WP2-A9. External expert Report of WP2 results.

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Contents

1. INTRODUCTION

This document presents the outcomes of activity WP2-A9, titled *"External Expert Report on WP2 Results"*, which forms part of Work Package 2: *"European Common Curriculum on Waste Management Applying Blockchain Technologies for the Ornamental Rock Industry, with a Focus on Professionals Aged 45 and Over."*

The report summarizes the independent pedagogical and technical assessment carried out by an external expert in vocational education and training (VET), appointed through KSK. The evaluation focused on the quality, internal coherence, and European relevance of the WP2 outputs, as well as their practical usability for adult learners and training providers operating within the ornamental stone value chain.

To conduct the review, the evaluator examined the full set of WP2 deliverables (from WP2-A1 to WP2-A6, as well as WP2-A8, including all available language versions).

KSK collaborated with an expert from another VET school to evaluate this WP2, highlighting the RockChain Curriculum as the main product of this WP.

Feedback was gathered using a structured questionnaire designed to validate the robustness of the work completed, identify potential gaps or inconsistencies, and propose actionable improvements for the next stages of project implementation.

2. EVALUATION QUESTIONNAIRE

The questionnaire used for the external review of WP2 was the following:

RockChain. Evaluation of WP2: European common curricular on Waste Management applying Blockchain technologies for Ornamental Rock Industry focused on professionals over 45 years old

TRANSVERSAL TECHNOLOGICAL SKILLS FOR THE ORNAMENTAL ROCK INDUSTRY FOCUSING ON THE
APPLICABILITY OF BLOCKCHAIN IN A CIRCULAR ECONOMY
REFERENCE: 2023-1-DE02-KA220-ADU-000166863

ROCKCHAIN

Organisation: *

- ◯ Deutscher Naturwerkstein-Verband e.V. (DNV)
- ◯ Asociación Empresarial de Investigación Centro Tecnológico del Mármol, Piedra y Materiales (CTM)
- ◯ Universitatea Transilvania din Brasov (UNITbv)
- ◯ Klesarska skola (KSK)

1. Overall, how satisfied were you with the management and development of the WP2 (Work Package 2): European common curricular on Waste Management applying Blockchain technologies for Ornamental Rock Industry focused on professionals over 45 years old ?

	1	2	3	4	5	
Not satisfied at all	◯	◯	◯	◯	◯	Very satisfied

2. Comparative study of the curricula focused on Blockchain technology in the participating countries. Please rate the following aspects.

	Fully disagree	Rather disagree	Neither agree nor disagree	Rather agree	Fully agree
The comparative study on Blockchain technology in the participating countries was comprehensive.	○	○	○	○	○
Differences in Blockchain technology between the participating countries were clearly identified.	○	○	○	○	○
The results of the study were useful for adapting the project strategies at the European level.	○	○	○	○	○

3. Comparative study of the curricula focused on Waste management of Ornamental Rock Industry and connected industries in the participating countries. Please rate the following aspects.

	Fully disagree	Rather disagree	Neither agree nor disagree	Rather agree	Fully agree
The comparative study was comprehensive.	○	○	○	○	○
Differences between the participating countries were clearly identified.	○	○	○	○	○
The study provided a clear picture of how curricula are structured in different national contexts.	○	○	○	○	○
The results of the study were useful for adapting the project strategies at the European level.	○	○	○	○	○

4. Definition of the learning objectives and learning outcomes of the curriculum. Please rate the following aspects.

	Fully disagree	Rather disagree	Neither agree nor disagree	Rather agree	Fully agree
The learning objectives defined for the curriculum were clear and adequate for the purposes of the project.	○	○	○	○	○
Learning outcomes were consistent with the project's educational objectives.	○	○	○	○	○
The learning objectives and outcomes were aligned with the needs of the sector.	○	○	○	○	○
The definition of learning objectives was adequate to guide curriculum development.	○	○	○	○	○

5. Determine the most appropriate learning methodology for calculation of stone waste appliying Blockchain technology. Please rate the following aspects.

	Fully disagree	Rather disagree	Neither agree nor disagree	Rather agree	Fully agree
The learning methodology selected for the for calculation of stone waste appliying Blockchain technology was adequate.	○	○	○	○	○
The proposed methodology facilitated the understanding of the key concepts related to calculation of stone waste appliying Blockchain technology	○	○	○	○	○
The methodological choice was effective in achieving the educational objectives of the project.	○	○	○	○	○

6. Field research in each project country on level of human and technological resource capacity for teaching RockChain in mining-related training centres and universities. Please rate the following aspects.

