VALERECO

Valorization Legumes Related Ecosystem Services

D6.5: E-learning Training Platform and Report on trainings and capacity building (version 1)

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VALERECO Consortium

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2	ESC DIJON BOURGOGNE	**BSB**	FR
3	DELPHY BV	**DELPHY**	NL
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8	STICHTING WAGENINGEN RESEARCH	**WR**	NL
9	INSTITUTO NAVARRO DE TECNOLOGIAS E INFRAESTRUCTURAS AGROALIMENTARIAS SA	**INTIA**	ES
10	AgriFood Lithuania DIH	**AFL**	LT
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12	UNIVERSITA DI PISA	**UNIPI**	IT
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15	HELVETAS Swiss Intercooperation	**HELVETAS**	CH

Executive Summary

VALERECO target is to promote adoption and understanding the value of legume crops towards transition to sustainable, productive, climate-neutral, environment-friendly and resilient farming systems. The project aim is to quantify and enhance the environmental and economic value of ecosystem services (ES) provided by these crops. It seeks to encourage diversification of farming practices throughout the EU and Associated Countries, which can contribute to healthier and sustainable diets and climate change resilience.

Deliverable 6.5: "*E-learning Training Platform and Report on trainings and capacity building*" proposes the first version of the E-Learning Training Platform (E-LTP) and an accompanying report on training and capacity-building activities within VALERECO. The deliverable D6.5 is a part of Task 6.3: "*Training & capacity building*", falls under Work Package 6 (WP6) and is led by AgriFood Lithuania DIH (AFL). This deliverable outlines the design and structure of the platform, which aim is to provide accessible and engaging training for the community. The platform hosts modular training content on legume-based agroecological practices, decision support systems, and policy integration, among other topics. The report highlights the progress made in establishing the platform and lays the foundation for future updates and improvements, with a focus on continuous learning and scalability. The deliverable is a key step in ensuring the ongoing dissemination of project knowledge and supporting the adoption of sustainable farming practices across Europe.

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List of abbreviations

CAP	Common Agricultural Policy
CMS	Content Management System
DLIH	Digital Legume Information Hub
DSS	Decision Support System
E-LTP	E-Learning Training Platform
ES	Ecosystem Services
EU	European Union
IT	Information Technology
KPI	Key Performance Indicator
LL	Living Lab
LMS	Learning Management System
RP	Reporting Period
SCORM	Sharable Content Object Reference Model
TG	Target Group
UI	User Interface
UX	User Experience
WP	Work Package
GDPR	General Data Protection Regulation
Q&A	Question & Answer

1. Introduction

VALERECO's focus is on promoting the adoption of legume-based agroecological practices across Europe. It seeks to encourage diversification of farming practices, which can contribute to healthier and sustainable diets and climate change resilience. The project brings together nine (9) Living Labs (LLs) and diverse stakeholders/target groups, including farmers, researchers, advisors, policymakers and general public, to co-create, demonstrate and scale innovative practices. VALERECO aims to foster sustainable farming practices, improve soil health and integrate legumes into crop rotations, enhancing biodiversity and resource efficiency.

The training approach in VALERECO is designed to engage stakeholders through a combination of on-site workshops, online modules and in-person learning. The methodology follows a modular structure, with at least 10 training modules tailored to specific target groups (TGs). Each training type is scheduled across Reporting Periods (RP) 2 and 3, with RP2 running from December 1, 2025 – May 31, 2027, and RP3 covering June 1, 2027 – May 31, 2028. The training modules address a broad range of topics essential for the adoption and upscaling of legume-based agroecological practices. The training sessions are designed to provide both theoretical knowledge and practical, hands-on experience, ensuring that participants can directly apply their learning in real-word contexts. Pre- and post-training assessments, along with feedback mechanisms, help monitor learning outcomes and determine future training efforts.

The Digital Legume Information Hub (DLIH) serves as the central platform for VALERECO's e-learning activities. The e-learning training platform hosts training content, including training modules, videos, factsheets, quizzes and more, all designed to support ongoing learning. The platform will be optimized for both desktop and mobile devices, ensuring accessibility for a wide audience, including those in remote areas. Modules will be updated twice per year, allowing for continuous learning and the integration of new research findings. Through the platform, learners can access materials at their own pace, revisit content, and track their progress.

Overall, the training strategy ensures effective knowledge dissemination and practical application, supporting the widespread adoption of sustainable farming practices and contributing to the project's long-term environmental and social goals. In this Deliverable report training methodology is examined, training topics are presented, and the design for the E-Learning Training Platform is proposed.

2. Training methodology

2.1 Physical training

2.1.1 Demo activities (Dissemination measure D4.4)

Demonstration activities will be implemented during the Year 3 and Year 4 of the project across six countries: Greece, Italy, Portugal, Spain, Serbia and the Netherlands. Each Living Lab lead [AUA (GR), SSSA (IT), WR (NL), IFVCNS (RS), INTIA (SP), DELPHY (NL), UC (PT), UNIPI (IT), UNIFI (IT)] is responsible for organizing at least two demonstration activities during the project period (see Table 1). One technical meeting will be conducted annually per Living Lab (LL), including LL stakeholders, to facilitate the exchange of knowledge and cross-fertilization of the legumes Ecosystem Services (ES). The demonstration activities

aim to showcase co-created legume-based agroecological practices developed in VALERECO LLs. The content will focus on demonstrating legume-based practices such as intercropping, crop rotation, cover cropping, soil health practices, and integration into local farming systems under real field conditions.

