



D2.2

Proposals for flexibilization of VET on national levels

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List of abbreviations

VET	Vocational education and training.
CEDEFOP	European Centre for the Development of Vocational Training.
EQF	European Qualifications Framework.
WBL	Work based learning.
ECTS	The European Credit Transfer and Accumulation System
MA	Multifunctional Agriculture

AgriNext Consortium



BC Naklo - Biotehniški center Naklo



OnP - On Projects Advising, SL



COAG Jaén - Coordinadora de Organizaciones Agrarias



IES Galileo - Consejería de educación - Junta de Andalucía



CPI - Center RS za poklicno izobraževanje



ARCTUR - Računalniški inženiring, d.o.o.



SLOGA - Kmetijsko gozdarska zadruga sloa Kranj, z.o.o.



TUS - Technological University of the Shannon: Midlands Midwest



VUKA - Veleučilište u Karlovcu



SKINK - Skink, d.o.o.

Executive summary

The document named Proposals for Flexibilization of VET on national levels is Deliverable, D2.2, of the AgriNext project in the Work Package WP2 - Flexibilization of school systems. The aim of the document is to make the proposals for flexibilization of VET systems in consortium countries (Croatia, Ireland, Slovenia, and Spain) to integrate systematic changes to facilitate fast responses to job market changes.

The Flexibilization Model of the VET System is based on ten areas: the flexibility of curriculum design and school autonomy; allowing flexibility in the enrolment process; flexibility in programme implementation and delivery; learner-centred approach, individualised support and plans; breaking down programmes into units or modules to enable movement across the system; integration and development of competencies, prior knowledge validation, recognition, credit transfer and qualification framework, inclusion of social partners and response to the labour market needs, allowing horizontal and vertical flexibility (including I-Vet and C-Vet), promote alternatives to grade retention and avoid suspension.

The Proposals for flexibilization of VET on national levels are based on previous comprehensive analyses of deliverable D2.1. For each EQF level from EQF 3 to EQF 6 and four countries (Croatia, Ireland, Slovenia, Spain) the comparison was made. The research questions were based on Cedefop's flexibilisation model, knowledge of the multifunctional agricultural systems of different countries, with the possibility of adding elements of each of the participating countries. Analyses for Implementation level gathered data, focused on mapping the existing options of flexibilization in current educational programmes and possible improvements on different EQF levels.

It is important to emphasise that flexible VET education and training systems should be a path, not only a goal. All stakeholders that are actively engaged in the legalisation, planning, implementation, assessment, and evaluation of VET should build their capacities slowly, systematically and strategically.

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1. Introduction

EU encourages member states to adopt policies and practices that promote high-quality education and training, support lifelong learning and mobilities, promote the development of a skilled workforce, adopt EU competencies frameworks, etc. An important element enabling these policies and practices is the flexible VET education and training systems.

Flexible education systems enable learners to move within and across education, training and employment. Flexibility means that learners can adapt their learning pathway as they go along to suit their interests and abilities¹. Flexible education enables each participant in education to develop their potentials and find their mission within the framework of multifunctional agriculture.

Shaping flexibility in VET means analysing the conditions and implications to be found in the institutional and political context of VET systems, in the socioeconomic expectations of stakeholders, found in regular pathways to the labour market, in the organisational design of VET inside schools and companies, in the educational tools, such as pathways, curricula, learning materials and assessment procedures, and, last but certainly not least, in the professional expectations and ambitions of teachers and trainers. These conditions form the context for powerful teaching and learning environments in which the formal and non-formal skilling processes will take place².

1.1. Aim of the document

The Multifunctional Agriculture Flexibilization Model for VET Systems presented here is structured around ten key areas identified through a comprehensive analysis detailed in Deliverable D2.1: Overview of existing flexibilization options of participating schools.³ The methodology in D2.1 The research questions were based on Cedefop's flexibilisation model, knowledge of the multifunctional agricultural systems of different countries, with the possibility of adding elements of each of the participating countries. The methodology enabled the identification of flexibility points within educational systems, forming a robust foundation for the model. This model emphasizes adaptability across ten areas, including the flexibility of curriculum design and school autonomy; flexibility in enrolment processes; programme implementation and delivery; learner-centred approaches with individualized support; modularization to enable movement across systems; integration and development of competencies in multifunctional agriculture; validation of prior knowledge, recognition, and credit transfer; inclusion of social partners; horizontal and vertical flexibility (I-VET and C-VET); and promoting alternatives to grade retention and suspension.

Based on this analytical framework, Deliverable D2.2 proposes flexibility adaptations for VET systems from EQF levels 3 to 6 across partner countries. Comparative analyses and implementation-level data from D2.1 were used to map current flexibilization practices within educational programs in agricultural sector, identifying opportunities to integrate these elements more comprehensively.

It is important to view the flexibilization of VET as an ongoing process rather than a fixed outcome. All stakeholders involved in VET—policy-makers, educators, industry partners, and evaluators—are

¹ Adapted from: <https://www.cedefop.europa.eu/en/tools/vet-toolkit-tackling-early-leaving/intervention-approaches/flexible-education-and-training-systems>

² Adapted from: Shaping conditions for a flexible VET

³ agrinext-project.eu/mma/AGRINEXT_WP2_D2.1_V2.pdf/2024032514383047/?m=1711373910

encouraged to build flexibility gradually, systematically and strategically, aligning with each country's unique context and needs.

This document will, be a starting point for establishing systems of continuous exchange between employers, teachers/trainers/guidance service providers to respond to the competencies needed in the job market of multifunctional agriculture. The document will also be a base for development training for teachers and trainers to upskill their pedagogical and professional competencies in the field of multifunctional agriculture (MA) to be able to respond efficiently to the job market changes.

Chapter 2, The Flexibilization Model of VET System for MA was created because of analysing flexibilization conditions on national levels of four partner countries (Croatia, Ireland, Slovenia and Spain).

The Flexibilization Model of VET System for MA is designed as sunflowers. The structure of a thriving ecosystem relies on diverse yet interconnected elements working together to support growth and resilience. This model mirrors the collaborative efforts of experts, schools, teachers, learners, and social partners, each contributing unique strengths to build a permeable, adaptable education and training system that reduces barriers and expands opportunities for all.

Chapter 3, Proposals for flexibilization of VET on national levels, based on ten areas of the Flexibilization Model of VET System for multifunctional agriculture:

1. The flexibility of curriculum design and school autonomy
2. Allowing flexibility in the enrolment process
3. Flexibility in programme implementation and delivery
4. Learner-centred approach, individualised support and plans.
5. Break down programmes into units or modules to enable movement across the system.
6. Integration and development of competencies
7. Prior knowledge validation, recognition, credit transfer and qualification framework
8. Inclusion of social partners and response to the labour market needs
9. Allowing horizontal and vertical flexibility (including I-Vet and C-Vet)
10. Promote alternatives to grade retention and avoid suspension.

The purpose of this chapter is to:

- Look at the national policies and frameworks of partner countries.
- Map the existing options of flexibilization in current agricultural vocational educational programmes from EQF level 3 - 6 through the lens of the Flexibilization model of VET System.

The proposal should serve as a foundation and inspiration for further discussions, decisions, and actions with social partners from the field of multifunctional agriculture. Each element of the Flexibilization model of VET System is first briefly introduced and then analysed on a national and/or implementation level.

1.2. Methodology

The national proposals for VET flexibilization were led by the consortium partner Institute of the Republic of Slovenia for vocational education and training (CPI) and developed in collaboration with other AgriNext partners, including VET school management teams, sector representatives, employers, and other stakeholders. Data for D2.1, "Overview of the Existing Flexibilization Options of Participating Schools," were collected from schools and universities delivering

agricultural programs, with a strong focus on developing Multifunctional Agriculture (MA) practices.

Based on findings from D2.1, which analysed formal VET systems in each partner country, the relationship between initial and continuing VET, curriculum flexibility, dual system/apprenticeship practices, IVET and CVET for trainers, and competency assessment approaches, this document presents the Flexibilization Model. The model is informed by a comparative analysis across EQF levels 3 to 6 in four countries, examining areas such as:

- Length of educational programs
- ECTS credits
- Implementation method (school-based, dual, or mixed)
- National curriculum specifics
- Horizontal transferability between programmes
- Proportion of the optional curriculum and WBL (Work-Based Learning)
- Specificity of practical on-the-job training objectives
- Individual learning plan requirements
- Proportion of program content determined by schools in collaboration with social partners.

The implementation-level analysis focused on mapping existing flexibilization options in current programs across different EQF levels, including:

- Planning autonomy in program design, revision, and approval processes
- Teacher/trainer autonomy in instructional content, methods, and work forms
- Development of lifelong learning competencies (DigComp, GreenComp, EntreComp, LifeComp)
- Consideration of learner preferences when selecting employers for WBL
- Blended learning models (FlexModel, Blended Learning, Flipped Model, A la Carte)
- Availability of business incubators and learning enterprises
- Support systems for learners with additional needs
- Alternatives to grade retention and strategies to avoid suspension

This document's proposals aim to inspire further dialogue, decision-making, and action, serving as a foundation for creating flexible, sustainable, and learner-centred VET systems across partner countries. Although developed with a focus on Multifunctional Agriculture (MA), this Flexibilization Model is designed to be adaptable to other educational fields and transferable across EU member states.

