



Erasmus+

Educational for Drone (eDrone)

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Enrollment process for CTT course

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Introduction / Foreword

This deliverable describes the enrollment process of the learners of the CTT according to existing inner rules in each involved HEIs in Partner Countries. In addition, motivated candidates willing to teach drone content with specific technological tools are selected.

1. Description of the enrolment process of the CTT

Each partner informed the institutions' staff about the developed eDrone project in general and about the CTT, in particular. The criteria for the teachers involved in the CTT were discussed by eDrone consortia during the project meeting in Georgia in July 2017 and through the main skills pointed out for the teachers were:

- Technical background - for the Drone Technologies module.
- Teaching experience - for all modules.
- Law background – for Laws module.

2. Main criteria used for the selection

Taking into account that the CTT includes three modules: Drone Technologies, Civil Applications and Laws of drones, the main criteria used in the selection of the candidates are the professional background and skills related to the course for the teacher are trained to.

3. List of candidates selected

The list of selected candidates for each HEI partner country are given in the following table.

NAME	PARTNER
Lilit Dadayan	ASUE
Andranik Sargsyan	ASUE
Vardan Sargsyan	ASUE
Hrachya Karapetyan	NPUA
Grigor Babayan	NPUA
Zhanna Yesayan	NPUA
Shota Barbakadze	TSU



Andro Gelashvili	TSU
Mikhail Makhviladze	TSU
Goga Saatashvili	ISU
Nana Dikhaminjia	ISU
AvtaIndil Mghebrishvili	ISU
Eugenia Cebotaru	AAP
Tatiana Savca	AAP
Tatiana Castrasan	AAP
Silvia Dulschi	AAP
Veaceslav Sprincean	MSU
Corneliu Rotaru	MSU
Natalia Nedeoglo	MSU
Valeriu Seinic	SAUM
Constantin Vozian	CAA
Cazan Valeriu	CAA
Budici Iuri	CAA
Danici Anton	CAA
Garbu Alexei	CAA
Ion Corcimari	ACAPOL
Alexander Spiridonau	BSU
Elina Tcherniavskaia	BSU
Vladimir Saetchnikov	BSU
Dmitry Ushakov	BSU
Sergey Liashkevich	BSU
Svetlana Ermakovich	BSU
Yauhen Vankovich	BSU

The selected candidates are thus repatriated to follow the courses as indicated in the following table :

● **C1. Drone architecture**

ARMENIA		GEORGIA		MOLDOVA					BELARUSI	
ASUE	NPUA	TSU	ISU	AAP	MSU	SAUM	CAA	ACAPOL	BSTU	BSU

	Hrachya Karapetyan		Goga Saatashvili	Eugenia Cebotaru	Veaceslav Sprincean Natalia Nedeoglo Corneliu Rotaru	Valeriu Seinic	Constantin Vozian Cazan Valeriu Budici Iuri Danici Anton Garbu Alexei	Ion Corcimari		Alexander Spiridonau
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● **C2. Drone avionics**

ARMENIA		GEORGIA		MOLDOVA					BELARUSI	
ASUE	NPUA	TSU	ISU	AAP	MSU	SAUM	CAA	ACAPOL	BSTU	BSU
	Zhanna Yesayan	Shota Barbakadze		Eugenia Cebotaru	Veaceslav Sprincean Natalia Nedeoglo Corneliu Rotaru	Valeriu Seinic	Constantin Vozian Cazan Valeriu Budici Iuri Danici Anton Garbu Alexei	Ion Corcimari		Elina Tcherniavskiaia Vladimir Saetchnikov

● **C3. Drones equipment for measurement and monitoring**

ARMENIA		GEORGIA		MOLDOVA					BELARUSI	
ASUE	NPUA	TSU	ISU	AAP	MSU	SAUM	CAA	ACAPOL	BSTU	BSU
Lilit Dadayan			Nana Dikhaminjia	Eugenia Cebotaru	Veaceslav Sprincean Natalia Nedeoglo Corneliu Rotaru	Valeriu Seinic	Constantin Vozian Cazan Valeriu Budici Iuri Danici Anton Garbu Alexei	Ion Corcimari		Dmitry Ushakov