Table 1. Demo act number per reporting period (RP) per partner

Partner	RP2	RP3
AUA	1	1
DELPHY	1	1
UC	1	1
IFVCNS	1	1
WR	1	1
INTIA	1	1
UNIFI	1	1
UNIPI	1	1
SSSA	1	1

Following the demonstration activities that will be carried out in the LLs, training sessions will be dedicated to deepening participants' understanding of legume-based agroecological practices and supporting their practical adoption. These trainings will build on observations and feedback collected during the demo acts, allowing the content to be tailored to local needs and real field conditions.

AFL, as the lead partner for Task 6.3, is responsible for coordinating the development and delivery of training content, in close collaboration with all project partners. While AFL oversees the overall structure and integration of materials into the e-learning platform, Living Lab partners contribute localized expertise and case-based examples from their demo sites. Training will be delivered through a mix of on-site sessions and asynchronous modules available on the e-Learning Training Platform, ensuring wide and flexible access across the participating regions.

The training materials can be delivered in various forms, such as recorded video lectures, factsheets on legume management practices, illustrated step-by-step guides, Decision Support System (DSS) tutorials, interactive quizzes and case studies from the project's participatory trials – enabling learners to engage with both scientific insights and applied farm-level experiences. The named training materials will be selected based on the needs of the target groups and the content that will be delivered. The training material will be based primarily on the partners' opinions regarding what is most appropriate for their respective specific topics. All gathered content and insights will be adapted to the needs and preferences of specific target groups, such as farmers, advisers, policymakers, researchers, and educators, ensuring the materials are accessible, relevant to each audience.

Important: Guidelines for LLs demonstration activities will be developed in WP4. The task T4.1 "Living-Labs for demonstrating innovative uses of legumes", which is led by WR, will help assist in the capacity building activities and will help provide technical, scientific and educational material for this WP and task.

Preliminary Action Plan to Prepare Training Materials from the Demo Activities:

1. **Information Gathering after the Demonstration Activity**
    - Each LL provides field observations, technical findings and stakeholder feedback from each demo act (VALERECO deliverables D4.1-D4.3).
    - Each LL provides visuals (photos, videos, charts) and on-site documentation from demo events.
    - Key practices that participants found valuable, unclear or replicable to be identified and delivered for training material.
2. **Definition of Target Groups and Learning Objectives**
    - Target groups to be identified and relevant topics per TG to be selected.
    - Specific learning outcomes will be defined for each TG (e.g., "After this module, farmers will be able to…").
3. **Material Format Examples**

In Table 2 there are examples of material formats listed. The material can be presented in these formats to prepare online or in-person training for the demo act.

Table 2. Material format examples for online training and in-person follow-up

Online training (Asynchronous)	In-person follow-up
Video lectures (voice-over slides or recorded demos)	PowerPoint slides
Illustrated guides and fact sheets (PDFs)	Print-ready workshop handouts
Interactive quizzes (Google/Microsoft Forms)	Simple field exercise protocols
Case studies from Living Labs	
PowerPoint slides	

4. **Content Selection Recommendations**
    - Use plain, practical language, support content with diagrams and visuals. The material has to be tailored to specific target groups. For example, farmers and advisers prefer more practical

explanations, where policy makers and researchers prefer deep analysis and evidence-based information.

- Translation or adaptation of language/terms to local contexts (via partners) will be done.
- Real data, examples and results from LLs trials will be incorporated.

5. **Coordinate Reviews**

- Draft material will be shared with WP leads, technical partners and demo act hosts for revision.
- Technical content and visuals will be validated.
- Content will be adjusted based on feedback from trainers and potential users.

2.2 Hybrid training

2.2.1 Training sessions (Dissemination Measures D4.1)

Training sessions are supposed to support the learning process and increase knowledge among key actors, including farmers, agricultural advisers, agrifood industry and the general public. The training assists in expanding the provision of ecosystem services through the utilization of legumes. The dedicated project partners will organize training sessions (see Table 3). After the training session, all project partners will contribute by supplying training material: scientific content, case examples and localized support.

The objective of these training sessions is to enhance the knowledge, skills and decision-making capacity of farmers, agricultural advisers and other relevant stakeholders in adopting legume-based agroecological cropping systems. The information will be gathered from demonstration activities in the Living Labs and tailored to the specific needs of each target group. To tailor the information to specific target groups, it is essential to distinguish different needs and challenges. For example, farmers and agricultural advisors require more practical training; training for these target groups should involve real-life examples from the field, material about different farm practices or pest management solutions. As for scientific and research organizations, the material must be more theoretical and should include research findings and technical reports. For policymakers, training should focus on policy frameworks, regulations and the economic impact of sustainable farming practices. Practical examples, policy briefs and interactive tools designed for policy integration can be most effective. Moreover, the general public will need simplified training that focuses on basic concepts of sustainability and the importance of legume-based farming practices. Engaging content can help keep the public engaged and make the content accessible Based on these needs, dedicated partners should carefully consider how best to deliver training content to each audience.

