Agriteach 4.0

Erasmus+ 2017-1-HU01-KA202-035964

Connecting VET Teachers to Agriculture 4.0

Nikola Trendov
Szent Istvan University
Hungary

AIM OF THE PROJECT



Renewing VET teaching methods by providing a freely available online course

THE NETWORK

PARTNERS

1. Galamb József Agricultural Secondary School - HU
2. iTStudy Hungary Kft - HU
3. Fondacija Agro Centar za Edukacija - MK
4. AG Futura Technologies - MK
5. GAK Education, Research and Innovation Centre – HU
6. CAPDM Limited - UK
7. Wirelessinfo - CZ



TARGET GROUP
Agricultural VET teachers

BENEFICIARIES
Students, farmers, advisors

PARTICIPATING COUNTRIES
Hungary, Macedonia, Czech Republic, United Kingdom

TARGET COUNTRIES
Hungary and Macedonia

PROJECT OBJECTIVE 1

A focused needs-analysis, and comparative study

ICT skill demands of the agricultural labour market

Comparative analysis and summary

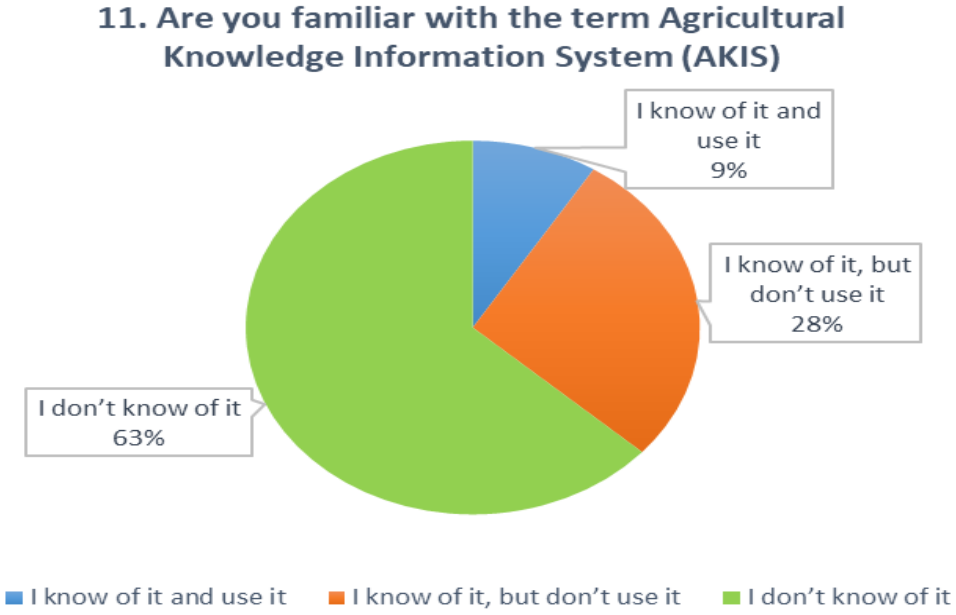
IO2 "Training needs for the Teachers for preparing students for Agriculture 4.0 National Survey in Hungary"