	Fully disagree	Rather disagree	Neither agree nor disagree	Rather agree	Fully agree
Field research on the levelof human and technological resource capacity for teaching RockChain in mining-related training centres and universities in each participating country was exhaustive.	○	○	○	○	○
The level of human and technological resources available for RockChain education was adequately assessed.	○	○	○	○	○
The field research provided a clear picture of the capacities and limitations of each country.	○	○	○	○	○

The results of the field research were useful for planning future actions in the project.	○	○	○	○	○

7. RockChain Curriculum: Production of a rock ornamental waste management curriculum using blockchain technology. Please rate the following aspects.

	Fully disagree	Rather disagree	Neither agree nor disagree	Rather agree	Fully agree
The common European curriculum on the calculation of rock ornamental waste management using blockchain technology was clear and coherent.	○	○	○	○	○
The curriculum adequately reflected European best practices and standards in the area.	○	○	○	○	○
The creation of the common curriculum allowed for an effective harmonisation of educational approaches in the participating countries.	○	○	○	○	○

The common European curriculum was useful for standardising learning on blockchain technology in rock ornamental waste management..	○	○	○	○	○

8. Production of the different linguistic versions of the curriculum and previous tasks of WP2. Please rate the following aspects.

	Fully disagree	Rather disagree	Neither agree nor disagree	Rather agree	Fully agree
The quality of the translations facilitated the understanding of the results in all participating countries.	○	○	○	○	○
All translations were done in a timely manner and within the established deadlines.	○	○	○	○	○
The translation of the results contributed to better communication between the project partners.	○	○	○	○	○

9. First International Seminar in Pucisca (Croatia). Please rate the following aspects.

	Fully disagree	Rather disagree	Neither agree nor disagree	Rather agree	Fully agree
The first international seminar in Pucisca was organised effectively.	○	○	○	○	○
The topics addressed at the seminar were relevant and aligned with the project objectives.	○	○	○	○	○
The organisation and logistics of the seminar were adequate to encourage participation.	○	○	○	○	○

10. External expert report of WP2 Results. Please rate the following aspects.

	Fully disagree	Rather disagree	Neither agree nor disagree	Rather agree	Fully agree
The external expert's report on the results of WP2 provided an objective and detailed assessment.	○	○	○	○	○
The recommendations of the external expert were clear and applicable for the improvement of the project.	○	○	○	○	○
The report highlighted strengths and areas for improvement in the results obtained in WP2.	○	○	○	○	○
The external evaluation was useful to validate the quality and effectiveness of the WP2 results.	○	○	○	○	○

11. Remarks. Please add any comments you consider appropriate about the tasks developed in this WP2.

Tu respuesta

12. Please, tell us what kind of improvement you can suggest for the WP2:

Tu respuesta

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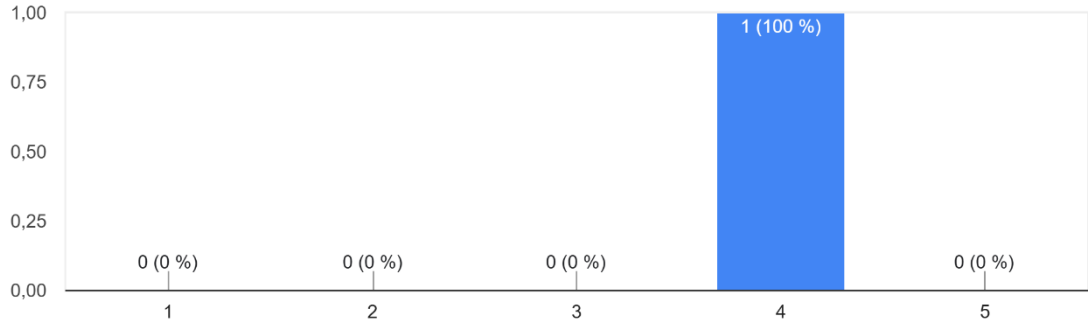
3. RESPONSE