2. The flexibilization model of VET System for Multifunctional Agriculture

Path towards transformative and sustainable ecosystem for learning.

Flexible VET Education and Training systems pave the way toward a Transformative and Sustainable Ecosystem for Learning. Developed as part of the AgriNext Project and grounded in the comprehensive analysis of Deliverable D2.1, this model uses data from partner schools implementing agricultural programs to address the need to support Multifunctional Agriculture (MA) while remaining adaptable for other VET fields. Rooted in the European Qualifications Framework (EQF), the model is transferable across various educational contexts and EU countries.

The model is transformative in encouraging diverse learning pathways that align with learners' interests and sustainable by enabling lifelong learning for everyone who co-creates the VET system.

The Flexibilization Model of VET system for MA is symbolized by the sunflower. In nature, the head of a sunflower is made up of countless individual flowers working together. This metaphor reflects the collaborative ecosystem of experts, schools, teachers, learners, and social partners who, together, break down barriers and increase opportunities, creating a seamless education and training system. Like the sunflower, which provides food (seeds), beauty (aesthetic value), and environmental benefits (pollinator attraction), Multifunctional Agriculture also produces diverse outputs—crops, value-added products, environmental services, and social opportunities such as education and rural tourism.

The model, structured around insights from D2.1³, consists of 10 interconnected elements, each described separately but influencing one another. These elements, which enable Flexible VET Education and Training Systems, are detailed in the following sections.

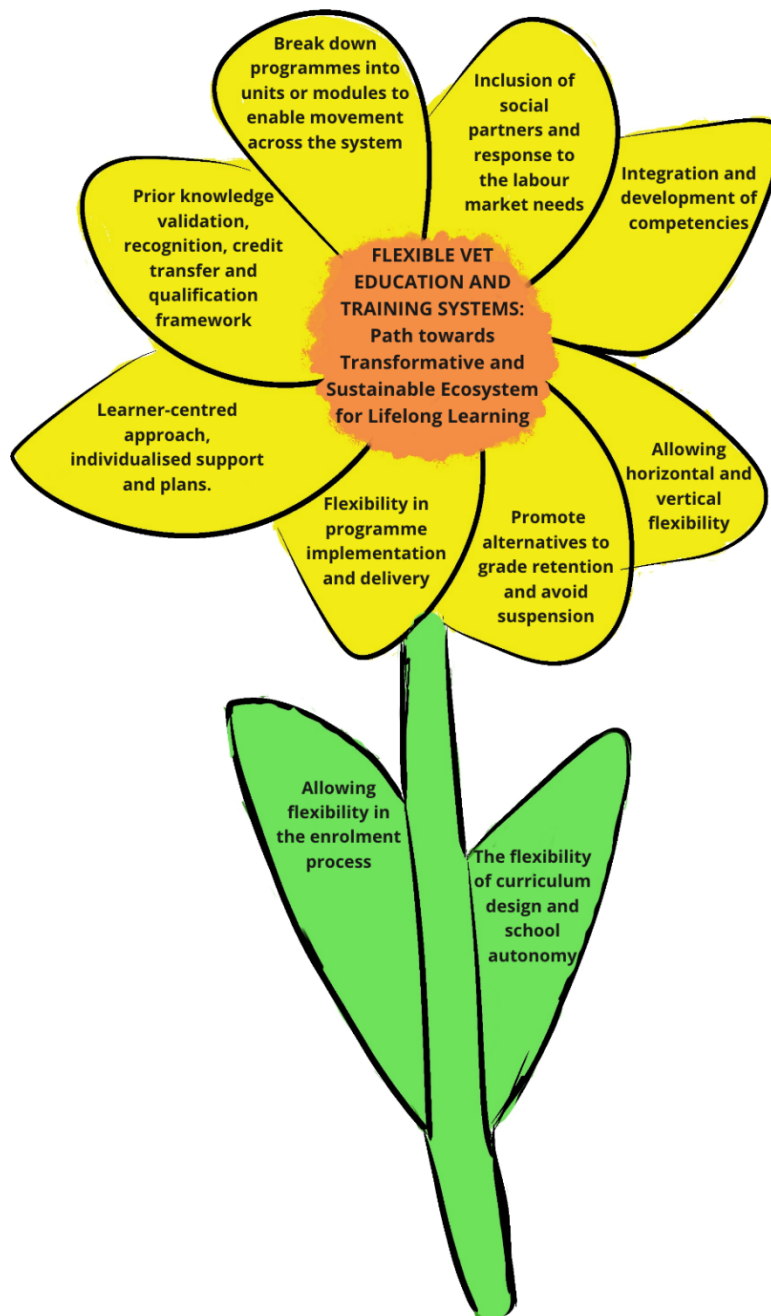


Figure 1: Drawing of Model of VET System - The Sunflower.

2.1. The flexibility of curriculum design and school autonomy

Flexibility in curriculum design and school autonomy form a foundation for adaptability at multiple levels. As outlined in the D2.1 document, curriculum policy is shaped through collaborative dialogue among schools, the Ministry of Education, the Ministry of Labour, and social partners. This collaborative approach results in a curriculum that offers a significant proportion of optional modules. This allows learners to choose from various modules set at national or school levels and empowering them to make choices that align with their interests and career aspirations. Moreover, the flexible nature of curriculum design encompasses work-based learning (WBL) opportunities

that cater to learners' diverse needs across all European Qualifications Framework (EQF) levels. At the implementation stage, educators enjoy substantial autonomy in determining the content, instructional methods, and delivery formats, which further enhances the responsiveness of educational programs to local and individual requirements.

Flexibility in Curriculum Design and School Autonomy in the Context of Multifunctional Agriculture (MA)

Integrating Multifunctional Agriculture (MA) into Vocational Education and Training (VET) requires flexible curriculum design and school autonomy. MA encompasses various interconnected farm activities, such as social farming, food processing, environmental services, rural tourism, etc. Thus, the curriculum must be adaptable to cover this wide range of skills.

By offering flexible modules, VET programs can equip students with competencies in value-added agriculture, sustainable land management, and agri-tourism. Schools should tailor curricula to local contexts, collaborating with social partners to ensure relevance to emerging opportunities in MA.

WBL is vital in MA, providing hands-on experience across diverse agricultural activities. Schools can create flexible WBL programs that prepare learners for various careers, emphasizing both production and the business, social, and environmental aspects of farming. This comprehensive approach equips students for the challenges and opportunities in modern, diversified farming.

2.2. Allowing flexibility in the enrolment process

Strict enrolment conditions can serve as significant barriers to participation in Vocational Education and Training (VET). As highlighted in the D2.1 document, introducing flexibility in the enrolment process is crucial for fostering a responsive VET system. Many young individuals awaiting results from their initial education may find themselves unable to access programs due to not meeting the required grades. By extending the enrolment period, educational institutions empower learners to apply to various programs, enabling them to commence their educational journeys year-round. This flexibility not only enhances access but also helps mitigate dropout rates during transitional phases.

Allowing Flexibility in the Enrolment Process in the Context of Multifunctional Agriculture (MA)

In MA, the workforce must be diverse and adaptable to meet the sector's varying demands. A flexible VET enrolment process enables students to enter agricultural programs throughout the year, reflecting the continuous nature of agriculture. Strict deadlines may limit access for individuals following non-traditional educational paths or those shifting careers. Allowing various entry points ensures that individuals with diverse backgrounds can contribute to the sector's growth. For instance, a farmer diversifying into cheese-making should access specialized modules without waiting for the next academic cycle.

Flexibility also supports lifelong learning, allowing workers to upgrade their skills in response to new agricultural technologies or market demands. By keeping enrolment open, VET systems can align with the agricultural industry's cycles, empowering learners to apply their education immediately.

2.3. Flexibility in programme implementation and delivery

VET schools provide flexibility in program implementation, enabling learners to learn in different settings, such as traditional classroom environments and through dual learning systems. It is crucial that schools do not limit the legal options available to learners. As noted in the D2.1, the

national curricula generally outline the desired learning outcomes, granting schools the autonomy to select appropriate teaching methods and adapt to the needs of both learners and employers.

Various learning systems and methodologies, including blended learning and distance education, present learners with opportunities to study in diverse ways. This flexibility allows for the availability of both part-time and full-time programs throughout the academic year, accommodating a range of learner needs, as emphasized in D2.1.

Flexibility in Programme Implementation and Delivery in the Context of Multifunctional Agriculture (MA)

In MA, flexibility in VET program implementation is essential to accommodate the sector's diversity. Schools should offer multiple learning pathways, including dual learning systems that combine classroom instruction with practical experience on multifunctional farms.

This approach allows learners to gain hands-on experience in areas such as sustainable farming while continuing their education. Blended learning options enable students to balance studies with active management of farms, ensuring accessibility for both full-time and part-time learners.