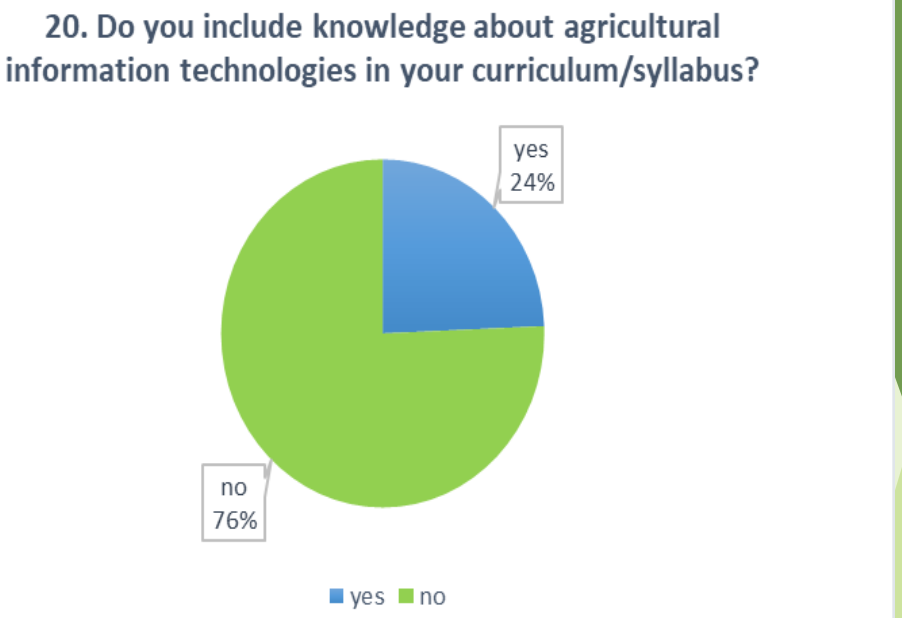
Analysis

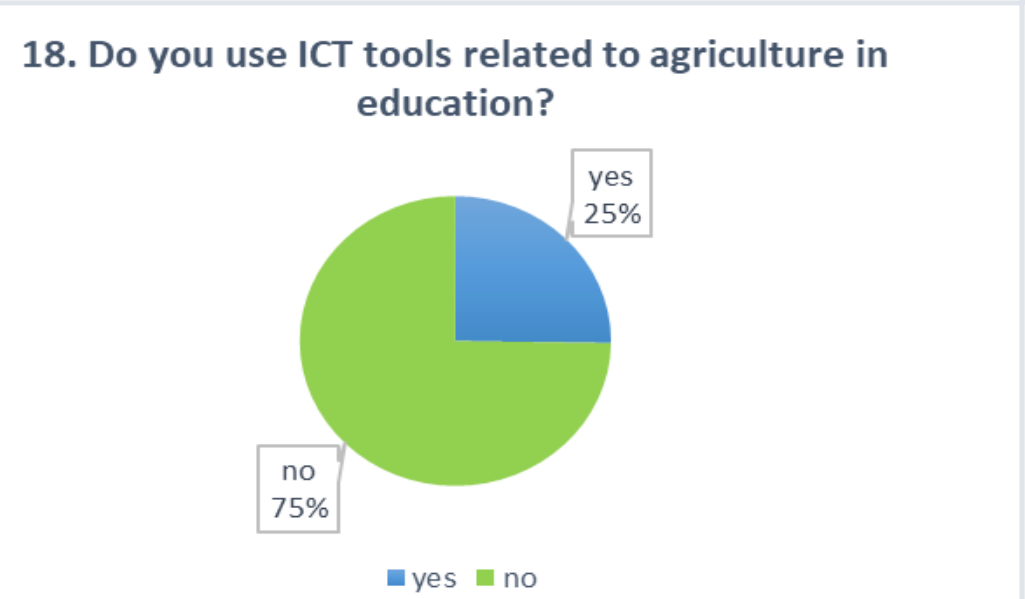
IO2 "Training needs for the Teachers for preparing students for Agriculture 4.0 – National Survey in Republic of Macedonia"

