



WEBINAR

AGRICULTURE SKILLS ANALYSIS

Understanding agriculture sector skills needs and challenges

across European regions
10–11.30 (Brussels Time)

February 02 2024

Who are we?



It is an international non-profit association of governments and local authorities willing to build concrete cooperation in the field of lifelong learning.

EARLALL believes that regions and local authorities have a privileged role in designing and implementing strategies for lifelong learning since they are in direct contact with citizens, educational institutions and the business environment.



The network was established in 2001 and its secretariat is based in Brussels, Belgium. The Presidency is held by the Basque Country.



AGENDA



- 10.00** **Welcome and introductory remarks, Anna Cabedo and Òscar Palazón**, Regional Ministry of Education, Catalonia & EARLALL WG Skills and Labour Market co-leader
- 10.10** **Session 1 | Challenges related to skills in the agriculture and farming sector**
Fabio Cossu, Directorate-General for Agriculture and Rural Development, Unit A1 Policy Perspectives, European Commission
- 10.20** **Session 2 | Regional examples: Agriculture sector skills needs and challenges from EARLALL member regions**
- **Adeline Yon-Berthelot**, Member of the Regional Council of Brittany, regional delegate for agricultural training (Brittany Region)
 - **María Marhuenda Muñoz**, Internationalisation and Mobility Coordinator at the Agri-food Training Service of Agricultural Schools (Catalonia Region)
 - **Gustav af Wetterstedt**, Regional expert on agriculture policies (Västra Götaland Region)
 - **Miriana Bucalossi**, Head of Apprenticeship, WBL Policies and EU Project Management Unit, (Tuscany Region)
 - **Leire Oreja**, Collaborator in Biosciences and Sustainability area of Tknika, Basque VET Applied Research Center (Basque Country)
- 11.20** **The floor is yours: Q&A session**
- 11.30** **Concluding remarks and closure**



WELCOME

Technical aspects and house-keeping rules

- Please make sure that your **microphone is mute** when connecting.
- Please **rename yourself** stating your “Name Surname – Organisation / Region.”
You can do that by opening the participants’ list and clicking on the blue button that appears next to your name.
- You can leave your camera on, but please note that **pictures might be taken during the session** and published on EARLALL’s Twitter account: @earlallEU
- You can use the **chat box to ask questions** to the presenters and interact with other participants.
- The **session will be recorded**
- The **PowerPoint presentations will be sent to you after the event**

SESSION 1

Challenges related to skills in the agriculture and farming sector



Fabio Cossu is a policy analyst in the Policy Perspectives Unit at the European Commission's DG AGRI. He helps develop the Common Agricultural Policy's long-term strategy, analyse its efficiency and effectiveness and ensure consistency with other Union policies and priorities. His involvement in the Commission's strategic foresight activities is key to this endeavour. Having developed a keen interest in skills development in agriculture, he promoted the event "Farming's got talent!" (Brussels, 2022) on the role of vocational education and training for the twin transition of the farming sector. Previously he was policy officer for the European Innovation Partnership for Agriculture Productivity and Sustainability (EIP-AGRI) in DG AGRI's Research & Innovation Unit. He's an agronomist by academic background, and has worked on rural development-related issues for over ten years.

@EUAgri



Skills for the agricultural sector: change and challenges

EARLALL webinar – 2 February 2024

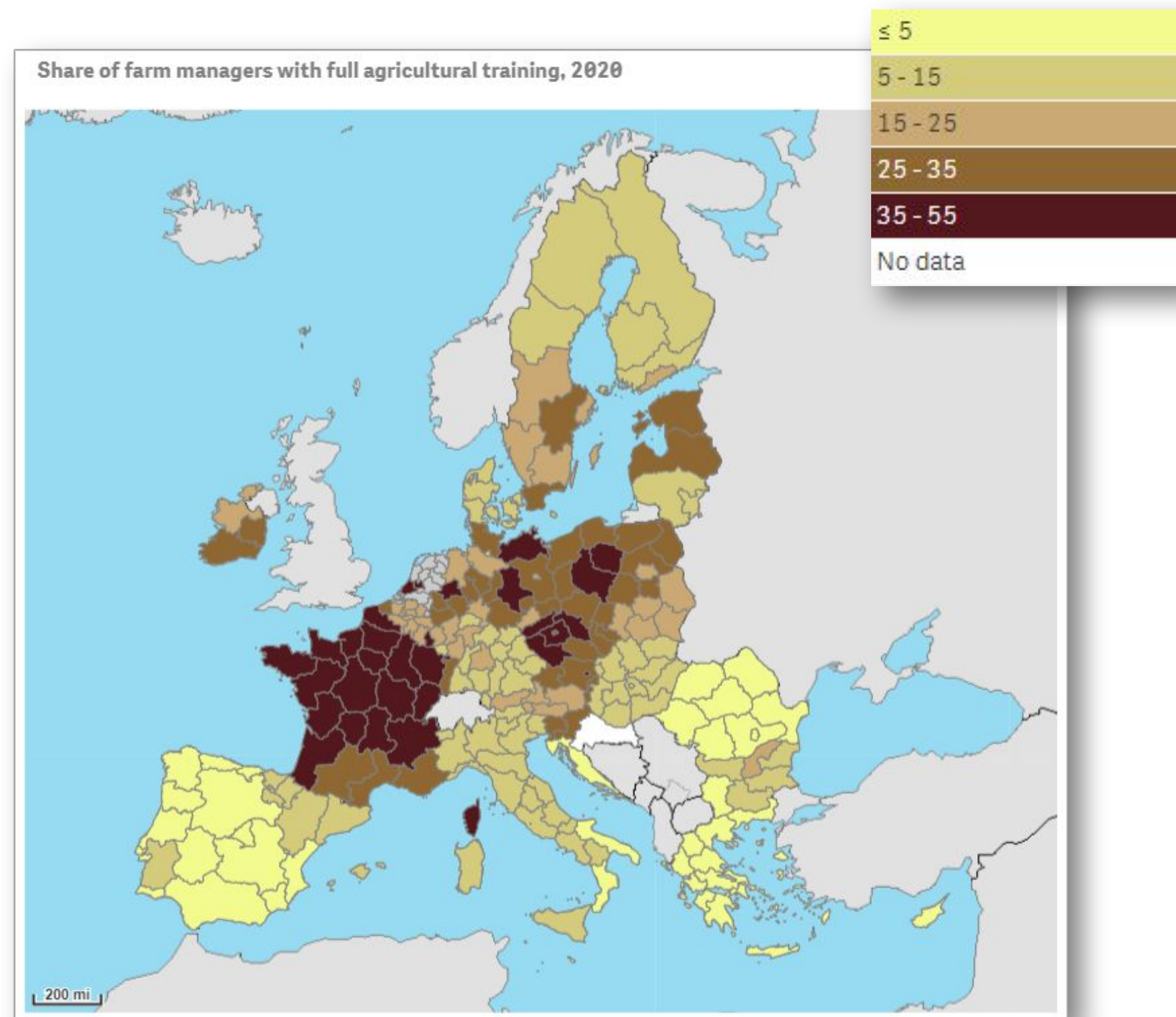
Fabio Cossu
DG AGRI - Policy Perspectives

3 take-away messages

1. Structural **changes** of the EU farming sector and multiple **challenges** calls for (re)consideration of **skill needs** (and the way to deliver them)
2. Skills are an enabler for the **green & digital (just) transition** of the EU farming / agrifood sectors
3. A **strategic approach** to skills development in agriculture is needed to attract and retain talents

