Dear Farmer!

We would like to ask for your help and assistance in our project aimed at preparing agricultural vocational education teachers to teach topics in e-agriculture.
The aim of the AGRITEACH 4.0 project is to help vocational agricultural teachers to renew and revise their current teaching methods by providing free and open online distance education courses in e-agriculture.

As background to the project we would like to develop an understanding of:

- current Agro-informatics competence levels
- the type of qualified professionals that will be needed in agricultural businesses in the future
- the extent to farms are currently implementing e-agriculture and related technologies

Our questionnaire is intended to assess: (i) the current demand for e-agricultural graduates in small and medium-sized enterprises in our country; and (ii) what are your expectations and needs of agricultural teachers in the area of e-agriculture.
In order for agricultural teachers to successfully complete the online course, and gain a certificate from our project, they will need to demonstrate an understanding not only of agriculture, but also of the latest agrarian informatics tools, the latest technologies and agricultural trends.
We believe that educated teachers with well-founded agronomic competencies will go on to train professionals able to manage your business's agricultural information technology and tools, and engage with the experts and businesses that devise the strategies for the effective functioning of your farms.

The questionnaire is both voluntary and anonymous. It takes approximately 15 minutes to complete. You can find out more about the project, and fill out the questionnaire, at:
https://www.utipa.info/survey
The results of the survey, and the background to AGRITEACH 4.0, will be published on the project at www.agriteach.com

Thank you for your contribution!

QUESTIONNAIRE

A) Base data

1. **Name of the enterprise:**

2. **Name of the contact person:**

3. **Email address of the contact person:**

4. **Phone number of the contact person:**

5. Does the enterprise have a webpage?

- Yes – please provide the URL:
- No

6. Type of enterprise:

- Small-medium enterprise
- Large enterprise
- Family farm
- Non-profit organization
- Other:

7. Number of employees

- 0-9 persons
- 10-49 persons
- 50-99 persons
- 100-249 persons
- over 250 persons

8. What is the main sector of activity? (Multiple answer is possible.)

- € Plant production
- € Animal breeding, livestock management
- € Horticulture
- € Machinery
- € Commerce
- € Other:

    In case of multiple question please write which one is dominant: ……………..

9. **Area of managed land:**

B) ICTs in agriculture

1. **In which areas of your work related to agriculture do you use information communication tools and technologies (ICTs)?** (Multiple answer is possible.)

   - € E-government (subsidy claim, tax report, tax refund, etc.)
   - € Official record keeping, data reports and planning (farmer logbook, nitrate report, soil nutrition plan, land utilization and crop rotation plan, etc.)
   - € Complex enterprise resource planning system, farm management
   - € Food traceability, processing and safety
   - € Forecasts (weather, plant protection, pests), risk mitigation
   - € Precision farming, cultivation, production technologies
   - € Market access, e-commerce, input purchase, sale of products
   - € Other(s): ………
   - € None of the above

2. **What is your opinion about ICTs from the perspective of managing and developing your organisation? Select which statement you agree with.** (Multiple answer is possible.)

   - € Makes daily work and administration easier
   - € Cost reduction and revenue increase can be achieved by its use
   - € Indispensable to manage and develop the organisation
   - € Has small impact on the operation
   - € Has no impact on the operation

3. **Do you have difficulties in using ICT tools?**
   - Yes
   - No
   - Partly yes
   - I don't use ICT tools at all

   If yes, could you describe difficulties?

4. **How do you increase your education / competency in ICT?**

5. **Do you harness all the possibilities what the use of ICT tools may provide?** (e.g. data analysis, decision support, regular support and maintenance, trainings)

   a. Yes, fully
   b. Partly
   c. I don't know what services are provided with the tools

6. **How does your organisation ensure information system administrator and other related tasks?** (Multiple answer is possible.)

- € Full time employed information specialist
- € Part time employed information specialist
- € Employee also undertaking other tasks
- € Subcontractor on permanent base
- € Subcontractor on occasional base
- € Other:
- € Not ensured

7. **Would you employ information management expert or subcontract specialist enterprise which could assist you to exploit advantages of e-agriculture in your organisation?**

- Yes, full time employed
- Yes, part time employed
- Yes, full time subcontracted
- No

8. **Having the means, would you support your colleague's participation at a special training which develops capacity in the use of information communication tools and technologies?**

- Yes
- No

9. **Please evaluate by importance the following professional skills, abilities and competencies what you would expect from an agro-information expert working in your enterprise (5: very important, 1:not important at all)**

	5	4	3	2	1
Be acknowledged of the various software tools in e-agriculture, be capable to make suggestion for purchase, operation and maintenance.					
Be acknowledged of the various hardware equipment in e-agriculture, be capable to make suggestion for purchase, operation and maintenance.					
Especially be aware of the sensors used in agriculture, be capable to install, operate and maintain them.					
Be capable to assist B2G (business to government) processes of the enterprise (claims, reports, refunds etc.)					
Be capable to create and maintain the website pf the enterprise, with basic content management and administration tasks.					
Be capable to develop proprietary software according to the specific functional needs of the enterprise.					

Be capable to follow the technological changes in e-agriculture and monitor newest trends.					
Be aware of the basic rules and possibilities of e-commerce.					
Be aware of the operation of data transmission equipment.					
Be acknowledged of legal and ethical aspects of using ICT tools.					
Know the processing methods of collecting data and be capable to select the needed information for decision making support.					
Be capable to provide general information system administrator tasks for the enterprise.					
Help the teamwork of the enterprise by his/her decisions.					

10. **Select the concepts that you know of.** (Multiple answer is possible.)

- € Precision agriculture
- € Farming 4.0
- € Cloud based ICT system
- € Big data analytics
- € Telematics
- € Artificial intelligence
- € E-Agriculture
- € None

If you selected any of the first two points in the question above, please continue answering the below questions too!

C) Precision agriculture, Farming 4.0.

1. **Do you know what is navigation and automatic steering, what types of benefits do they have and where they can be used?**

- Yes, I do know and use them
- I only partly know them
- I don't know

    If you answered YES, please write down what technologies you use and for how long:

2. **Do you know any of the following terms: GNSS, GPS, GLONASS, EGNOS, Galileo, RTK?**

    € GNSS

- € GPS
- € GLONASS
- € EGNOS
- € Galileo
- € RTK
- € No, none of them

3. Do you know how various sensors can be used in precision agriculture?

- Yes, I do know
- Yes, I use some
- No

Please write what do you know, or what sensors do you use:

4. Do you know the potential utilization of robotics in agriculture

- YES, I do know
- YES, I use robotics
- NO

Please write what do you know, or what type of equipment do you use:

5. Do you know how aerial and remote sensing can be used?

- Yes, I do know and use them
- Yes I know but only partly use them
- I don't know

Please write what do you know or what technologies do you use:

6. Do you know what Copernicus and LandSat are?

- YES
- NO

7. Do you use software for remote sensing data analysis?

- Yes
- No

If you use software, please specifically mention some of them:

8. Do you know, what Geographic Information Systems are for?

- Yes, I do know and use them
- Yes I know but I don't use them
- I don't know

Please write what do you know or what technologies do you use:

To learn more about this topic, fill out the https://www.utipa.info/survey link to the questionnaire.