Situation Analysis

OBJECTIVE 1 FINDINGS









OBJECTIVE 2 COMPETENCY FRAMEWORK

Competence	Knowledge	Skills
A1.1. Single Digital Market	• Digital agenda • Interoperability • Cross border services	• Digital literacy • Secure e-commerce • Shared community practices
A1.2. Standards & Interoperability	• Data exchanges • Data and information structures • ISOBUS	• Device compatibility • Information integration • Semantics and codification
A1.3. Regulatory Barriers	• Proliferation of drones • EU policy and regulations • Agricultural subsidies – a shift	• Diversity of farms • Evaluating programmes and measures
A2.1. Spatial Positioning	• Controlled traffic farming • Auto-guiding systems	• Recording farm machinery movement
A2.2. Sensors	• Linking variables to practice • Quantifying the physiological status of plants	• Multiple parameters and data fusion • Linking to decision making
A2.3. Mobile Computing	• User terminals for PA applications	
A3.1. GIS & Spatial Mapping	• An enabler of precision	
A3.2. Proximal Sensors	• Location sampling • Biomass monitoring	• Relating to optimal management • Compliance with regulation
A3.3. Remote Sensing & UAVs	• Vegetation indices	
A3.4. Variable Rate Technology	• How to apply to farming operation • Rates of delivery of inputs • Soil types	• Extrapolating information • Controlling application rates • Knowing where to apply
A4.1. Reliable Data Sources	• Ownership of information	• Objectivity & tools
A4.2. Information Processing	• Storage systems • Information sharing • Developing management plans	• Transforming data into maps • Interpreting from large data sets
A4.3. Quantifying Benefits	• Increased yields & profits • Fertiliser reduction • Guidance system costs	• Social and working conditions • Reduced labour needs • Increased animal welfare

OBJECTIVE 2 COMPETENCY FRAMEWORK

Competence	Knowledge	Skills
B1.1. Yield Maps	• Relating images to yield	• Understanding yield maps • Localised harvesting information
B1.2. Causes		
B1.3. Soil Variability		
B1.4. Water & Nutrients		
B2.1. Precision Seeding & Planting Density	• Seeding via mappings of soil and plant information	• Targeted treatments
B2.2. Reduced Environmental Impact	• Sustainable use of resources • Guaranteeing the safety and security of food.	• Site-specific sensors & control • Frequent observations
B2.3. Site Specific Crop Management	• Collecting data • Scale and timing of data collection • Interpreting data	• Analysing data for decision making • Implementing management responses
B3.1. Cost & Timescale	• Low economic margins • Conservative investment	
B3.2. Data Collection	• Simple displays; more control	
B3.3. Systems Incompatibility	• Lack of independent field tests	

