



AMENDED SECTION 5: SCHEDULE OF REQUIREMENTS

A. Summary of Requirements

Requirements are comprised of the following Lots:

- **LOT 1 – Tools and electrical equipment for training**
- **LOT 2 – Measurement and verification equipment for training**
- **LOT 3 – Laboratory stands for training**

B. Background

Moldova is part of the EU's European Neighbourhood Policy (ENP) and in the Eastern Partnership framework, which aims at strengthening individual and regional relationships between the EU and countries in its neighbourhood. Moldova is also part of the Energy Community Treaty since 2010 and has signed the Association Agreement with EU in June 2014, including the DCFTA which entered into force in 2016. As a follow-up, Moldova is required to ensure transposition of the EU *acquis Communautaire*, which underpins the EU energy legislation on electricity, gas, oil, renewables, efficacy and environment. The country is planning to fully synchronize its electricity network with the ENTSO-E to connect to European electricity market.

The energy sector is one of the top priorities for the Government and it is addressed in Government's Plans and several policy documents, laws, and regulations. The most important are the following: the draft National Development Strategy 2030, the National Energy Strategy 2030, Law on energy, Law on electricity, Law on promoting use of energy from renewable sources, Law on natural gas, Law on energy efficiency, Law on the energy performance of buildings, Law on the labelling of products with energy impact, Law on eco-design requirements for energy-related products, etc., as well as a list of secondary legislation, meant necessary to ensure for the implementation of the primary legislation.

In accordance with the existing strategic planning documents, one of main priorities of the Government is to diversify the energy mix with more renewable energy, which is also fully in line with commitments under the EU Clean Energy for all Europeans packages. Achieving this goal will require significant investment in the medium and long term, but also the country's ability to attract and absorb the funds. The development of renewables, such as wind and solar, will also depend on improving the balancing capabilities of the Moldovan power system and its integration with neighbouring countries.

Starting with October 2021, Moldova faced significant crisis in the gas sector, which outlined the need to undertake more actions towards improving energy security of the Republic of Moldova, both in the natural gas and electricity sectors.

To enhance security of gas supply, Moldovan authorities are seeking various ways to diversify gas and electricity supply, to strengthen its energy security and enabling a transparent, fully open, and well-functioning energy market.

The acute gas supply crisis in Moldova has also been subject of discussions within the Moldova-EU Association Council meeting on October 28, 2021. The EU and Moldova stressed the importance of resilience against any potential efforts by third parties to use energy as a geopolitical lever. The Association Council recalled the importance of continued energy market reform to strengthen competition and transparency in this sector. The EU has urged Moldova to ensure that the energy sector reform demonstrates full respect of the Energy Community *acquis* and is in line with the EU Third Energy Package. The EU side confirmed its support to the objective of Moldova to synchronize its electricity network with the Continental European Network (CEN), an important step towards the integration into the EU energy system and market.

Under these circumstances, the Government of Moldova will be assisted to tackle the current energy crisis and energy poverty and addressing prioritized systemic elements in the energy sector to cope with potential future energy crisis. In partnership with EU, UNDP Moldova will therefore, support the Government of Moldova:

- To tackle the current energy crisis and energy poverty, and addressing prioritized systemic elements in the energy sector to cope with potential future energy crisis.
- To support the Government of Moldova in building its capacities towards strengthening the national energy security, as well as in improving the legal and regulatory framework and operationalizing specific rapid large-scale interventions to tackle energy poverty and support most vulnerable and affected groups of population and businesses.

The Programme duration is envisaged between 2022- 2023 with support from Foreign Policy Instrument (herewith FPI) of EU.

The Project Concept has been approved by FPI of the EU in February 2022, paving the way for development of the full project proposal.

With the approval of Law no. 139/2018 on energy efficiency, one of the basic priorities in the field is the strengthening of the capacities of specialists in the field of energy efficiency and the promotion of renewable energy sources. In this sense, a series of secondary documents regarding the training of specialists in this field were approved. The main documents being Decision Government Decision no. 676 of 10.09.2020 for the approval of the Regulation on energy auditors and energy audit, Decision no. 1051 of 08.11.2018 for the approval of the Regulation regarding the qualification and registration of installers of biomass-based boilers, furnaces or stoves, photovoltaic and solar thermal systems, shallow geothermal systems and heat pumps, Government Decision no. 1003 of 10.12.2014 for the approval of the regulations regarding energy labeling requirements of some products with energy impact, etc.

