

Minutes

4th Transnational Meeting

Krsko (Slovenia) 29 September -1 October 2016

Attendees (teachers): Irene Pastor (Foia), Jordi Brotons (Foia), Davor Malović (Sisak), Davor Lužaić (Sisak), Nenad Bojčetić (Sisak), Zrinka Tomljenović (Sisak), Ivana Šmint (Sisak), Małgorzata Jurczyk (ZS10), Wirginia Tomczyk (ZS10), Franci Uduč (Krsko), Zoran Tkavc (Krsko), Svetlana Novak(Krsko), Jože; Pavlovič (Krsko), (Krsko), Jože Požun (Krsko), Jože; Pernar (Krsko), Matjaž Cerar (Krsko), Branko Kastelic (Krsko), Matej Maučič(Krsko), Ruperto Martínez(AIJU), Ignacio Seguí (AIJU).

Attendees (students): Carlos Sanchez (Foia), Moises Carceles (Foia), Mateusz Greiner (ZS10), Patryk Jewiak (ZS10), Bernardo Kauković (Sisak), Ivan Jantak (Sisak), Simon Javeršek (Krsko), Domen Gunčar (Krsko), Žnidaršič (Krsko), David Uduč (Krsko), Anej Mrvič (Krsko).

Day 29 September 2016

- After being welcomed of attendees, the meeting starts with a short cultural program at 9:00h In charge of students and with traditional Slovenian music. Ms. Erna Župan Pirkovič, and the director Mr. Jože Pavlovič welcomed the partners.
- Executive Summary. Ms. Irene Pastor (FOIA) have reviewed the main tasks developed in first year:
 - We have developed the website and social media channels (Facebook, Twitter, YouTube).
 - We have known and selected components for our first drone. We have made 3D design & 3D printing, tests, explore software, etc.
 - Dissemination events have been mounted in Schools about drones. We have roll-ups, t-shirts, flyers, posters.
 - We had assisted as project example in Erasmus + 2016 call in Spain.
 - We have visited all participating countries in 4th transnational meetings. We are travelling usually with two teachers and two students per meeting.
 - We have a common working space in the cloud (Google Drive) where we share all the project information.



And she has anticipated the tasks planned for the second year of the project:

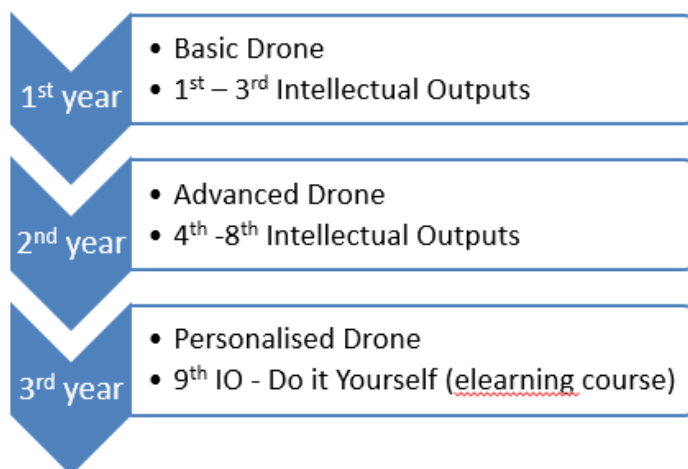
- We will develop an Advanced drone.
- We will have two Transnational Meetings in Croatia and Slovenia.
- In February 2017, we will complete the Movility Tool+ & Interim Report.
- Results (First Intellectual Outputs will be published).
- Following Dissemination Plan: website, social media, internal presentations in Schools and more ...
- First Multiplier Event in Tehnogenij fair 2017 (20 Slovenian participants).