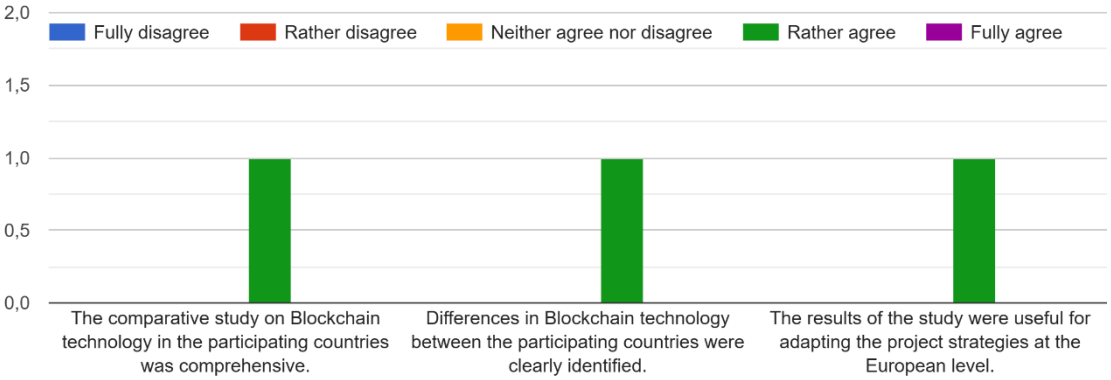
The responses of the survey for WP2 are presented below (print screens of the written replies and graphical representation of the ratings):

1. Overall, how satisfied were you with the management and development of the WP2 (Work Package 2): European common curricular on Waste ...try focused on professionals over 45 years old ?

1 respuesta



2. Comparative study of the curricula focused on Blockchain technology in the participating countries. Please rate the following aspects.



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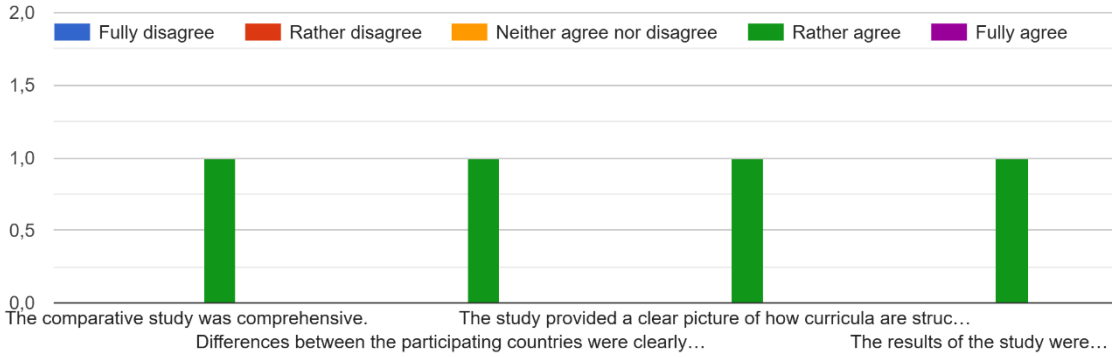
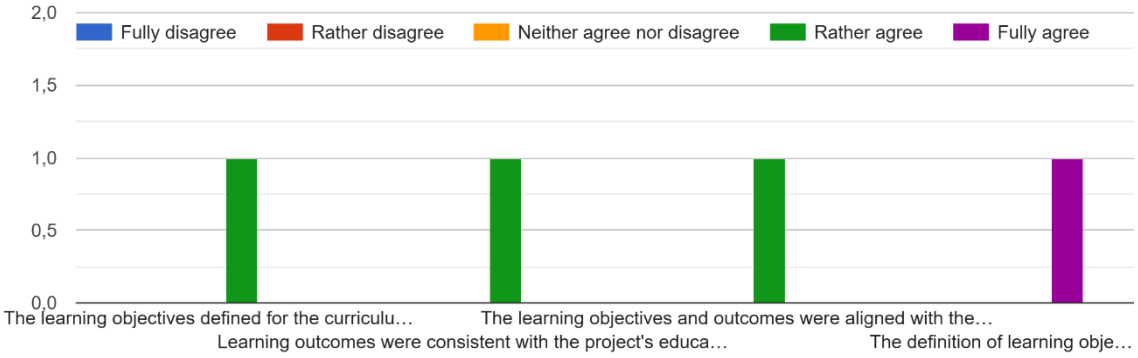