The delivery of the trainings will be carried out collaboratively, with AFL leading on digital content integration for the e-LTP and Living Lab partners facilitating on-site or online sessions within their respective regions. All training sessions will be conducted by 10 partners (AUA, DELPHY, UC, IFVCNS, WR, INTIA, UNIFI, UNIPI, SSSA and HELVETAS) during the second RP (see Table 3.

Table 3. Training Session number per reporting period per partner

Partner	RP2
AUA	1
DELPHY	1
UC	1
IFVCNS	1
WR	1
INTIA	1
UNIFI	1
UNIPI	1
SSSA	1
HELVETAS	1

To conduct effective training, it is necessary to identify training needs through surveys, interviews or focus groups involving target groups in the LLs. This ensures relevance to local contexts and production systems. Materials translated and adapted to regional languages and literacy levels. Training material and format will be tailored to the learning preferences and knowledge levels of each group. Here are the examples of Training Formats:

- Capacity-Building Workshops (Online or On-Site):
  - Lectures and presentations
  - Field visits and demonstrations
  - Peer exchange sessions
  - Group Work
  - Pre-recorded video lectures
  - Interactive quizzes and gamified elements
  - Live Q&A with experts

It is highly recommended to use a blended approach during the training. Combining on-site and online methods is particularly effective in rural regions with varying digital access. By doing this, participants in the training will be more engaged and attentive.

To ensure the effectiveness of the training sessions, both pre- and post-training assessments, short quizzes or questionnaires are recommended. These tools help evaluate knowledge acquisition and participants' confidence in applying the practices covered during the training. Additionally, structured feedback mechanisms will be used to allow participants to comment on the relevance, clarity and practical applicability of the content.

The impact of the training is measured using defined indicators, including the implementation of nine capacity-building training sessions with engagement of at least 100 participants in total and further reporting of progress through Deliverable D6.6: "*E-learning Training Platform and Report on trainings and capacity building (version 2)* "on Month 36.

2.2.2 Knowledge transfer workshops (Dissemination measure D4.2)

Knowledge-transfer workshops are interactive sessions that connect producers with consumers and various ecosystem players, eliminating intermediaries to facilitate direct communication and knowledge exchange. To support multi-actor engagement, promote legume-based agroecological practices and facilitate direct knowledge transfer across the food system through inclusive workshops. These workshops are akey for upscaling innovation, connecting research to practice and bridging gaps between producers, advisors, consumers, and policymakers. In total, 10 knowledge transfer workshops must be conducted during the second and third RPs (see Table 4), with a total of at least 350 workshop participants.

Table 4. Knowledge Transfer Workshop number per reporting period per partner

Partner	RP2	RP3
AUA	1	
UC		1
RFF		1
IFVCNS	1	
LUH	1	
INTIA		1
AFL	1	1
AGFT	1	
HELVETAS	1	

Knowledge transfer will be facilitated through seminars, workshops, training sessions and demonstrations that are communicated across partners. Workshops will be held as part of collaborative projects aiming to identify and resolve the obstacles that delay the advancement of deep tech innovations in the agrifood sector. These workshops may address issues such as legal, regulatory, financial, technical or operational challenges.

During these workshops, it is highly recommended to promote VALERECO project and its' the Digital Legume Information Hub (DLIH), for example, present the project and its objectives, bring the roll-up, if needed. Highlight that the project facilitates knowledge transfer and collaboration among stakeholders to foster sustainable legume production and use.

There may be times where it is hard to get enough information during some kind of trainings or workshops. To facilitate the discussions during the transfer knowledge workshops, the following questions can be asked:

- What challenges are you currently facing in adopting or advising on legume-based cropping systems?
- How familiar are you with agroecological diversification practices (e.g., intercropping, cover cropping)?
- What kind of information or support would help you adopt these practices more effectively?
- What did you find most valuable or surprising during the demonstration activity?
- Which of the demonstrated practices would you consider trying (or recommending) on your own farm or in your advisory work?
- Were any barriers to adoption evident during the demonstration?

- How useful do you find the training materials and format (e.g., e-learning modules, field sessions)?
- How do legume-based practices fit within the current national policy frameworks?
- Are there incentives or market signals that encourage (or discourage) diversification?
- What economic factors most influence your or your clients' decisions?
- What formats (e.g., workshops, peer visits, online platforms) are most effective for continued learning?
- How can we better connect science, policy, and practice in your region?

The outcomes of each workshop will be thoroughly documented, including participant feedback, session summaries, lessons learned and potential action points. Materials, photos and recordings of online workshops will be uploaded to VALERECO's SharePoint for internal use before uploading to the e-LTP. The practical insights gained are synthesized into EIP-AGRI practice abstracts and incorporated into Deliverables D6.3 and D6.4. Feedback collected is used to refine future training sessions and policy briefs, ensuring continuous improvement.

2.3 Online training

To provide continuous, flexible access to high-quality training content on legume-based agroecological practices, allowing learners from diverse regions and backgrounds to build knowledge at their own pace through VALERECO E-Learning Training Platform hosted on the DLIH.

