Project Title:
MODERNIZING AGRICULTURAL PRACTICE USING INTERNET OF THINGS

Project Acronym:
MAPIoT

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TPM1 - INTERNAL REPORT FOR KICK-OFF-MEETING (KOM) 5-7 JANUARY 2022[1]

Dissemination Level:
RESTRICTED TO OTHER PROGRAMME PARTICIPANTS

Project Coordinator:
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Contributors:
ULBS / USN

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V1	December 2021	Month 1-24	01/12/2021	24 Months

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1. General information

During January 4-9, the MAPIoT project team from ULBS Sibiu, Romania was in Tonsberg, Vestfold, Norway where took place first transnational project meeting – TPM1 (it was attached into a separate file the meeting agenda). Adrian Florea (project coordinator), Daniel Morariu, Ion Mironescu and Anca Sipos (professors), and Isabela Rosca (administrative staff) participated from Lucian Blaga University of Sibiu. Details about agenda, participants and pictures from the event are found at http://digifof.omilab.ulbsibiu.ro/psm/content/tpm1/info. The activities developed and expressed in the meeting agenda aimed: the communication plan inside of the project team, the list with all project activities, the digital content that need to be created, the reports that should be developed after each activity, Acknowledgement message to be included on each article published. An important issue analysed was the organization of the summer school in July 2022 at University of South-Eastern Norway and were discussed problems regarding the coverage of transportation costs and also accommodation and meals for students that will participate. As it can be seen below, just the traveling expenses exceed the budget reserved for the students (275 Euro) with more than 165 Euro per student. For example:

- The cost of a flight with a low cost company (Blue Air): departure July 24, 2022 and return August 7, 2022 on the route Bucharest Otopeni - Oslo Gardemoen airport and return for 1 Passenger with 20 kg luggage being 1,442 RON (approximatively 294 Euro). If we add the transportation cost from Sibiu to Bucharest and return (approximatively 306 lei – 63Euro) and also the transportation cost from Oslo Airport to Sandefjord and return (838 NOK – 84 Euro) make approximatively 441 Euro / student.

2. Online Meeting with Head of Department from USN

Due to COVID-19 restrictions the meetings took place in hybrid mode. On first day, 5.01.2022 we had an online meeting with Camilla Nereid, Head of Department of USN team, where Adrian Florea emphasized the long-time collaboration between ULBS and USN with Professor Lasse Berntzen (dating since 2015) and presented the main objectives of the MAPIoT project. Camilla Nereid was interested in what advantages brings this new project to the students and what is USN involvement in the project. Adrian explains the benefits of the project for Norwegian and Romanian students. Also, we have discussed about the first summer school meeting that need to be organized here in Norway.

Figure 1. Camilla Nereid, Head of Department USN

Camilla asked about the other benefits of the project and what we want to get from the student at the end of summer school. It was presented the schedules, activities that are proposed at this

summer school and the courses content. We also discussed about the ideas that need to be extracted by the students from the courses.

Figure 2. Lasse Berntzen, the coordinator from USN

Professor Lasse Berntzen revealed the Technical Special Session organized together with Adrian Florea at 4th IFIP International Internet of Things (IoT) Conference (2021) entitled "Modernizing Agricultural Practice Using Internet of Things" - http://ifip-iotconference.org/archive-2021/index.html. Actually 3 of 4 papers from this session were candidate to Best Paper Award of the conference meaning that the subject of our special session represented a hot topic scientific.

3. Meetings at the USN

In the 06.01.2022 it was organised an all-day meeting at the USN university. The meeting was face-to-face with Professors Lasse Bertnzen and Thomas Brekke from USN and was organised online with Professor Marius Rhode Johannessen and few members from companies.

Figure 3. ULBS team visiting USN

The meeting starts with short presentations of team members from ULBS and USN highlighting the experience in other projects European research projects, their expertise and role in MAPIoT project.