In this context, in order to strengthen the capacities of educational institutions in order to train specialists in the field of energy efficiency and renewable energy sources, UNDP Moldova seeks the purchase of technical equipment necessary for the process of continuous training and training of specialists in the energy field for 5 educational institutions with energy profile.

The institutions that will benefit from technical equipment are:

- 1) Center for Continuing Education of the Technical University of Moldova, (Chisinau) <http://cfceecp.utm.md/>
- 2) Center of Excellence in Construction (Chisinau) <http://ccc.md/instalator-instalatii-de-incalzire-si-baterii-solare/>
- 3) Chisinau Technological College (Chisinau) <http://colegiutehologic.md/masini-si-aparate-electrice-de-uz-casnic/>
- 4) Soroca Agriculture Technical College <https://ipctasoroca.md/specialty/electromecanica/>
- 5) Balti Polytechnic College <http://cpbmd.info/>

C. SCOPE AND OBJECTIVES OF THE ASSIGNMENT

The main purpose of this task is:

- Increasing institutional capacities in the field of continuous training and education by providing technical equipment necessary for the training of specialists in the energy field (energy auditors, installers, students and pupils).
- To train the staff of educational institutions on the use and operation of the delivered technical equipment.

D. GENERAL RESPONSIBILITIES

- Carry out the assignment as defined in the Terms of Reference;
- Complete the final deliverable in a timely manner as defined below;
- Conduct all business in a manner that respects local culture;
- Maintain high ethical standards, avoiding any actual or perceived conflicts of interest and abiding by all local laws and/or all UNDP directives and requirements.

E. SPECIFIC RESPONSIBILITIES

The company will work in close consultation and collaboration with the responsible personnel from the educational institutions (5 targeted institutions) as well as the UNDP Moldova team to carry out the following specific tasks:

- The company will provide the equipment for each educational institution in accordance with the technical specifications described in the annex to this ToR for each separate batch;
- In coordination with the representatives of the educational institutions, for each batch, services will be offered for fitting out and mounting the delivered equipment in accordance with the beneficiary's requirements;

- The company will provide staff training services regarding the use of the delivered equipment;
- The company will ensure, as appropriate, the development of the project sketches necessary for the installation of the equipment;
- The company will make available to the beneficiary all the technical documentation related to the equipment;
- Ensuring quality control over the installed equipment.

The bidder will submit the bid for one or more lots according to para A. Summary of Requirements of this ToR. Deliverables will be provided for each lot separately and as per the table below.

Deliverable	Target Date from the date of contract signature		
	Lot 1 Tools and electrical equipment for training	Lot 2 Measurement and verification equipment for training	Lot 3 Laboratory stands for training
<u>Deliverable 1.</u> Delivery of equipment necessary for training and continuous training process according to LOT applied	3-5 weeks	9-10 weeks	16-18 weeks
<u>Deliverable 2.</u> Installation and arrangement of delivered equipment in coordination with the final beneficiary according to LOT applied	1-2 weeks	1-2 weeks	2 - 4 weeks
<u>Deliverable 3.</u> Training of educational institutions regarding the use of delivered equipment (5 targeted institutions) according to LOT applied	1 week	1 week	1 week

Note: The time period shown has been estimated to be sufficient/feasible for the equipment delivered and the scope of work to be successfully completed and is proposed as a guide for the duration of the assignment. The implementation of the Deliverable3 (training course) will take into account the constraints related to the availability of trainers and internal activities scheduled before the signing of the Contract. Provision of contemplated deliverables approved by UDNP shall be the sole criterion for completion of the Contractor's work and eligibility for payment/s.

F. PERIOD OF PERFORMANCE

The assignment will begin in January 2023 and end latest in July 2023.

G. REPORTING REQUIREMENTS

The Supplier shall report delivery progress to UNDP Moldova and deliver on time equipment.

The progress report shall be in a form acceptable to the Project responsible and shall indicate: (a) progress of delivery; and (b) where any activity is behind the contract completion, giving comments and likely consequences and stating the corrective action being taken.

H. PAYMENT

100% within 30 days upon UNDP's acceptance of the goods delivered as specified and receipt of invoice and training on operation and maintenance provided.

I. SUBCONTRACTING

The subcontracting of services is not allowed.