EU farmers and labour force

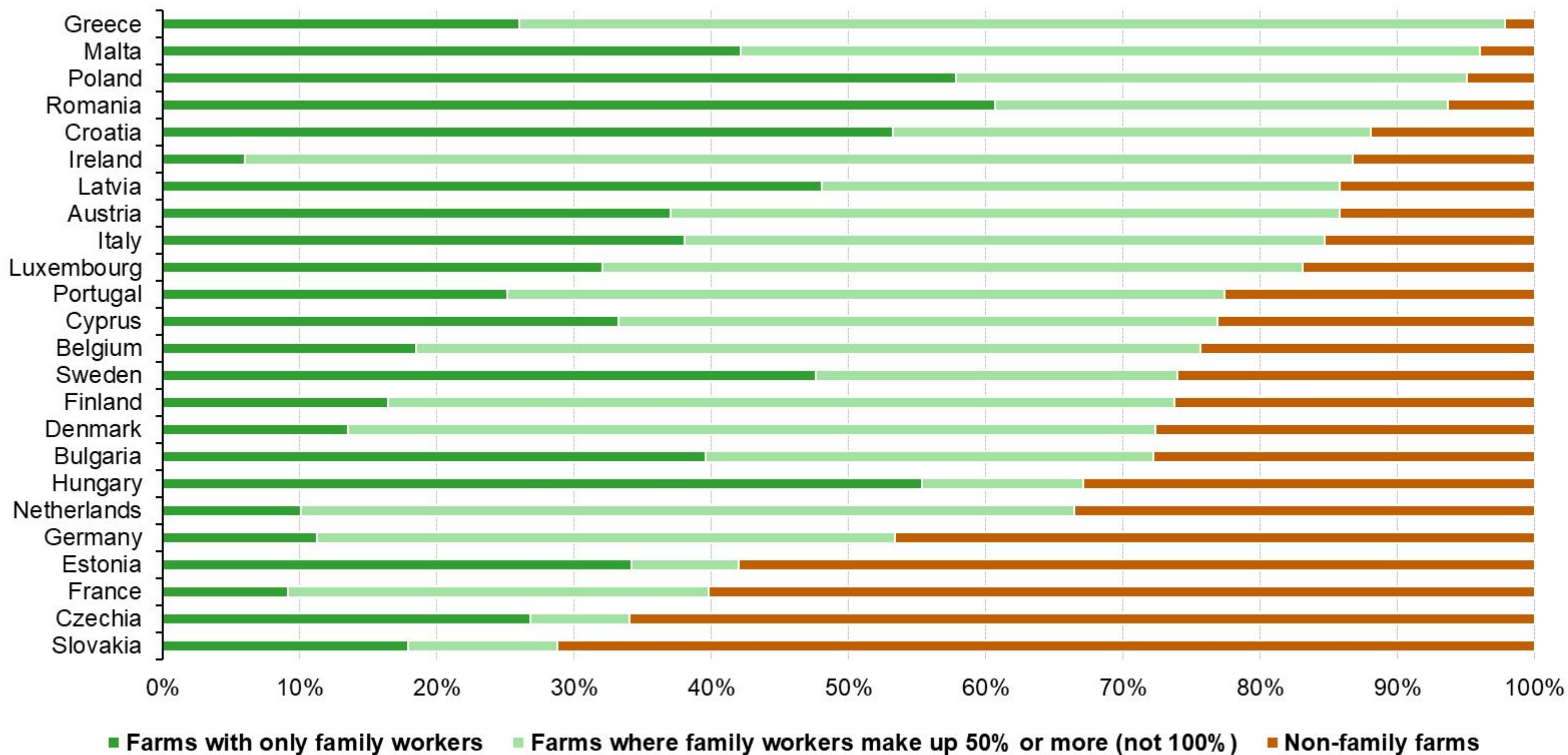
- EU agriculture is a **big employer**: 8.7 million people worked in agriculture in 2020 (4.2%)
- Fewer farms, fewer farmers... reduced labour force (-4.5 mio AWUs 2005-20)
- Farming remains predominantly **family farm based**
- Farm **managers** are typically **male** and relatively **old**
- Very few farm managers in the EU have **full agricultural training**



Source: EUROSTAT, 2023

Distribution of the agricultural labour force, 2020

(%)

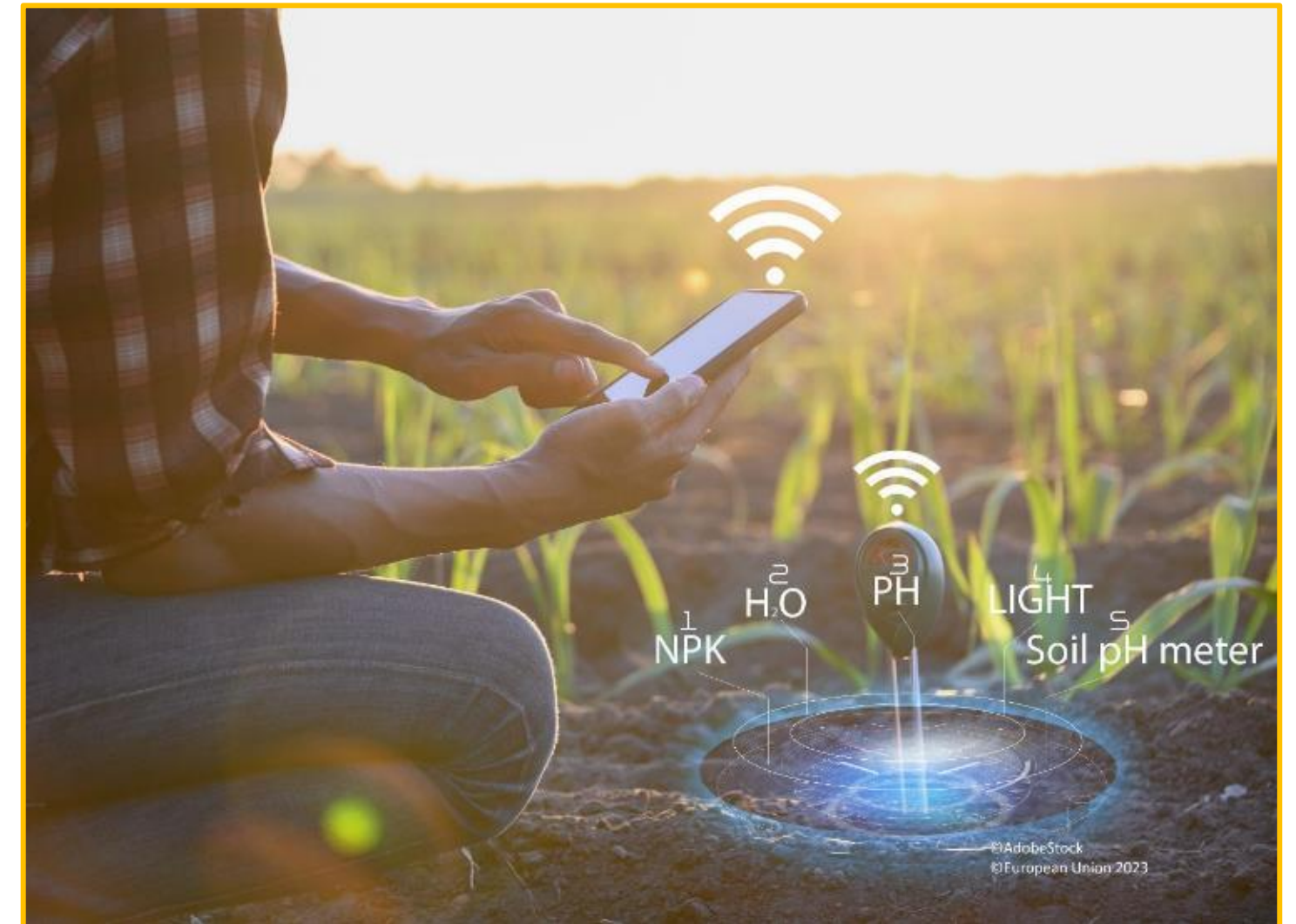


Note: Data for Spain, Lithuania and Slovenia not comparable with other Member States.

Source: Eurostat (Agricultural Census, 2020)

Challenges: resilience, competitiveness, security...

- Provide sufficient, nutritious **food**
- Stay **resilient** in face of shocks, thus improve sustainability
- Contribute to address **climate change**
- Focus on **competitiveness**
- Efficient use of **resources**
- ...



Enhance **productivity**, sustainably: speed/scale of **innovation** (incl. digital)

EU policy context



What skills are needed?