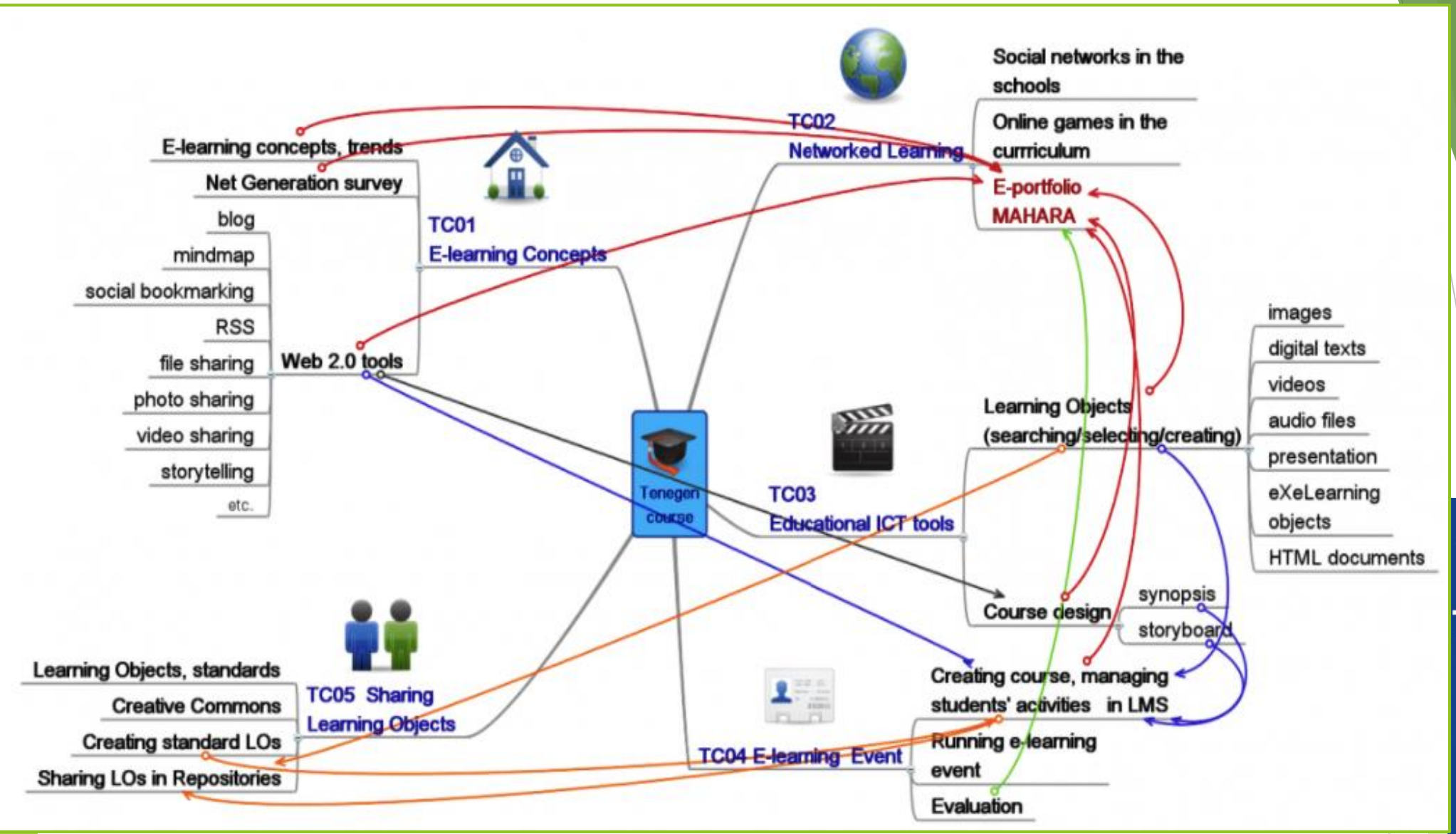
OBJECTIVE 2 COMPETENCY FRAMEWORK

Competence	Knowledge	Skills
C2.1. Soils & Growing Conditions		
C2.2. Agrochemical Overuse		
C2.3. Environmental Legislation	• Compliance with legal regulations	• Compatibility with the CAP
C3.1. Systems Approach		
C3.2. Services & Applications	• Models of causality	
C3.3. Knowledge Sharing (AKIS)	• Innovations as a social process	
C4.1. Environmental & Economic Benefits	• Minimizing over-application	
C4.2. Agronomics & Ecological Principles	• Biodiversity and environmental factors	
C4.3. Economics & Resources	• Minimum farm size • Crop management	
D1.1. Information		
D1.2. Spatial Data		
D1.3. Yield Monitoring & Mapping	• Spatial applications	
D2.1. Sensors		
D2.2. Data Processing		
D3.1. Compatibility & ISOBUS		
D3.2. Weather Forecasting		
D3.3. IoT & Big Data		