The intellectual outputs are reviewed:

9 DroneTeam Intellectual Outputs:

OER-1- Basic Toy drone frame	Fist Drone
OER-2 - Module of Flight Control	Multiplier
OER-3 - Module of Communication Control	Event Krsko
OER-4- Module of Advanced frame	Second Drone
OER-5- Module of GPS/Compass Control	Multiplier
OER-6 - Module of Problem Management	Event Foia
OER-7 - Module of Flight Stabilization System	
OER-8 - Module of First Person View	

O9: MOOC Course. [Multiplier events all partners](#)



- Mr. Ignacio Segui (AIJU) has presented the new components to assembly in order to create an advanced drone. The change of the Flight Controller favours the evolution of the drone, although the cost is six times superior to the cost of the basic controller CC3D. A list of new components has been reviewed:



COMPONENT	BASIC DRONE	ADVANCED DRONE
<u>Flight Controller</u>	CC3D	APM 2.6
<u>Accelerometer</u>	YES	YES
<u>Gyroscope</u>	YES	YES
<u>Telemetry</u>	YES	YES
<u>Barometer</u>	NO	YES
GPS	NO	YES
<u>Magnetometer</u>	NO	YES
<u>Battery Monitoring</u>	NO	YES
<u>Maximum engines</u>	6	8

Dissemination activities developed by AIJU have been reviewed. First project flyer has been prepared by AIJU in English version.

- Mr. Jordi Brotons (FOIA) has presented the plastics tests developed reinforcing the explanation with several videos. FOIA's students have also presented their work in plastics related to the drone.
- Mr. Davor Lužaić and Ms. Zrinka Tomljenović (SISAK) have presented their experiences in 3D printers by reproducing drone parts: development times, problems encountered, limitations for certain types of parts, etc., are explained and commented. Dissemination activities in Sisak School have also explained.
- Ms. Małgorzata Jurczyk and Ms. Wirginia Tomczyk (ZS10) have presented their experiences in programming the basic drone using open source software Libre Pilot. They have also exposed the maintenance of the project website. All partners must send by email to Ms. Małgorzata photographs and a short summary in English of the dissemination activity to be published in website. On the other hand, on Facebook, twitter or YouTube also publish in English or in the language of the school.



Making and designing a toy drone through multidisciplinary collaborative work

Project no.2015-1-ES01-KA202-015925

- DroneTeam Project T-shirts have been distributed between teachers and students, courtesy of Šolski center Krško-Sevnica.
- Students have a parallel workshop about assembly electronics components.



- Mr. Andrej Kozinc and Mr. Jože Požun have presented the Solar Car developed in Krsko School.
- Consortium have visited the Šolski center facilities.



Consortium have visited the workshop where DroneTeam logo was engraved and welded on a magnet. This souvenir has been distributed among attendees.



To end first day, Consortium have done a cultural visit to Kostanjevica na Krki: Art gallery Božidar Jakac and have visited Kostanjeviška jama.



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Day 30 September 2016

- At nine in the morning, teachers and students have done a first evolution of basic drone. With the support of Mr. Ruperto Martinez (AIJU), a training for disassemble the flight controller and assembly new components has been done: assembling APM 2.6, the new flight controller, barometer, altimeter, GPS, telemetry and battery monitoring.



- While working on the assembly of new components, English teachers have hold a meeting to discuss about the Glossary of English terms related to the drone. As a conclusion, the Moodle platform already prepared by ZS10 will be used to collect the Glossary. On the other hand, the more complex terms will be accompanied by improved explanations with diagrams, drawings and videos. A few prototype videos have been shown to explain different concepts (e.g. yaw, pitch, roll, etc.)
- Mr. Jože Pernar (KRSKO) has explained how the wind tunnel is built and the evolution of the mini-drone in its interior. The first test produces instability of the drone and they must study how to correctly locate the drone in the interior so that the propellers do not touch the walls of the tunnel.