2.4. Learner-centred approach, individualised support, and plans.

Learners benefit most when they take charge of their education, which fosters exploration and critical thinking. The learner-centred approach facilitates a shift in teacher roles, where educators act as guides and create supportive learning environments. As highlighted in the D2.1 document, teachers must possess the didactical knowledge necessary for individualisation, empowering learners to develop their skills and personal qualities. Legislation can further support this approach by advocating for the implementation of Individual Learning Plans (ILPs).

Flexibility also encompasses how learners' preferences are considered when choosing employers and organising support forms. Schools can provide additional professional assistance for learners with special needs, as well as peer mentoring and volunteer support.

Learner-Centred Approach and Individualised Support in the Context of Multifunctional Agriculture (MA)

In MA, a learner-centred approach is vital for developing competencies that reflect modern agricultural practices, including value-added processing, agritourism etc. Allowing learners to tailor their education fosters ownership and engagement in their specific areas of interest.

Individualised learning plans help schools align education with each student's goals within MA. For instance, a student interested in both farming and hospitality can focus on agritourism, while another may explore organic certification and marketing. This approach ensures learners gain the specific knowledge and skills needed to thrive in multifunctional farm environments.

Furthermore, customised support mechanisms, including mentoring and professional assistance, are crucial in ensuring that all learners have the necessary tools to succeed. This is particularly important in MA, where a diverse skill set is essential for adapting to the varied demands of the sector, as noted in D2.1.

2.5. Break down programmes into units or modules to enable movement across the system.

Modularisation of VET programs allows learners to select units and competencies that interest them. This structure enables VET to adapt quickly to changes in the labour market by providing the skills needed for employment. Modular structures can include mandatory, core, and elective modules, as well as specialisation and introductory modules.

Breaking Down Programmes into Units or Modules in the Context of Multifunctional Agriculture (MA)

In the context of Multifunctional Agriculture (MA), modularisation proves particularly effective as it enables learners to customize their educational paths based on the diverse skill sets required in modern farming. The D2.1 document emphasizes that students can select from modules focused on organic farming techniques and rural tourism development etc. This structure not only facilitates specialization but also ensures that essential core competencies are acquired.

Moreover, modularisation allows for flexibility in transitioning between modules based on market demands, adequately preparing graduates for multifunctional roles that necessitate both technical and entrepreneurial skills. By incorporating credit systems and recognizing informal learning, VET programs can provide accessible pathways for individuals with prior farming experience, enabling them to build on existing skills through targeted modules. This approach supports the principle of lifelong learning in the evolving agricultural sector, as underscored in D2.1.

2.6. Integration and development of competencies

Vocational Education and Training (VET) provides learners with vocational and key competencies that integrate knowledge, skills, and attitudes. This comprehensive approach enhances employability, supports personal development, and encourages active citizenship. As highlighted in the D2.1 document, when developing and assessing competencies, it is essential to consider the following principles:

- **Competence is both individual and collective, involving collaborative learning.**
- **Competence accumulates through formal, non-formal, and informal contexts.**
- **Competence involves mastery of one's work, with a focus on social interaction.**
- **Competence requires flexibility and adaptability to change.**
- **Competence necessitates continuous assessment and development.**
- **Competence is context-dependent, linked to the operating environment.**⁴

Integration and Development of Competencies in the Context of Multifunctional Agriculture (MA)

Integrating diverse competencies in MA is crucial for preparing learners to navigate the complexities of modern agricultural practices. The D2.1 document emphasizes that, since MA encompasses various interconnected areas, VET programs must cultivate vocational skills alongside key competencies, including entrepreneurship and social engagement.

In MA, competencies are both individual and collaborative. Farmers must master specific tasks while simultaneously working with stakeholders to promote sustainability, highlighting the importance of teamwork and social interaction. Learners need to be adaptable, especially in light of agriculture's inherent climate uncertainties and market fluctuations.

To effectively assess and develop competencies, VET programs should incorporate a blend of formal education and experiential learning opportunities, such as internships on multifunctional farms. This approach aligns with the insights from D2.1, which stress the need for competency assessments to consider the learner's context, ensuring that graduates are equipped to tackle real-world challenges while contributing to the economic, social, and environmental goals of multifunctional farms.

⁴ Source: [https://www.cedefop.europa.eu/files/111332_Competence\(s\)_framework_for_VET_professions.pdf](https://www.cedefop.europa.eu/files/111332_Competence(s)_framework_for_VET_professions.pdf)

2.7. Prior knowledge validation, recognition, credit transfer and qualification framework

Real permeability within the education system must enable learners to transfer and build upon all types of prior learning outcomes acquired in formal, non-formal, or informal contexts, whether this learning occurred in schools, workplaces, or during leisure activities. As highlighted in the D2.1 document, access to certain forms of education and training, admission to specific courses or programs, exemptions from certain parts of them, and the right to practice in an occupation should not solely depend on formal learning but also involve the recognition of all types of prior learning.

Recognition of prior learning (RPL) means validating learning outcomes, whether from formal education or non-formal or informal learning, acquired before requesting validation. For learners, “this broader view of what is considered as relevant learning makes a substantial difference. It gives value to learning outcomes acquired over time and in different settings.”⁵

Prior Knowledge Validation, Recognition, Credit Transfer, and Qualification Framework in the Context of Multifunctional Agriculture (MA)

In MA, individuals often gain skills through informal pathways, such as working on family farms or engaging in community projects. Validating prior learning is essential to ensure these experiences count toward formal qualifications. Integrating RPL into VET systems allows learners with skills in areas like organic farming or forestry to have competencies recognized without repeating content.

The D2.1 document emphasizes that National Qualification Frameworks (NQFs) play a crucial role in this process by classifying qualifications based on learning outcomes. This alignment with the European Qualifications Framework (EQF) facilitates easier comparison of qualifications across countries, enhancing mobility for agricultural workers.

This approach ensures that agricultural workers can build on their existing knowledge and obtain formal qualifications that accurately reflect their skills, thereby opening new educational and professional opportunities. By recognizing diverse learning experiences, VET systems can better support individuals in their career development within the MA sector.

2.8. Inclusion of social partners and response to the labour market needs.

Engagement with social partners in VET systems improves labour market outcomes for learners and addresses employers' skill needs. As outlined in the D2.1 document, social partners play a crucial role in policymaking and decision-making at various levels, from national to local. Their involvement is essential in designing educational programs, developing occupational standards, and facilitating work-based learning opportunities.

Inclusion of Social Partners and Response to Labour Market Needs in the Context of Multifunctional Agriculture (MA)

In MA, the close connection between farms and communities allows VET programs to respond rapidly to local labour market needs. Collaborating with agricultural cooperatives and rural tourism businesses ensures that graduates possess the competencies required for managing multifunctional farms.

⁵ Adapted from: https://www.cedefop.europa.eu/files/9072_en.pdf

The D2.1 document highlights the importance of this collaboration, as social partners can identify emerging qualification requirements and advocate for the recognition of VET qualifications, thereby enhancing graduates' mobility and employability.

By incorporating MA principles, social partners enhance the relevance and responsiveness of VET programs, equipping learners with the skills needed to thrive in a dynamic agricultural sector.

2.9. Allowing horizontal and vertical flexibility (including I-Vet and C-Vet)

There should be no limitations when establishing progression routes for I-VET and C-VET learners. Moving towards permeable education and training systems requires bridging subsystems and reducing barriers between levels and institutions of learning and qualifications. The transition between different education sectors must be facilitated to meet the needs of individual learners or workers and the demands of a modern work environment. Learners should be able to move easily between different types of education (academic and vocational) and between different levels (such as upper secondary or apprenticeship, up to higher education) as they decide. The articulation agreements between education providers should be mandatory, with progression paths built into a learner's programme of study.⁶

Allowing Horizontal and Vertical Flexibility in the Context of Multifunctional Agriculture (MA)

In MA, where diverse skills are required across sectors, learners should have the flexibility to move horizontally (between fields within agriculture) and vertically (between education levels). This supports lifelong learning pathways, ensuring that education can adapt to career progression. The D2.1 document highlights the importance of this adaptability in cultivating a responsive educational environment.

For instance, a learner in an I-VET program focused on agricultural production should smoothly transition into advanced topics such as rural entrepreneurship through C-VET. This allows them to deepen their knowledge or shift fields without barriers.

Creating connections between academic and vocational education enables learners to pursue higher education or specializations, such as agribusiness management. Clear articulation agreements between education providers ensure seamless transitions and continuous professional development, essential for modern multifunctional farms.

2.10. Promote alternatives to grade retention and avoid suspension.

Grade retention should only be used in exceptional circumstances. It is important to assess the benefits of repetition and alternative measures on a case-by-case basis. As noted in the D2.1 document, parental and learner involvement in decisions regarding grade retention is essential. Moreover, learners should not be merely held back; specific measures must be implemented to enhance the achievements and social skills of those repeating a grade.