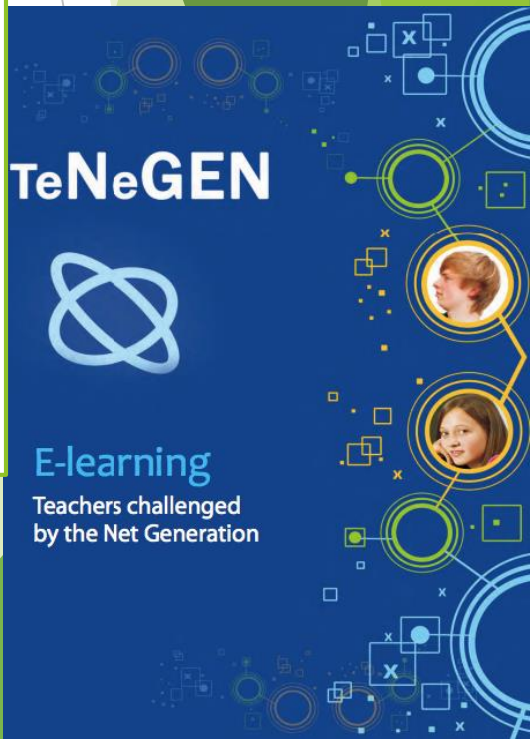
OBJECTIVE 3 LEARNING CONTENT MODULES

- M1 Reinventing agricultural education
- M2 European Strategies and initiatives of e-Agriculture
- M3 Digital systems within Agriculture 4.0





- Networked learning methodology of Tenegen (www.tenegen.eu)
- Pedagogical innovations of learner-centred methods
- Creative and Flipped Classroom models



Follow up...

5. DEVELOPMENT OF AN ONLINE COLLABORATION PLATFORM

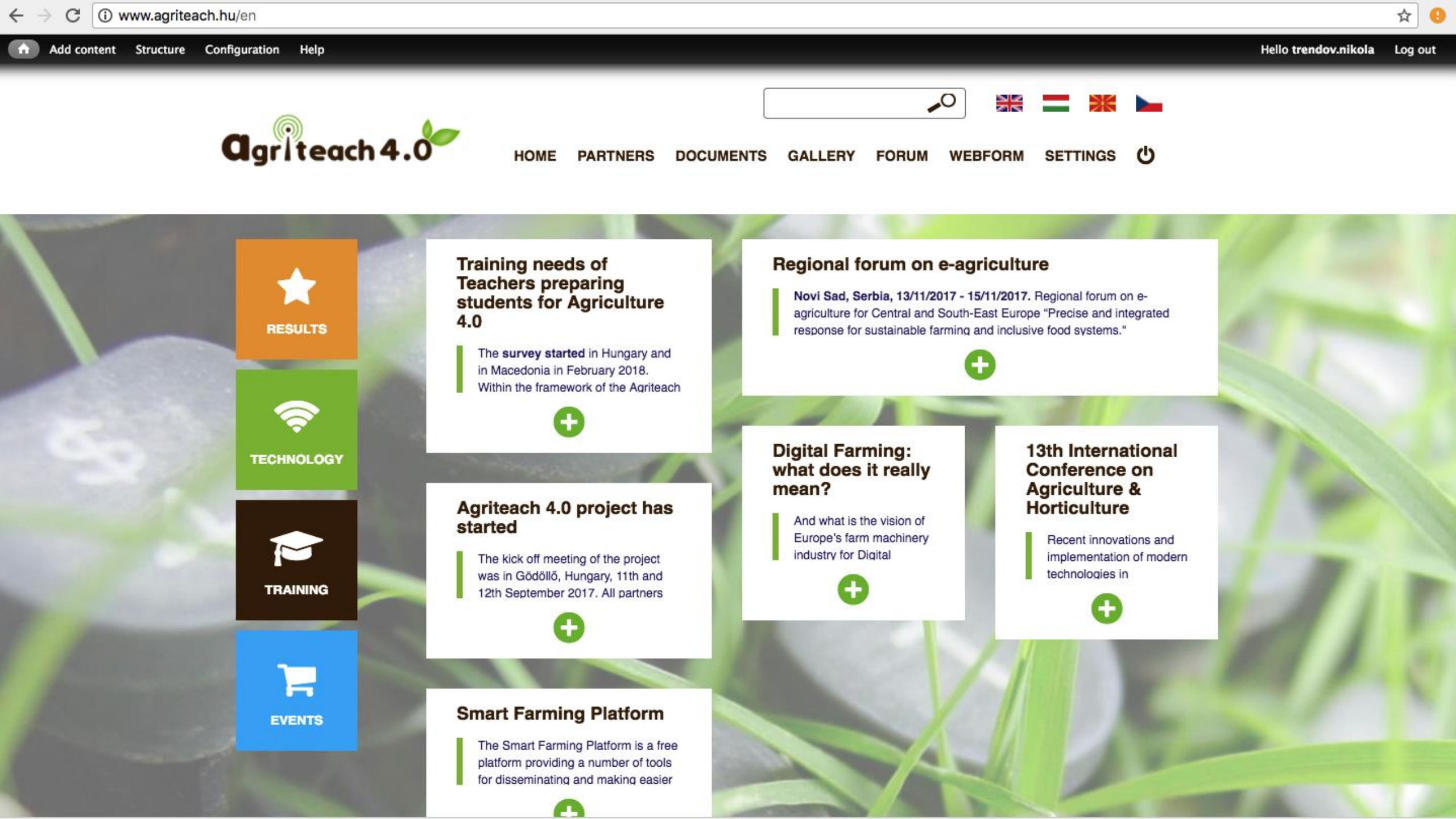
Development of an online collaboration platform and the implementation of the components for “Teachers for Farming 4.0” In this working phase the project will implement an e-learning system, based on the open source Moodle (Modular Object-Oriented Dynamic Learning Environment) software.

