learning Outcomes</p> | <ul style="list-style-type: none"> • Understanding adult learning principles: Trainers will gain an understanding of the different learning styles and how to create training programmes that are effective for adult learners. • Instructional design: Trainers will learn how to design and develop effective training programmes for employees in different sectors, including how to identify learning objectives, create instructional materials, and evaluate learning outcomes. • Active learning strategies: Trainers will learn about different active learning strategies, such as group discussions, case studies, and problem-based learning, and how to incorporate them into their business training programmes. • Technology-enhanced learning: Trainers will learn how to incorporate technology into their training programmes, including how to use virtual reality, augmented reality, and other digital tools to enhance the learning experience. • Evaluation and assessment: Trainers will learn how to evaluate and assess the effectiveness of their training programmes, including how to measure and assess competency-based learning outcomes and make improvements based on feedback. • Communication and facilitation skills: Trainers will develop their synchronous and asynchronous communication and facilitation skills, including how to communicate complex technical concepts in a way that is easy for non-technical employees to understand and how to facilitate asynchronous group discussions and activities. |
| <p>Training Content for Trainers</p> | <p>Example Content to be covered in the Train the Trainer Module for EULEP trainers:</p> <ul style="list-style-type: none"> • Introduction to digital transformation: An overview of digital transformation, its importance in business, and how it can be implemented. • Artificial intelligence: An introduction to artificial intelligence, machine learning, and deep learning, their applications in business, and how they can be integrated into business processes. • Virtual reality: An introduction to virtual reality technology and its applications in business, including virtual training, product design, and customer experiences. • Social innovation as tool for organizational change: a definition of social innovation focusing on two dimensions: one company internal linked to change management, one external linked to “corporate social responsibility”. • Data analytics: An overview of data analytics, big data, and data mining, and their applications in business processes and decision-making. • Digital business models: A review of digital business models and how they are used to create value, including platform-based models, subscription-based models, and e-commerce. • Cybersecurity: An overview of cybersecurity threats and how they can be managed, including data breaches, hacking, and cyber attacks. |





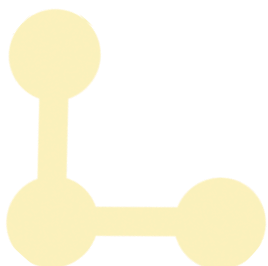
- **Change management:** A review of change management practices, including how to manage change in the context of digital transformation, and how to lead teams through change.
- **Digital strategy:** How to develop a digital strategy that aligns with business goals and objectives, and how to implement it effectively.
- **Design thinking:** An overview of design thinking methodologies, including how to apply them to digital transformation projects.
- **Industry-specific case studies:** Case studies that illustrate how AI, VR, and other digital technologies are being used in different industries, including healthcare, finance, manufacturing, and logistics.
- **Instructional design:** Principles of instructional design, including how to identify learning objectives, create instructional materials, and evaluate learning outcomes.
- **Active learning strategies:** How to incorporate active learning strategies, such as group discussions, case studies, problem-based learning and authentic assessments, into training programs.
- **Technology-enhanced learning:** How to incorporate technology into training programmes, including how to use virtual reality, augmented reality, and other digital tools to enhance the learning experience.
- **EntreComp competencies for Change Management:** How to use the selected EntreComp competencies to create awareness about and accompany the change management process in businesses, giving special attention to relevant soft skills and ethical thinking.

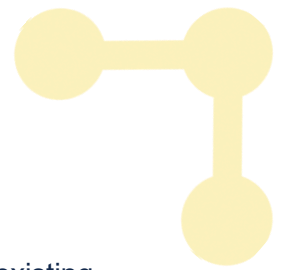
Recommendations: The process of converting the identified skills needs into specific learning outcomes in the form of knowledge, skills, and competences is commendable.

Given the transnational character of the EULEP objectives and training activities, it is necessary to develop common denominators for the different activities, to avoid dispersion and multiplication of tasks. The definition of EULEP learner personas was very helpful in this process, as commonalities from the participating countries were gathered and integrated into the profiles.