Then it was organized an online meeting around one hour with Frode Stensaa from 7Sense Group Company from Horten, Norway. Adrian Florea presented briefly the project objectives and asked about the possibility to visit the company with the students at summer school. Also it was discussed the possibility to have a practical presentation in the summer school exhibited from representatives of 7Sense Group Company.
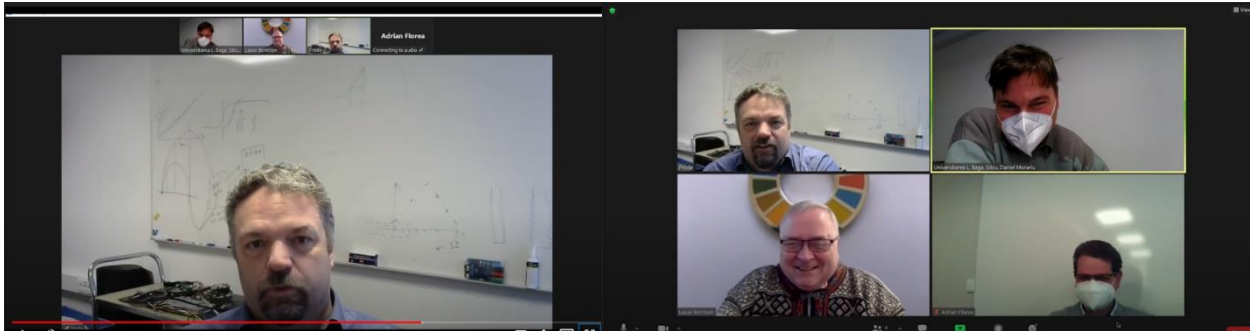

Figure 4. Online meeting with Frode Stensaa from 7Sense Group Company

After the meeting with 7Sense Group Company we have a face-to-face meeting with Professor Thomas Brekke from USN which was discussed a lot of problems regarding the topics of courses that will be organised at the summer school and regarding the course infrastructure.

As interesting ideas that was debated is to start at the summer school with the project that need all the students to realised, to present the idea for all project and each student chose one topic. We think to make some teams from 3-4 students from different countries and different domain to work together for same project. After made the teams we start with classes to present to the students the theoretical parts that need to be known for resolve the project, and at the end of two weeks, in the last 2 days need to resolve the project.

Figure 5. Physical meeting with both teams of ULBS and USN

Then, the ULBS and USN teams participated in an online meeting with professor Marius Rhode Johannessen (USN) revealing the COVID-19 constraints and if this might affect the most important activity namely organizing the summer school in July-August 2022.
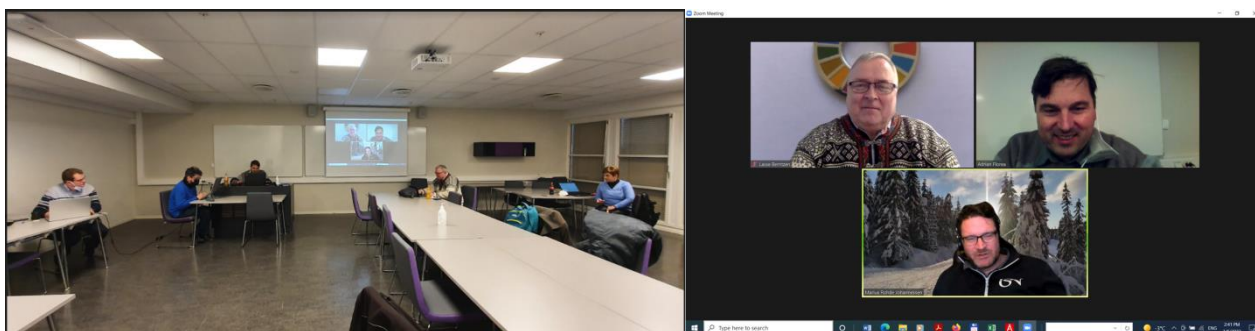

Figure 6. Online meeting with Marius Rhode Johannessen (USN)

Later, Professor Berntzen made a phone called to Mr. Kenneth Lie from ZIOTSolutions Company, allowing all participants to hear the discussion, explaining him briefly about MAPIoT project and ask him if ZIOTSolutions may support the summer school in July. The answer was affirmative and Mr. Lie had also some useful proposals for our project.