Key areas for skills development (with examples)

Farm / business development and diversification

Renewable energy / materials, biobased products, direct marketing, new value chains, **succession planning**, work safety entrepreneurship (accounting)

Keyword: diversify

Sustainable farming practices

Soil nutrients and health management, crop diversification / rotation, biodiversity management, water management, agroforestry

Key word: adapt

Digital and technological literacy

Everyday usage of digital technologies, advanced digital skills (e.g. precision farming), robot and drone technologies

Keyword: connect

Horizontal skills

Communication and learning, networking

Keyword: keep learning

Skills for the transition: “people-first”

Attractiveness

- Continuous professional development & career prospects
- Qualifications (on-the-job learning)

Inclusiveness

- Equal access to training and education
 - Women & young people, migrants
 - Rural areas

Quality of life

- Working conditions
- Mental health



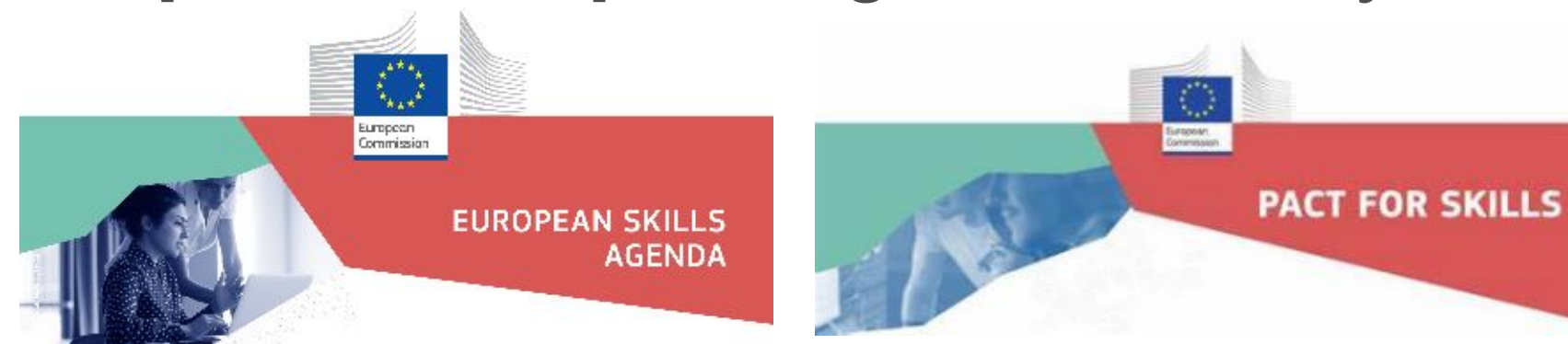
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Up/re-skilling the EU farming sector - policies & tools



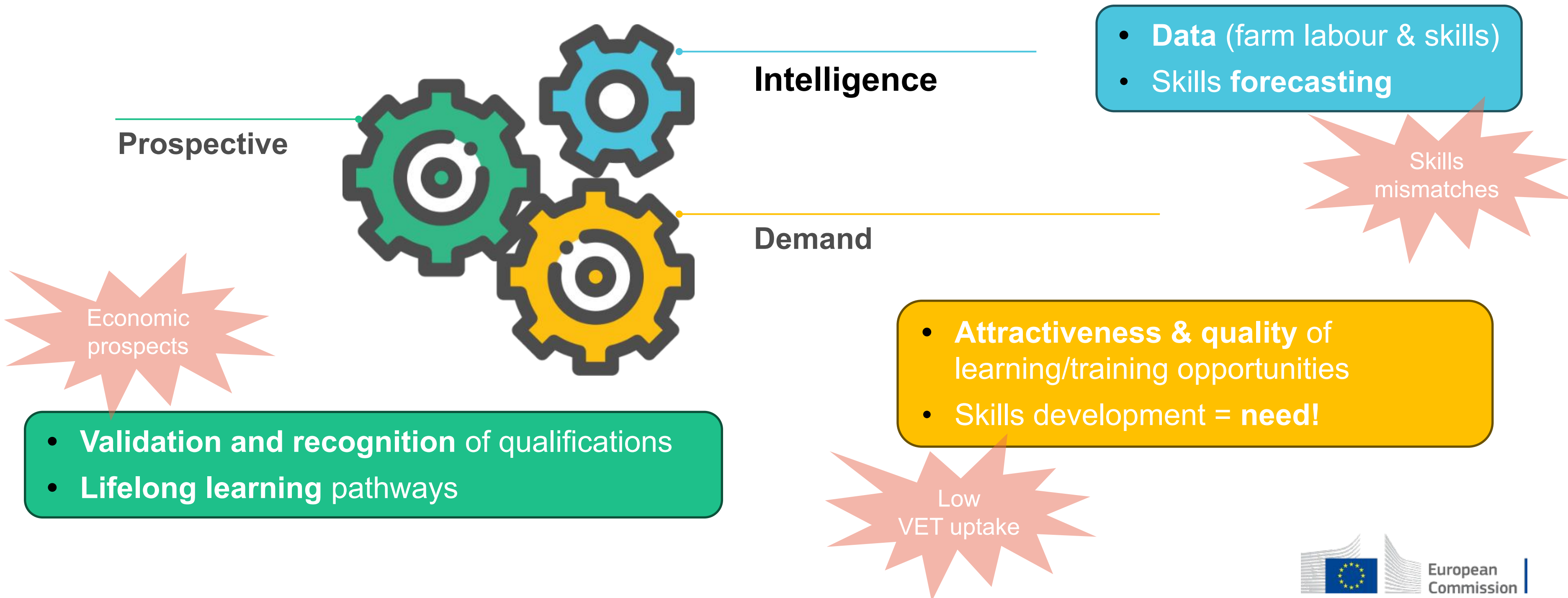
- **Common Agricultural Policy:** strategic approach to knowledge exchange and innovation (incl. digitalisation)
- **EU R&I programmes** (Horizon): enhancing human capital and boosting innovation systems
- **Digital Europe Programme:** capacity building / advanced digital skills
- **Erasmus+ / Centres of Vocational Excellence**
- *European Social Fund (ESF+)*

- Large-scale **skills partnership** for agri-food ecosystem [stakeholders-led]



What is missing / can be improved / linked?

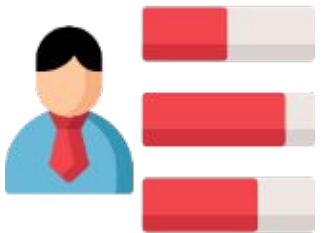
(not exhaustive...)



What role for regional and local authorities?

(some pointers)

- Perform active **monitoring** of **local** labour market and anticipate skills demand
- Connect skills supply and demand strengthening **partnerships** between agri-food industry, agricultural education/training and others...
- Adapt agricultural vocational **education and training** programmes accordingly (agile approach, modular, attractive curricula)
- Harness **synergies** among existing funding tools and cooperation mechanisms for training, up/re-skilling
- Foster **integrated** policy responses to attract talents (labour market, structural, educational, sectoral) – be mindful of barriers/inclusion



Thank you



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SESSION 2

Regional examples: Agriculture sector skills needs and challenges from ERLALL member regions



- **Adeline Yon-Berthelot**, Member of the Regional Council of Brittany, regional delegate for agricultural training (Brittany Region)
- **María Marhuenda Muñoz**, Internationalisation and Mobility Coordinator at the Agri-food Training Service of Agricultural Schools (Catalonia Region)
- **Gustav af Wetterstedt**, Regional expert on agriculture policies (Västra Götaland Region)
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BRITTANY REGION



Adeline YON BERTHELOT is a Member of the Regional Council of Brittany, regional delegate for agricultural training. In addition to her political role, she is a farmer and breeder of Limousin cows. From 2002 to 2012 she was a Quality Manager at the Kermené abattoir (Leclerc Group). She is a Breed administrator in Limoges and an advisor to the "Eureden" cooperative

@Adelineyon



Improving the attractiveness of public agricultural schools: the action plan in Brittany