● **C4. Drone piloting**

ARMENIA		GEORGIA		MOLDOVA					BELARUSI	
ASUE	NPUA	TSU	ISU	AAP	MSU	SAUM	CAA	ACAPOL	BSTU	BSU
	Grigor Babayan	Andro Gelashvili		Eugenia Cebotaru	Veaceslav Sprincean Natalia Nedeoglo Corneliu Rotaru	Valeriu Seinic	Constantin Vozian Cazan Valeriu Budici Iuri Danici Anton Garbu Alexei	Ion Corcimari		Sergey Liashevich

● **C5. Processing of measurement data**

ARMENIA		GEORGIA		MOLDOVA					BELARUSI	
ASUE	NPUA	TSU	ISU	AAP	MSU	SAUM	CAA	ACAPOL	BSTU	BSU
Andranik Sargsyan			Avtalndil Mghebrishvili	Eugenia Cebotaru	Veaceslav Sprincean Natalia Nedeoglo Corneliu Rotaru	Valeriu Seinic	Constantin Vozian Valeriu Cazan Iuri Budici Anton Danici Alexei Garbu	Ion Corcimari		Svetlana Ermakovich

● **C6. Laws and regulations**

ARMENIA		GEORGIA		MOLDOVA					BELARUSI	
ASUE	NPUA	TSU	ISU	AAP	MSU	SAUM	CAA	ACAPOL	BSTU	BSU
Vardan Sargsyan		Mikhail Makhviladze		Eugenia Cebotaru Tatiana Savca Tatiana	Veaceslav Sprincean Corneliu Rotaru	Valeriu Seinic	Constantin Vozian Valeriu Cazan	Ion Corcimari		Yauhen Vankovich



- **Internship**

ARMENIA		GEORGIA		MOLDOVA					BELARUSI	
ASUE	NPUA	TSU	ISU	AAP	MSU	SAUM	CAA	ACAPOL	BSTU	BSU
				Eugenia Cebotaru	Veaceslav Sprincean Natalia Nedeoglo	Valeriu Seinic	Constantin Vozian Anton Danici	Ion Corcimari		

4. Technological tools used and followed programs

The use of technological tools is an important aspect of the training. The objective is twofold: to inform about the tools available and to train in their use. The tools are adapted to the needs of the use.

ARMENIA

The equipment (drones, computers, 3D printers, etc.) purchased in the frames of project, as well as projector, computers are used to organize the practical part of the CIA courses. The detailed equipment list is available on the Annex 6 & Annex 7.

BELARUS

The tools used are mainly based on DJI equipment. .

GEORGIA

During the CIA courses during the training period the trainers should use all the equipment purchased with the support of eDrone Project. Equipment like drones, computers, 3D printer, etc and software to help ensure the smooth running of the training process.



MOLDOVA

During the CIA courses the trainers are used all the equipment purchased with the support of eDrone project. These resources can be divided in several parts, as follow:



Item	Description
OED teaching and didactical equipment	
2 Netbook	ASUS 14.0" S410UN, Intel Core i7, 1.80GHz, 8Gb DDR3 RAM, 500Gb HDD, Intel HD 4400 Graphics, Card Reader, Wi-fi N, BT4, HDMI
Server	DELL, PY TX2550 M4 Tower, CPU 8 core, min freq. 3,0 GHz, SmartCach 20 Mbm Ram 64 Gb HDD 5TB
2 Back-UPS	Out: 230V, Transfer time ~6ms, selftest, 4 IEC 320 C13
External HD	4TB USB3.0
Visual classroom system	Projector ACER 116517ABD, projection screen, accessories, magnetic & marker whiteboard
Computer for office	ACER, CPU Intel Core i7 3,0 GHz, MB LGA S-1155, RAM 8 GB DDR3, HDD 500 Gb, DVD-RW, Graphic
3 Multifunctional printers	2 b&w MFP Lexmarc MX 310dn (printer+scanner+copier) for the eDrone Laboratory and OED office, and 1 color MFP Lexmarc MX 410dn (printer+scanner+copier) for the eDrone Laboratory, LAN+Wireless support
Wireless router	Wireless VOIP ADSL2+ Modem Router
Tablet	Octacore Quad 1.9 GHz, 3GB RAM Internal storage 16 GB, 4GLT and Wifi iPad Pro 11 inch +Celular 256GB Space Gray
2 Tablets	Samsung Galaxi Tab S2 9.7
4 computers for work in classroom	ACER Nitro 50-600 with 27" Big Screen Monitors BenQ GW2765HE QHD 1440P IPS LED, NVIDIA GeForce 750M GPUs



Drone and drone applications equipment

Flight controller	Ardupilot Mega 2.6-2.8: Accelerometer, Magnetometer, Barometer, GPS, compas, microSD slot or DataDlsh chip on board
Frame	F450 frame: 4 motors, D=450-500mm, m=250-400gr.
Arduino Starter Kit	Kits for building drone projects
2 Multicopters	DongYang D800-X4, RC
HC-SR04 Ultrasonic Range Finder	Ultrasonic distance sensor
24 XK Allen X250 quad-Copter 250 Racer (Mode2)	2.4GHz Transmitter, LiPoly battery
Brushless Motor	KV 2000, Idle current 1A, m=30-40gr.
ESC	Con. Cur = 25-30A, programming card, m=8-15gr.
Propellers	R=8", carbon fibre
Transmitter	16 channels, USB, card slot, 2.4 GHz
Receiver	5 Ghz, m=6gr.
Battery	3S (11.1V), 2000mAh; Phantom 4 Series Battery 15.2V 5350mAh, Intelligent Flight Battery for DJI Phantom 4, DJI Phantom 4 Pro, DJI Phantom 4 Pro V2.0, DJI Phantom 4 Advanced Drone, Li-Polymer
Charger	Out: 0.1-6A, 2-20V, Temp. sensor, 10 charger profiles
Wireless telemetry link	433mHz

Other laboratory accessories	Cables, soldering station, solder wires, pliers, screwdriver, mechanical nuts, washers, screws, boards for prototyping
3D printer	DaVinci 3D Printer 1.1 Plus, WIFI, camera monitoring, SLA/ FDM (?), 200x200x200 mm3, Layer 0.1mm
3D scanner	3D scanner Ciclop Estop Laser
3D printer filament	1.75 mm PLA/ABS/PET or photopolymers
Camera	GoPRO HERO compatible, HD FPV 1080p
Multispectral camera	Multispectral Survey camera Survey 3W
Infrared camera FLIR camera	FLIR Vue Pro R
Laser scanner Phoenix aerial systems	LiDAR 3D mobile scanner, RP LiDAR A3
Environmental monitoring platform	Flying laboratory SOWA, model SmartCity SOWA, environment monitoring platform
Other sensors platform	Environment monitoring sensors set
Phantom 3 Professional	DJI Phantom 4 Pro drone
Drone bench	Drone bench for drone testing DronesBench Index (IDB)

Software:



Item	Description
Pix4Dmapper Professional drone-mapping	Create maps from images taken by drones: Pix4D drone mapping & photogrammetry software tools with a flight app, desktop, and cloud platforms, perpetual software license
Flight simulation software	Flight simulation of different drone models and in different weather and landscape conditions

Conclusion

This deliverable provided information on the CTT selection process and the courses attended by each staff. Emphasis is placed on the motivations of candidates and their prospects for teaching drone technologies and their legal and administrative aspects. Different technological tools were used to facilitate learning and disseminate good practices.