In the afternoon we remained only with Professor Lasse Bertnzen and continued the discussions regarding the project organisation, documents, and scientific papers. Professor Daniel Morariu (ULBS) presented the created Actions list (see Figure 7) with all the activities that need to be organized. Professor Anca Sipos (ULBS) presented briefly the need to have an evaluation process for summer school activities. ULBS team proposed based on project proposal a list of indicators to be fulfilled at the end of the project (see Figure 8). For the courses Professor Adrian Florea said that need to be realized a questionnaire about the student satisfaction, one questionnaire for each course. Based on these questionnaires will be created the report for each summer school. Adrian said that ULBS will propose a questionnaire template and will be sent to USN for review and for adding new information if Professor Lasse considers necessary.

Figure 7. Actions list proposed during MAPIoT project

Project kick-of-meeting (KoM) TPM1

January 2022	Actual	Expected
Teaching staff	7	7
from Roumania	4	4
form Norway	3	3
1 member from 2 companies	2	2
authority person	1	1

Update date: 02.01.2022

Project TPM2/Summer School in Norway

Norway July 2022	Actual	Expected
Teaching staff		7
from Roumania		4
from Norway		3
1 member from 2 companies		2
authority person		1

Students	Actual	Expected
ULBS - Computer Science		5
ULBS- Agriculture and Food Processing		5
USN - Information Science		10

Evaluation indicators

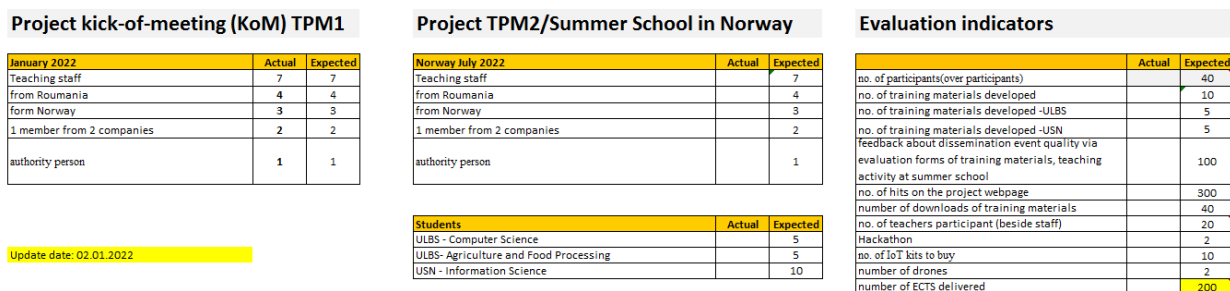|	Actual	Expected
no. of participants(over participants)		40
no. of training materials developed		10
no. of training materials developed -ULBS		5
no. of training materials developed -USN		5
feedback about dissemination event quality via evaluation forms of training materials, teaching activity at summer school		100
no. of hits on the project webpage		300
number of downloads of training materials		40
no. of teachers participant (beside staff)		20
Hackathon		2
no. of IoT kits to buy		10
number of drones		2
number of ECTS delivered		200

Figure 8. Scorecard with indicators proposed to fulfilled at the end of MAPIoT project

The MAPIoT project coordinator, Professor Adrian Florea has the following suggestions:

- We need to prepare some applications to show to the students as the practical part of the courses.
- He presented the idea to make a selection plan and a selection commission for select the students and somewhere in May 2022 we already need to know the name of selected students for the first summer school.
- Adrian discussed about the articles that need to be realized.
- It was presented and discussed the online platform "OMiLAB @ Lucian Blaga University of Sibiu" already developed by ULBS through the former project DigiFoF, where a special section for MAPIoT project was created – http://digifof.omilab.ulbsibiu.ro/psm/content/mapiot/info. On this online platform will be uploaded all applications, the articles, the courses that will be realized within MAPIoT project.
- For communication process it was proposed an online drive (https://drive.google.com/drive/folders/1NQmoXysnK4k02TATNMGiHJKIQVk8vH93?usp=sharing) where all the members from the project can upload their work, deliverables and can see the activities from others partners.
- At the end of the summer school is proposed to be organized a Hackathon. ULBS together with USN and companies involved in the summer school should propose 6-7 projects and create mixed groups with Norway students and Romanian students for each project. Adrian presented the Thomas' idea to start the summer school with the presenting the projects proposed at the Hackathon, and in the summer school period, at classes, the students learn how to solve those problems and create the groups and take the project for solving partially until the end of the summer school.