6. PILOTING THE “TEACHER FOR FARMING 4.0” COURSE

Aim: To test, collect feedback and effect improvements based on the evaluation of the course by external participants.

8. PLANNING FOR VALORIZATION AND SUSTAINABILITY

The aim of this Outcome is to ensure sustainability of the project in every partner country, not just the two target countries. In the first activity the project will produce a digital textbook for all agricultural teachers, and based on the content developed during the project.


www.agriteach.hu/en
Add content
Structure
Configuration
Help
Hello trendov.nikola
Log out
Agriteach 4.0
HOME
PARTNERS
DOCUMENTS
GALLERY
FORUM
WEBFORM
SETTINGS
RESULTS
TECHNOLOGY
TRAINING
EVENTS
Training needs of Teachers preparing students for Agriculture 4.0
The survey started in Hungary and in Macedonia in February 2018. Within the framework of the Agriteach
Agriteach 4.0 project has started
The kick off meeting of the project was in Gödöllő, Hungary, 11th and 12th September 2017. All partners
Smart Farming Platform
The Smart Farming Platform is a free platform providing a number of tools for disseminating and making easier
Regional forum on e-agriculture
Novi Sad, Serbia, 13/11/2017 - 15/11/2017. Regional forum on e-agriculture for Central and South-East Europe "Precise and integrated response for sustainable farming and inclusive food systems."
Digital Farming: what does it really mean?
And what is the vision of Europe's farm machinery industry for Digital
13th International Conference on Agriculture & Horticulture
Recent innovations and implementation of modern technologies in

Conclusion

Teachers are not familiar with sophisticated ICT tools like those for Precision Management, big data analysis, ERP software, IoT, etc.

Most of the teachers are not aware of new methods of education, nor have the knowledge and capacity how to prepare their students to meet the needs of the private sector.

They do not have any ICT courses where they could gain knowledge on ICT tools for agricultural education process.

MK FARMER

Web Application for Agriculture – Make your life easier

Powered by: Dr. Papocsi, Dr. Trendov and MSc. Stojanovski

User Personal data page

MK Farmer | Home | Digital Library | Farmer menu | User Management | Support | Platforms | News