J. Technical Specifications for Goods

LOT 1. Tools and electrical equipment for training



Item No	Name of equipment	Quantity	Category of Equipment	Minimum Technical Requirements	Beneficiary institution
1	Drill drivers with battery	1	tool	Accumulator: 2x2.0Ah Battery type: Li-Ion Complete set: 2 batteries + suitcase Idling speed:1300 min-1 Power type: Accumulator Max. diameter drilling steel: 10 mm Max. diameter wood drilling: 20 mm	Technological College from Chisinau
2	Transformer electronic	6	electrical equipment	Power (W): 150 W Voltage (V): 230 V Output voltage (V): 12 V	Technological College from Chisinau
3	Transformer for LED strip	1	electrical equipment	Power (W): 360 W Voltage (V): 220 - 240 V Current (A): 30 A Output voltage (V): DC 12V	Technological College from Chisinau
4	RGB LED amplifier	6	electrical equipment	Power (W): 288 W Voltage (V): 12 V Current (A): 24 A Degree of protection (IP): IP20	Technological College from Chisinau
5	RGB controller with remote	6	electrical equipment	Power (W): 72 W Voltage (V): 12 V Current (A): 2 A Degree of protection (IP): IP20 Options: Multifunctional Completion: AC adapter	Technological College from Chisinau

6	Freon charging station	1	tool	Charging Station Complete R134a Steel frame construction with Vacuum pump: RL-4 Vacuum gauge: 19800-SV Bellow gauges: oil-filled, Ø 60 Valves for connection of refrigeration systems and refrigerant-supply line	Technological College from Chisinau
7	Manifold (2-way manifold with Bourdon Type)	2	tool	Number of Ways: 2-way Type: Bourdon-type Accuracy Class: 1.6 Nominal Size: 68 Oil-filled: No Zero Point Adjustment: Yes Pressure Scale: bar psi Refrigerant(s): R134a R404A R507 Ball Valve: No Scope of Supply: 3 Charging hoses Packaging: Sturdy plastic case	Technological College from Chisinau
8	Pipe rolling device	2	tool	Tube Material - Copper; Aluminum; Plastics	Technological College from Chisinau
9	Refrigeration socket set inch sizes	2	tool	Number of Pieces: 21 Scope of Supply: Ratchet Intermediate piece 1/4" / 1/4" Extension 15.5 mm Special nut Cross handle Cardan joint Transition piece outside Transition piece inside Various inserts Packaging: Sturdy plastic case Material: Stainless steel LDPE	Technological College from Chisinau

10	Refrigeration socket set	2	tool	Number of Pieces: 20 Packaging: Sturdy plastic case Material: Stainless steel LDPE	Technological College from Chisinau
11	Torque wrench set in a handy case	1	tool	Torque adjustable from 10 to 75 Nm Key widths: 17, 19, 22, 24, 26, 27, 29 mm	Technological College from Chisinau
12	Screwdriver set	2	tool	10-piece screwdriver set made of chrome vanadium steel with non-slip handle	Technological College from Chisinau
13	LED projector with solar battery	30	electrical equipment	Power (W): 60 W Color temperature (K): 6400 K Luminous flux (lm): 1040 lm Protection (IP): IP65	Polytechnic College Balti
14	LED street lighting body with solar panel	20	electrical equipment	Power (W): 60 W Color temperature (K): 6500 K Voltage (V): 6V/10W Luminous flux (lm): 6000 lm Protection (IP): IP65	Polytechnic College Balti
15	Sensor day/night	20	electrical equipment	Power (W): 1200 W Voltage (V): 220 - 240 V Protection (IP): IP44 Form type: Indoor Type: Radar Lighting level (lux): 50	Polytechnic College Balti
16	Motion sensor	30	electrical equipment	Power (W): 1000 W Voltage (V): 220 - 240 V Form type: Outside Protection (IP): IP20 Type: Infrared Ambient temperature during operation: up to 24°C Options: 2 adjustable buttons (Time, luxury) Angle (degrees): 360° Distance (m): 8 m Lighting level (lux): 2000 Actuation duration (time): From 5 sec to 8/12 min	Polytechnic College Balti

