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ACT Agricultural Alliance for Competences and Skills based Training

Qualification standards and qualification requirements in agriculture

In the coming years agriculture will undergo profound structural changes that no farmer will be able to avoid. Growing concentration is leading to fewer and larger enterprises, to increasing specialization and a focus on branches of industry. New ownership structures are emerging, and more and different investors are appearing. At present, agriculture in Europe is confronted with the following issues and questions:

- Sustainability of Agriculture enterprises and production vs. Intensive agriculture,
- World agricultural trade
- Technological developments

The discussion among needs analysis focus groups confirms a transnational need for qualifications, particularly in management and in

Because of the contradictory trends and expected socio-structural, technical and systemic upheavals, both the system and provision of advanced and continuing training seem to be in need of improvement. It is clear that farmers and all those employed in the agricultural sector need to adjust to frequent changes in their work, some of which are very severe. The forms of (regional) networking and mutual consultation, which have been common up until now and are extremely useful, should also be addressed and supported methodologically and didactically. It would also make sense to link these with academic research findings and current developments. A host of virtual and/or integrated provision (“blended learning”) is conceivable here.

In the light of the trends outlined, provision which is of a more technical nature needs to

- Agriculture as energy producer
- Climate Change
- Demographic and structural change
- Organic farming

The results of national reports and focus groups in four countries – Italy, Greece, the Netherlands and Germany – show that, overall, processes are becoming more complex and demands for farmers’ knowledge and skills are growing – he / she is increasingly becoming a manager. Although no new occupations or job profiles have emerged, a change in the work and its demands requires new and extended competencies in agriculture.

agricultural innovation, and necessary competencies for these have been identified.

be joined by training aimed at the (continuing) development of personal and social competence. Overcoming changes, the assumption of responsibility whether for employees or in networks, services and the development of individual business models all require technical and methodological skills alongside self-confidence, management competence, the appropriate attitude, the ability for self-organisation and self-directed learning, specific skills in dealing with people and, last but not least, the ability to think systemically within the various contexts and interconnections and to undertake a rethink. Although all these competences can be developed, such a development process requires individually suitable support. Various forms of learning support, coaching, mentoring and advisory services are particularly appropriate for this purpose.



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Competences and skills needed

The new and changed requirements expected with regard to activities in agriculture give rise to a need for cross-cutting competences and for technical content in initial, advanced and continuing training in certain areas.

Cross-cutting competence: systemic, holistic thinking or thinking within contexts together with the ability to use this process to derive and implement conclusions for the specific regional and company circumstances.

Cross-cutting competence: Self-management as the comprehensive ability to organise oneself, reflect upon and further develop one's own activities and skills, including willingness to learn or self-directed learning and development processes.

Cross-cutting competence: the capacity for interaction as a comprehensive ability in terms of internal and external company communication, cooperation and conflict resolution. This includes managing customer relations, including for service providers, and relationships with business and cooperation partners. Depending on the person and situation, capacity for interaction also encompasses management and leadership skills, especially at large companies.

Technical area: organic farming. Organic cultivation and in particular making the switch to organic farming require appropriate knowledge and skill. This begins with the basic principle of crop rotation, whereas soil cultivation and associated issues relating to fertility, species-appropriate animal husbandry etc. all play a major role.

Technical area: further agriculturally related sources of income. There are also training requirements with regard to the opportunities for and exploitation of further agriculturally related sources of income. Some examples here are tourism services, including offers that go beyond traditional "farm holidays", direct marketing of the farm's own produce and the enhancement of such products (e.g. apple juice or cider instead of apples, dry pellets instead of damp wood chippings etc.). The generation, and in some cases the exploitation of renewable energies is an important topic for the agricultural sector in terms of making a contribution towards environmental protection and possibly with regard to crop rotation in organic cultivation and as a (further) source of income.

