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Project EMS-ENI, code 2SOFT/3.1/54

”Improving the cross-border public transportation using electric buses supplied with renewable energy (ELBUS)”

Activity A.3.6, Work visit at Technical University of Moldova, Chisinau

**Project management, procurement, financial issues,
information and communication plan, up-to-date
implementation from UTM**

**UTM project manager,
Dr.conf. Ilie Nuca**

Chişinău, 25.02.2021



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The members of the UTM project team

No.	Name and surname	Function in the project	Function in UTM	Year of birth	email
Management team					
1	NUCA Ilie	Project manager	Conf.dr., Head of EEDt	1957	ilie.nuca@ie.utm.md
2	GÎRLEA Daniela	Financial manager	economist accountant	1977	daniela.girlea@adm.utm.md
Implementation team					
1	ZAGOREȚ Maria	Procurement specialist	Head of Procurement and Logistics Department	1978	maria.zagoret@adm.utm.md
2	CAZAC Vadim	Research expert	Lect.univer, Dep.EE	1987	vadim.cazac@ie.utm.md
3	BURDUNIUC Marcel	Research expert	Lect.univer, Dep.EE	1977	marcel.burduniuc@ie.utm.md
4	MOLDOVAN Artiom	Engineer IT	Doctorand, Dep.EE	1994	artiom.moldovan@ie.utm.md

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Content

- 1. Achievement of the planned activities
(01.06.2020-28.02.2020)**
- 2. Procurement of equipment and endowments**
- 3. Budget realization**
- 4. Activities planned for 01.03.2021-01.12.2021**



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1. Achievement of the planned activities (01.06.2020-28.02.2020)

GA1. Project management

GA2. Information and communication plan

GA3. Analysis of the electric bus optimal functionality



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GA1. Project management

Activities	<u>Delivrable</u>	Responsible persons	Deadline	comments
Activity 1.1. <u>Organizing the teams project and implementation of the project</u>	D1.1.2. Decision to appoint the UTM project team D1.1.4. UTM's 6 individual contracts with annexes (Job descriptions) D1.1.6. Minute regarding the first work meeting at UTM D1.1.7. Working plans	Project management	The first month	<u>Realizat complet</u>
Activity 1.2. Monitoring, evaluation, technical report and financial report into the project	D1.2.2. UTM Timesheets	Project management	1-18 months (108 hours)	<u>Se realizează lunar</u>
	D1.2.3. Progress report no.1	Project management	The 7th month	<u>Raportul a fost prezentat la 01.12.2020</u>
Activity 1.3. <u>Equipments acquisition and promotional materials</u>	D1.3.2. List of the acquired equipment, UTM	Specialist <u>achizitii</u> <u>Dna Maria Zagoret</u>	The 8th month	<u>Echipamentele au fost acizionate</u>



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GA2. Information and communication plan

Activities	Deliverable	Responsible persons	Deadline	Comments
Activity 2.1. Design and update of a web site, to disseminate the project progress and results	D2.1.1. WEB page	<u>Inginer IT</u>	The 2th month	<u>Link-uri pe site-ul UTM si pagina FEIE</u>
Activity 2.4. Elaboration and dissemination of visibility materials	D2.4.5. <u>Flyers disseminated, UTM (250 exemplarte)</u>		The 18th month	<u>Planificat pentru lunile ulterioare</u>
	D2.4.6. 2 press releases UTM			
	D2.4.7. Stickers for <u>equipments UTM (100 exemplare)</u>			
	D2.4.8. <u>Portfolio disseminated, UTM (15 exemplare)</u>			
	D2.4.9. 1 short video about the project, UTM	<u>A.Moldovan</u>		
	D2.4.10. 1 article „telling the project’s story” published, UTM	<u>I.Nuca,</u> <u>V.Cazac,</u> <u>M.Burduniuc</u> <u>A.Moldovan</u>		



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GA3. Analysis of the electric bus optimal functionality