Alternatives to grade retention may include, for instance, one-on-one or small group support, tutoring or counselling, cooperative learning, peer tutoring, parental involvement, the establishment of positive teacher-learner relationships, multi-age grouping or smaller class groups, participation in extracurricular activities, etc. Alternatives to grade retention can be

⁶ Adapted from the article: Conditions for flexible transitions between vocational and academic education

promoted at the system level by allowing schools to adapt curricula and assessments to individual needs.⁷

Promoting Alternatives to Grade Retention in the Context of Multifunctional Agriculture (MA)

Many students may come from non-traditional backgrounds and require specialized support. Focusing on individualized support and alternative methods rather than grade retention aligns with MA's practical nature. The D2.1 document highlights that, for instance, a student excelling in hands-on activities may struggle with theoretical concepts. By promoting extracurricular opportunities, such as internships on multifunctional farms, learners can develop essential skills and build confidence in a supportive environment.

Additionally, adapting curricula to individual learner needs by offering modules in various MA areas can engage students who might struggle in traditional settings. This flexibility fosters success in their areas of interest, making education more inclusive and reducing negative consequences associated with grade retention, as emphasized in D2.1.

⁷ Adapted from: <https://www.cedefop.europa.eu/en/tools/vet-toolkit-tackling-early-leaving/intervention-approaches/flexible-education-and-training-systems>

3. Proposals for flexibilization of VET on national levels

Chapter 3 examines national policies and frameworks, mapping options for flexibilization in vocational education and training (VET) programs across EQF levels 3-6. It serves as a basis for stakeholders to discuss national flexibilization models for the MA sector.

Key points include the flexibility of curriculum design and school autonomy, essential for preparing learners for diverse roles in MA. Variations in curriculum flexibility and the integration of Work-Based Learning (WBL) are highlighted as critical for hands-on skill development. The chapter also emphasizes the importance of flexible enrolment processes, enabling access to training that aligns with the seasonal nature of agricultural work.

Modularization of VET programs allows learners to customize their education, enhancing responsiveness to labour market demands. Additionally, the involvement of social partners in curriculum development ensures that VET programs align with industry needs.

Promoting alternatives to grade retention through individualized support is also discussed, advocating for a more inclusive educational framework. This overview encourages stakeholders to engage in meaningful discussions to develop flexible, responsive national VET systems tailored to the needs of Multifunctional Agriculture.

In the agriculture sector, all partner countries have vocational educational programmes on EQF levels 3 to 6; however, Croatia is not implementing EQF level 5, and Spain does not have programmes officially linked to EQF levels.

3.1. The flexibility of curriculum design and school autonomy

On the national level, the flexibility of curriculum design depends on the proportion of optional curriculum, the proportion of work-based learning (WBL⁸) and how specific the practical on-the-job training/WBL objectives are prescribed. On the implementational level, flexibility refers to the school's autonomy regarding the curriculum's planning and implementation. In the continuation, different legalisation frames and implementation practices of all 4 countries will be presented from EQF levels 3 - 6

Multifunctional Agriculture (MA) requires a flexible and adaptive approach to education, as it integrates diverse activities like agritourism, food processing, environmental services, social farming etc. The flexibility in curriculum design and school autonomy is essential to ensure that learners acquire the skills needed to succeed in various areas of MA, which go beyond traditional farming and involve entrepreneurship, sustainability, and community engagement.

3.1.1. National level

⁸ Work-based learning = Instructional model in which the learner acquires knowledge, know-how, information, values, skills and competencies carrying out - and reflecting on - tasks:

1. At the workplace - also known as workplace learning or in-company training - e.g., through internships/traineeships, apprenticeship, alternate training or company visits, job shadowing, etc.
2. In a simulated work environment, e.g., in workshops or laboratories in vocational education and training institutions, inter-company/social partner training centres.

At the **EQF level 3**, the flexibility of curriculum design plays a crucial role in preparing learners for the diverse roles within MA. For example, in Ireland, learners can mix and match different subjects to create a learning package that suits their interests, such as **combining traditional agricultural practices** with modules on **food processing** or **sustainable land management**. In Slovenia, the flexibility at this level allows learners to choose from various modules, potentially focusing on areas like food processing or forestry, depending on the needs of their local communities and partnerships with social partners.

The proportion of Work-Based Learning (WBL) is particularly relevant in MA, where hands-on experience in diversified farm activities is essential. In Croatia, with a high WBL proportion of 40%, learners can gain practical skills in multifunctional farm operations, such as running a farm-to-table business or developing agritourism services. Slovenia and Ireland also offer substantial WBL opportunities, enabling students to engage directly with various facets of MA, from sustainable agriculture to rural entrepreneurship.

At **EQF level 4**, curriculum flexibility continues to play an important role in preparing learners for the broad range of tasks associated with MA. In Ireland, where 25% of the curriculum is optional, students have the chance to specialize in areas like renewable energy for farms or community-supported agriculture. This flexibility ensures that graduates are equipped to manage multifunctional farms that contribute both to food production and environmental sustainability. Slovenia also offers varying degrees of flexibility, allowing learners to focus on specific aspects of MA.

Work-based learning at this level is again crucial for giving students real-world experience in MA. In Slovenia, some programs offer up to 60% WBL, allowing learners to gain practical skills in managing multifunctional agricultural systems that integrate food production, landscape management, etc. The ability to adapt the WBL curriculum to the learner's needs and the local agricultural context is key to ensuring that students are prepared for the dynamic nature of MA. Practical on-the-job training/WBL learning outcomes are precisely prescribed in Croatia, Ireland, and Spain.

A high proportion of precisely prescribed curricula can limit flexibility, as it reduces the ability for schools and learners to adapt course content to the specific skills and knowledge needed for MA. Flexible curricula, in contrast, allow for a more tailored educational experience, better aligning with the diverse and interdisciplinary nature of MA.

Croatia's national curriculum allows learning flexibility and specialisation through up to 30% of elective modules integrated into upper secondary VET curricula.

In Slovenia, VET schools have the possibility of an open curriculum, which allows the acquisition of competencies that build on the basic knowledge of the compulsory curriculum.

At EQF levels 5 and 6, the curriculum's flexibility and the proportion of WBL become even more critical, as learners are expected to develop specialized knowledge in areas like agri-business management, rural tourism development, and sustainable resource management. Slovenia leads in offering flexibility at these levels, with a 40% optional curriculum at EQF level 5, allowing learners to focus on specific multifunctional aspects of agriculture, such as biodiversity conservation or therapeutic and social farming.

The involvement of social partners in the curriculum design at these levels ensures that the programs remain relevant to the rapidly changing agricultural landscape. This collaboration

helps create learning outcomes that reflect the skills needed for running multifunctional farms, including marketing, business planning, and community engagement.

In Slovenia, the curriculum for EQF levels 3-5 is revised based on Occupational standards. The occupational standards are revised every five years with the involvement of experts, social partners, and schools.

In Croatia, VET curriculum reform is oriented towards comprehensive redesign aligned with labour market needs, focused on learning outcomes, work-based learning, contemporary teaching and close support to VET providers. The new process of curriculum development foresees each curriculum as aligned with two inputs: one from the education sector and the other from labour and employment. The national curriculum for VET, sectoral curriculum, and occupational and qualification standards will inform each curriculum.

3.1.2. Implementation level

The implementation level of curriculum planning in VET is crucial for Multifunctional Agriculture (MA), as it directly affects how adaptable and relevant the curriculum can be to the unique needs of MA. Due to the variety of skills required in MA—such as sustainable farming, food processing, social farming, and environmental conservation—schools benefit from having the flexibility to adjust curriculum content and methods based on local agricultural needs and labour market demands.

EQF Levels 3 and 4

At these levels, countries vary in how curriculum modifications are proposed and approved. In Croatia, where teacher associations suggest modifications annually, schools can adjust content to reflect local needs, such as integrating modules on regional specialties or niche crops. Ireland's national regulatory agency, SOLAS, oversees programme planning with schools involved mainly in implementation, which could limit the responsiveness of VET institutions to emerging trends in MA, such as the rise of agritourism or organic certification. Slovenia takes a more collaborative approach, using yearly feedback from learners, teachers, and social partners to shape the open curriculum, making it more responsive to industry needs in MA by incorporating local employer demands, such as training in farm-to-table practices.

For example, in multifunctional agriculture, the open curriculum can help learners acquire the necessary skills and competencies to serve as complementary activities on farms, such as tourism, processing of numerous products, and not only its production but also the marketing of products.

EQF Levels 5 and 6

At higher qualification levels, the flexibility in planning curriculum content becomes essential for students specializing in advanced areas of MA, like agribusiness management or renewable energy integration. In Slovenia, schools collaborate with employers and social partners, allowing adjustments that ensure practical relevance in areas such as sustainable resource management.

Ireland follows a more centralized approach, where the national regulatory agency leads programme planning, and schools play a larger role in delivery than in planning, potentially limiting rapid adaptation to changes in MA practices. However, Croatia offers lecturers the opportunity to propose modifications annually, which helps integrate emerging MA trends like environmental stewardship into the curriculum.