Once the profiles had been agreed on, it became easier to allocate the previously identified draft learning outcomes to the profiles and reach an agreement with partners on one common set of learning outcomes for the three subjects.

When validating the learning outcomes, we made sure that they were coherent and comprehensive and that there were no duplicates or overlaps. By doing so, each learning outcome was unique and covered a specific aspect of the skills needs. At the same time, we discuss the achievability of the learning outcomes with partners, and where needed, learning outcomes were revised based on the feedback received.





IV.5. Training Needs Reality Check

The objective of the “training needs reality check” was to find out whether there are existing training modules in partner countries that already cover the training needs as defined in the EULEP learning outcomes.

One of the first tasks that partners engaged in during the “Market Analysis” phase, was a mapping of existing trainings modules in EULEP partner countries. They were invited to list existing training modules in their respective countries/regions in the fields of AI, VR, SI as described in section 1 of this report.

At this stage of the process, the partners were invited to review the list with training courses to see whether they might fit the agreed EULEP learning outcomes.

They engaged in national/regional reviews, with two main questions to answer:

1. Do you have an existing module in your country for these Learning Outcomes?
2. If yes, is this a standalone course for this Learning Outcome, or is it a learning unit in a broader course?

All partners - at national/regional level – together with VET and higher education providers reviewed their respective training courses lists, and completed the predefined excel table that had been developed for gathering input.

They sent their replies to the work package leader who compiled and analysed them.

Main findings of the analysis:

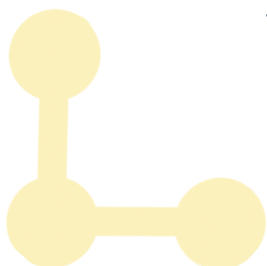
AI,VR learning outcomes on awareness are widely covered in all countries, while more specialised learning outcomes are partly covered or not covered, depending on the country. There are few stand-alone courses, mostly learning units are available.

Part of the EULEP learning outcomes for AI and VR are not covered at all in the participating countries, as none of the project partners could identify corresponding training courses.

For SI, the picture is mixed. Some learning outcomes are fully covered while others are not covered at all. One reason for this may be the fact that the SI learning outcomes are more soft skills related.

Based on the project partners’ review, after-mentioned proposed EULEP learning outcomes are not covered in the participating countries:

- **Evaluation of AI technologies:**
 - o Design a plan for collecting and analysing data on key performance indicators (KPIs) to evaluate the impact of AI implementation on productivity, quality, and safety.
- **Workplace Collaboration and communication:**
 - o Collaborate effectively with peers and communicate the benefits of AI technologies to employees and stakeholders, including both technical and non-technical audiences.
- **Evaluation of Virtual Reality technologies:**
 - o Develop criteria and metrics to assess the effectiveness and efficiency of VR technologies in the manufacturing sector.



- Design a plan for collecting and analysing data on key performance indicators (KPIs) to evaluate the impact of VR implementation on productivity, quality, and safety.
- Conduct usability testing and user feedback collection to identify areas for improvement and refinement in VR applications.
- **Adaptation to change:**
 - Demonstrate openness and adaptability to new technologies and changes in their company/sector driven by VR implementation.
 - Develop strategies for effectively managing and supporting employees through the transition to VR technologies.
 - Continuously monitor and assess the impact of VR implementation on the organization and make necessary adjustments.
 - Promote a culture of continuous learning and improvement in relation to VR technologies in their company/sector.

The main findings of the analysis were discussed with the consortium partners in a benchmarking meeting. The purpose of the meeting was to agree on the nature of the training modules to be developed under EULEP.

During the meeting, the results of the analysis were presented, and the partners engaged in a discussion about several points:

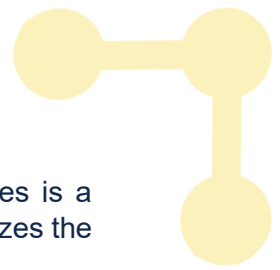
- Accessibility of identified training materials: it was not known whether the training materials that could possibly be used for certain learning outcomes were open source and copyright free or whether a license would have to be paid for them.
- In most cases, only parts of existing training courses could be used under EULEP, bringing up the question of homogeneity between parts from different countries, and the effort needed to make them homogeneous and fit EULEP's purposes.
- Language: the identified training materials were mostly available in the national language, and in case they would be used for EULEP, the partners would need to engage in extensive translation. (And this was not foreseen under EULEP.)
- The level of the training: EULEP foresees C-VET training, EQF levels 3 and 4. The level could possibly higher if this proves to be useful for the final beneficiaries.