The training is designed with a modular structure, organized into at least 10 modules, each focusing on a specific topic and intended for different target groups, such as farmers, advisers, researchers, policy stakeholders, agrifood industry and general public. The content development is based on the knowledge needs identified through WP6 activities, ensuring the training is relevant to the stakeholders. The materials are co-created with project partners and Living Labs, adapting them in real-world applications and are linked to the outcomes from DSS tools and demonstration activities.

The training is hosted on the Information Hub (DLIH), an open-access platform available in English language. Modules are updated twice per year to allow for continuous learning and iteration. The platform is optimized for both desktop and mobile access, making it easily accessible to stakeholders, including those in more remote areas.

Asynchronous Learning Summary

- Content Elements per Module:
  - Short, focused video lectures
  - Downloadable fact sheets and guides
  - Case studies from Living Labs
  - Interactive exercises and self-check quizzes
  - Practice assignments and optional reflection activities

- **Learner Autonomy:** Start, pause and resume availability during training at their convenience.

After the training sessions, learners are encouraged to engage in ongoing community participation through online forums and thematic discussion threads related to the module topics. This promotes continuous knowledge sharing and live learning. All training materials are made available for reuse by regional training providers, EIP-AGRI networks and advisory services, ensuring that the content has a wider reach and impact. Additionally, the modules are linked to real-world examples from Living Labs, providing practical insights and references to DSS outputs and demo activities, thus enhancing the real-world applicability and validation of the content.

3. Training materials, topics & modules

3.1 Types of training materials

There are several training techniques that can be used alone or combined with each other. In this report, we are providing examples of training materials that can be used for the project's capacity building. Every dedicated partner has to prepare training material for their topic. The most common examples of training material that can be implemented in E-Learning Training Platform are:

- **Presentations and Slide Decks**

Purpose: Summarize key topics for classroom-based or online training sessions.

Format: Slide decks with visual and textual information for easy comprehension. Avoid long paragraphs of text. Aim for clarity and use keywords or phrases rather than full sentences. The template for the presentation can be used the same as in WP6.

Example: A PowerPoint presentation on "The Role of Legumes in Agroecology and Sustainable Farming."

- **Video Lectures and Tutorials**

Purpose: Provide profound descriptions of various topics. This method is helpful if the trainer intends to apply this for the knowledge delivery part. In this training, lectures are used to convey the following information to the participants.

Format: Pre-recorded videos with visual aids (slides have to be tailored to the already prepared tempalate, animations) or step-by-step guides. Recommended length of video to be between 5-10 minutes. If a topic requires more depth, break it into multiple shorter videos rather than one long video.

Example: A video showing how to use effectively the Decision Support System for various legume management strategies.

- **Fact Sheets and Guides**

Purpose: Offer brief information that learners can quickly reference.

Format: PDF documents or printed handouts summarizing key points, steps or practices. **Factsheets** are concise, one- or two-page documents that summarize key concepts, data, or findings in a clear and easily digestible format. They are typically used for quick reference and to reinforce core takeaways from

training. **Guides** are slightly longer and more detailed than factsheets, offering step-by-step instructions or in-depth information on specific topics or processes. Guides provide learners with practical, actionable insights and can serve as a reference for applying new knowledge. The template can be prepared on the template that has already been in WP6.

Example: A one-page guide on "Best Practices for Legume Crop Rotation."

- **Interactive Quizzes and Assessments**

Purpose: Test knowledge assesses learning progress and emphasizes key concepts.

Format: Multiple-choice questions or true/false questions integrated into the platform. For example, a 10-question quiz might have a time limit of 5-10 minutes, while a more extensive quiz might allow 20-30 minutes. Questions and answers must be provided by the dedicated partner.

Example: A quiz on legume benefits, where users answer questions about nitrogen fixation or pest resistance.

- **Case Studies**

Purpose: Provide Living Labs examples of how legume-based practices are applied in the field.

Format: Written or video-based case studies illustrating successes, challenges, and lessons learned.

Example: A case study from a VALERECO Living Lab showcasing the results of intercropping legumes with cereals.

The training materials developed for VALERECO will be tailored to address the specific needs of different target groups, ensuring that the content is relevant to them. For **researchers and policymakers**, scientific publications (Dissemination measure D1.1) and white papers (Dissemination measure 2.1) will be provided, offering deep analysis and evidence on the role of legumes in agroecology, their impact on ecosystem services, and policy implications. **Agricultural advisors** will receive more practical materials, such as white papers (Dissemination measure D3.1) and technical reports (Dissemination measure D2.1) that focus on applying scientific findings in real-world farming systems, offering advice and guidelines. **For farmers**, practice abstracts, articles, and case studies (Dissemination measure D2.3) will be created, presenting straightforward, practical information about legume-based cropping systems, their benefits and implementation strategies. As such, the materials will be edited and adapted to meet the distinct communication needs of each audience, ensuring clarity, relevance and maximum impact.

3.2 Training topics and modules

3.2.1 Topics targeting Farmers and Advisers

Practical, field-level applications and soil/crop management strategies.