Autonomy of Teachers and Trainers

Across EQF levels, the autonomy of teachers and trainers in planning and implementing content varies. In Slovenia and Croatia, teachers enjoy considerable freedom to adapt instructional methods to the diverse needs of MA, such as incorporating practical exercises in food processing or ecological farming. This autonomy supports the MA approach by allowing instructors to modify teaching methods to emphasize local practices and emerging fields, which is critical for a sector as dynamic as agriculture. In Ireland, however, teacher autonomy is more restricted, as the focus is on a nationally standardized curriculum; teachers can still contribute by consulting on how best to align learning outcomes with the skills required for MA roles.

This degree of autonomy is particularly valuable in MA, where tailored education is crucial to equip learners with the skills needed to operate multifunctional farms, from technical agricultural practices to business management and environmental conservation.

3.2. Allowing flexibility in the enrolment process

Managing and adapting the curriculum to meet the learners' challenge and need through flexibility in the enrolment process will attract learners for VET courses. Although the current enrolment process in partner countries has little flexibility in formal education, more flexible options already exist and could be adapted.

The flexibility of the enrolment process plays a significant role in making Vocational Education and Training (VET) more attractive, accessible and responsive to the needs of learners interested in Multifunctional Agriculture (MA). Given the diverse and often seasonal nature of MA—encompassing fields like sustainable farming, value-added food processing, agritourism, and environmental management—it is crucial to offer learners flexible entry points into educational programs. Flexibility allows learners to enter VET at various stages of their personal and professional lives, whether they are young adults starting their careers, mid-career professionals seeking specialization, or farmworkers looking to expand their skills.

In countries like Ireland and Spain, the relatively rigid enrolment processes limit learners' ability to start or join programs outside the standard academic calendar. This rigidity can be particularly challenging for individuals involved in agriculture, where work cycles are dictated by the seasons. For example, farmers or rural entrepreneurs interested in improving their organic farming techniques or launching an agritourism business may find it difficult to commit to traditional full-time courses with strict enrolment periods.

On the other hand, countries like Slovenia offer more flexibility in adult education enrolment, allowing learners to join programs at different times during the year and create individualized learning plans. This model is particularly well-suited for MA, where learners might seek training in specialized areas like social farming or renewable energy integration at times that align with their work schedules. Similarly, Open College in Ireland offers a flexible enrolment process with year-round options for distance learning, which can be adapted to suit the needs of learners already working in multifunctional farming.

This kind of flexibility is essential for MA, where learners need to balance their education with the demands of a working farm, making it more practical to provide entry points throughout the year. Additionally, flexible enrolment options can help adult learners or working farmers, who may not have access to conventional VET programs, gain the necessary skills to diversify their agricultural activities and enhance their business operations.

In 2011, the Irish Government National Strategy for Higher Education to 2030 called for a more flexible system that includes more flexible learning programs, more flexible routes of progression and transfer, and more flexible working arrangements.

The Open College (<https://www.theopencollege.com/>) in Ireland enrolls students in VET programs throughout the year by offering delivery flexible programs and education choices using a variety of delivery methods that include distance learning, e-learning, and attendance learning.

In Spain On-line trainings can offer more variability and flexibility.

By offering flexible, year-round enrolment options, especially for adult education, MA-related VET programs can become more inclusive and better aligned with the unique demands of the sector. This approach can also prevent potential learners from being discouraged by rigid application periods, increasing participation and encouraging continuous professional development in the rapidly evolving field of Multifunctional Agriculture.

3.3. Flexibility in programme implementation and delivery

In Multifunctional Agriculture (MA), flexibility in how VET programs are delivered is crucial for meeting the sector's diverse and evolving needs. Different implementation options, such as **school-based** and **dual learning models**, are essential for preparing learners to engage with MA practices that include food processing, agritourism, and sustainable resource management.

3.3.1. National level

At EQF levels 3 and 4, the delivery of VET programs in Spain, Ireland, and Croatia allows for both school-based and dual learning approaches. The dual model is particularly beneficial in MA, as it allows learners to apply classroom knowledge to real-world settings on multifunctional farms. For example, in Spain and Ireland, highly detailed national programs provide structure, which can be valuable for consistency, while Croatian and Slovenian programs allow social partners to contribute, adding adaptability and relevance for local agricultural practices.

At EQF levels 5 and 6, flexibility becomes more important as learners move into specialized MA fields, such as sustainable energy for farms or community-supported agriculture. In Ireland and Spain, dual learning models enable advanced practical experience. Slovenia, while not offering formal dual contracts, incorporates significant work-based learning (WBL), allowing learners to engage directly with local agricultural partners. This model supports the diverse demands of MA by allowing students to gain hands-on experience in emerging fields, helping them meet the specific needs of the sector.

VET courses in Ireland are designed and delivered within EQF levels 3-6 with flexible and workplace learning in response to the specific skills needs of individuals who require certified training to assist their return to or progression in the labour market. Most course providers deliver flexible and workplace learning (part-time, full-time, blended, online and evening) VET programmes for young and adult learners. Classes are offered throughout the year in the mornings, afternoons, evenings or weekends. This allows motivated learners to combine a return to learning with work, family and other responsibilities. Also, specific skills training allows people who have lost or are changing jobs to learn new job-related skills. There are short and long-day courses, online courses, blended learning and evening courses. The courses are run during the day and in the evenings.

3.3.2. Implementation level

The availability of different learning formats, such as blended learning, Flipped Models, and distance learning, is crucial for MA learners who may need flexible options due to the seasonal and practical nature of agricultural work. At EQF levels 3 and 4, blended learning in Ireland and dual learning in Spain allow learners to gain both theoretical knowledge and hands-on experience in areas like agro-tourism or organic farming. Croatia offers flexibility with Flipped Models, allowing learners to study theoretical content online while dedicating in-person time to practical skills.

At EQF levels 5 and 6, blended learning in Ireland, Slovenia, and Croatia enables learners to balance advanced study with practical experience, ensuring they are equipped for the broad range of activities required in MA. This flexibility is critical, as it enables learners to acquire skills that align with the modern, dynamic needs of multifunctional farming.

3.4. Learner-centred approach, individualised support, and plans

In MA, where learners may be preparing for diverse job roles, a learner-centred approach is crucial. Individual learning plans, where available, allow students to personalize their training, focusing on the specific competencies and skills needed for success in MA. These plans help align the educational experience with each learner's unique career path, ensuring that their education is relevant to the diverse demands of modern agriculture. On the implementation level, flexibility in Work-Based Learning (WBL) placements, where learners' preferences are considered when selecting employers, further supports personalized development. This is particularly beneficial in MA, where learners may need targeted experiences in areas such as organic farming or renewable energy integration.

3.4.1. National level

While individual learning plans are not universally required across all partner countries, Ireland offers such plans at EQF level 3 in specific programs. These plans provide personalized support, enabling learners to develop skills that are highly relevant to MA, such as value-added food production or sustainable land management.

In other countries, where individual plans are not mandatory, flexibility is still present in terms of allowing students to choose WBL placements that align with their professional interests. This flexibility is vital for MA, as it allows learners to gain experience in areas where they want to

specialize, such as permaculture or agri-business management. This approach helps learners succeed in roles that require a mix of technical agricultural and entrepreneurial competencies.

In the case of Slovenia, an individual learning plan is required by the law plan for each learner with special needs on all EQF levels.

3.4.2. Implementation level

At the implementation level, how learners' preferences are considered in selecting employers for WBL varies by country. In Slovenia, for instance, learners' preferences in the agricultural sector are fully considered, allowing them to choose worksites that align with their specific career interests, such as working on a biodynamic farm or in a local food processing enterprise. This flexibility ensures that learners are exposed to practical, hands-on experiences that will support their development in MA roles.

In Croatia, learners also have the freedom to choose employers based on their preferences, allowing for a personalized training experience. In Spain, however, learners' preferences are more limited, often depending on supply and demand, which can restrict the opportunity for tailored learning experiences in MA.

Support systems are also crucial for learners, particularly those who seek for MA programs. At EQF levels 3 and 4, countries like Slovenia and Spain provide additional professional support for learners with special needs, including language support for foreign learners, which is particularly valuable in rural areas where cross-cultural communication may be important. In Ireland, financial support such as travel and meal allowances helps make MA-related training more accessible, especially for learners from disadvantaged backgrounds.

At EQF levels 5 and 6, learners' preferences are still considered in Slovenia and Croatia, allowing them to select placements that reflect their specialized interests in MA. In Slovenia, learners may also choose to engage with research units or commercial organizations, giving them exposure to both theoretical and applied aspects of multifunctional farming. However, the level of individualized support decreases at these higher levels, with countries like Ireland offering salary support during the training period but fewer structured support services compared to earlier stages.

3.5. Break down programmes into units or modules to enable movement across the system.

In Multifunctional Agriculture (MA), where a wide range of competencies are required, the modularization of VET programs allows for greater flexibility. By breaking down programs into units or modules, learners can move across the system and select modules that reflect their specific interests, enabling them to tailor their education to meet the dynamic needs of the agricultural labour market.

Modular VET programs provide the ability to respond more quickly to labour market changes, especially within MA, where diversification and specialization are key to success. For example, learners can take specific modules on organic farming or agritourism, equipping them with targeted competencies that directly enhance their employability and ability to innovate within agricultural systems.