The partners concluded that, with view to the limited usability of existing training materials, the uncertain copyright and the language questions linked to them, they would develop the EULEP training modules from scratch.

A working group will be set up to organise the joint development of the training modules. All project partners will be invited to contribute to the working group with their knowledge and expertise, both for the content of the modules and the methodology.

It was furthermore specified that the content of the EULEP training modules won't be targeted or adjusted to specific industries but will be general with a focus on manufacturing from a cross-sectoral perspective.

Recommendations: The involvement of Vocational Education and Training (VET) providers and Higher Education institutions in the review process is a key strength of this methodology. By seeking insights and feedback from these stakeholders, the learning outcomes can be evaluated from multiple perspectives, ensuring that they are comprehensive and relevant. This collaborative approach also fosters a sense of ownership and accountability among all parties involved, leading to a more coherent and cohesive training framework.



The emphasis on exploring existing training modules across participating countries is a smart step. By leveraging existing resources and expertise, the methodology optimizes the use of available information.

The training needs reality check allowed the partners to see the multitude of learning/teaching structures across the different countries, and it helped them to become more aware of the diversity in learning/teaching structures across the participating countries. This awareness not only enriches the understanding of various educational systems but also paves the way for better cooperation and collaboration. Acknowledging and appreciating differences can lead to fruitful exchanges of knowledge and experiences, resulting in more comprehensive and inclusive training programs.

IV.6. Definition Of Recognition Criteria

One of the objectives of EULEP is to facilitate the sustainability of the training modules that will be developed for AI, VR and SI.

One possibility for ensuring that the training modules will be used after the project ends, is to get them integrated into the national qualification frameworks.

IV.6.a. Country/regional review

It is with this objective in mind that the consortium partners engaged into exchanges with the VET governance structures in their respective countries and organised a discussion on the conditions for integrating the future EULEP training modules into their national training frameworks.

In preparation of that exchange, the partners were provided with below working document. They were asked to first state specific aspects of their national VET systems prior to answering the questions related to validation/recognition criteria.

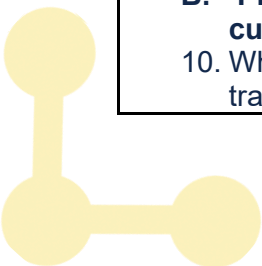
Presentation of VET systems and identification of conditions/ criteria in partner countries

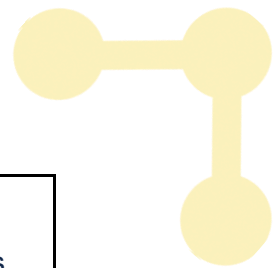
A. Presentation of VET systems:

1. Is there a National Qualification Framework in place?
2. Is it aligned with the European Qualification Framework?
3. What is the legal basis for the provision of I-VET and C-VET ?
4. Is there any specific legal basis for adult learning/lifelong learning? If yes, which one?
5. Is there any legal basis for the recognition of acquired competences? If yes, which one?
6. Do you have any qualifications framework?
7. If yes, how does it work and what aspects does it deal with?
8. Who is in charge of the implementation of C-VET?
9. Who is in charge of the quality assurance of professional qualifications?

B. Presentation of validation/recognition of new training curricula/materials

10. Who is in charge of recognising/validating newly developed training curricula/ training materials?





11. What criteria are used for the recognition/validation of newly developed training curricula?
13. What criteria are used when existing training curricula are updated? How is the validation process organised? (On one side for new training curricula, and on the other side for adapted training curricula).

The partners set up workshops with their national/regional VET Councils (the VET governance structures in the case of EULEP) to discuss the recognition/validation of the future EULEP training modules under the national training frameworks.