4. Definition of the learning objectives and learning outcomes of the curriculum. Please rate the following aspects.



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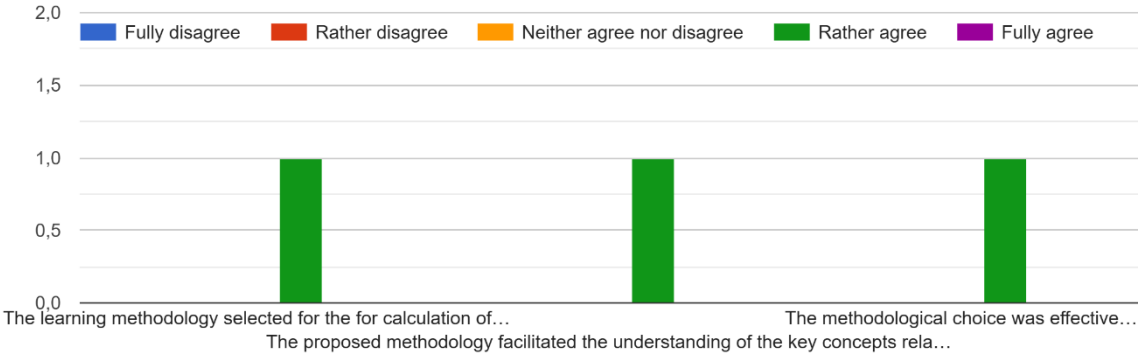

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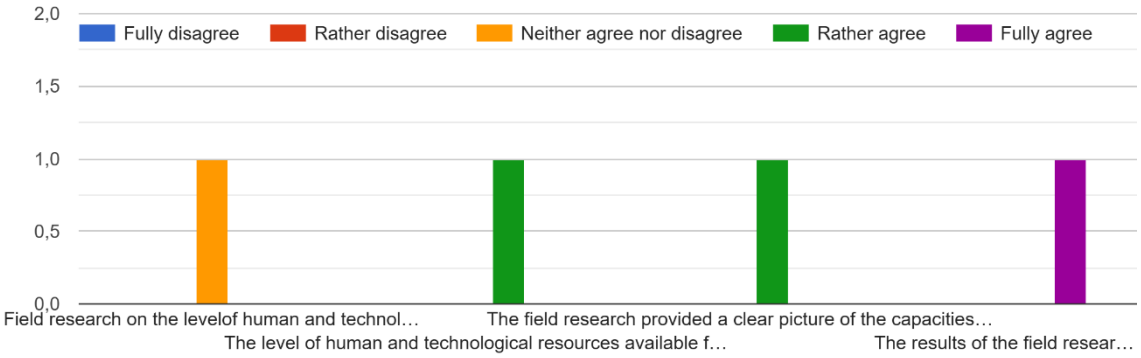
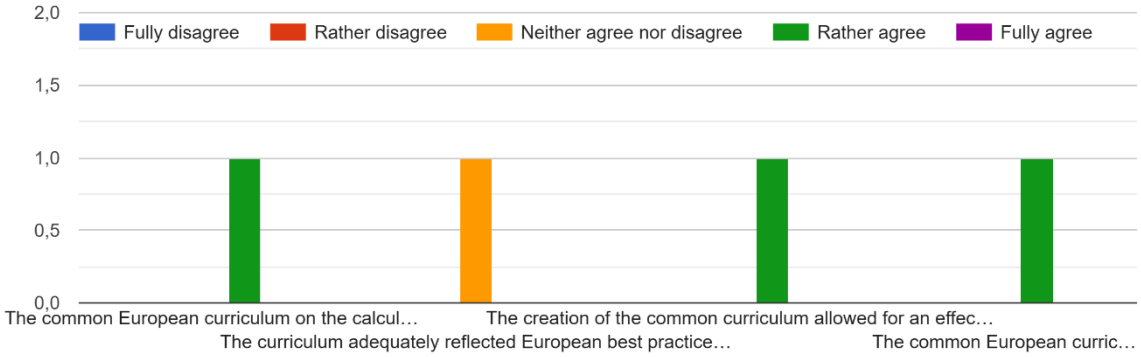


7. RockChain Curriculum: Production of a rock ornamental waste management curriculum using blockchain technology. Please rate the following aspects.