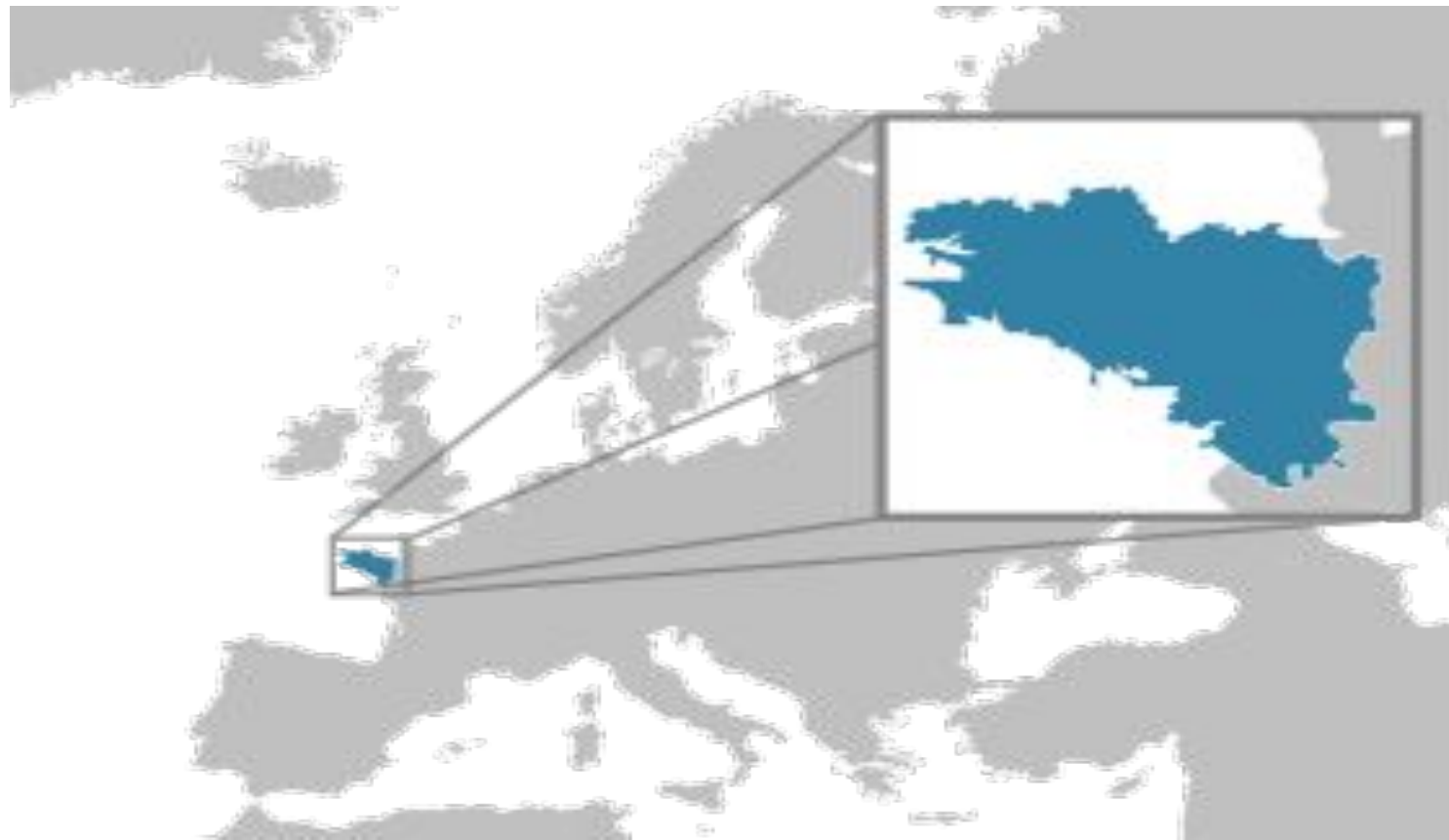
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→ Summary

- Vocational Education and Training in agriculture (VET): key facts and figures
- Stakeholder collaboration: a collective and unifying approach
- An operational plan

→ Key facts and Figures



Brittany, a farming region*

- leading French agricultural region : 11,2 billion €uros in 2022 (3,5% of regional GDP vs 1,9% on a national level, France)
- Breton farmers feed the equivalent of one in three French people. More than 60% of the regional territory is devoted to agriculture.
- 25 006 farms and 69420 agricultural workers including 35 280 farm managers (25% female/75% male)
- 3,6% of Breton jobs (vs 2,1% on a national level, France)
- A nearly 20 billion high agri-food activity which serves more than 20 million of consumers.

FOCUS ON THE DIFFERENT ANIMAL PRODUCTION IN BRITTANY:

Animal productions	Tonnes	Part Brittany /France
Pigs	1 240 000	58%
Broiler chicken and cockerel	388 201	33%
Turkeys	150 523	41%
Adult cattle	122 800	10%
Calves	35 400	20%
Ducks	21 698	19%
Rabbits	9 580	22%

→ Key facts and Figures

General Goals:

Wave of retirements to come

2000 departures are planned each year for the next 10 years

Serving the regional installation policy: reach 1000 installations/year compared to 750 today

Development of the agricultural training/education system

+

unveiling and developing complementarities between networks/schools

Meeting agricultural employment needs

Support the adapting to ecological and societal transitions

→ Key Facts and Figures

The agricultural public VET network:

A dense network of agricultural schools*

- 61 schools (public and private sector)
- 15421 students and 2886 apprentices
- 25 947 farms and 67800 workers

The public network remains strategic in the training of future farmers and agricultural employees

- 41% Admissions to the Diploma in Agriculture*

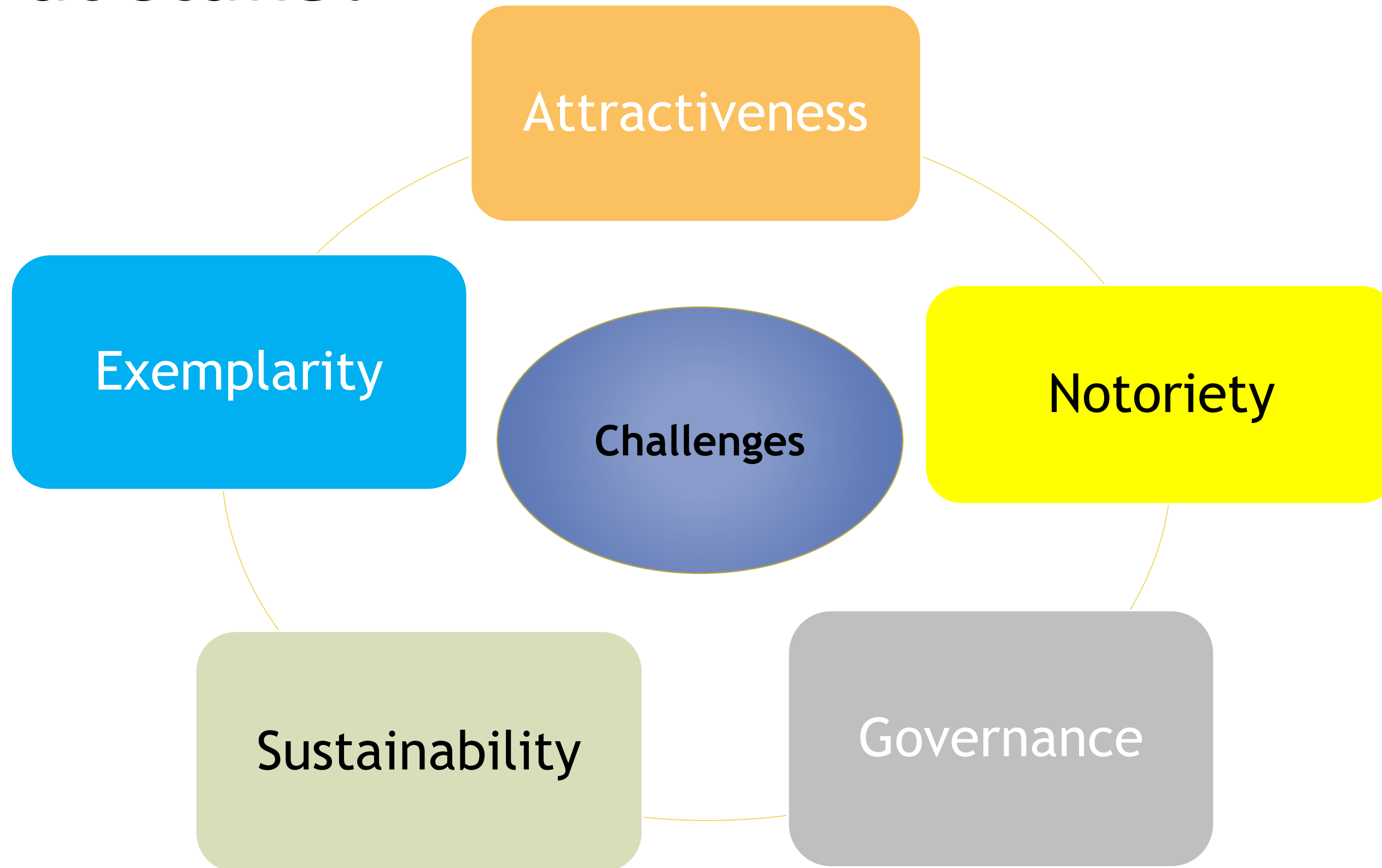
A significant financial support from the Regional council

- 9,92 M€ /year, 49,6M€ for 2017-2021
- 940K€/ year and 4,8M€ for 2013-2017 (school farms)
- 3M€ School funding/ year

*Source: agriculture et agroalimentaire de Bretagne, CRAB 2021

→ Key facts and Figures

What is at stake?