During the workshops, the VET Councils in the 8 countries exchanged on the conditions/criteria for integrating the new training modules into their respective national frameworks, using as a reference the above questionnaire, the EULEP learning outcomes and learner personas.

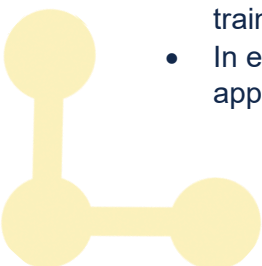
IV.6.b. Project level benchmarking workshop

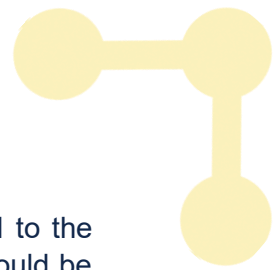
The partners sent the answers to the questionnaire to the project lead, who analysed them and presented the outcome of the analysis as well as the proposed quality criteria for the future EULEP training modules during an online workshop with the consortium partners and VET Councils from the 8 participating countries.

During the workshop, a speaker from each country presented the national VET system with a particular focus on the criteria for the validation/recognition of new training curricula/materials.

After the individual presentations, the project lead presented the outcomes of their analysis:

- All countries have National Framework in place and they are aligned with the European Framework.
- There is a legal basis for the provision of I-VET and C-VET in all the participating countries. I-VET seemed to be more regulated than C-VET, but it varies from country to country.
- There is a specific legal basis for adult learning/lifelong learning for all countries except in Austria.
- There is a legal basis for the recognition of acquired competences in all eight countries.
- Most of the countries have (professional) qualifications frameworks in place and the designation of the frameworks varies from country to country.
- C-VET is implemented by a large range of stakeholders. In all countries there is a direct or indirect link with the official VET system (ministry or agencies, and public and private providers).
- Different bodies in each country are in charge of the Quality Assurance of professional qualifications (from ministries to individual schools).
- In the eight partner countries, either a public body or an official public agency is dealing with the recognition/validating of newly developed training curricula/training materials. This is also done with the cooperation of the private sector.
- In each country the validation process is organized differently, but the main actors appeared to be public authorities or accredited bodies/agencies.





The subsequent discussion was about the quality criteria that were to be applied to the EULEP training modules. It was clarified that one common list of quality criteria would be applied in the frame of EULEP. The list would take all common quality criteria into account but not cater for country specific requests. Otherwise, the task of developing the new training modules may become too arduous.

The proposed list of common criteria was inspired by the European Qualification Framework and partners' replies to the to the questions raised during the country/regional reviews with VET Councils. All partner countries were asked to give their feedback and suggestions and at the end of the moderated discussion, the list had the broad approval of all consortium partners. Some partners gave their approval conditional of receiving green light from authorities / VET councils in their respective countries.

Consequently, the quality criteria list was shared with all consortium partners after the benchmarking workshop, and partners were given one week to give their final approval.

The quality criteria list was finalised after that deadline, based on partners input, and it is mentioned hereafter.

EULEP quality criteria for validation/ recognition of newly developed training modules

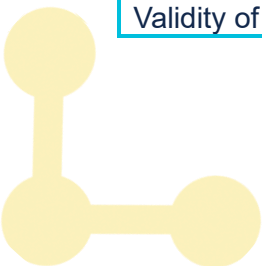
Context related:

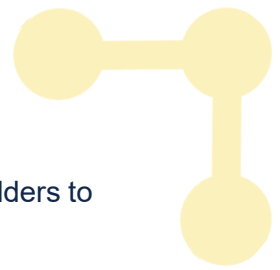
- Industry needs that the training addresses
- Labour market needs addressed by the training
- Target groups

Training related:

- Language of the training
- Awarding body or competent authority
 - Name and type of the issuing institution
- Learning Outcomes based approach
- Description of the qualification in terms of knowledge, skills, responsibility & autonomy, competences acquired
- Credit points/Notional workload needed to achieve the learning outcomes (linked to EQAVET/ECTS if possible)
- Level (and cycle, if applicable) of the learning experience
 - Scope of recognition
- Type of assessment
 - Assessment object
 - Assessment method
- Form of participation in the learning activity (form of teaching)
- Type of quality assurance
 - Internal Quality Assurance processes
 - External quality Assurance/regulatory body
- Materials and technical base for providing the training
- Type of credential
 - Form of credential
 - Stackability
 - Validation

Validity of the credential





The training related criteria can be further broken down into sub-criteria, for stakeholders to gain a more detailed insight into the elements that compose the criteria.