Technical area: technical and scientific innovation. The implementation and operational use of technical and scientific innovations, including machine, information and control technology, data management of the large quantities of data produced by modern agricultural machines are also playing a major and increasing role in agriculture.

Technical area: business administration/management. The management and business administration of agricultural companies create particular requirements. Alongside specific business administration aspects and the areas stated above, a particular role is played by process and risk management, marketing and distribution, issues of concentration, diversification and individualisation. Cooperation agreements, networks and the securing of such networks by formal contractual agreement are becoming ever more crucial for the companies, as are employment law issues due to the increase in the number of staff and other dependent workers. Greater importance is also being attached to liquidity



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calculations and financing opportunities due to the fact that new business fields often require investments and the revenues from such investments no longer follow the annual harvest cycle.

PACT Competence Framework for Agriculture – the key to matching supply and demand with the employment and training market

ACT - the idea

Professional demands change constantly. Because of the shortage of qualified workers, employers are seeking specialist staff but are unable to find suitable candidates. A recurrent problem is the gulf between supply and demand on the labour market. From the employee's perspective the problem appears different. They would like to know what the qualification requirements are and, if they do not have all of them, how to find those exact qualifications on the training market. Since the economy and the employment market, as well as jobs and qualification requirements, are subject to constant change, competencies are being brought more sharply into focus. Competencies are, from an individual and professional perspective, the crux of the matter. An

individual's competencies are continually developed through training and experience; they are flexible, transferable and enable professional mobility – from one occupation to another, from one sector to another and from one country to another. In view of the different occupations and vocational training systems in Europe, the advantage of prioritizing the development of skills is that it supports lifelong learning – a necessity in a changing employment market. Within the ACT project a sectoral competence framework (PACT) has been created and made available through an online tool (PACT Discovery Demonstrator), which enables users to achieve and create a desirable balance between supply and demand in relation to qualification requirements and the provision of qualifications.



PACT – the concept

Objectives: matching competencies to supply and demand in agricultural employment and training markets

Users:

- employees in agriculture

- agricultural enterprises / employers
- training providers
- in addition: training consultants, employment agencies

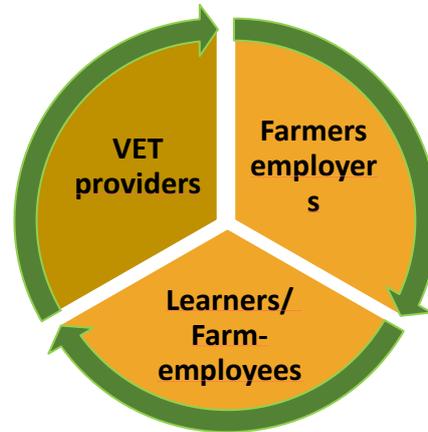
Competence-related priorities based on needs analysis:



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— leadership and management, as well as

— current areas of innovation in agriculture



Outcomes:

- establishment of a PACT competence framework for agriculture, with three general competencies and six specialist competencies, all of which can be achieved at eight levels
- development of an online tool – the PACT Discovery Demonstrator and handbook for entering offers of com-

petence-based qualifications and competence-based workplace requirements

- development of a PACT training module to attract users and demonstrate how the platform works, so that they can make competence-based entries of their offers

PACT Competence Framework for Agriculture and Tools

PACT (Pathways for Agricultural Competences and skills based Training) framework

The mission of ACT is to support and improve farming business to face current and future challenges. The ACT project aims to satisfying the demand for qualified employees in agriculture by establishing and improving a strong connection between job seekers, job providers and training opportunities within the agricultural sector. ACT provides tools to define competences on agricultural innovations and management. PACT as the main tool is the framework for the introduction and harmonization of competences and their descriptions in agricultural lifelong learning, labor services and policies. Once all stakeholder groups use the same simplified “language” to describe competences, it will be easier to match the

competence profile of a job candidate with the requirements of different work places and to identify the right training program for this purpose. The ACT online consultation on the usefulness, applicability and correctness of PACT framework was conducted and came to the following results: PACT is a tool that facilitates the communication between different stakeholders in Agriculture bringing new elements in the required competences/skills. It is clearly recognized from the target groups, as an aligned framework across Europe that could facilitate EU citizens to seek a learning opportunity and find a job in the agricultural sector.