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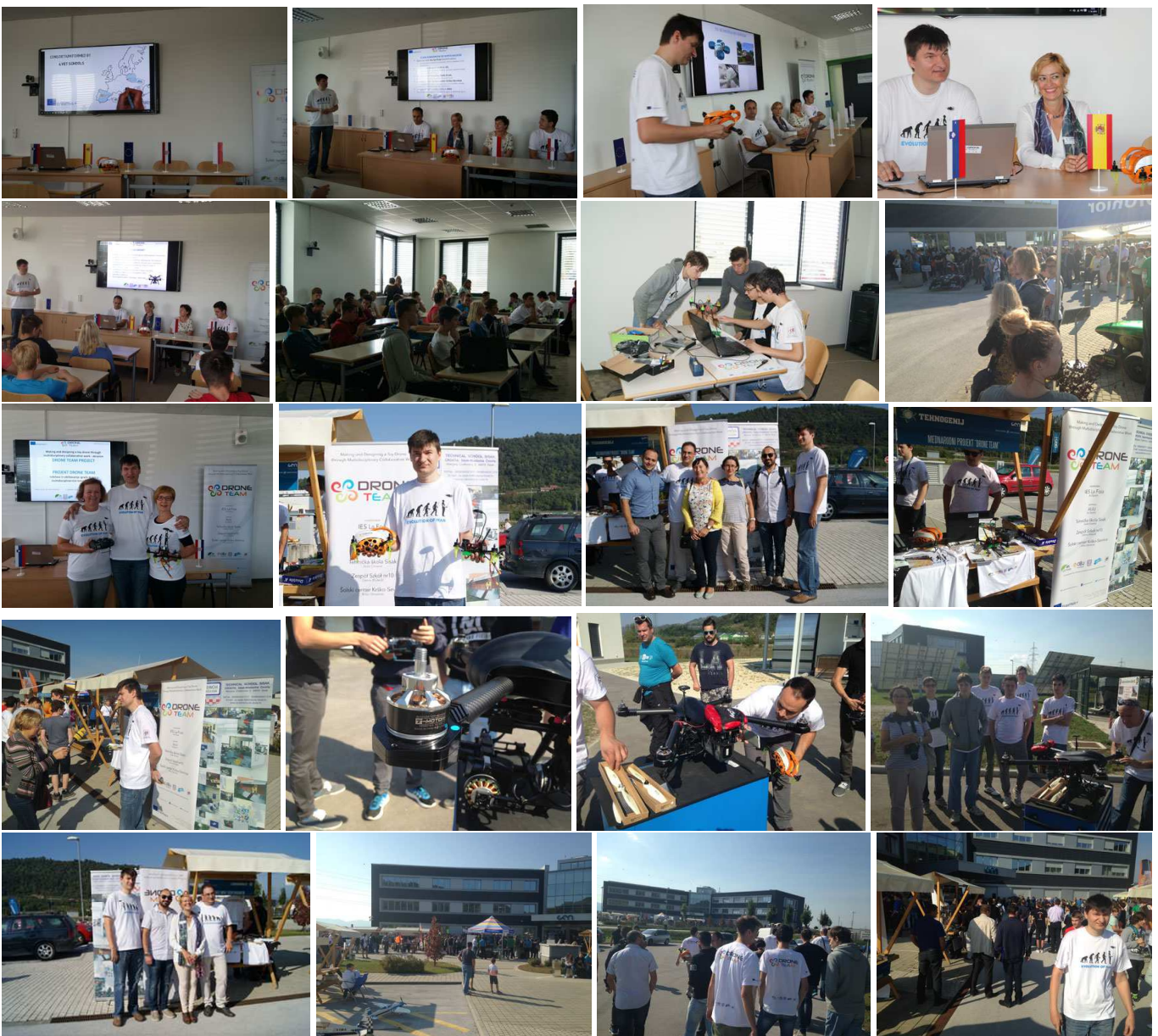
- Next steps in the DroneTeam project, work to be done regarding the evolution of the drone:
 - Foia: Produce propellers for testing in the wind tunnel and design new plastic components for drone.
 - ZS10: working and preparing a Mission Planner tutorial, new open software we will use for advanced drone, and propose different exercises to do.
 - Sisak: Security for drone. Design & print a system for propeller security.
 - Krsko: Develop different tests in wind tunnel.
 - AIJU: Support schools with new components and with above defined proposal. The assembly of components is made but we have to work in each case in the correct configuration.
- As the Intellectual Outputs correspond more or less to the parts of the drone, and as the Consortium continues to learn and assemble the advanced drone. In the next meeting will be mounted the last component of the drone, the camera that will propitiate the First Person View. This component corresponds to Output 8. From that moment it will be possible to review and close the Intellectual Outputs, and prepare the eLearning course (O9). All partners are reminded that all educational resources developed will be licensed as OERs. Each School will review and rewrite their part. Remember that the goal of these Intellectual Outputs is that others can use them to implement in their schools, which is why they must be educational quality documents (and videos).
- All partners are reminded to upload all documents in Google Drive platform. Please upload all presentations that teachers and students have done in the meeting.
- The date of the 5th Transnational Meeting to be held in Sisak (Croatia) has been fixed for 22 and 23 May 2017.
- At the end of the meeting a quality questionnaire about the meeting and about the first year of the project has been filled.
- In leisure time, teachers and students have been able to compete in the Gokart race Raceland Krško.