In the frame of EULEP, it is not possible to go into a granular description for all criteria, given that a minimum common denominator in terms of criteria for the 8 countries is to be established. Partners in the countries will have the opportunity during the subsequent adaptation phases to further work on the criteria so that the trainings can get validated/recognised under their respective national qualification frameworks.

Recommendations:

1. Involve local/regional VET governance structures early: To ensure the recognition and validation of newly developed training modules at all levels, including businesses and public education authorities, it is crucial to involve local/regional VET governance structures from the early stages of the conception process. These structures, such as VET Councils or Clusters, often have a close link to businesses and can provide valuable insights and input on the criteria required for successful integration into national frameworks.

2. Conduct workshops with VET Councils: Organize workshops with national/regional VET Councils to share the defined learning outcomes, modules, and learner personas for the training modules. These workshops can serve as a platform for exchanging information and discussing the conditions/criteria necessary for the integration and validation of the new training modules within each partner country's VET system.

3. Compare VET systems and criteria: Prepare a working document containing key questions related to the VET systems and validation/recognition criteria in partner countries. Circulate this document to all partners to gather comprehensive information on the existing frameworks and practices in each country.

4. Analyse and Summarize Findings: After collecting the responses from partner countries, analyse the data and summarize the main findings. Identify commonalities and differences in the validation/recognition criteria and understand how the VET systems operate in each country.

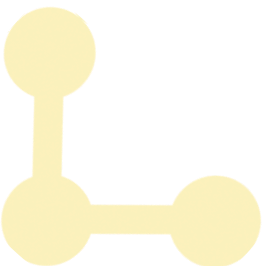
5. Develop Common Criteria: Based on the comparison and analysis of the findings, propose a draft list of common criteria for the development of training materials. This list should be compatible with the European Qualification Framework.

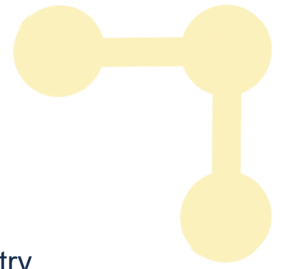
6. Seek Feedback and Validation: Share the proposed list of common criteria with all partner countries, including their respective VET Council members. Seek their feedback and validation to ensure that the criteria are relevant, feasible, and suitable for implementation within each country's VET system.

7. Consider Individual Country Contexts: While developing common quality criteria for recognition/validation, it is important to consider the individual contexts and specificities of each country's VET system. Foresee mechanisms in the project by which partners can adjust the quality criteria, building on the common quality criteria.

8. Collaborative Decision Making: Encourage collaborative decision-making among partner countries and their VET Councils. Foster open discussions and constructive exchanges to arrive at a consensus on the final set of validation/recognition criteria.

9. Document the Process: Maintain clear documentation of the entire process, including workshop outcomes, data analysis, proposed common criteria, and feedback received from VET Councils. This documentation will be valuable for future reference and potential adjustments.





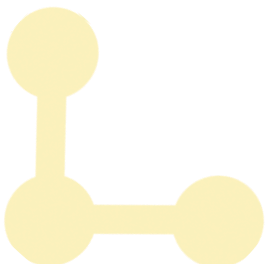
The present report has been drafted by Terrassa Chamber of Commerce and Industry, TOBB and UOC in collaboration with Eurochambres.

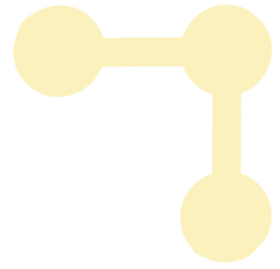
Parts of the report may be reproduced, provided the source is acknowledged.

July 2023

Disclaimer:

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 EACEA. Neither the European Union nor EACEA can be held responsible for them.





EUROCHAMBRES