Table 5. Topics selected for Target group: Farmers and Advisers

Topic	Description
Crop rotation with legumes to improve soil health, biodiversity, and yield stability	This topic will be covered by **IFVCNS** based on WP3, with crop rotation schemes in VALERECO field trials.
Improving soil fertility and crop performance through nitrogen fixation in legume-based cropping systems	This topic will be covered by **UNIPI** based on Task 3.3: "*Cascading effects of legume N2-fixation to soil fertility and biodiversity*."
Legumes as a tool for weed and pest suppression in low-input cropping systems	This topic will be covered by **SSSA** based on Task 3.4: "*Legume contribution to the reduction of disservices from biodiversity aiming at pesticide-free agricultural systems*."

3.2.2 Topics targeting Agrifood Industry

Focus on production efficiency, sustainability, and market trends.

Table 6. Topics selected for Target group: Agrifood industry

Topic	Description
Market potential and competitiveness of legumes in the European food system	**BSB** will cover this topic based on Task 2.2: "*Market penetration and acceptance of leguminous crops*."
Consumer behaviour and product innovation for sustainable legume-based foods	**BSB** will cover this topic based on Task 2.3: "*Behavioural design strategies to study consumers attitudes and promote healthier and more sustainable diets*."
Evaluating the economic viability of legume-based farming innovations	This topic will be covered by **DELPHY** based on Task 4.3: "*Cost-benefit analyses*".

3.2.3 Topics targeting Policy Makers and Regulators

Strategic insights for sustainability policies, food security, and soil health.

Table 7. Topics selected for Target group: Policy Makers and Regulators

Topic	Description
Legumes and strategic autonomy in food systems: policy levers for protein diversification	This topic will be led by **LUH**.

Using agro-environmental indicators to guide legume policy in CAP eco-schemes	This topic will be led by **WR** based on Task 5.3: "*Formulation of policy recommendations at EU, national and regional level*".

3.2.4 Topics targeting the General Public

Consumer, environmental impact, and sustainable food choices.

Table 8. Topics selected for Target group: General Public

Topic	Description
Legumes in everyday diets and sustainable food systems	This topic will be led by **AFL**.
How legumes help farms and the planet thrive	This topic will be led by **HELVETAS**.
Bringing back forgotten crops for a sustainable future	This topic will be led by **INTIA**.

4. E-Learning Training Platform

4.1 Brief introduction to the E-Learning Training Platform

E-Learning Training Platform is an online digital space designed to deliver educational content, allowing learners to engage with training materials remotely and at their own pace. These platforms provide a flexible and accessible learning environment that can serve diverse groups, from individuals in remote areas to urban professionals seeking upskills. E-LTPs typically host a wide variety of learning resources, such as video lectures, interactive modules, reading materials, quizzes and case studies. These resources are designed to be engaging, adopting an interactive experience that supports different learning styles, whether it's visual or auditory.

One of the key advantages of e-LTPs is their availability. Learners can access content anytime and from anywhere, if they have an internet connection. This makes e-learning an ideal solution for projects that involve geographically dispersed audiences, such as farmers, agricultural advisors, policymakers, and researchers who need training on sustainable practices but might not have access to in-person sessions.

These platforms also provide spectrum of large number of learners simultaneously, which is especially useful for large-scale initiatives like VALERECO. As training materials are hosted digitally, they can be updated regularly to reflect new research, practices that ensure learners always have access to the most current information.

E-learning platforms also offer valuable tracking and assessment tools. Learners' progress can be monitored through analytics, such as module completion rates and quiz results, which helps trainers assess knowledge acquisition and identify areas that may require further attention. In addition, feedback

mechanisms such as surveys and discussion forums allow learners to share their experiences and provide input, further enriching the learning process.

In the context of VALERECO, the e-learning platform plays a crucial role in reaching a broad and diverse audience. It serves as a central hub for disseminating key training materials on topics like legume-based agroecological practices, crop rotation, decision support systems (DSS) and policy integration. By offering self-paced learning, the platform ensures that stakeholders can gain the knowledge and skills needed to adopt sustainable farming practices, contributing to the project's overall goals of reducing greenhouse gas emissions, enhancing biodiversity, and supporting sustainable agricultural development.

4.2 Technical Specifications of the VALERECO E-Learning Training Platform

4.2.1 The Architecture of the Platform

There are multiple architecture models that can be used to create e-LTP. One of the solutions is **Learning Management System (LMS)** integration. Integration with an LMS like Moodle or a custom-built solution allows for tracking learners' progress, offering certification and managing assessments. The system allows for the creation and management of course modules, quizzes and interactive activities. In addition, **Sharable Content Object Reference Model (SCORM)** compliance is essential for ensuring that content can be easily shared and tracked across various platforms. This standard allows for smooth integration of multimedia learning resources and ensures that progress is tracked reliably. Furthermore, cloud hosting provides the platform with the necessary scalability and reliability, ensuring that the system can accommodate a growing number of users without compromising performance. Cloud hosting also enables flexibility in storage, access, and the ability to scale up as the demand for training materials increases, ensuring a smooth learning experience for all participants. The platform should be hosted on a cloud-based infrastructure for high availability, flexibility. Another potential solution is using **WordPress integrated with Tutor LMS, also known as LearnPress**. WordPress is a widely used, flexible, and scalable content management system (CMS) that offers a user-friendly interface and extensive plugin ecosystem. It provides a solid foundation for building and managing a training platform, offering easy customization, scalability and maintenance. Tutor LMS allows for the creation and management of course modules, quizzes, and interactive content while providing tools to track learner progress. It supports the creation of different user roles, such as students, lecturers, and administrators, and provides a streamlined user interface for managing training content and participants