Stakeholder collaboration: a collective and unifying approach



Mutual acquaintance



Workshops



Restitution sessions

- A two-day workshop took place in Pontivy in May 2023 around 7 main topics
- **Participation of about 100 diverse stakeholders** : regional and local government officials, VET actors, companies, professional organisations, teachers, public schools, Brittany regional council staff members, academic staff members
- The discussions resulted in a plan of 30 operational actions, structured into a 5-fold project

→ An operational plan

• The 5 core elements of the action plan

objective n° 1: Opening up Strengthen the openness of schools to all audiences targeted by agricultural education & training, in all their diversity

objective n° 2: Communication (marketing)

Develop and implement a communication strategy to strengthen the attractiveness of the network and each of the public agricultural schools

Objective n° 3: school farms

reconciling educational vocation, excellence and innovation capacity of school farms thanks to optimized cooperation within the network

Objective n° 4: collective response to calls for proposals

Build a collective project to mobilize funding including the France 2030 call for proposal for Brittany

Chantier n° 5: Infrastructure Investments

adjust investments to the strategy of the public network across the entire training scope: colleges, apprenticeship, adult educational programs

→ An operational plan

- **30 operational actions:**
 - Action follow-up forms, specifying objectives, timetable, resources and performance monitoring indicators
 - **A tripartite Steering Committee**
(Administrative authority for agricultural education/Head of each public school/ regional government officials) which oversees monitoring progress toward goals.
- Next step: the first Steering Committee meeting will be held on April 2024!

Action 1.5 Élaborer une charte de partenariat avec l'Éducation Nationale

Objectif : Montrer l'excellence des formations,
Faire découvrir les filières et leurs métiers / Favoriser l'acculturation et la promotion des métiers à travers IDEO

Public(s) cibles(s) : Enseignants et collégiens

Descriptif : Process et outils envisagés

2 niveaux :

1- En cohérence avec la convention Rectorat-IDEO en cours d'écriture et avec la démarche de coopération DASEN-DRAAF en cours depuis 2022, définir conjointement les éléments spécifiques à l'enseignement agricole dans le partenariat avec l'Éducation nationale

- Expérimenter à l'échelle d'un bassin de vie, puis déployer au niveau régional
- S'inspirer d'autres filières BZH, (ex : industrie navale et la création du CINAV et autres CMQ Campus des métiers et des qualifications) et transposer dans l'enseignement agricole.

2- Au niveau local : avec le chef d'établissement et la DASEN, prévoir les modalités d'animation par département ou BAPE.

Calendrier et jalons nécessaires à la réalisation

- prendre contact avec le Rectorat à la rentrée 2023/2024 : mobiliser les différents services DRAFPIC et DRAIO puis les DASEN
- fixer un groupe de travail pour rédiger la charte
- signature de la charte par le Rectorat, CRB, DRAAF
- faire vivre la charte et prévoir des temps de suivi et d'ajustement

Pilote(s) de l'action

CRB

Moyens humains - Acteurs à mobiliser

- DRAAF
- Rectorat, Chambre d'agriculture, Etat en région et les départements (collèges)
- CRB pour préparation du contenu de la charte et communication

Moyens matériels et financiers

Les équipes de direction

Facteurs clés de réussite

Travail commun Rectorat-CRB-DRAAF
Articuler cette charte dans l'environnement plus général de l'enseignement public et privé

Indicateurs de suivi

- Nombre de stagiaires dans la filière (pourvu/non pourvu)
- Plus forte orientation vers les filières agricoles



Thank you for your attention!

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María Marhuenda-Muñoz, international project coordinator at the Agri-food Training Service of the Catalan Ministry.

She is a lifelong training coordinator at the New Technologies and Horticulture Agro-VET school and has been involved in the Agri-food Training Service European projects since 2023.

She is in charge of the management of the European projects and coordinating the mobility responsibilities of the Catalonian Agro-VET schools. In addition, she coordinates courses and technical sessions in New Technologies i Agriculture and Horticulture.

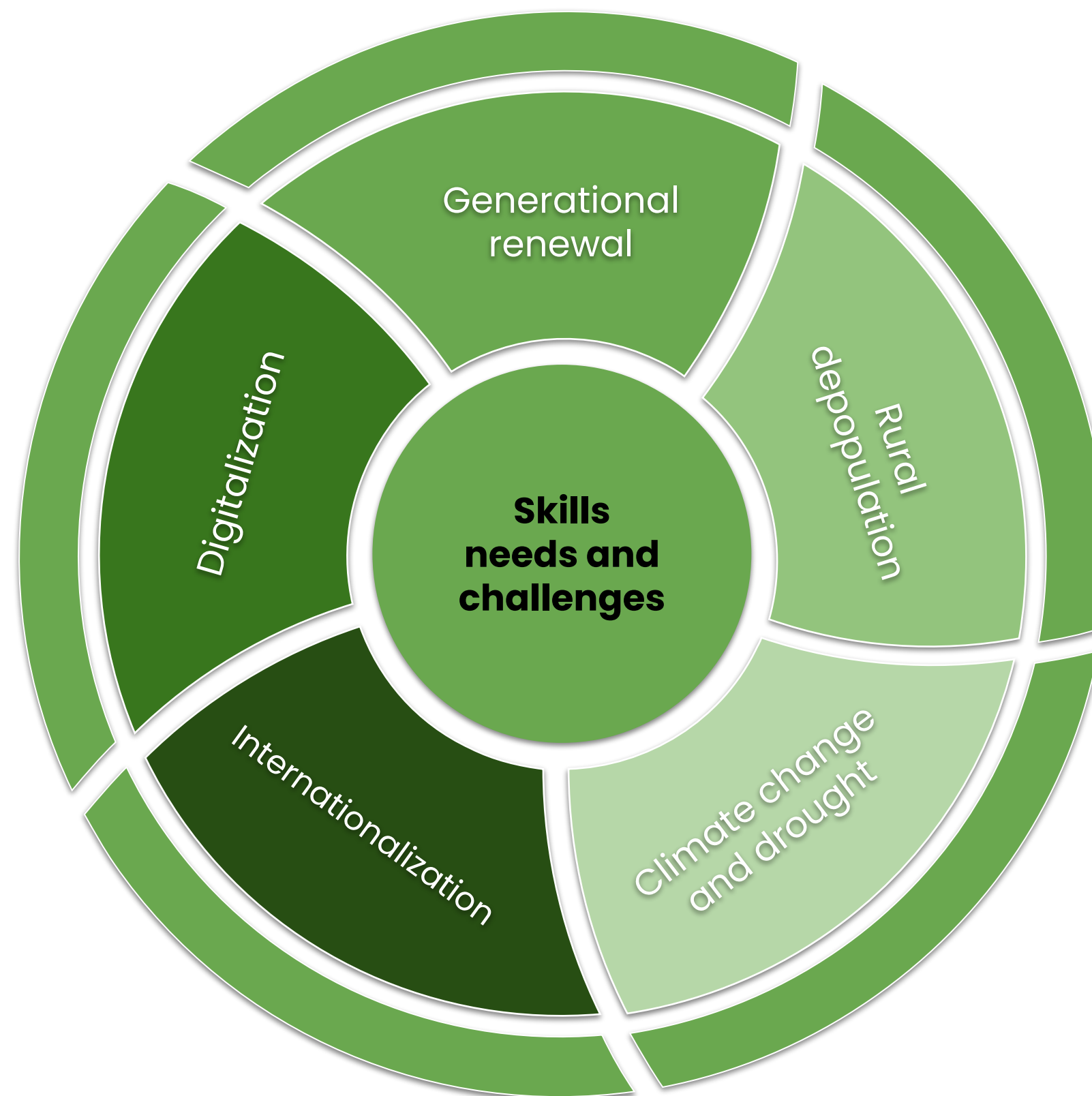
She coordinates in Catalonia the Erasmus+ KA2 project "Future Agriculture Requires Motivation, Education and Retainment" ([FARMER](#)) and the Horizon EU project [EU-Farmbook](#).

