Faculty of electrical engineering, University of Tuzla – Workshop
29.09.2020 – 30.09.2020

MEETING MINUTES

Recognizing the need for the teaching staff in the sector of agriculture and electrical engineering to get acquainted with the novelties in the application of information and communication technologies in the field of agriculture, a workshop was held on topic: IoT and GIS in Agriculture. Strengthening the capacity of teaching staff is one of the most important goals of the Erasmus + VIRAL project. Due to health security (pandemic caused by COVID 19 virus), the first introductory workshop in a series of trainings on the application of information and communication technologies in agriculture within the VIRAL project, was organized on September 29th, 2020 in the period from 8.30 to 16.30 PM and on September 30th, 2020 from 8.30 to 16.30 PM participants visisted Plant d.o.o.

The workshop was intended primarily for teaching staff and students in master and doctoral studies of higher education institutions in Bosnia and Herzegovina and Montenegro, but also for other interested individuals, primarily participants in the VIRAL project and representatives of the agribusiness sector. Having in mind the specifics of the organization itself, the formal host of the meeting was the University of Tuzla. The moderator of the meeting was dr.sc. Aljo Mujčić. All partner institutions are informed in a timely manner about the most important details of the organization itself through the lecture program (Appendix 1 - Workshop Agenda).

The activity was implemented within the work package 2 (WP2.1) whose coordinators are the University of Donja Gorica and the University of Wageningen.

The lecturers were professors and researchers from the Information Technology Group of the University of Sarajevo, University of Banja Luka and University of Tuzla. At the very beginning of the workshop, the lecturers and participants were greeted by the project coordinator prof. Dr. Miljan Cvetković and thanked everyone for their participation.

Through the first day of a workshop, 6 topics of importance for ICT in the field of education and practical application in agriculture and food industry were presented:

Almir Karabegović	Location Intelligence and Trends in Geographic Information Systems: Use Cases from Bosnia and Herzegovina
Milan Šipka	Application of GIS in Agriculture
Zdenka Babić	Applications of Digital Signal Processing in Agriculture
Asmir Gogić	Smart Farming: A Case of Automatic Cow Milking System
Alma Šećerbegović	Incorporating smart IoT agriculture systems into engineering curriculum
Una Drakulić	Remote Monitoring and Control System for Greenhouse Based on IoT

The lecturers held their lectures by "sharing" the presentation with the participants and giving their lecture. The lecturers strictly adhered to the scheduled time for presentation, which was of special importance for the dynamics of the workshop.
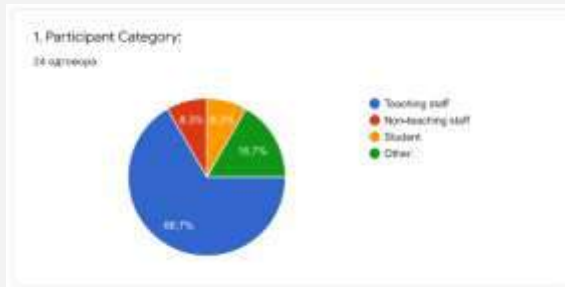
At the end of the lecture, part of the time was appointed for the questions and discussion, which those interested used to ask additional questions to the lecturers or ask for additional clarifications.

The fact that 47 participants (25 online) attended the entire workshop until the very end speaks of the quality of the workshop. All lecturers expressed interest in further cooperation with stakeholders, through additional communication, distribution of their work or other forms of joint activities.
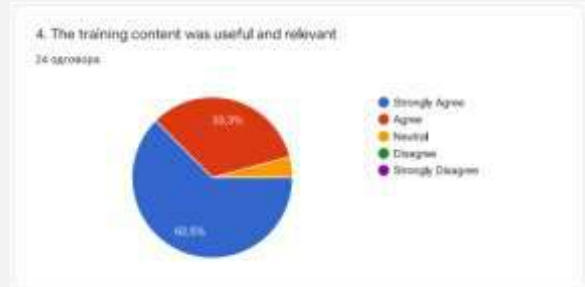
After the workshop, the participants were sent an evaluation form (Appendix 4 - evaluation form) through which they could assess the organization of the workshop and the quality of lectures.