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Lifelong Learning Programme

COMPETENCE/SKILLS AREAS OF PACT

Competence/skill	Second level	Third level
1. Systemic, holistic thinking and sustainability	a. Derive and implement conclusions b. Take views of others c. Estimate possible impact of different actions	Ad a) i. Collect relevant input / data ii. Process input / data iii. Derive conclusions iv. Evaluate different possible results
2. Self-management	a. Self-organisation b. Self-assessment/-reflection c. Self-initiated development d. Self-directed learning	
3. The capacity for interaction	a. Internal communication towards peers / employees / employers b. External communication towards customers / providers c. Cooperation / teamwork / networking d. Conflict resolution	Ad a) & b) i. Understand interaction order ii. Command language iii. Control body iv. Handle socio-cultural knowledge/norms v. Handle technology
4. Organic farming	a. Organic cultivation b. Change management from traditional to organic farming c. Use of resources d. Other	
5. Technical and scientific innovation	a. New production technologies b. New processing technologies	
6. Further agriculturally related sources of income (incl. renewable energies)	a. Renewable energies b. Tourism c. Processing of primary products d. Extended commercial activity (e.g. new groups of clients)	



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		e. Other
7.	Business administration/management	<ul style="list-style-type: none"> a. Process and risk management b. Marketing and distribution c. Concentration, diversification and individualisation d. (Electronic) Resource planning e. Legal issues (e.g. contracts) f. Other

These competencies can be differentiated at eight performance levels based on the EQF, the European Qualifications Framework.

PACT Handbook

The Handbook on PACT is a multilingual report available to all interested stakeholders across Europe, aiming to describe training needs and new job placements or to investigate current and future needs of the labour market and training. It serves as a useful tool for the incorporation of innovation, management and soft skills to other domains and sectors. PACT Competence framework is a valuable tool for the analysis of the future needs for specific competencies of the employees and new job placement.

As a result, one of the main assets of the PACT framework is the emphasis to the incorporation of the innovation, management and cross-sectoral soft skills. The selected competence areas proposed by PACT framework are fundamental for labor market nowadays across sectors. In fact, the acquisition of transferable skills is crucial with regard to the employability, adaptability and occupational mobility of on the labor market. The PACT Handbook provides a step by step guide for the implementation of the PACT to cover the different needs of the involved stakeholders.

The handbook contains of a step by step guide of PACT:

	Organizations	VET providers	National Institutions/POLICY Makers
STEP 1	Engagement understanding PACT framework	Engagement understanding PACT framework	Engagement understanding PACT framework
STEP 2	Qualitative Analysis of the Needs Analysis regarding PACT	Qualitative Analysis of the Provided Courses Analysis regarding PACT	Qualitative Analysis Analysis regarding PACT
STEP 3	EQF Analysis of the Needs Analysis regarding PACT	EQF Analysis of the Provided Courses Analysis regarding PACT	EQF Analysis Analysis regarding PACT
STEP 4	Identification of the gaps in learning	Identification of the gaps	Gap Analysis
STEP 5	Implementation	Implementation	Recommendations
STEP 6	Evaluation	Evaluation	Evaluation