Regarding the course order also Professor Thomas Brekke proposed to start with course C7 first, in order to prepare the students for Entrepreneurship part, and after that to continue with thematic technical courses. Professor Lasse Berntzen considered that is a good idea and propose that the courses to be in reality the documentation for Hackathon projects. Each course needs to be focused on an idea and the students follow all courses and need to select the courses from that can extract information that are relevant for their project.

Lasse proposed to change some professors for the courses because he considered that is better related with the course direction and others might be unavailable. He proposed a USN colleague that is familiarized with the drones and can present and make some applications with those for the students. Lasse will discuss with that person for help us in this direction. Adrian Florea noted this on his file with summer schools details.

Further, the joint teams discussed about the company presentation and until this moment Lasse does not know exactly the company that can be visited and the person from the company that can take place at the summer school. Lasse proposed few names from companies but these could be changed until July. Lasse mentioned the problem regarding the summer school period because in July in Norway is holiday and can be a problem to find professor and persons from companies.

The discussion continues with possibility to find some accommodation for students because the USN University have no campus and it is difficult to obtain this from university. Lasse suggested some possibility and will verify and will come with some proposals. The idea is that the students to stay closer to the university where will take places the courses for reduce the travel cost and also to keep together Romanian with Norwegian in order to strengthened the intercultural and friendship relations between students. Also, it was discussed the possibility to go with the students at farm and back because it is expensive to rent a bus only for students and professors. The lunch also is a problem and remains an open problem. After solving the accommodation for the students we will try to find a solution with the travel because in that period the ticket for the flaying from Romania to Norway is expensive and the budget allocated for the travel is limited. It was also presented the idea to rent a car from Romania, but this should be discuss at the ULBS level and the travel will be too long, the solutions seems to not be feasible. Also, the budget for accommodation is limited per day per student and all costs are expensive in Norway and need to find some solution. Lasse will discuss and will come with some offers. Adrian mentioned the possibility to discuss with a flying company maybe make some offer. Because the budget is fixed we need to try to resolve that problem.

Another problem that was discussed was regarding the level of the students from Bachelor or from Master level. Adrian said that the selected students need to prove that in the selection period for summer school are students at ULBS or USN University. Lasse recommends that students to have a badge which certifies the quality of international student or a library card to prove that they are students when purchasing train or public transport tickets.

Also it was discussed the ECTS that can be given at the students after the summer school. It was discussed that for each credit the students need to have 25 hours and Adrian make a suggestion regarding how can be solve this problem. The ECTS credits need to be offer by the university that organizes the summer school. In the first year need to be offered by USN university. Lasse will discuss with the university regarding this problem. Also, ULBS will propose a template for offering ECTS credits. Adrian suggests going on the template offered by University of Wien in a previous ULBS project (DigiFoF). The teams debated about of type of hours that cand be included in the ECTS credits for courses and for laboratories and for project activities in order to be aligned with USN and ULBS curricula. ULBS team recalled the difference between number of hours in Bachelor curricula and Master curricula.

In the third day of meeting at USN (7th of January 2022) we had last debates about:
- Discussions about pre-financing payment, intermediary report (deadline 31.01.2023). The two teams discussed again about the budget for the professors that will teach at the summer school and Adrian explained that there is no budget for this activity. Only students receive money. The professor will prepare the courses and will obtain funds for this activity not for teaching activity.
- Setting the communications channels: Skype, Zoom, emails, etc.
- Details about hardware and software infrastructure for storing the documents and software tools developed through the project
- Reporting the timesheet of activities, responsibilities and deadlines for deliverables.