DroneTeam project is presented in Tehnogenij fair 2016. On Saturday, October 1st, 2016. Taking advantage of the Consortium's presence, Šolski center Krško-Sevnica has provided a stand to exhibit the project at the fair. At 11 o'clock in the morning, Mr. Franci Uduč (KRSKO) made a presentation of the project to interested parties: teachers, students and authorities. The Consortium has been presented and the project explained. Some students from Solski have been performing a drone assembly demonstration. Mr. Franci Uduč has been interviewed by a local television, presenting the project at the DroneTeam stand.

The consortium has been able to visit the technological fair and see professional drones and other technological components.

The attendance has been really important and the dissemination activity very satisfactory.



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Results of Quality Questionnaire about A) The Project as a whole and B) Meeting Organization/Project Progress

		1	2	3	4	5	6	7	8	9	10	11	12
A) THE PROJECT AS A WHOLE	understand next activities to be accomplished?												
	Very Clear												
	Clear												
	Don't know												
	Unclear												
	Completely unclear												
	that the meeting is needed for proceeding with the project in												
	Strongly agree												
	Agree												
	Don't know												
	Unclear												
	Completely unclear												
	How clearly defined are each partner's role and responsibilities												
	Very Clear												
	Clear												
	Don't know												
	Unclear												
	Completely unclear												
	deadlines agreed during the meeting feasible?												
	Yes												
No													
Are you next tasks (until next partnership meeting) clear to you?													
Very clear													
Clear													
Unclear													
Completely unclear													
After first year of the project.													
Please, define what you think is missing or needs to be improved (About implementation, about transnational meeting, about intellectual outputs, about other aspects)	More documents about tutorials but it is clear that is not possible in this moment. Is a new sector and all is changing quickly. I'm sure at the end of the project we have a good educational tutorials for teachers&students	More telling us what we will actually do.	Instructions, less autonomy	-	-	Nothing is missing	From my point of view is all very well. I think that all of partners are improving in many things (english, quality presentation, knowledge on drones)	Everything is going on just fine	Nothing is missing	Very interesting project; more drones in schools. I like it!	-	Nothing, everything is fine	

B) MEETING ORGANISATION/PROJECT PROGRESS	1	Did the meeting closely follow the													
		Yes, very closely													
		More or less													
		No, kept going off topic													
	2	Did the meeting follow the needs of understanding of partners?													
		Yes													
		More or less													
		Not at all													
	3	Were all partners given time and opportunity to contribute to the													
		Yes													
		No													
4	Had partners' needs and questions been given proper space and														
	Yes														
	No														
5	Were partners' presentations														
	Yes														
	No														
6	Was the meeting venue comfortable and appropriate?														
	Yes														
	No														
7	To what degree do you feel the entire partnership was committed														
	Highly committed														
	Committed														
	Not very														
	Not at all														
8	Regarding on the project progress, do you think the objectives are														
	Very sure														
	Sure														
	Unsure														
	Not at all														
9	What presentation/issue in this meeting do you think was successful or more interesting?	About drone assembly	Drone flight	Drone flight	Drone assembly	-	Solar car and drone flight	All of them	Wind tunnel presentation on was very interesting	Everything was interesting	Wind tunnel the best!	Wind tunnel presentation	-		
10	What presentation/issue do you think could have been improved, and what can be done about this in future meetings?	English glosary & vocabulary	Information on what we will do	Clear instructions	-	Everything is OK	I don't think any presentation/issue have been improved	-	Everything was fine, we improvements needed	Everything is OK	Drone assembly. New components. We need to review more these new components	-	Everything it's fine		
11	Are there any other comments you wish to make? (about project, this meeting, etc.)	-	No	No	-	No	No, I haven't got any wishes	-	-	-	Nice place. Nice school. Nice people and best hospitality!	-	No		