When considering the choice of platform cost, maintenance, flexibility and ease were considered. The chosen platform to host the e-LTP is LearnPress. By integrating Tutor LMS, a powerful learning management system plugin, WordPress can be transformed into a fully functional e-learning platform. The plugin is of affordable price; moderate maintenance; full control of flexible layout, features, plugins; and is easy to be controlled with WordPress. The platform can deliver multimedia content, including video lessons, assignments and interactive quizzes. Also, mobile-friendly, responsive design ensures accessibility across devices.

4.2.2 User Access & Authentication/Registration

The registration and login process for the platform will be designed to provide secure and personalized access for all users. During registration, users will be asked to provide their name, select their role (either student, admin or lecturer), choose their target group (which includes Scientific and Research Organisations, AgriFood Industry, Farmers & Agricultural Advisers, Policy Makers or General Public) and provide their country, password and work/farm name. As part of the registration process, users will also have the option to receive email notifications about new courses and updates. By doing this, after completing the registration form, an email verification would be sent to the user, requiring them to click the verification link to activate their account. This ensures that only valid users can access the platform. The platform will be in English. Role-based registration ensures that each user has the appropriate access based on their role and target group, providing secure and adapted learning experience.

4.2.3 Content Delivery, Interactivity and Assessment

The e-LTP webpage will be developed with a mobile-friendly responsive design that ensures accessibility across desktops, tablets and smartphones. This approach will guarantee that all kinds of users, can easily access and navigate the platform regardless of their device. To support rich multimedia learning, the platform will utilize adaptive video streaming, ensuring smooth playback of high-quality video content even under varying internet speeds. This will be essential for delivering content on legume-based practices and other relevant topics.

In terms of interactive learning, the platform will support a wide range of engaging tools, such as quizzes, assessments. To track learning progress effectively, the platform could support SCORM standards, ensuring compatibility with other learning systems and providing comprehensive tracking of user progress. Real-time tracking will capture key metrics such as course completion rates, quiz results and the time spent on each module, enabling both learners and administrators to observe progress. Automated grading for quizzes, assignments and self-assessments will help guide learners, offering insights into their strengths and areas for improvement. Upon successful completion of courses, learners could receive certificates and digital badges that can be shared on social media or professional networks to recognize their achievements.

4.2.4 Security and Data Privacy

The e-learning platform will prioritize data security and privacy compliance to protect users' personal information. No data, including personal details and progress reports, will be shared outside of the consortium or analyzed for other purposes. Additionally, the platform would comply with GDPR and other relevant data protection regulations, providing assurance that learners' personal data is handled with the utmost care and in accordance with legal requirements.

To ensure user privacy, learners will have control over their privacy settings, allowing them to manage the visibility of their profiles, participation, and activity within the platform. This empowers users to decide what information they share and with whom, fostering trust and transparency.

The platform will also implement regular automated backups of all user data and content, ensuring data integrity and minimizing the risk of data loss. In the event of a system failure, a disaster recovery plan will

be in place to quickly restore the platform and all its functionality, ensuring minimal downtime and disruption to users' learning experience.

4.3 The Design of the E-Learning Training Platform

The VALERECO E-LTP will be hosted by the project website https://valereco.eu/, under the dedicated subdomain https://e-learning.valereco.eu/. The E-Learning Training Platform could be reachable via Info Hub (DLIH) (see Figure 1 and 2) and through Home page (see Figure 3).