The training fulfilled the expectations of the participants (Table 1a, Graph 7), due to its relevance and useful information (Graph 2), good organization (Graph 6), excellent lecturers, their good preparation and attitude during the workshop (Graph 3 and Graph 4).
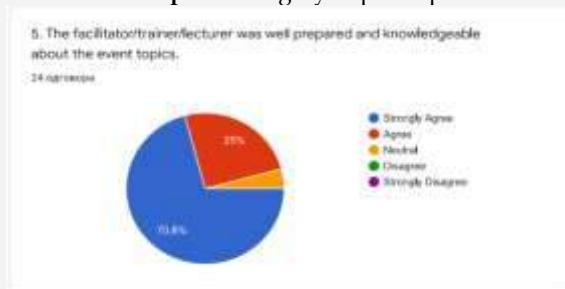
When defining the training, the time required for the training should be taken into account in accordance with the content and the possibility of presenting more practical examples (Table 1b).
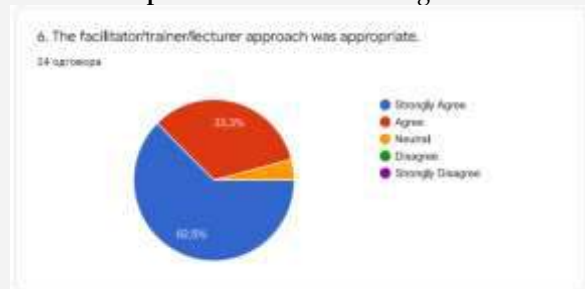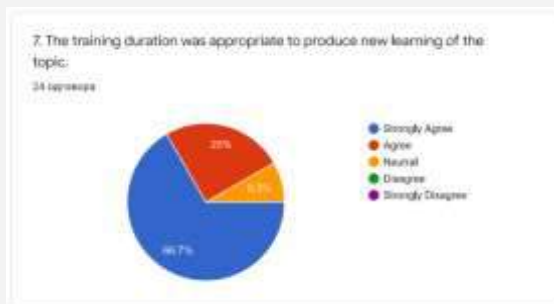

Graph. 1 Category of participants

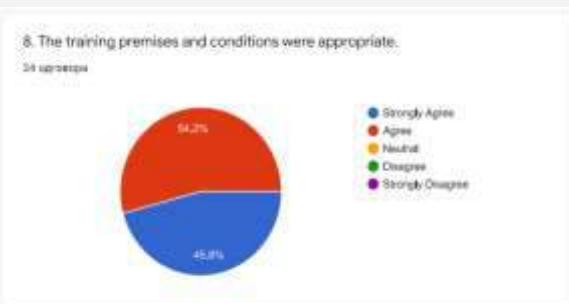

Graph. 2 Relevance of training content

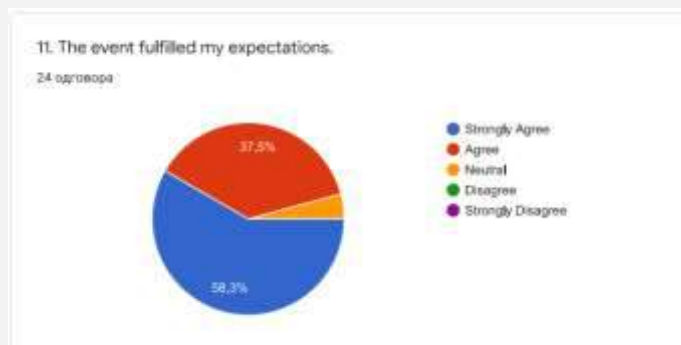**Graph.3** Good preparation of lecturers

Graph. 4 Appropriate lecturer approach

Graph. 5 Appropriate training length

Graph. 6 Good platform convenience

Graph. 6 *The training met expectations*

Second day of Workshop – Plant d.o.o.

On the second day of workshop participants visited local company Plant d.o.o. At the beginning of the workshop tour, the participants were greeted by COO of the Pant d.o.o. Mr. Adnan Hodzic, who presented the company. Mr. Hodzic pointed that Plant d.o.o is interested in partnership and cooperation with Faculty of electrical engineering of Tuzla in order to develop ICT solutions for their company as well as giving opportunity to student to use their facilities and technologies for student project.

Table 1a. Positive comments about Workshop

Special emphasis was placed on the practical part of the application of ICT technologies and how to adapt the learning of these technologies to students from different fields.
Presented ideas were very relevant to the VIRAL project. Lecturers explained everything in simple language.
The practical examples of IT in agriculture
Interesting and applicable lectures. Excellent organization.
Presentations on practical application
New helpful knowledge about opportunities for ICT usage in agriculture area.
Awesome teachers.
The chance to talk to entrepreneurs in agriculture in Tuzla.

Table 1b. Suggestions

Some presentations were too long.
One of the lectures was too technically complex for an agronomist
Some lecturers don't explain ICT usage in agriculture in appropriate way.

The most significant results of the workshop are the following:

o the workshop enabled the participants to get acquainted with the latest achievements in the field of ICT from renowned lecturers;

o the workshop provided the first official introduction and contact with most colleagues from Wageningen, the wider academic community in BiH and Montenegro, as well as Romania, Slovenia and Serbia;

o the introductory workshop created the preconditions for the continuation of other trainings and thus the successful continuation of the work package 2;

o established contact for all interested in further cooperation and development of new ideas and joint activities;

o workshop participants will receive a certificate of attendance at the workshop, which for younger colleagues, especially students, may be important in their further progress.

Workshop presentations:

Almir Karabegović	https://youtu.be/ypBW5MOsIcQ
Milan Šipka	https://youtu.be/WcGWaueBq94
Zdenka Babić	https://youtu.be/OQwrpxwMdY0
Asmir Gogić	https://youtu.be/5lK9MTGFYk8
Alma Šećerbegović	https://youtu.be/rFhoZ7pWzNE
Una Drakulić	https://youtu.be/TEUjb_GOu-4
(Aljo Mujčić)	

Tuzla,
12.10.2020.

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