Activities	Deliverable	Responsible persons	Deadline	Comments
Activity 3.1. Analysis of the electric buses	D3.1.1 Technical report related to the using of the electric buses	<u>V.Cazac,</u> <u>M.Burduniuc</u>	The 4th month	<u>Prezentat raport în luna octombrie 2020</u>
Activity 3.2. Analysis of the auxiliary loads	D3.2.1 Automation system for auxiliary loads	<u>V.Cazac</u> <u>M.Burduniuc</u>	The 9th month	<u>Prezentat raport în luna ianuarie 2021</u>
Activity 3.6. Work visit at <u>UTM</u>	Organizing the visit of the TUASI team to UTM	UTM teams	The 18th month	<u>Realizarea on-line</u>



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2. Procurement of equipment and endowments

Acquisition specialist – dna ing. Maria Zagoreț

2.1. Planul de achiziții echipamente și dotări (realizat în 2020)

Nr crt	Descrierea achiziției	Tipul/ categoria de cheltuială	Cantitate	Valoare estimată EUR	Perioada de realizare	Note
I. Echipamente de birou și dotare						
1	Computer	Cercetare	1	608	Octombrie- decembrie 2020	Realizat decembrie
	Imprimantă	Cercetare	1	510		
II. Echipamente specializate și dotare						
2	Clește de măsură AC/DC	Cercetare	5	4000	Octombrie- decembrie 2020	Realizat decembrie
3	Analizor trifazat de calitate a energiei	Cercetare	1	3100		
4	Osciloscop portabil	Cercetare	1	7000		
TOTAL			9	15218.00		



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2. Procurement of equipment and endowments

2.2. Planul de achiziții servicii și materiale de comunicare/vizibilitate (pentru 2021)

Nr crt	Descrierea achiziției	Tipul/ categoria de cheltuială	Cantitate	Valoare estimată EUR	Perioada de realizare	Note
III. Servicii Verificare cheltuieli						
1	Verificarea cheltuielilor	Servicii de audit		500	Septembrie-octombrie 2021	
IV. Acțiuni de comunicare și vizibilitate						
2	Pliante (Flyere)	Materiale informare/ promov	250	250	Septembrie-octombrie 2021	
	Autocolante pentru echipamente	Materiale informare/ promov	100	30		
3	Portofolii (fotografii profesionale despre proiect)	Materiale informare/ promov	15	75		
4	Scurt videoclip despre proiect	Materiale informare/ promov	1	200		
5	Articol „care spune povestea proiectului”	Materiale informare/ promov	1	50		
6	Broșură	Materiale informare/ promov	130	650		
7	Comunicat de presă	Servicii și materiale informare	3	150		
8	Atelier (Workshop)	Servicii organizare evenimente/catering	2	510		
TOTAL Acțiuni de comunicare și vizibilitate				1915		



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Etapele procedurii de achiziții (peste 30 acte)

- 1. A fost constituit Grupul de lucru UTM pentru realizarea procedurilor de Achiziții Publice pentru ELBUS (I.Nuca, D.Gîrlea, M.Zagoreț, V.Cazac)**
- 2. Demersuri achiziții IT și echipamente de cercetare**
- 3. Elaborare Caiet de sarcini pentru fiecare echipament**
- 4. Aprobare caiet de sarcini IT de către AGE**
- 5. Anunțuri de participare pentru fiecare echipament**
- 5. Examinarea ofertelor**
- 6. Repetarea procedurii pentru unele echipamente**
- 6. Contracte de achiziționare echipamente**
- 7. Facturizarea și achitarea echipamentelor**



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Etapele procedurii de achiziții (peste 30 acte)