Figure 1. Accessibility Through the Footer of Website

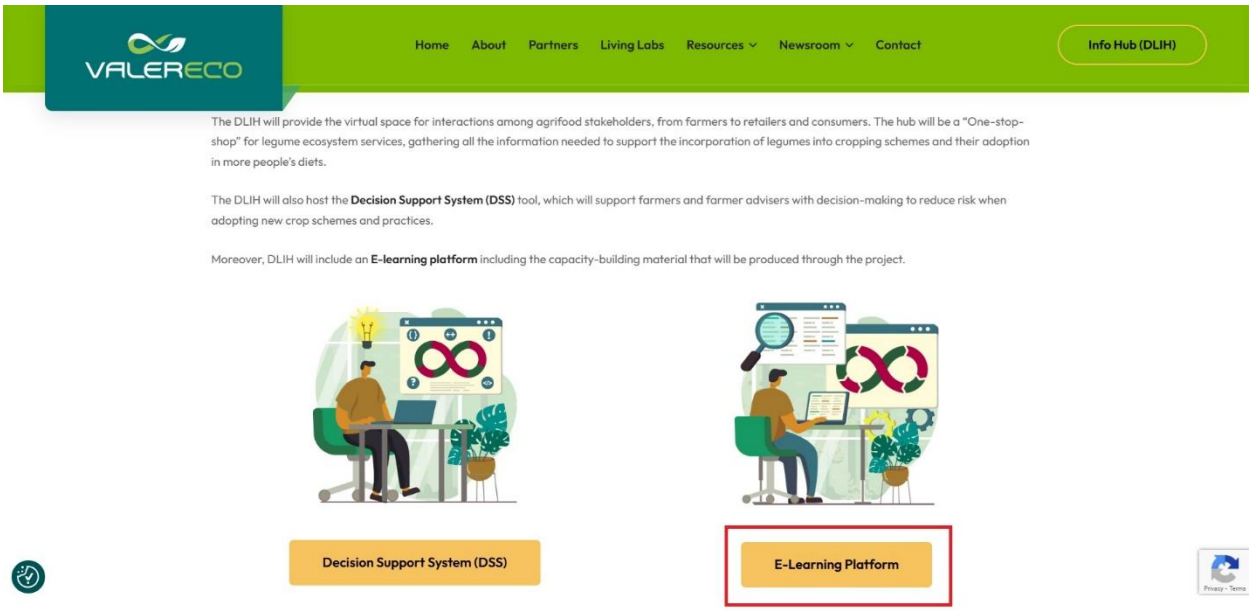

Figure 2. Accessibility Through the Info Hub (DLIH)

Figure 3. Example on Where E-LTP can be placed In the Home Page

VALERECO e-LTP will consist of a website particularly built and customized to fulfill VALERECO's training needs. The webpage will comply with VALERECO's brand book.

The structure of the VALERECO e-learning training platform would be programmed to make it very easy for users to navigate it (see Figure 4). The homepage will disseminate VALERECO project by including VALERECO approach, key objectives of the project, project partners, main results and deliverables. Also, sign up (registration) link and news about the courses would be available. When pressed on "Courses" button, training topics mentioned in part 4.2. can be viewed and played. "Log in/Sign Up" button is for the logging in or registration to the platform. Only after registration can the courses be fully accessed. "Search" button is intended for the quick website search. After logging in users will be able to reach their account by pressing "My account". Using this functionality users will be able to see and update their profile information, reach their courses and private files.

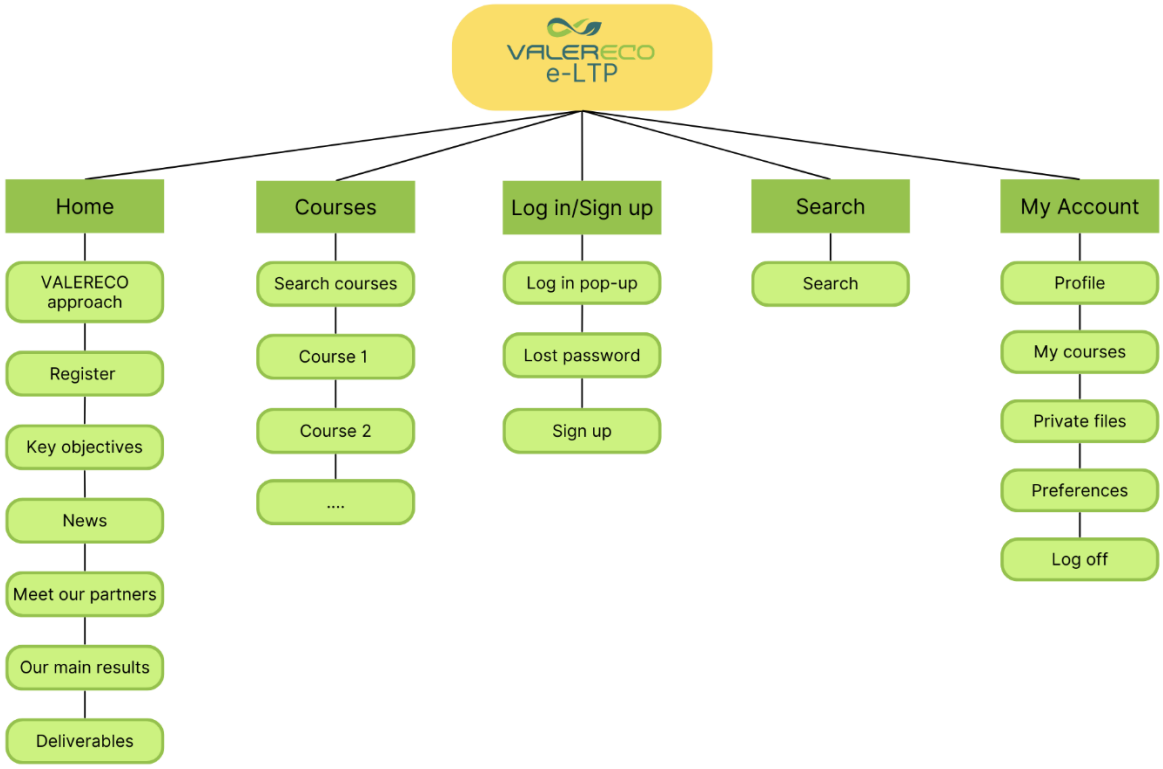

Figure 4. Proposed VALERECO website map

4.3.1 Homepage

To further examine the home page an example of it can be seen in Figure 5. The homepage can be accessed by the wide public without registration. As the e-LTP is associated with VALERECO project, the homepage will disseminate the project. Main components and a visual of the homepage of the website are proposed below:

- **Header**
  - VALERECO logo
  - "Home" button
  - "Courses" button
  - "Login/Sign Up" button
  - "Search" icon button
- VALERECO logo
- "Registration" button
- Objectives of the project

Figure 5. An example of VALERECO e-Learning Training Platform's Homepage

- **Footer**

The footer contains information on how to contact the project, social networks, privacy policy and the EU HORIZON funding program emblem with the disclaimer (see Figure 6).