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PACT Discovery Demonstrator

PACT Demonstrator & Services,

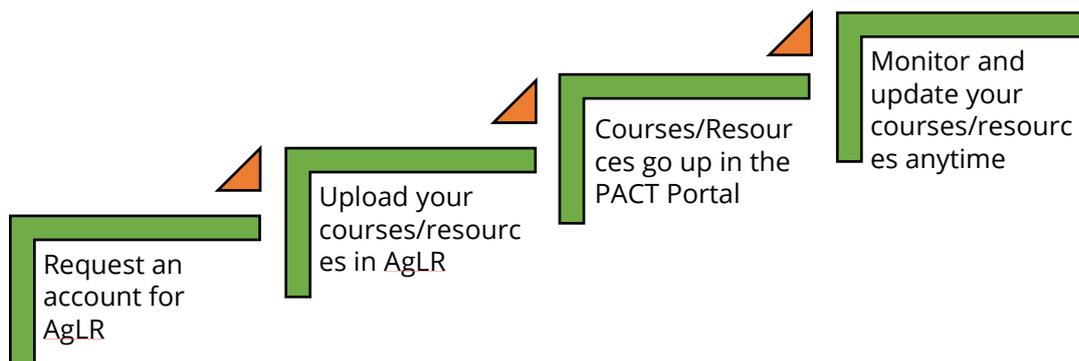
- allow real dissemination of agri-food VET opportunities across communities that seek for training
- guide the trainees through the existing training solutions with links to emerging job profiles, required skills and competences
- provide services that customise and structure the existing information to the needs of different communities within the agri-food sector
- A demonstrator was developed and tested, focusing on the specific sub-sector of food safety training, through aligning with the Global Food Safety Partnership (GFSP; www.gfsp.org) and developing an AGINFRA-powered demo portal for the Food Safety

Knowledge Network (FSKN), one of the GFSP partners, in the form of a skill-based search and discovery demonstrator of training opportunities and job profiles in the food safety sector

(<http://dev.actnow.agroknow.com>).

The PACT framework (information models) has been embedded in AGINFRA, the information sharing e-infrastructure for agricultural research and extension. The initial concept of a “PACT Portal” has evolved into skill and education information sharing services within AGINFRA, so that any organization can publish information about their training collections, job profiles and offerings in a PACT-compliant way through AGINFRA.

The PACT Search & Discovery Demonstrator is available at <http://dev.actnow.agroknow.com/>



The user has the opportunity to define and describe the course within the PACT competence framework, and also to determine the performance level. As long as all users employ the PACT competence framework, it will be possible to match courses on offer with available jobs based on the competencies required.

A training provider needs to complete the follow major steps:

- provide general information, including title, keywords, language, geographical coverage and description: Indicate the Desired/required entry level (on a scale from 1 to 8) and the Expected level achieved after the training



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- describe educational purpose of the training course
- describe the course's thematic classification & related ACT competences
- assign the course to the ACT collection of courses

In addition, course materials can be uploaded.

Similarly, job profiles and the required competencies can be described and entered. Filter give the opportunity to select, so that matching the required competences of a job profile and find the right course which provides those competencies as outcome for the learner.

PACT online training module

An instruction video, explaining step by step how to use the ACT platform has been developed. The described process is presented in:

The PACT online portal manual

The following videos for asynchronous learning

Step 1: <https://www.youtube.com/watch?v=bVH8DIITVk>

Step 2: <https://www.youtube.com/watch?v=KOBsU9bpOoY>

Step 3: <https://www.youtube.com/watch?v=1eCV4GIXkXk>

The following video tutorial for synchronous learning

<https://www.dropbox.com/sh/gfbc5irx2d1rnsr/AAARyzAq11LPfCpi0xSz4dZa?dl=0>

ACT Agricultural Alliance - dissemination and exploitation

To develop and consolidate the ACT alliance in the long term and broaden the use of the PACT Portal, the following strategies have been chosen:

ACT Train the trainer

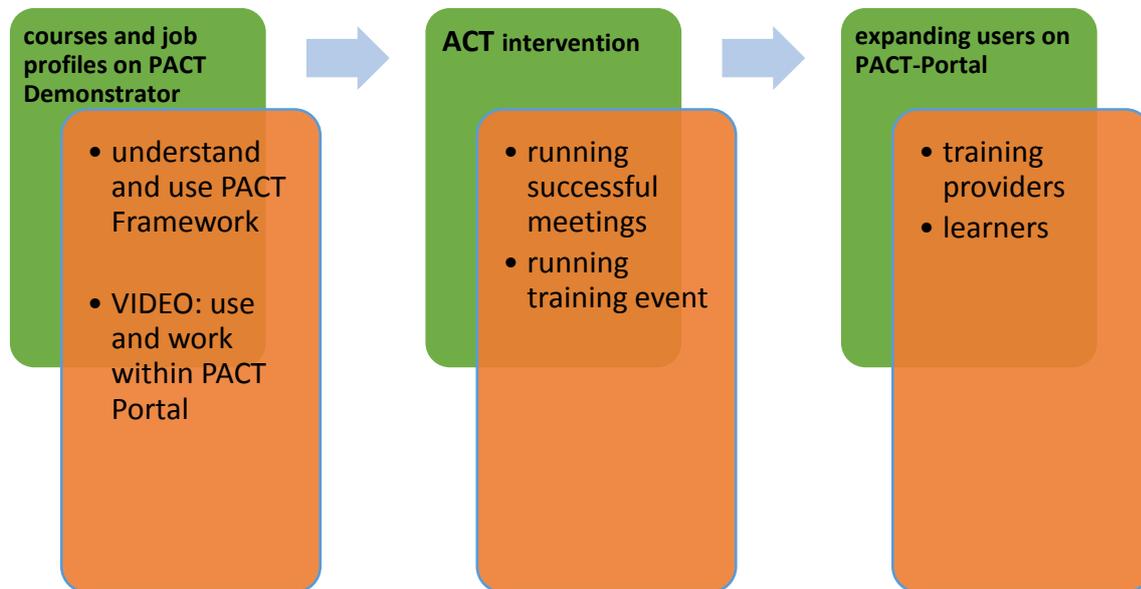
The training is aimed at representatives of all the ACT partners. The purpose of the training is to enable participants to instruct stakeholders of the ACT project [education and training providers, farmers and farmers union representatives, job seekers and policy makers] on the benefits, operation and use of the ACT platform.

The aim of the course is to give the participants the skills and confidence to deliver short instructional talks to varied stakeholder groups and to ensure that these stakeholders fully understand the process. The use of questions is critical in this process.

ACT training process:



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ACT Distinction Award

In addition, a process is being developed for presenting awards to PACT users. Exemplary use of the PACT competence framework and the PACT platform should inspire more users to participate and thereby expand the circle of providers – education service providers and employers in agriculture – and so increase the offers for candidates and trainees.

The ACT Award aims to become a unique initiative to bring together the network from VET providers and representatives of the Agricultural business to reward practices and curricula design covering the agricultural labour market needs. This will contribute to inspire collaboration between VET providers and employers promoting innovation and impact.

The ACT Awards intends to become an attractive award to comprise, recognize and to create a pool of agricultural training opportunities around Europe. The assessment will be made by a multi-stakeholder jury (e.g. employer federation, trade union, academy,

NGO, media, business, public authority etc.). Jury members selected projects based on the positive impact their multi-stakeholder partnership brought to both society and business as well as its innovative approach to tackle societal issues.

With this award the ACT project aims to bridge the gap between the needs of the Agricultural market and the offers of new training programs by supporting the best <VET providers and/or Employers> that are capable to design new learning opportunities or to express the job offer/opportunity in terms of PACT framework .

TARGET GROUPS of ACT awards are Training Providers and Employers/ Farmers

- The winners have to describe the learning opportunities in terms of PACT framework, which is more complicated since they are interested for



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the learner BEFORE and AFTER the training (process).

- The winners have to express the job offer/opportunity in terms of the PACT framework, which is more easily expressed since they expressed what they want at the specific time (static).