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Importance of the agriculture+farming+ forestry sector for the region

- People working in the sector: 45.700 (3r trimester 2023) 11% less than the previous year
- Male/female distribution: 87/13
- Included in Smart specialisation S3: RIS3CAT
- Weight in terms of GDP: <1% (1.622 M€ agriculture/ 270.710 M€ total) 2022 (provisional)

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Agro-VET in Catalonia (50 schools)

*Including Olive Oils and Wines, Viticulture and Processes and Quality in Food Industries family



**Ministry of Climate Action, Food and Rural
Agenda, DACC 15 schools**
Ministry of Education 27 schools
Private centres 8 schools

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Initial vocational education and training

- Intermediate (EQF lvl 4) – 2 years
- Higher (EQF lvl 5) – 2 years

→ Erasmus+ mobilities

Lifelong education and training for adults

- Online and in-person courses
- Incorporation of young farmers into the agricultural sector
- Current farmers



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Incorporation to the sector and lifelong learning



Courses (in person, blended and remote)



Technical sessions



Recognition and validation of work experience



Internships at companies




Mentoring




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H2020 EURAKNOS + H2020 EUREKA → Horizon Europe EU-Farmbook




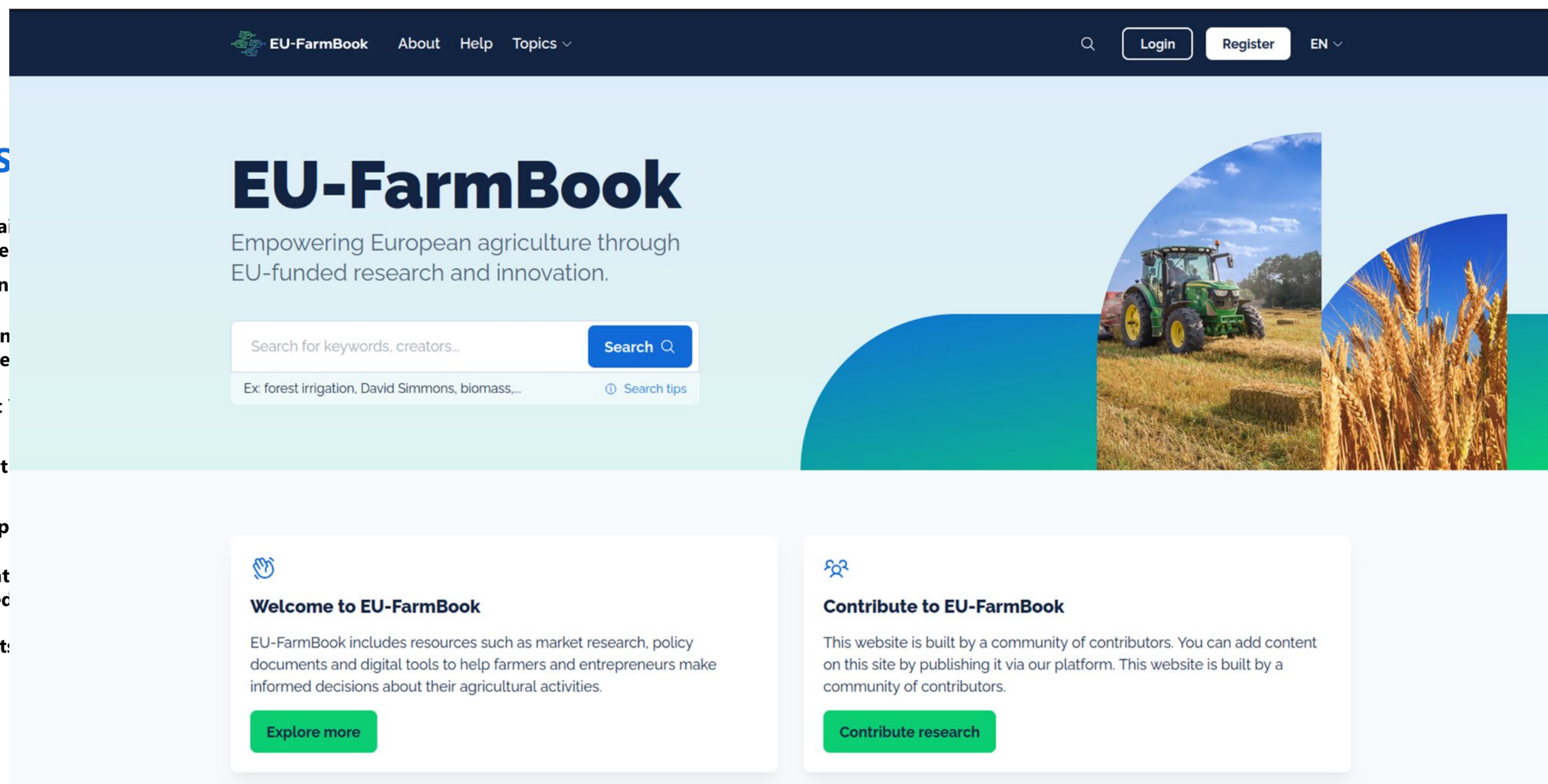
The poster features the EU-FarmBook logo at the top left, consisting of a stylized leaf with circuit-like veins. Below it, the text 'EU-FarmBook' is written in a bold, sans-serif font. The main title 'EU-FarmBook' is prominently displayed in the center, with 'Horizon Europe Project | EU-FarmBook' underneath. A QR code is located on the right side of the poster. At the bottom left, there is a logo for 'Funded by the European Union' with a small European Union flag icon. A disclaimer at the bottom center reads: 'Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.'

Consortium
18 COUNTRIES
29 PARTNERS
  GOBIERNO DE ESPAÑA MINISTERIO DE AGRICULTURA, PESCA Y ALIMENTACIÓN
07 PROJECT DURATION 2022-2029

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FEATURES

-  Free ma and ope
-  Domain
-  Platform endorse
-  Project
-  Contact
-  Easy Up
-  Integrat orientec
-  Respect:



The screenshot shows the EU-FarmBook website. At the top, there is a dark blue navigation bar with the EU-FarmBook logo, 'About', 'Help', and 'Topics' menus. On the right side of the navigation bar, there are search, 'Login', 'Register', and 'EN' options. The main content area features a large header with the title 'EU-FarmBook' and the tagline 'Empowering European agriculture through EU-funded research and innovation.' Below the header is a search bar with the placeholder text 'Search for keywords, creators...' and a 'Search' button. Below the search bar, there is an example search query: 'Ex: forest irrigation, David Simmons, biomass,...' and a 'Search tips' link. The main content area is divided into two columns. The left column contains two white boxes with green buttons. The first box is titled 'Welcome to EU-FarmBook' and contains the text: 'EU-FarmBook includes resources such as market research, policy documents and digital tools to help farmers and entrepreneurs make informed decisions about their agricultural activities.' Below this text is a green button labeled 'Explore more'. The second box is titled 'Contribute to EU-FarmBook' and contains the text: 'This website is built by a community of contributors. You can add content on this site by publishing it via our platform. This website is built by a community of contributors.' Below this text is a green button labeled 'Contribute research'. The right column contains a blue box with a white network diagram icon and the text: 'e practical m multi-actor he 'knowledge and decision- of users of users (act)'

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Erasmus+ K220: Future Agriculture Requires Motivation Education and Retainment



Consortium	
8	COUNTRIES
9	PARTNERS
03	PROJECT DURATION 2021-2024



[FARMER – Future agriculture requires motivation, education and retainment \(futurefarmer.nu\)](http://futurefarmer.nu)

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5 Learning Teaching and Training Activities

3 Transnational Project Meetings



New collaborations



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Farm incubators



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Thank you!



VÄSTRA GÖTALAND REGION



Gustav af Wetterstedt, regional developer for the agriculture and foodstuffs at Region Västra Götaland. In charge of coordinating the Regions actions in building a sustainable and competitive food chain. Between 2015 and 2023 he worked at the Swedish Governmental offices with agriculture and foodstuff policy. Working on a wide range of topics such as coordinating the CAP-negotiations, organic farming, wine, spirits, and during the Sweden's Presidency of the Council of the EU was the chair of the working party on geographical indications.