Personal Data

ID	123141

Contact	
Email	johndoe@email.com
Phone	+389123456

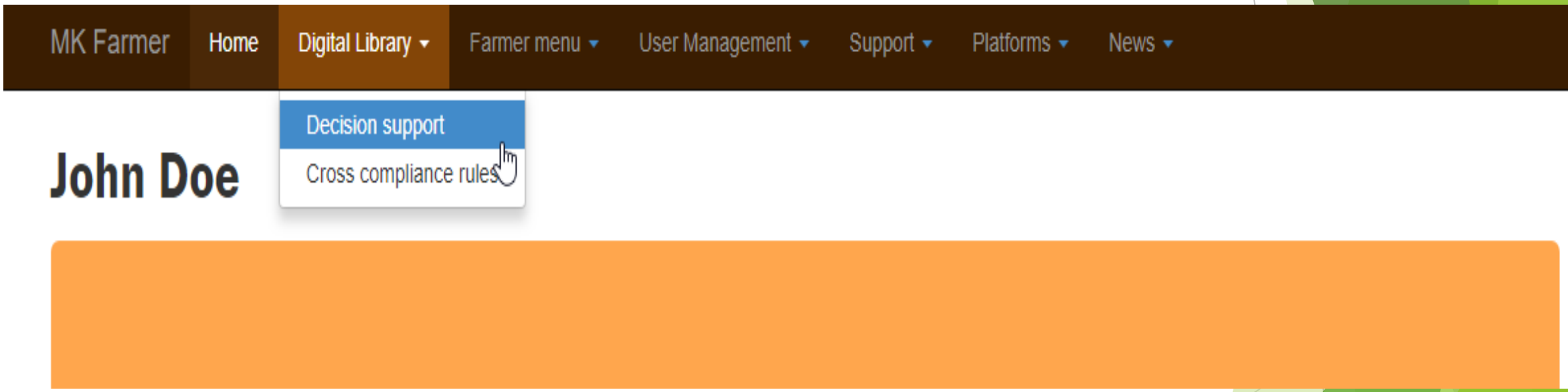
Address	
City	Seattle
Street	Street Name
Post code	1000

Info	
Parcels	2
Tax Number	12178263

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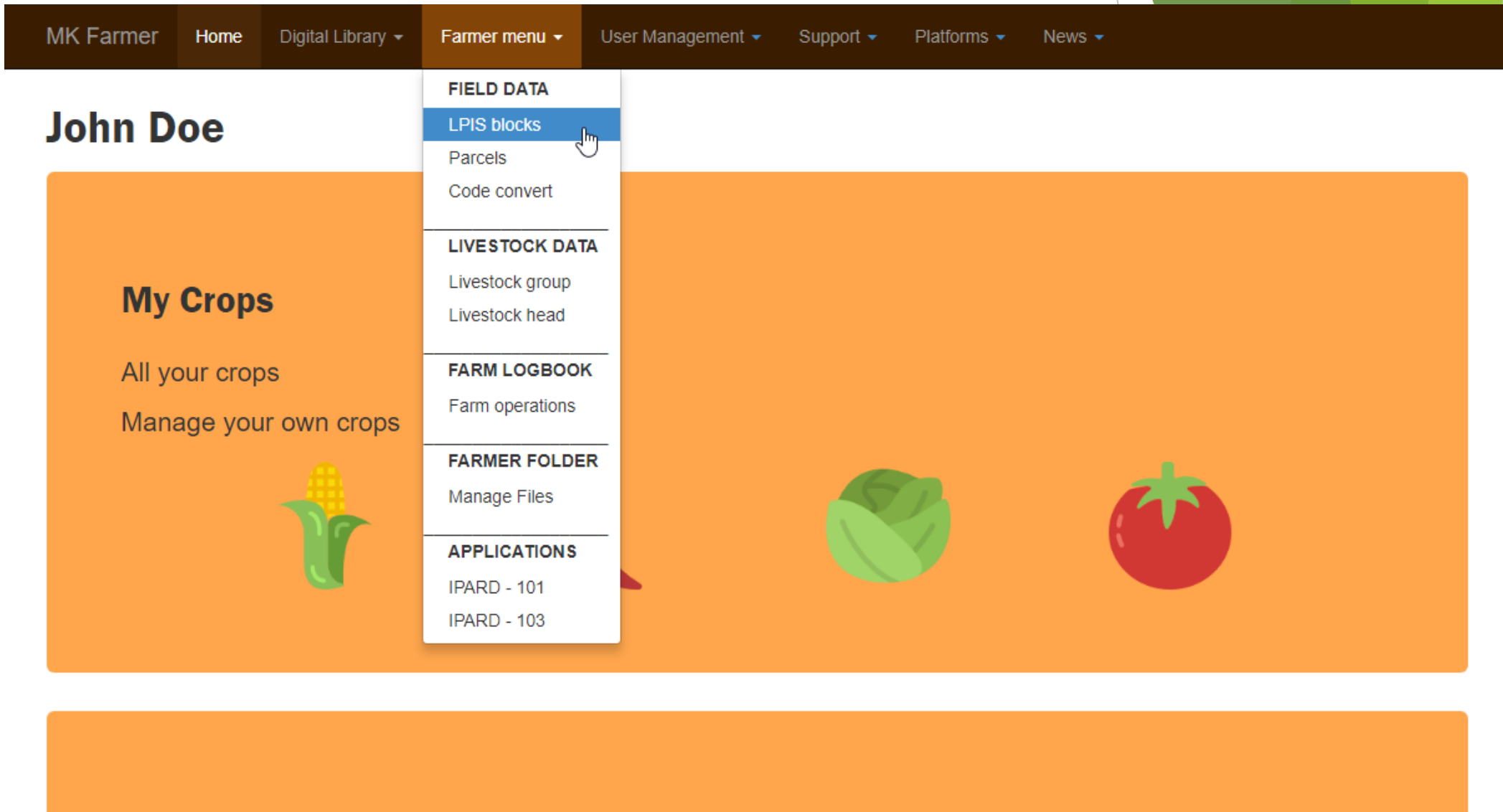
Digital library