3.5.1. National level

In Slovenia, VET programs are competence-based and modularised, allowing learners to acquire specific competence that align with the needs of multifunctional farms. Completing vocational modules leads to vocational qualifications, enabling students to specialize in different areas of MA, such as food production or sustainable energy use on farms.

Similarly, the Spanish VET system is modular, allowing for the recognition and transfer of competencies between programs, which is especially useful in MA, where learners may need to develop skills in several interconnected fields. This system also supports lifelong learning, allowing adults to earn certificates of professionalism that recognize different modules within an initial VET qualification. This certification can then be validated toward a full diploma, providing a flexible pathway to specialization in MA.

In partner countries, no formal VET educational program or occupational standard directly addresses multifunctional agriculture; however, there are some initiatives and possibilities to choose modules from different biotechnical programmes that give learners additional competencies to succeed in today's job market.

3.5.2. Implementation level

At the implementation level, modular MA programs are offered across EQF levels in all partner countries, allowing learners to specialize in various aspects of multifunctional agriculture. These modules equip learners with the competencies necessary to engage in diverse activities that combine agricultural production with environmental sustainability and business diversification.

EQF level 3 modules:

- Slovenia (2-year programme): The Biotechnical and Care Assistant programme provides content within the implementation and open curriculum modules.
- Croatia (3 years programme): Different categories of multifunctional agriculture are presented in the VET module, hydroponic cultivation of vegetable use of robots and drones.
- Ireland (2-year programme): General Horticulture and Ornamental Landscaping.

EQF level 4 modules:

- Slovenia (2-year programme): Different categories of multifunctional agriculture are presented in VET modules of the open curriculum, such as dairy and fruit processing, use of phytopharmaceutical agents, and some parts of professional mandatory models.
- Slovenia (3 and 4-year programme): Different categories of multifunctional agriculture are presented in VET modules of the open curriculum, such as dairy and fruit processing, beekeeping, vegetables and fruit production. Learners could also choose some courses in forestry (how to use and operate a chainsaw), use of phytopharmaceutical agents, baking bread and sweets, beekeeping and in some parts of professional mandatory models.
- Croatia (4 years programme): Different categories of multifunctional agriculture are presented in the VET module: hydroponic cultivation of vegetables using robots and drones.
- Ireland (1-2 years programme): Permaculture, Tourism and Ecotourism (Tourism with Business), Sustainable Organic Horticulture, Green Certificate, Horticulture with Garden Design, Organic Farming Principles.

EQF level 5 modules:

- Slovenia (2-year programme): Specific topics and multifunctional agriculture are covered in compulsory and optional modules and practical training.
- Ireland (2-year programme): Arboriculture.

EQF level 6 modules:

- Slovenia (3 years programme): Some higher professional education programmes cover themes in multifunctional agriculture, e.g., Agrarian Economics and Rural Development. Some of the content of multifunctional agriculture is also included to a lesser extent in the optional modules.
- Croatia (3 years programme): Various categories of multifunctional agriculture are presented in beer production and dairy study programmes. The main goals of projects connected to agriculture are rural development, development of rural tourism, environment protection, sustainability, usage of products for various purposes, etc. Ireland (3 years programme): several higher education programmes interface with multifunctional agriculture, e.g. agricultural science and sustainability. The aim of this program linked to on-farm agribusiness diversification and biodiversity conservation within a sustainable development context is a sound theoretical basis for understanding multifunctional agriculture.

3.6. Integration and development of competencies

The development of competencies is important due to learners' personal development, employment, integration into society and lifelong learning. On the national level, the integration and development of the competencies are mostly integrated into the curriculum. Additionally, teachers are trained to integrate the competencies in their models, subjects and everyday lessons. Since VET curricula are competence(s)-based in all partner countries, we will present how different competencies are integrated into the curriculum and modules at all relevant EQF levels.

In Multifunctional Agriculture (MA), a wide range of competencies—from technical skills to entrepreneurial abilities in agribusiness—are essential for success. Integrating and developing these competencies within the VET curriculum is crucial to ensure that learners are well-equipped. Competency-based VET programs allow for a comprehensive approach, combining vocational, social, and lifelong learning competencies to support learners' personal development, employability, and capacity for lifelong learning.

National VET systems support the integration of competencies across various EQF levels, including those like GreenComp, EntreComp, DigComp, and LifeComp, which are highly relevant to MA. These competencies help prepare learners for the environmental, technological, and business demands of multifunctional farms.

3.6.1. Implementation level

At the implementation level, the partner countries provide specific training and modules to ensure that competencies in MA are developed across all EQF levels.

EQF Level 3: In Slovenia and Croatia, teachers receive regular training to integrate lifelong competencies, including GreenComp for environmental awareness and EntreComp for entrepreneurship. In Spain, personal, social, and professional competencies are embedded within

vocational training, preparing learners for the collaborative and interdisciplinary nature of MA, where environmental and social responsibility are crucial.

EQF Level 4: Newer programs in Slovenia incorporate lifelong learning competencies directly into the curriculum, helping learners including those in MA-related fields, such as dairy and fruit processing or beekeeping, gain skills that support both environmental sustainability and business acumen. Spain similarly integrates lifelong competencies, which are particularly valuable in multifunctional agricultural roles that require an understanding of complex ecosystems, business practices, and community engagement.

EQF Level 5: In Slovenia, compulsory and optional modules focus on GreenComp and EntreComp, supporting learners as they advance to more specialized areas within MA, such as sustainable agriculture or rural business development. Spain includes a module on "Business and Entrepreneurial Initiative," where learners create business plans, enabling them to explore potential entrepreneurial ventures in the agricultural sector.

EQF Level 6: At this level, Slovenia's EIT (European Institute of Innovation and Technology) Food Hub connects learners with innovations in food production and agribusiness, preparing them for advanced roles within MA. Croatia offers practical experiences in a brewing program and a chemical lab at Karlovac University, where learners develop competencies in quality control, marketing, and business planning, which are transferable to other multifunctional agricultural enterprises.

In all 4 countries, some inspiring examples of Business Incubators can be found. They enabled learners to engage in start-ups, offer opportunities to practice business simulations, learn enterprise skills and develop product or ideas from beginning to closure, etc.).

Business Incubators and Practical Entrepreneurship Support

Business incubators and entrepreneurship modules further enhance the competency development in MA. By giving learners hands-on opportunities to create business plans, these incubators foster innovation and adaptability, which are essential in MA.

EQF Level 3: In Ireland, TUS and the Thurles Chamber Enterprise Centre provide Start-Up Clinics and Learner Inc. programs, equipping learners with entrepreneurial skills that support MA ventures like small-scale food processing or eco-tourism.

EQF Level 4: In Spain and Slovenia, programs such as "Business and Entrepreneurial Initiative" and the JA Slovenia project allow learners to create business plans, develop entrepreneurial skills, and gain practical experience.

EQF Level 5: In Slovenia, the Green Lab project at BC Naklo focuses on green competencies, enabling learners to explore sustainable practices that are vital in MA, such as renewable energy integration and organic farming.

EQF Level 6: In Croatia, the brewing program at Karlovac University combines practical training in product development with business education, preparing learners for diverse roles in rural enterprises, agribusiness, and multifunctional farm operations.

This highlights the business incubator's function as one of a key support mechanism for cultivating future-ready agricultural entrepreneurs within the AgriNext project framework.

3.7. Prior knowledge validation, recognition, credit transfer and qualification framework

The prior assessment process and recognition determine the extent to which an individual's competencies meet the requirements specified in the VET program module or course. In Multifunctional Agriculture (MA), the ability to recognize and validate prior knowledge and competencies is crucial, as many individuals acquire valuable skills through hands-on farm work, informal learning, or diverse roles within the sector. The qualification framework and credit transfer systems enable learners to transition smoothly across different EQF levels, facilitating access to specialized training and higher-level programs relevant to MA. This flexibility is particularly important in a sector where lifelong learning and continuous skill development are necessary to stay current with evolving practices.

3.7.1. National level

In Slovenia, the National Vocational Qualifications (NVQ) system allows individuals to have their competencies acquired through non-formal and informal learning validated. This system is beneficial in MA, where workers often acquire expertise on the job, such as managing organic farming operations or developing rural tourism services. Although NVQ validation does not grant formal educational levels, it provides a pathway for individuals to have their practical skills recognized within the formal VET system.

In Spain, the recognition of non-formal and informal learning allows adults to have their skills validated and even to earn formal qualifications. The system includes key competency tests and public calls initiated by regional authorities to validate competencies based on regional industry needs. This framework is highly adaptable for MA, as it allows individuals with diverse agricultural skills to obtain professional certificates that enhance employability and provide pathways to further education.

Ireland uses the Recognition of Prior Learning (RPL) system, which acknowledges competencies gained through formal, non-formal, and informal settings. This flexibility is especially relevant in MA, where individuals may have acquired knowledge through experience in sustainable practices, crop management, or renewable energy projects on farms. RPL offers exemptions or credit for specific modules, making it easier for learners to advance within VET programs or enter new qualifications tailored to their career in MA.