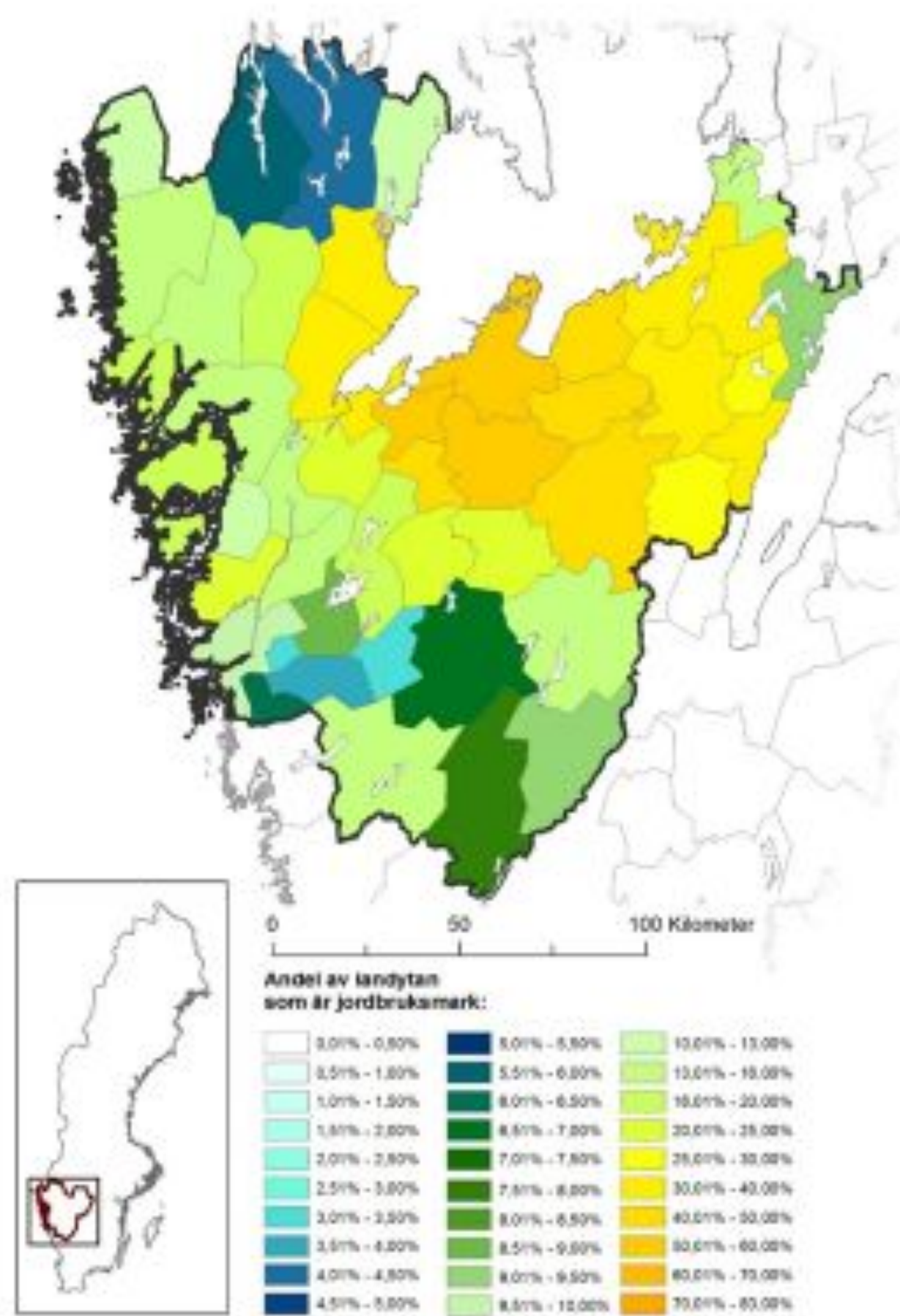


@vgregion

Västra Götaland and agriculture – key facts

- Västra Götaland consists of 49 municipalities with 1.7 million inhabitants and covers 24.000 m²
- Agriculture employs around almost 32 000 people
- Around 11 000 companies

Animal production	Nr of animals/ha	Part Sweden/VGR
Pigs	295968	21,2 %
Cattle (beef and milk)	256585	17,7 %
Sheep	69284	13,5 %
Arable land + pasture	522 537	17,5 %



Proportion of land area that is agricultural land

Political priority: Competences and skills

Developing competences and providing skills

– for enhanced skills provision and lifelong learning



Examples of long-term important areas of collaboration:

- Increase the potential for upskilling and reskilling to meet shifts in technology and changing needs on the labour market.
- Combat skills mismatch in the labour market.
- Develop cooperation between education coordinators, the Public Employment Service, employers, and industry representatives.
- Capitalise on and develop the skills of the workforce and make it easier for more people to become established on the labour market.



Region Västra Götaland – Education in agriculture

- Three agricultural high schools, as well as Sweden's largest vocational school for agri-sector and adult education
- Since 2022 regional development is responsible for setting goals for providing competence regionally in the private and public sector
- Campuses of Swedish University of Agricultural Sciences, Gothenburg University and Chalmers University of Technology



Looking forward for solutions

Challenges ahead:

- Generational change and attractiveness of the industry
- Need for increased coordination between employers and education providers
- Untapped potential within the agri-sector – barriers and shortage



Thank you!

Contact:

gustav.af.wetterstedt@vgregion.se

+46 765-29 49 70



TUSCANY REGION



Regione Toscana

Miriana Bucalossi Head of Apprenticeship and WBL Activities, EU Projects UNIT. Master in innovation, design and evaluation of policies and services, she is in charge for Apprenticeships, internships, dual learning and EU Projects at Tuscan Region. Within the EARLALL network, the EU Association of Regional & Local Authorities for LIFELONG LEARNING, she coordinates the working group "Youth Policies" led by Tuscan Region and aimed at promoting youth employment.

@regionetoscana

REGIONE
TOSCANA



Understanding
agriculture sector
skills needs and
challenges across
European regions

TUSCANY REGION
TUSCANY REGION

SECTOR CHALLENGES...

SECTOR CHALLENGES...

Data from IRPET (see: <http://www.irpet.it/archives/66144>)

- Although the sector remains capable of extracting value from its production, the progressive specialization in productions of excellence, such as wine, or in related activities, risks limiting the achievement of other policy-relevant objectives, such as the reduction of food dependency, the propagation of short supply chains and the maintenance of biodiversity.
- ageing process of agricultural entrepreneurship is far from coming to a halt (but there is hope!)
- valorization of the female entrepreneurial component, which in Tuscany is far from small and typically shows a high propensity for innovation, green investments and diversification
- Climate change and green transition sustainability
- dynamics of agri-food trade was also influenced first by the conflict in Ukraine, which had a strong impact on the cereal market, and then by the increase in energy prices, which triggered a worrying inflationary process, pushing up the prices of some essential inputs and, consequently, the costs for companies



...AND STRENGTHS

- young farmers are better educated and have a higher level of specialized training in agricultural studies than older ones, an important prerequisite for professionalization, modernization and the dissemination of new sustainable production practices in the sector
- relatively high incidence of excellent productions (i.e. wine, olive oil), which allow a premium price to be obtained on the markets.
- Strong link with tourism and other rural activities allows for the diversification and integration of company incomes and to counteract negative agricultural years or market volatility.





WHAT ABOUT VET CHALLENGES?

ANTICIPATING AND TRANSITIONS TO THE LABOUR MARKET

Vet System Resilience

SKILLS SMOOTHING TO THE

ECOSYSTEMIC APPROACH

Joining efforts with different stakeholders for a better skills governance (i.e. ConnActions Project,)

POLICY DESIGN

A matter of flexibility



I NUMERI DEL VINO IN TOSCANA

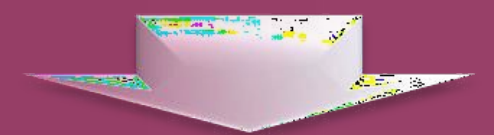
Flexibility, policy design,
anticipating skills, ecosystem
approach

An example: Tuscany Region Wine Sector

multitude
of small
companies

Over 12,700 wineries

58 recognized geographical
indications, of which 52 DOP (11
DOCG and 41 DOC) and 6 IGT



The wine sector is therefore strategic for
the Tuscan economy. For this reason,
since 2020 the Region has been
supporting high specialization of wine
technicians through dual
apprenticeships.

SOME TUSCANY REGION STRATEGIC ACTIONS



Dual Apprenticeships for Wine Technicians

POST SECONDARY LEVEL:

Wine Technician, post-diploma specialization (1 year)

IDual Apprenticeships, 40% in- company training



ConnActions

ConnAction Project

ITALIAN – GERMAN BILATERAL NETWORK for dual apprenticeship for Wine Technicians

Supporting VET Providers, companies and the two Regions of Tuscany and Rhineland Palatinate to focus on green transition and climate change adaptation of VET offer

See: <https://www.connactions.eu/>



PR ESF+ 2021-2027

POLICY MIX:

TWIN TRANSITION AS A TRANSVERSAL STRATEGIC PRIORITY

AGRICULTURE AS A STRATEGIC SECTOR – SPECIFIC BUDGET LINE FOR UNEMPLOYED TARGET

DUAL APPRENTICESHIP FOCUS ON WINE SECTOR

ECOSYSTEM APPROACH

Skills Governance

Regional Tripartite Commission

- Social partners body for consultation in particular in the field of regional planning of ALMP and VET Policies (regional law n. 32/2002)



Local Pact for skills and active labour market policies

- Shared commitments at local level to constantly detect the training needs of the territory so as to be able to identify actions and interventions for training, with a view to job placement and re-employment



Data Analysis

- IRPET as key partner (Regional Institute for Economic Planning)
- research activities on the structure and evolution of the regional economy and on regional policies



THANKYOU!