01. Dispozitie no.46_1 din 12.10.2020 formare grup achizitii UTM	pdf	1,120,15
02. Demers achizitii echip.IT no.01-10 din 20.10.2020	pdf	1,275,86
03. Caiet de Sarcini_Echipment IT nr.9 din 06.11.2020	pdf	2,396,62
04. Demers+Caiet de sarcini_EchipMăsurareControl no.02-10 din 20.10.2020	pdf	1,228,25
05. Demers+Caiet de sarcini_Osciloscop no.03-10 din 20.10.2020	pdf	1,037,52
06. Anunț de Participare_Echipment IT no.10 din 06.11.2020	pdf	3,106,57
07. Anunț de participare_EchipMăsurareControl 12.din 06.11.2020	pdf	2,247,20
08. Anunț de participare _ Osciloscop 14 din 06.11.2020	pdf	2,185,45
09. Scris Solicitare IT no.03_3-1329 din 03.11.2020 - eGov	pdf	612,26
10. AGE-3011-213-10112020-UTM.semnat	pdf	429,57
11. Oferta BTS PRO SRL_Echipment IT no1458 din 20.11.2020	pdf	3,646,08
12. Oferta Lokmera SRL_EchipmentMasurControl no.1461 din 17.11.2020	pdf	2,326,21
13. Oferta Lokmera SRL_Osciloscop - no.1460 din 16.11.2020	pdf	1,956,49
14. Decizia_de_atribuire Osciloscop no.17 din 23.11.2020	pdf	2,221,73
15. Scrisoare de informare_Osciloscop no03_3 din 23.11.2020	pdf	649,68
16. Contract no.269 din 23.11.2020 Osciloscop	pdf	3,928,83
17. PV no.18 din 17.11.2020 EchipamentMasurareControl	pdf	1,348,10
18. Scrisoare de informare_EchipmentMasurareaControl no 03-1427 din 2..	pdf	551,47
19. PV n0.20 din 20.11.2020 Echipament IT	pdf	1,363,76
20. Scrisoare de informare_Echipment IT n0.03-1459 din 30.11.2020	pdf	915,55
21. Demers no.01-11 din 23.11.2020 EchipamentMăsurareControl repetat	pdf	705,28
22. Caiet de Sarcini no.15 din 23.11.2020 EchipamentMăsurareControl	pdf	756,28
23. Anunț de participare no.16 din 23.11.2020 Echipament de măsurare și d..	pdf	2,091,61



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2. Procurement of equipment and endowments

Realizare achiziții tehnica IT și echipamente de măsurare

Nr.	Descrierea achiziției	Valoare planificata			Procurat EURO	Diferenta EURO
		EUR	Rata de schimb	MDL		
1	Computer	608	19.5261	11872	578.66	29.34
2	Imprimantă	510	19.5261	9958	390.21	119.79
3	Clește de măsură AC/DC	4000	19.5261	78104	3809.87	190.13
4	Analizor trifazat de calitate a energiei	3100	19.5261	60531	2819.04	280.96
5	Osciloscop portabil	7000	19.5261	136683	6424.77	575.23
TOTAL		15218	19.5261		14022.55	1195.45



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2. Procurement of equipment and endowments





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2. Procurement of equipment and endowments





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2. Budget realization (finanțare tranșa 1: 30063 euro)

No.	Budget Line Name	BUGET	INFO EUR	EUR MAIB
1	Human resources	25857.00	9154.50	9023.91
1.1	Project team	12852.00	4692.00	4623.91
1.1.1	Project manager, 2 hours/day, 18 months	7344.00	2856.00	2814.91
1.1.1.1	Financial manager, 1 hours/day, 18 months	5508.00	1836.00	1809.00
1.2	Specialists/ Technical staff	13005.00	4462.50	4400.00
1.2.1	Procurement specialist, 05.hours/day, 6 months	765.00	382.50	377.73
1.2.1.1	Research expert 1, 2 hours/day, 18 months	4590.00	1530.00	1507.49
1.2.1.1.1	Research expert 1, 2 hours/day, 18 months	4590.00	1530.00	1507.49
1.2.1.1.1.1	Engineer IT, 1 hours/day, 12 months	3060.00	1020.00	1007.29
4	Equipment and supplies	15218	14105.38	13640.81
4.1	Vehicles	0	0	
4.2	Equipment and endowment	15218.00	14105.38	13640.81
4.2.1	Office equipment and endowment	1118.00	968.87	951.17
4.2.2	Specialized equipment and endowment	14100.00	13136.51	12689.64
	TOTAL cheltuieli:	41075.00	23259.88	22664.72
	SOLD BANESC la 25.02.2021		6,803.79 €	7,398.95 €



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4. Activities planned for 01.03.2021-01.12.2021