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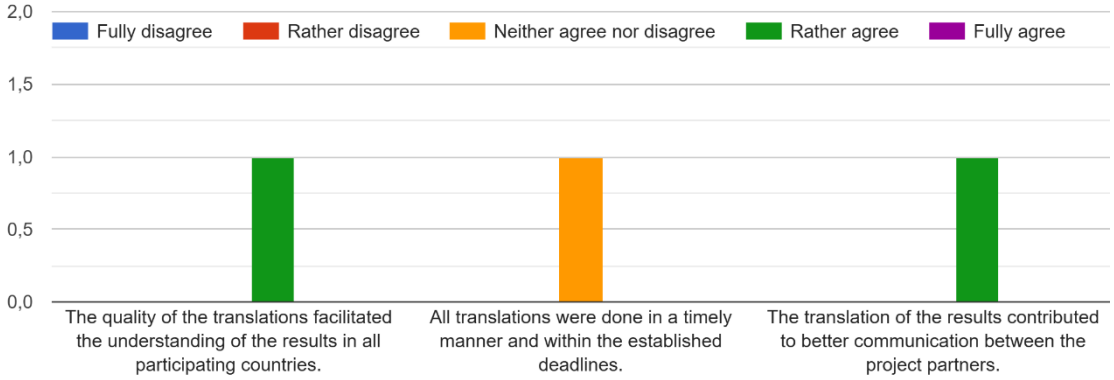

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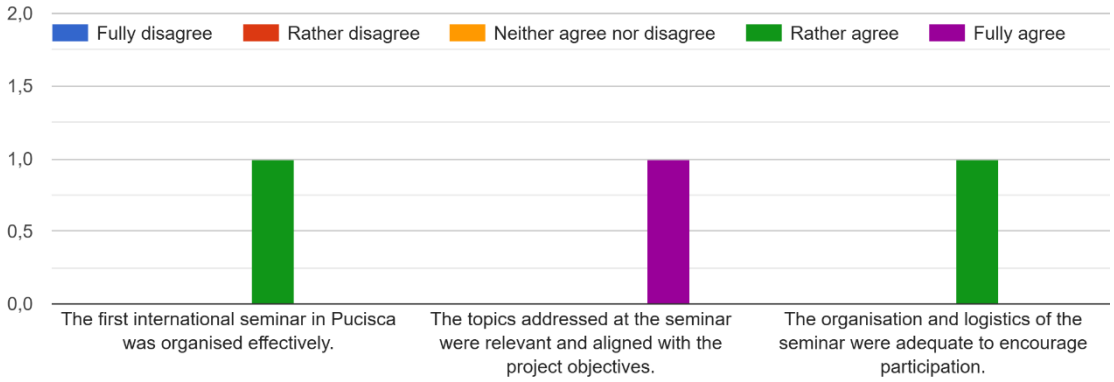

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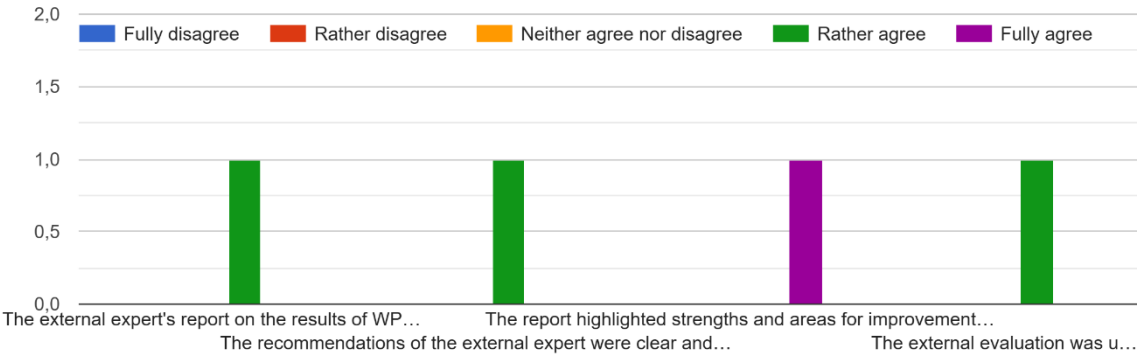

11. Remarks. Please add any comments you consider appropriate about the tasks developed in this WP2.

1 respuesta

WP2 presents a well-structured logic chain: it starts with comparative studies, defines clear objectives and outcomes, establishes a sound methodology, validates real-world capacity through field research, and concludes with the development of the final curriculum. Its focus on adult learners aged 45 and above, combined with a progressive approach and distributed assessment, makes it well suited for both vocational education and training (VET) and adult education (ADU) contexts.