Miriana Bucalossi 

+39 055 4382433 

Miriana.bucalossi@regione.toscana.it 

BASQUE COUNTRY



Tknika

Euskadiko LHren Ikerketa Aplikatu Zentroa
Centro de Investigación Aplicada de FP Euskadi
Basque VET Applied Research Centre

Leire Oreja, collaborator in the Bioscience and Sustainability area of Tknika, Basque VET Applied Research Centre.

She is a teacher at Fraisoro Eskola LHII Agriculture VET centre and has been involved in “Food innovation and precision agriculture” project since 2019.

During these years she has been in charge of the greenhouse and management of this project. In addition, she has been carrying out applied research projects related to sustainability in the areas of agriculture and aquaculture.

She participated in the Erasmus KA2 project “European Partnership in Hydroponics” and has recently joined the Erasmus SMALEI project (<https://smalei.eu/>).



@Gob_eus | @tknika

BASQUE COUNTRY

- **GENERAL INFORMATION ABOUT AGRICULTURE SECTOR**
- **SKILLS NEEDS AND CHALLENGES**
- **BASQUE VET EXPERIENCE**

GENERAL INFORMATION ABOUT AGRICULTURE SECTOR

- 22.219 people working in the sector (2023)
- Male/female distribution; %70-%30 (2020)
- Weight in terms of GDP<%1 (2022) (Agriculture, Livestock and Fishery)
 - 86.266.450 th. m. euros total, primary sector 787.784 th. m. euros
- Included in S3: Ris3 Euskadi

BASQUE COUNTRY

SKILLS NEEDS AND CHALLENGES



Vocational Educational and Training centres in Basque Country



- Agriculture, Farming, Forestry, Landscape management
- Basic – Intermediate – Higher VET courses
- Lifelong education and training for adults

Basque VET network

Tknika Basque VET Applied Research Centre



Tknika

Euskadiko LHren Ikerketa Aplikatuko Zentroa
Centro de Investigación Aplicada de FP Euskadi
Basque VET Applied Research Centre

BASQUE COUNTRY

Food innovation and precision agriculture project



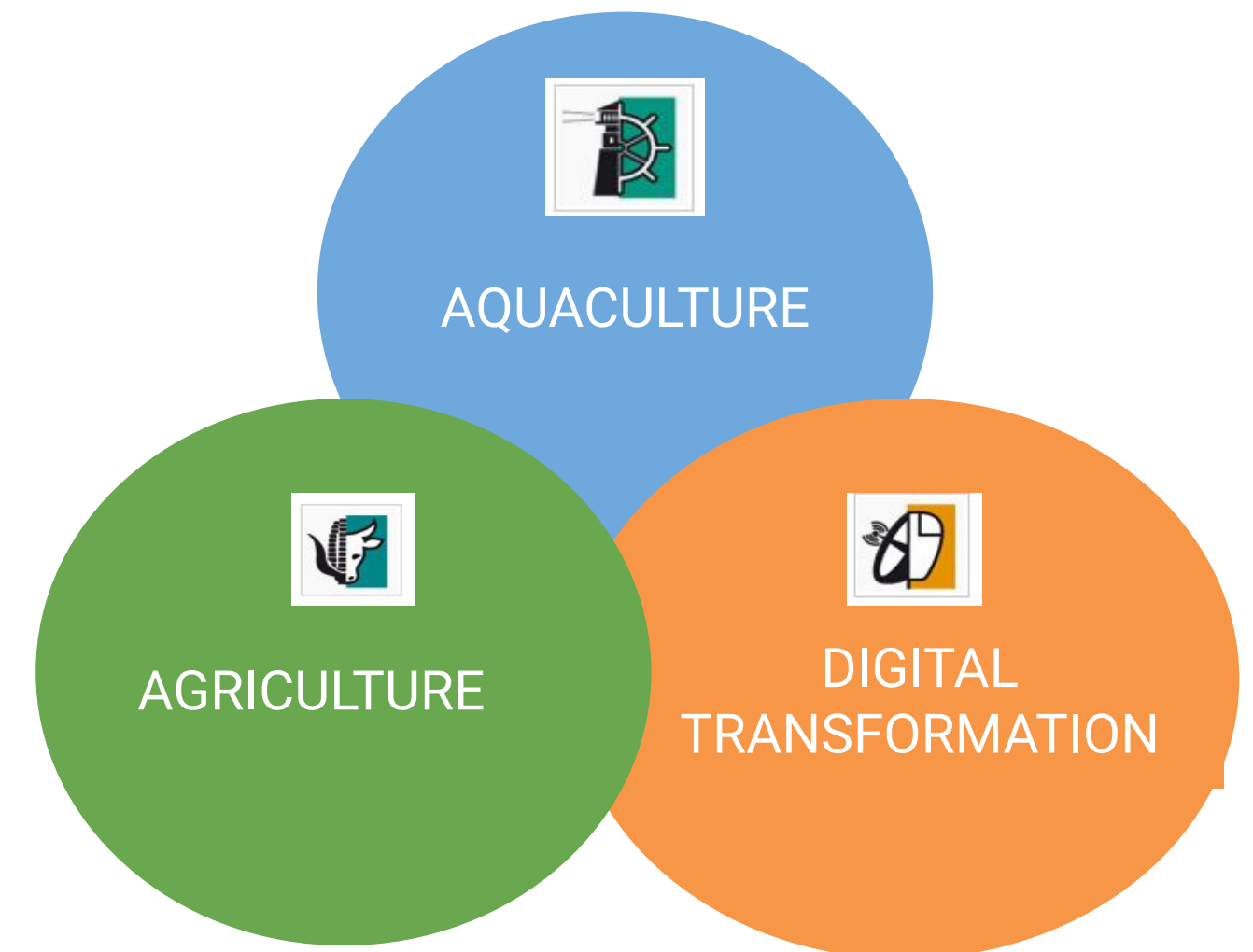
Food innovation and precision agriculture project

Work lines

1. **Sustainable food production**
2. **Digital transformation**
3. **Transferencing the knowledge**



Formers and staff



1. Sustainable food production

Aquaponics

- Plant production
- Fish production
- Balance of the system



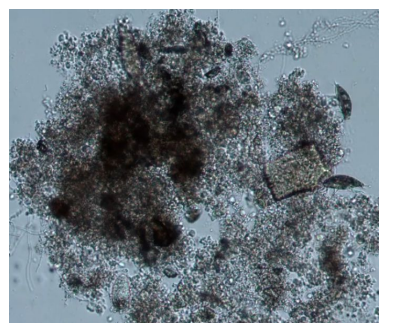
Hydroponics

- Plant production
- Growing media and fertilizers
- Circular economy



Symbiotic aquaculture

- Fish production
- Biofloc eta Acuamimicry
- Control C:N balance
- Use of probiotics and ferments
- Development of a rich trophic net



2. Digital transformation

Automation

- Irrigation automation
- Water level sensors
- Light schedule



Monitoring

- Monitoring of climate parameters
- Sensors related to irrigation
- Use of Cameras for plagues
- Sustainable use of resources



Robots and drones

- Hyperspectral cameras
- Fruit-picking robot with Artificial Intelligence
- Application in agriculture and forestry



3. Dissemination

Basque VET centres network

- Kardala Akuikultura LHII
- Easo Politeknikoa Ingurumen Hezkuntza eta Kontrola
- Murgiako LHII Nekazaritza eskola
- Fraisoro LHII Nekazaritza Eskola
- Arkaute Nekazaritza Eskola
- Derio Nekazaritza Eskola

Traineeships

- VET
 - 1st year: 3 week
 - 2nd year 12 week
- University
 - Degree Final project



Forums and International meetings

- Course of medicinal plants
- Conference about aquaponics and precision agriculture
- Symbiotic aquaculture and *Tinca tinca* production
- Erasmus projects



BASQUE COUNTRY



Thank you!

Tknika

Euskadiko LHren Ikerketa Aplikatuko Zentroa
Centro de Investigación Aplicada de FP Euskadi
Basque VET Applied Research Centre



EUSKO JAURLARITZA
GOBIERNO VASCO

THE FLOOR IS YOURS: Q&A SESSION

CONCLUDING REMARKS



WEBINAR

CARE SECTOR SKILLS ANALYSIS

**Understanding care sector skills needs and challenges across
European regions**

April 2024

Together for lifelong learning



CONTACT US:

 earlall@earlall.eu

 earlall.eu

 [@EARLALLEU](https://twitter.com/EARLALLEU)

 EARLALL - European Association of Regional and Local Authorities for Lifelong Learning

 Rue des Deux Églises 27, 1000, Brussels