3.8. Inclusion of social partners and response to the labour market needs.

Close collaboration with social partners – such as industry representatives, agricultural associations, and local communities– is essential for developing VET programs that are responsive to labour market demands. Social partners bring valuable insights into the skills and competencies needed in diverse areas of MA, such as agritourism, renewable energy, and food processing, ensuring that learners are prepared for the evolving landscape of modern agriculture.

3.8.1. Market needs

The involvement of social partners at all levels of the VET system helps ensure that programs are aligned with current and future job roles in MA. By participating in policy-making, curriculum design, and providing work placements, social partners contribute to a VET framework that evolves alongside the changing demands of the sectors including agricultural, addressing the need for specialized competencies in sustainability and entrepreneurship.

3.8.2. National level

VET system is designed in collaboration with different stakeholders with the aim that learners develop competencies needed for their future careers and to produce employable workers ready for lifelong learning. This concept requires networking of different stakeholders at all levels in educational programmes (from conceptualisation and implementation to evaluation). Furthermore, this close cooperation between educators and stakeholders ensures that VET programmes are designed to meet the needs of the labour market.

In Slovenia, social partners actively participate in developing occupational standards, which outline the specific competencies required in MA, such as organic farming techniques or environmental management. These partners contribute to the curriculum by collaborating with schools to develop open curricula that reflect local agricultural needs. For instance, an open curriculum can include specialized modules on beekeeping or farm-to-table marketing, directly responding to market demands for diversified farm operations.

Croatia incorporates social partners in curriculum development through sector skills councils and the VET Council, ensuring that programs address the real-world competencies needed in multifunctional farming, including new technologies like hydroponics and robotics for efficient crop management. Ireland also includes social partners in VET design and delivery, fostering a collaborative environment where stakeholders feel a shared responsibility for curriculum relevance and workforce readiness in MA.

In Spain, the education process is designed by The Spanish Government.

In the case of Ireland, the social partners participate in the curriculum design and delivery of VET courses, which ensures their support for the programme and develops their sense of ownership.

All partner countries have in common that social partners are included in the design of curricula and organisation of WBL in education implementation to highlight the job market needs of competencies.

In the next paragraph, the inclusion of social partners is presented for each EQF level:

- At the EQF level 3, the share of the education/study programme that can be determined by the school in cooperation with the social partner is the highest in Slovenia, with 21%. In the case of Croatia, social partners can determine 10 of the education/study programmes in cooperation with the school. Ireland has a specific situation: in a 2-year programme, the share of the study programme determined by the school in collaboration with the social partners is limited, triggered by identifying job opportunities within the sector. The national regulatory authorities mainly determine it in consultation with the school and the social partners. Also, vocational schools must design a study/learning programme to be submitted to the national/government regulatory authority for approval. In the case of the 1-2 years programmes, the share of the study programme determined by the school in cooperation with social partners is less prominent. It is mostly consultative and limited, and the government regulatory authorities dominate the process. On the other hand, schools in Spain at the EQF level 3 don't have the practice of sharing education/study in cooperation with social partners.
- At EQF level 4, the share of the education/study programme that can be determined by the school in cooperation with the social partner is similar to at EQF level 3, the highest in Slovenia. The percentage differs from 15% to 9%, depending on the programmes. In Croatia, the share is also quite similar at 10%. In Ireland, the share of the study programme determined by the school in cooperation with social partners is less prominent. It is primarily consultative and limited; the government regulatory authorities dominate the process. In the case of Spain, the share of the education/study programme that can be determined by the school in cooperation with the social partner doesn't exist.
- At EQF level 5, Spain's reality is the same as at EQF level 4. On the other hand, Slovenia has an 11% share of the education/study programme that the school, in cooperation with the social partner, can determine. In the case of Ireland, representatives of schools and social partners are only consulted (as members of a working group or management board) by the national agency in determining the education/study programme. Social partners implicitly bring an understanding of work roles and activities into the design of learning outcomes.
- At EQF level 6, Ireland has the same situation as EQF level 5 regarding the share of the education/study programme that the school determines in cooperation with the social partner. In Croatia, the share is 10%. Slovenia has no precise estimation; the share of the education/study programme was described as small.

3.9. Allowing horizontal and vertical flexibility (including I-Vet and C-Vet)

Education and training systems traditionally have separate and distinct subsystems (general, vocational and academic/higher education) related to one other in a strict hierarchy of primary, secondary and tertiary. This works well if learners follow a predefined route in their chosen area and subsystem. However, segmenting education and training creates institutional barriers restricting learners' options and choices on moving up to higher learning levels or moving sides. Horizontal and vertical flexibility in education and training systems supports learners in moving between different VET programs and advancing to higher learning levels, enabling them to acquire specialized skills that respond to the evolving needs of MA.

Horizontal flexibility allows learners to explore and train in related fields, which is beneficial in MA where interdisciplinary competencies are essential. Vertical flexibility, particularly through continuing vocational education and training (C-VET), ensures that workers can continually update

their skills, responding to changes in agricultural practices, market demands, and new technologies.

3.9.1. National level

Horizontal flexibility between programs varies across partner countries. In Ireland, learners at EQF level 3 benefit from relatively high horizontal transferability, allowing them to switch between related programs or pursue training in multiple professions. This flexibility is advantageous in MA, as it provides learners with opportunities to develop diverse competencies in areas like horticulture and permaculture, which complement other agricultural competencies.

In Croatia and Slovenia, horizontal transfers at levels 3 and 4 are possible if differential exams are passed, enabling learners to pursue new pathways in MA fields. However, in Spain, horizontal transfer at this level is limited, which may restrict the ability of learners to gain varied experiences essential in multifunctional agricultural roles.

At the vertical level, each partner country has frameworks that facilitate progression from initial VET (I-VET) to continuing VET (C-VET), supporting a culture of lifelong learning. The European Skills Agenda and national policies like Slovenia's National Lifelong Learning Strategy reinforce this relationship, allowing learners to build on foundational skills and pursue advanced training. In Slovenia, for example, adults can attend C-VET courses offered by inter-entrepreneurial education centres, gaining credits (ECTS) that can be applied to further studies. This system is particularly beneficial in MA, where continuous skill development is essential to adapt to market shifts and new agricultural technologies.

In Ireland, flexibility is facilitated through the Higher Education Links Scheme (HELs), which allows VET graduates from EQF levels 4-5 to transition to higher education programs. This progression pathway is valuable for learners in MA who seek to deepen their expertise in areas like agricultural science or agribusiness management, providing a seamless route from vocational training to university-level study.

All partner countries have various I-VET and C-VET programmes in the range of EQF level 3 to 6, offering vertical and horizontal progressions to higher education levels or upskilling and re-skilling possibilities. Furthermore, all partner countries have options for VET programmes for adult learners. On the other hand, recognition of prior learning is in place more for adults as recognition of vocational qualifications than for younger learners. Furthermore, Ireland started to implement micro-credential projects at universities, which will credit unit modules.

3.10. Promote alternatives to grade retention and avoid suspension

Grade retention means a learner is held back a year (i.e., repeats a year) due to their lack of progress, with this year allowing them to acquire the knowledge they need to continue schooling. Since there are considerable doubts regarding the usefulness and effectiveness of retaining grades, promoting alternative methods, approaches, and solutions is crucial regarding flexibility. By focusing on proactive measures like individualized support, skill-building workshops, and career guidance, VET systems can help learners overcome academic challenges without resorting to grade retention or suspension, which may disrupt their progress and engagement in career development. Flexible approach aligns with the interdisciplinary and practical nature of MA, preparing learners for successful, sustainable careers in a dynamic field.

3.10.1. Implementation level

EQF Levels 3 and 4: In Slovenia, schools implement a learner-centered approach to support struggling students by engaging them in activities aligned with their interests, such as school clubs, promotional events, and extracurricular projects in areas like horticulture or sustainable farming. Teachers and tutors monitor learners year-round, identifying any difficulties early and redirecting them to more suitable programs if needed. This proactive support is particularly beneficial in MA, where hands-on, project-based learning is often more effective than traditional classroom instruction, fostering engagement and retention.

In Spain, teachers offer extra activities and reinforcement sessions, helping learners build competencies in a supportive environment. These activities could include projects related to organic farming practices or food processing—areas where hands-on experience can strengthen understanding and provide an alternative pathway for learners who struggle with more theoretical aspects.

Croatia provides additional professional support for learners with special needs, offering tailored assistance that helps them progress in areas relevant to MA, such as agri-tourism or sustainable agricultural techniques. This specialized support ensures that learners gain practical skills that enhance their career readiness, even if they require alternative methods to traditional grade advancement.

EQF Level 5: In Slovenia, BC Naklo motivates learners by offering workshops on thesis development and opportunities to engage with the Green Lab, where they can work on sustainability projects. This approach helps struggling students focus on practical, meaningful applications of their studies in areas like renewable energy for farms or environmental conservation, providing a structured yet flexible way to advance without grade retention.

In Spain, teachers continue to provide additional activities for reinforcement and motivation, helping learners solidify their knowledge in ways that are directly applicable to MA careers.