The award design contains of development and launch, assessment and judging, celebra-

ACT International Focus Group

Part of the needs analysis involved the assembly of key actors in four countries. An overview of the list showed an accumulation of certain key organizations and institutions

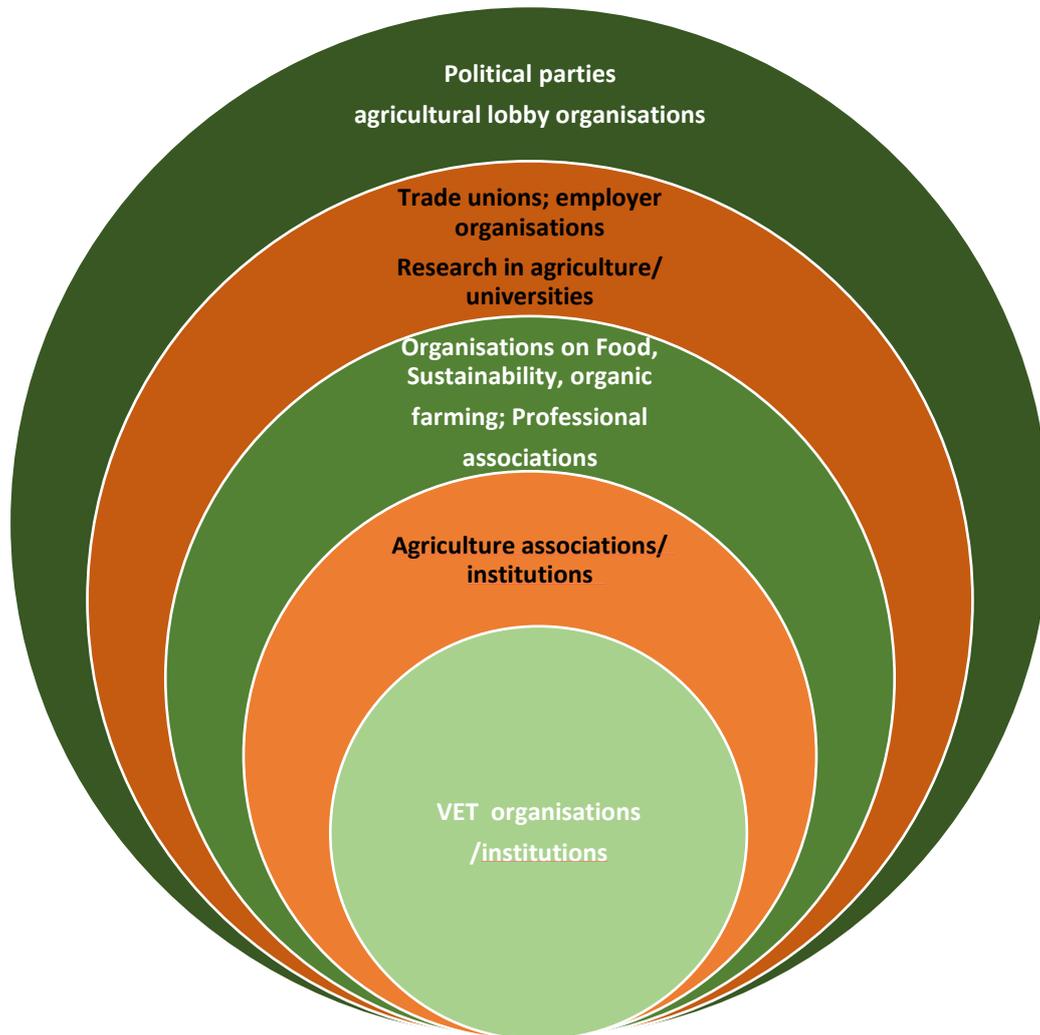
tion of winners and communication of outcomes of the award.

The award is intended to provide an incentive to motivate more users to access the PACT Demonstrator. The award will grow in significance if conferred during the course of Hanover's Agritechnica or similar events.

which, in their intermediary role, can reach a great many individual organizations within our target group – VET providers, agricultural employers, and agricultural employees.