The footer is visible on all pages of the VALERECO training platform and ensures the overall branding of the VALERECO project.

Figure 6. An example of VALERECO e-Learning Training Platform's Footer

4.4 Action Plan for e-Learning Training Platform Implementation

To develop a fully functional e-LTP these measures have to be taken:

1. **Planning and Requirements Gathering**
   - **Action**: A meeting will be organized to discuss and gather *functional requirements* from stakeholders regarding the platform's features: course creation, assessment tools, certification, multilingual support.
   - **Deadline**: M14
   - **Responsible**: AFL

2. **Design the platform's user interface (UI), user experience (UX) and technical architecture**
   - **Action**: Work with the design team will be started to create a UI/UX design that is mobile-friendly, intuitive, and accessible for all target groups. The technical architecture of the platform (e.g., hosting, content management system, integration with other tools) will be designed. A design prototype is developed, which would allow to see how the platform looks like and how it would function.
   - **Deadline**: M16
   - **Responsible**: AFL, IT, design team

3. **Exemplary Content Development and Integration**
   - **Action**: Examples for training materials, course modules, interactive elements, certification will be created.
   - **Deadline**: M17
   - **Responsible**: WP6

4. **Platform Development and Testing**
   - **Action**: The platform's core functionalities will be developed, a system where the training material can be uploaded easily will be created. Thorough testing web page and training platform will be done.
   - **Deadline**: M18
   - **Responsible**: IT

5. **Final Adjustments and Pre-Launch**
   - **Action**: Make final improvements and prepare for the official platform launch.
   - **Deadline**: M19
   - **Responsible**: WP6, IT

6. **Platform Launch and Monitoring**
   - **Action**: Launch the platform for all target groups, ensuring it is accessible and user-friendly. Monitor platform usage, collect feedback from users, and address any issues or bugs reported after launch.

- **Deadline**: M20
- **Responsible**: WP6, IT

7. **Content Development and Integration**
   - **Action:** Create training materials, course modules, interactive elements based on selected topics and target groups.
   - **Status:** Ongoing until the end of the task
   - **End**: M33
   - **Responsible**: All partners

8. **Post-Launch Evaluation and Improvements**
   - **Action**: Collect feedback from users on the platform's functionality, content quality, analyze user engagement. Various elements of the web page will be analyzed to determine which functionalities are the most popular, which ones are not. Feedback from the partners and users will be collected. Technical issues will be corrected.
   - **Status:** Ongoing until the end of the task
   - **End**: M35
   - **Responsible**: WP6, IT

9. **Sustainability of the Platform**
   - **Action**: As Task T6.3 is completed by M36, the training material is uploaded to the platform by dedicated partners.
   - **Deadline**: M48
   - **Responsible**: All partners

5. Conclusions

VALERECO through Task 6.3 aims to lay a solid basis for creating and delivering impactful and accessible trainings to a highly diverse range of stakeholders, aiming to promote the adoption of sustainable legume-based agroecological practices. To achieve this, a clear pathway on the actions partners need to take and the training content that have to be created is presented.

The development of the e-learning training platform plays a crucial role in this process, providing a scalable and flexible learning environment. The platform ensures that users, particularly those in rural areas, can access high-quality content seamlessly, regardless of their device or internet connectivity.

This report presents the design of the initial version of the platform. The platform's modern and innovative features offer engaging learning experiences tailored to the needs of the diverse target groups. These interactive tools, combined with real-time progress tracking and automated grading, allow for a dynamic and user-centered learning process. Furthermore, learners can earn certificates, which serve as recognition of their achievements and encourage continued engagement.

The integration of technological standards ensures that progress tracking is consistent and interoperable with other systems, while providing a comprehensive overview of user performance. This enables both learners and administrators to monitor and evaluate the effectiveness of the training in real time, allowing for ongoing improvements.

In terms of security and data privacy, the platform prioritizes the encryption of data both in transit and at rest, ensuring the protection of users' personal information. The platform complies with GDPR and other data protection regulations, offering learners full control over their privacy settings and ensuring that their data remains secure.

Overall, the VALERECO e-learning platform is designed to meet the needs of its users while adhering to the highest standards of security, privacy and accessibility. By providing flexible and engaging training content, the platform will support the widespread adoption of sustainable farming practices, contributing to the project's broader goals. During the project years the platform will be evaluated and updated to address future needs. All the updates on the platform will be documented in the second version of the "D6.6 - E-learning Training Platform and Report on trainings and capacity building (version 2)" deliverable report.

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