EQF Level 6: In Croatia, faculties provide comprehensive support through offices dedicated to learner assistance and career counselling. These offices offer training for competencies needed in the MA labour market, psychological support, and direct connections with potential employers. This holistic support structure helps learners facing academic difficulties by offering personalized career guidance, ensuring they acquire the competencies needed for success in diverse agricultural roles without being held back by traditional grade retention.

4. Dual way/apprenticeship as a cross system practice

The apprenticeship system stands out as a cross-system practice within the Flexibilization Model of VET System for Multifunctional Agriculture, integral to every aspect of vocational education and training. This approach necessitates alignment across legislation, program structure, competencies, and roles, involving various stakeholders—companies, mentors, schools, and learners—in designing, implementing, and evaluating the dual VET system.

The D2.1 document highlights that flexibility in VET is essential for meeting the diverse needs of learners, especially in sectors like Multifunctional Agriculture (MA). The apprenticeship system plays a crucial role in this flexibility by enabling learners to gain practical skills in real-world environments while earning a wage. This hands-on experience ensures that apprentices are well-prepared for their future careers, thereby positively contributing to the workforce. In the continuation, we will present the overview of the apprenticeship system in all four partner countries:

- In Slovenia, the apprenticeship system is regulated by the Vocational Education and Training Act and lasts 3 years. During the apprenticeship, learners split their time between school classes 40%, where they learn general subjects and professional modules (theoretical and practical training) and the workplace at least 50%. The employer provides on-the-job training and supervision. They start with simple tasks and gradually take on more responsibility as their skills and knowledge develop, as noted in D2.1.

In Slovenia, at the beginning of an apprenticeship, the implementation plan for individual learners is prepared in cooperation between the school and the company under the supervision of the chamber, which is signed between the learner (or legal guardian) and representatives of the company and school. It includes the objectives and set of competence(s) for WBL, distribution and schedule of education at the school and in the company, ways and modes of communication and cooperation between the company and school, as well as information regarding the mid-term and final exam for the apprentice.

- In Croatia, JMO, the education ministry, has initiated experimental implementation of dual education in 2018/19 in parallel to the existing apprenticeships. In 2019/20, dual education was offered experimentally in three-year and four-year programmes leading to EQF level 4 qualifications (three-year programmes for salesman, glazier, chimneysweeper, and painter-decorator at CROQF level 4.1 and have four-year programmes for beautician and hairdresser at CROQF 4.2). Learning takes place in the VET school during the first year of the dual programme. In the following years, most work-based learning is undertaken in companies⁹.
- In Ireland, apprenticeships are provided at the post-secondary level (EQF 4) and are available to young adults who seek occupational training after completing upper secondary education. The apprenticeship system is highly occupation-specific, with little emphasis on general competencies. Apprenticeship programmes are mainly accessible in construction, electrical and mechanical engineering professions, with only a few in agriculture, ICT, and finance. Apprentices receive an EQF level 5 on successful completion of the programme.

⁹ Source: <https://www.cedefop.europa.eu/en/publications/4181>

Lately, apprenticeship programmes are available in higher education (EQF levels 6-8). The apprenticeship system is highly occupation-specific, with little emphasis on general competencies. Apprenticeship is a well-structured work-based training (70-80%) with a systematic blend of on- and off-the-job elements. It combines and alternates learning in the workplace with learning in an education/training centre. The apprenticeship system is standards-based and typically lasts for up to four years. It involves seven phases: three off-the-job (totalling 40 weeks in all) and four on-the-job. The off-the-job component is relatively short (20-30%) in comparison to the total duration of the programme.

- Spain, on the other hand, is in the process of applying the apprenticeship system. The dual vocational training system occurs in enterprises, corporate training centres and vocational schools. This kind of system combines practice and theory and lasts two to three years. For EQF levels 4 and 5, between 530-800 hours of total duration must take place at the company. The company and the vocational school sign a practice agreement.

In the context of MA, the apprenticeship model aligns well with the flexibility discussed in D2.1. By integrating hands-on experiences with academic learning, apprenticeships can be tailored to meet the interdisciplinary demands of modern agriculture. Stakeholders should consider these models to enhance the relevance and responsiveness of VET programs, ensuring they prepare learners for the diverse challenges of the agricultural sector.

5. What should we change and why?

Shaping Flexibility in Vocational Education and Training is possible only if national, institutional, curricular, and professional conditions exist. The process is complex and requires professionalism, dialogue, co-creation, persistence, and un-learning and re-learning from everyone included.

Everyone is responsible for actively contributing towards providing choices, not closing the door. There are different ways to support the flexibility of the Vocational Education and Training System. We will present only a few of those related to professional conditions.

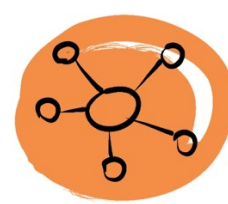
VET teachers, trainers and mentors should hold teachers' certificates that are enriched by work experiences. According to the Lifelong learning strategy, teachers in all countries have some national centre or hub providing C-VET (for example, Ireland is outlining SharePoint StaffConnect, which provides teachers with resources, forms, shared practices, and policies). Projects, national or international provide many teachers training as well.

The second option is also designing an online continuing professional development resource to encourage VET teachers and trainers to support each other's continuing professional development by developing and sharing resource lists. The sharing of information is an important continuing

In Ireland, Further Education Support Service (FESS) website www.fess.ie provide resource lists that are of particular benefit to the professional development of those who are teaching programme modules for the first time or for teachers looking for new ideas. The resource lists include themes and topics from quality and qualifications Ireland components and suggest relevant websites, books, leaflets, organisations, etc. This initiative facilitates teachers and trainers to share resources that they find useful and store them in one accessible location. Currently, over 200 resource lists have been uploaded to the FESS website and new resources are being developed on a continual basis.

professional development activity for teachers and trainers as it validates and recognises practitioners as contributors to the professional development of others.

Promotion and awareness raising about the added value of Flexible VET are also important. Teachers should be informed (or invited to think on their own) about the importance that flexible and permeable education and training systems can have at different levels¹⁰:



INDIVIDUAL

- Enabling different educational paths to VET education
- A better understanding of education options
- Building positive attitude towards lifelong learning
- Improved education outcomes
- Improved wellbeing
- Creating a supportive ecosystem for learning
- Improved motivation and confidence

INSTITUTIONAL

- Institutional capacity building
- Collaboration with social partners and other stakeholders - mutual learning
- Programmes can respond to learners' needs
- Higher completion rates
- Creation of innovative solutions
- Teachers cooperate

SYSTEM

- Co-creation, collaboration and partnership between all stakeholders, including different ministries
- Systemic learning
- Interconnected services are being used
- A system able to meet the needs of different groups of learners
- Transversal and horizontal progression possibilities: There are no dead ends
- Higher completion rates
- Guidance and counselling are provided
- Curriculum is developed in cooperation with all stakeholders
- Validation of prior learning
- Quality assurance of learning outcomes
- Lifelong learning orientation
- Key and transversal competences are at the heart of every VET qualification

¹⁰ Adapted from: <https://www.cedefop.europa.eu/en/tools/vet-toolkit-tackling-early-leaving/intervention-approaches/flexible-education-and-training-systems>

6. Conclusion

The analysis of the current VET education and training systems shows that differences exist among partner countries on comparable EQF levels on a national level from the detailed national curriculum, options for learners to select different educational modules, and proportion of WBL to the share of educational programme determined by the school in cooperation with social partners. However, at the implementation levels, we can also find some similarities. The focus on learners' preferences already exists; there are also some initiatives of alternatives to grade retention, key competencies are included in the curriculum, some blended learning is in place and a yearly revision of the implemented curriculum is done.

The Flexibilization Model of VET System for Multifunctional Agriculture was designed with the intent of inviting different stakeholders to re-think and re-imagine the VET education and training systems. Learners, young and adult, are at the centre of our model. We want to create a flexible and transformative ecosystem that enables lifelong learning and competence(s) development for everyone.

Flexible VET education and training systems can, on the other also provide a path towards sustainability, foremost of the system itself. We are all aware of the influence that era of digitalisation, AI and Industry 5.0 is having on VET education and training systems. A system can be sustainable only if it doesn't resist the changes but instead actively builds its capacities, resilience, and innovative solutions in general and in agriculture as well.

It is important to emphasise that flexible VET education and training systems should be a path, not only a goal. A path that requires small steps, not impetuous jumps. All stakeholders that are actively engaged in the legalisation, planning, implementation, assessment, and evaluation of VET should build their capacities slowly and strategically. We recommend starting small and adapting.

The national proposals for flexibilization created by consortium partners are tailored to address specific regional needs while also aligning with broader EU objectives. By promoting collaboration among all involved, we can ensure that VET systems effectively respond to the challenges of Multifunctional Agriculture and prepare learners for future success. The national documents are available as separate files through the links below.

- Croatia [English Version](#) | [Croatian Version](#)
- Slovenia [English Version](#) | [Slovenian Version](#)
- Spain [English Version](#) | [Spanish Version](#)
- Ireland [English Version](#)

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