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Selected key players contributed within the development process of ACT project. They were involved in focus groups of each participating countries, they participated in the ACT online consultation about the PACT framework, and they already contributed courses to the PACT Demonstrator.

An evaluation of the key actors also brought to light some important online platforms, which the ACT Project contacted with a view to forging a partnership. As a result, the PACT Portal has made agreements to link up with the following platforms: www.bildungsserver-agrar.de; www.organic.edunet.eu; www.organic.edunet.eu; www.foragri.com

and [Green Learning Network \(www.greenlearningnetwork.com\)](http://www.greenlearningnetwork.com).

The ACT final conference was organized in collaboration with the EU-Partner-Project ECVET-STEP and took place at the Dutch Embassy in Bruxelles. Training to employment innovations for the agricultural sector was discussed and project concepts and results were judged among participants, stakeholders from EU commission and agricultural sector of different countries. In the final affiliation ceremony a memorandum of understanding and activities for mutual exploitation were agreed and signed by the projects coordinators of ACT-Project, ECVET-STEP Project (



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step.eu)and

GreeNET

Project

(<http://greenet.ea.gr>).

ACT Recommendation and Vision

Our Vision and Objectives

ACT's Mission is to support and improve farming business by developing tools for defining competences on agricultural innovations and management, thus helping the farming business face current and future challenges. In a nutshell, we aim to improve the competitiveness of European farming!

ACT aimed at establishing and sustaining an Alliance for competences and skills based vocational education and training (VET) in agriculture: The motivation behind ACT is to respond to the demand for lifelong-learning in the agricultural sector that is currently facing environmental, economic, social and territorial challenges, as well as EU directive reforms.

Seven partners from four countries joined forces involving all relevant stakeholder groups in the agricultural sector, namely the farmers, industry, VET providers and policy makers as well as the relevant labor services. In such close cooperation, ACT developed a framework, the "Pathways for Agricultural Competence and skills based Training (PACT)" and related training and tools for its implementation and usage.

Recommendation

1. Expanding PACT competence and skills to more agricultural business areas

Our focus was innovation and management in agriculture but it could be expanded to other business areas in agriculture. Regarding innovation two domain specific hard skills were identified within PACT framework: organic farming and agriculturally related

sources of income. The competence framework PACT fits in with the pathway adopted by the EU for the alignment of competencies in the training system and can be adapted to the European transparency instrument EOF – a European qualification framework with eight qualification levels – and ECVET, the vocational training assessment system. In this respect the new sectorial competence framework for agriculture can be applied to other sectors. The adoption and use of the PACT-enhanced descriptions of training courses and job profiles by all stakeholders in the agri-food sector is a main target.

2. The PACT framework and tools are transferable to other sectors

The cross-cutting competences of PACT – systemic thinking, self-management and interaction-skills - are as soft skills transferable in all other occupations. Furthermore PACT has two generic hard skills on offer: Even the technical skills on business-management are very useful and mostly required in a lot of vocations and occupational profiles. The same applies to skills in technical and scientific innovation regarding industry 4.0 and digitization which changes most occupations by new opportunities with ICT-technology. For example, the adoption and use of the PACT-enhanced descriptions of training courses and job profiles by all GFSP



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network members is a work in progress.

3. Expanding ACT alliance and user community

The ACT alliance aims at the harmonization of competence descriptions in lifelong learning, labour services and policies in the agricultural sector. ACT results offer tools to expand the ACT alliance and user community. With ACT train the trainers and ACT Award and PACT handbook the dissemination process can be furthermore increased.

4. Establishing a standard for the agricultural sector

It is important to promote the adoption of the PACT Framework and the AGINFRA services to the upcoming Horizon 2020 call in Agricultural Skills and Education, so that they become a standard for the agri-food sector in future calls. This will ensure its wide adoption and sustainability through supporting similar future efforts

Impressum:

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