To further strengthen this work package, the following areas could be improved:
(i) Reduce the reliance on abstract language when addressing blockchain concepts by incorporating more guided micro-cases that make the content more accessible;
(ii) Make the alignment with European standards and practices more explicit, going beyond mere mentions to show clear integration; and
(iii) Translate field research findings into concrete operational measures—such as defining minimum infrastructure requirements, developing a teacher upskilling plan, and offering low-tech alternatives for settings where digital tools are limited.

12. Please, tell us what kind of improvement you can suggest for the WP2:

1 respuesta

To enhance the applicability and impact of WP2, the following improvements are recommended:

Add a curriculum matrix that links learning outcomes, learning activities, expected evidence, and assessment criteria or rubrics. This would help training centers adapt and implement the curriculum more effectively according to their specific needs.

From the field research results (WP2-A5_EN_Field research v3), derive a "minimum viable" implementation framework, outlining:

Essential teaching competencies,

Basic connectivity and device requirements,

A support plan (technical and pedagogical), and

An alternative strategy for centers without dedicated software—such as low-tech or offline adaptations.

Improve accessibility and scaffolding for learners with low digital confidence, by integrating an in-tool glossary, step-by-step guides, and extended onboarding time to ease entry into the experience.

4. CONCLUSIONS

The external evaluation report gets an overall satisfaction score of 4 out of 5, confirming that WP2 provides a coherent and European-relevant foundation for the *RockChain* training pathway. The progression from evidence gathering (through comparative studies and field research) to pedagogical design (learning outcomes, methodology, and the shared curriculum) is seen as logical and well-suited to adult VET delivery.

The external expert also assessed WP2 as a strong and well-structured package, highlighting a clear "logic chain": it begins with comparative studies, defines learning objectives and outcomes, establishes a sound methodology, validates real-world capacity through field research, and concludes with the development of the final curriculum. The expert particularly valued the focus on adult learners aged 45+, combined with a progressive approach and distributed assessment, as making WP2 well suited to both VET and adult education (ADU) contexts.

Across the WP2 deliverables, the strongest points identified are:

- the relevance of the selected themes—circular economy, waste management, and traceability—within the ornamental stone value chain
- the internal consistency between the defined learning objectives, expected outcomes, and the proposed methodology
- the practical orientation of the curriculum, which supports structured, facilitated group learning.
- The international seminar in Pucisca was also recognised as a valuable milestone that helped align partners and validate the direction of the curriculum.

Priority recommendations for the future by the external expert of WP2:

In terms of improvements, the expert recommended strengthening practical applicability and transferability, especially regarding blockchain-related content. Key suggestions were to:

- reduce reliance on abstract language by introducing more guided practices that make concepts easier to grasp;
- make alignment with European standards and practices more explicit, demonstrating clear integration rather than brief references and;
- translate field research findings into concrete operational measures, such as defining minimum infrastructure requirements, developing a teacher upskilling plan, and offering low-tech/offline alternatives for settings with limited digital tools.

Implementation of recommendations in WP2:

- Reducing abstract blockchain language: In the curriculum itself, blockchain was framed as a functional, applied understanding (no prior technical knowledge required), and training was delivered through guided simulations and real-life case studies, culminating in an integrative project that reinforced learning through experiential application.

- Making alignment with European standards and practices more explicit: WP2 made EU alignment an explicit design principle, not an implicit reference. The learning outcomes were defined with stated alignment. In parallel, the curriculum embedded EU policy and regulatory context (e.g., circular economy and waste governance references) as part of the knowledge domains, supporting transferability across partner-country contexts.

- Translating field research into operational measures: Concretely, the WP2 field research signalled uneven digital readiness and limited tools in some centres, as it can see in the task WP2-A5, so the consortium: (1) defined a minimum viable set of requirements for delivery (basic devices/connectivity plus access to RockChain resources), (2) embedded a trainer-led facilitation model with guided practice and continuous feedback to support low digital confidence, and (3) enabled low-tech/blended alternatives (trainer demonstrations, supported group work, phased activities) so training could still run effectively even when individual access to devices or specialised software was constrained.

In conclusion, WP2 was validated as a high-value and sufficiently mature component to move forward into development and pilot testing—provided that the recommended improvements are implemented. These adjustments are targeted and do not require major changes to the WP2 structure. Instead, they are intended to enhance clarity, transferability, and inclusivity across real-world training environments.