- Content:
  - Decision Support
  - Cross compliance rules



Farmer menu

- Content
  - Field Data
  - Livestock Data
  - Logbook
  - Farmer Folder
  - Applications



Parcels page

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Parcels:

Number	ID	Area
1	98742	0.5219 ha
2	14246	0.2818 ha



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Livestock per group

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Livestock group:

Type	Count
Cattle	549
Pigs	294
Goats	764
Horses	223
Mules	765
Buffalo	546
Donkey	151
Chickens	1984

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Livestock per head

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Livestock head:

Number	ID	Type	Born	Vaccinated	Farm	Mother ID	Father ID
1	89500	Cattle	13-May-2006	17-May-2017	Farm1	55313	76288
2	68570	Donkey	14-Oct-2003	25-Aug-2010	Farm2	61037	56864
3	6535	Horse	15-Nov-2000	07-Jun-2011	Farm3	29586	98724
4	75692	Chicken	14-Jan-2009	16-Nov-2012	Farm1	23753	86360
5	65450	Pig	07-Jun-2004	21-Jul-2013	Farm2	39189	98286
6	44371	Sheep	02-Feb-2000	13-Oct-2012	Farm3	76448	98489
7	97057	Goose	23-May-2003	13-Jul-2011	Farm1	84888	64729
8	71548	Cattle	26-Jan-2001	23-Oct-2017	Farm2	24210	18922
9	4148	Pig	11-Jul-2008	15-Oct-2016	Farm3	80474	24886

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User Management

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- My User data
- My staff
- My farmers
- Add farmer
- My advisors
- Locate specialist
- Login
- Logout

John Doe

My Crops

All your crops

Manage your own crops






My advisors & farmers

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My Advisors

Name	Field	Phone	City	Country
Petko Petkov	Zhitarstvo	+35921234567	Sofia	Bulgaria
Petko Petkovic	Stocharstvo	+38970123456	Zrenjanin	Serbia

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My Farmers

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KEY MESSAGES

Continuous education of teachers, extension officers and administration about current and latest trends and innovations in the agricultural field have to be frequent and compulsory.

The main factor that will influence future development of digital skills for farming is knowledge transfer through practical training that enable information flow between the VET centers, AE service providers and private sector.

The policy for digitalization should be based primarily on the needs of the future farmers as primary users that are derived from their farm business and the needs of the private sector.

Thanks for your kind attention

MORE INFO

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