GA1. Project management

Activities	<u>Delivrable</u>	Responsible persons	Deadline	<u>Ccomments</u>
Activity 1.2. Monitoring, evaluation, technical report and financial report into the project	D1.2.2. Timesheets	Project management	1-18 months (108 hours)	
	D1.2.4. Progress report no.2	UTM team	The 13th month	
	D1.2.5. Intermediate internal report		The 10th month	
	D1.2.6. Final Report		The 18th month	
	D1.2.7. Audit la UTM		<u>Manager financiar</u>	The 18th month
	D1.2.8. <u>Practical guideline</u>	UTM team	The 18th month	
Activity 1.3. <u>Equipments acquisition and promotional materials</u>	D1.3.4. List of the promotional materials – visibility UTM	Acquisition specialist	The 8th month	
		<u>Dna Maria Zagoret</u>		



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4. Activities planned for 01.03.2021-01.12.2021 GA2. Information and communication plan

Activities	Deliverable	Responsible persons	Deadline	Ccomments
Activity 2.3. Workshopa organized at UTM	D2.3.1. Workshops <u>organized</u> (target – 2)	I.Nuca, D.Girlea, V.Cazac, M.Burduniuc A.Moldovan	The 18th month	
	D2.3.2. Number of participants at the first WORKSHOP (60 persoane)			
	D2.3.3. List with the participants at the <u>first Workshop</u>			
	D2.3.4. Number of participants at the second Workshop (60 persoane)			
	D2.3.5. List with the participants at the second Workshop			
	D2.3.6. Press release published			
Activity 2.4. Elaboration and dissemination of visibility materials	D2.4.5. Flyers disseminated, UTM (250 exemplarte)	A.Moldovan	The 18th month	
	D2.4.6. 2 press releases UTM			
	D2.4.7. Stickers for <u>equipments</u> UTM (<u>100 exemplare</u>)			
	D2.4.8. <u>Portfolio disseminated</u> , UTM (15 exemplare)			
	D2.4.9. 1 short video about the project, UTM			
	D2.4.10. 1 article „telling the project’s story” published, UTM			



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4. Activities planned for 01.03.2021-01.12.2021

GA3. Analysis of the electric bus optimal functionality

Activities	Deliverable	Responsible persons	Deadline	UTM responsibility
Activity 3.3. Thermal model of the indoor climatic environment	D3.3.1 Thermal model	<u>V.Cazac</u>	The 13th month	<ul style="list-style-type: none"> ❖ Realization of a model of the inside geometry of the electric bus ❖ Develop a thermal model for the indoor bus environment using a dedicated CFD software package based on finite element method – TUIASI
	<u>D3.3.2 Thermal map</u> for the indoor climatic environment	<u>M.Burduniuc</u>	<u>The 13th month</u>	<ul style="list-style-type: none"> ❖ A comparative analysis between the temperature measurements inside the bus provided through a infrared camera ❖ A thermal map of the inside of the bus will be obtained – UTM
Activity 3.4. Renewable energy for the batteries	D3.4.1 Technical report related to the recharging of the batteries by renewable energy	<u>V.Cazac</u> , <u>M.Burduniuc</u> <u>A.Moldovan</u>	The 18th month	<ul style="list-style-type: none"> ❖ UTM will be realized a bench stand in order to study (experimental) the recharge of the batteries of the bus from the photovoltaic panels ❖ On the bench stand on UTM will be implemented an automation system with PLC to control and to optimize the recharge of the batteries



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4. Activities planned for 01.03.2021-01.12.2021

GA3. Analysis of the electric bus optimal functionality

Activities	Deliverable	Responsible persons	Deadline	UTM responsibility
Activity 3.5. Elaborating a practical guideline regarding the improve of the energetical performances for an electric bus	D3.5.1. Guideline regarding the improve of the energetical performances for an electric bus elaborated	UTM's team support	The 18th month	It will be elaborated by TUIASI with the support of UTM
	D3.5.2. Guideline regarding the improve of the energetical performances for an electric bus disseminated (40 <u>exempl</u>)		The 18th month	
	D3.5.3. List with the persons that received the guideline	The 18th month		
Activity 3.7. Work visit at <u>TUIASI</u>	D3.7.1. Work <u>visit</u> at Technical University of Iasi, Romania	<u>I.Nuca,</u> <u>D.Gîrlea,</u>	The 18th month	Maximum 6 persons Discussions, presentations
	D3.7.2. Report on the work visit	<u>V.Czac,</u> <u>M.Burduniuc</u>	The 18th month	
	D3.7.3. Press release published	<u>A.Moldovan</u>	The 18th month	