17	Digital timer socket	20	electrical equipment	Power (W): 3680 W Voltage (V): 230 V Current (A): 16 A Protection (IP): IP20 Type: programmable	Polytechnic College Balti
18	LED projector	30	electrical equipment	Power (W): 50 W Color temperature (K): 6500 K Voltage (V): 220 - 240 V Protection (IP): IP65	Polytechnic College Balti
19	Analog programmable switch	30	electrical equipment	Power supply: 230 V ~ - 50/60 Hz Front panel 3-position "ON-AUTO-OFF" boost switch Manual switch to summer / winter time 1 output 16 A - 250 V ~ - $\mu \cos = 1$ Daily schedule 1 segment = 15 minutes Accuracy: ± 5 minutes Vertical keyboard With a power reserve of 100 hours Number of modules: 1	Polytechnic College Balti
20	Electronic socket timer	20	electrical equipment	Operating temperature range, °C: 0 ... + 40 Rated operating voltage U _e , V: 230 Rated frequency, Hz: 50 Rated current I _n , A: 8A (AC1) Characteristic: Maximum number of V / O cycles per day / week: 140; The minimum step of setting the operating time: 1 min; Battery life: at least 150 hours	Polytechnic College Balti
21	Mechanical time relay (programmable 24h analogue socket)	20	electrical equipment	Power supply: 230V AC / 50Hz Nominal load: 3500 W / 16 A Mode: 24 hours	Polytechnic College Balti

22	Wi-fi smart socket	20	electrical equipment	Current (A): 16 A Voltage (V): 250 V Frequency (Hz): 50...50 Hz Earthing: Yes Number of sockets - 1 With On/Off switch - Yes Protection (IP) - IP20	Polytechnic College Balti
23	Smart switch	30	electrical equipment	Size: 80mm*80mm*40mm Maximum voltage: 250 V Total nominal load: 2000 W Maximum current: 5 A Own consumption: less than 0.1mW Type: Wall Light Dimmer Switch, with light dimmer - changes the intensity of the light	Polytechnic College Balti
24	Unitary socket outdoor	50	electrical equipment	Current intensity: 16A Voltage (V): 220V Socket with child protection: Yes Mounting Type: Apparent Degree of protection (IP): IP44 Grounded: Yes	Polytechnic College Balti
25	External unitary switch	20	electrical equipment	Destination: Outside Voltage (V): 230 V Current (A): 10 A Protection (IP): IP44 Frequency: 50 Hz	Polytechnic College Balti
26	External double switch	20	electrical equipment	Voltage (V): 250 V Current (A): 10A Degree of protection (IP): IP44 Type: Hermetic Frequency: 50 Hz	Polytechnic College Balti
24	UZO automatic switch	10	electrical equipment	Model: VD1-63 Current intensity: 25A Number of poles: 2 Ambient temperature during operation: from -40°C to +50°C Nominal leakage current: 30mA Degree of protection (IP): IP20	Polytechnic College Balti

28	Automatic switch	50	electrical equipment	Voltage (V): 230 - 400V Current (A): 16 A No. Poles: 1P Car. electromagnetic release: C	Polytechnic College Balti
29	Low voltage arrester	10	electrical equipment	Voltage (V): 400 V Current (A): 20 kA No. Poles: 2P Car. electromagnetic release: C	Polytechnic College Balti
30	Photorele	20	electrical equipment	Power (W): 1100 W Voltage (V): 220 - 240 V Form type: Indoor Degree of protection (IP): IP44 Type: Radar Ambient temperature during operation: from -25°C to +40°C Options: 1 adjustable button (lux) Fixing method: Fixing support Lighting level (lux): 50	Polytechnic College Balti
31	Contactor	10	electrical equipment	Voltage (V): 220 V Current (A): 9 A Protection (IP): IP20 Frequency: 50 Hz	Polytechnic College Balti
32	Electric motor	3	electrical equipment	Power (W): 1.1 kW Voltage (V): 220/380 V Degree of protection (IP): IP54 Type: Asynchronous Frequency: 50 Hz Idling speed: 1000 rpm Attachment method: Sole Mode: S1 Basket ϕ : 0.71 Number of phases: Three-phase	Polytechnic College Balti

33	Contactor	20	electrical equipment	Voltage (V): 380 V Current (A): 65 A Degree of protection (IP): IP20 Type: 1NO+1NC No. Poles: 3P Frequency: 50/60 Hz	Polytechnic College Balti
34	Distribution box	40	electrical equipment	Dimensions (L x W x H x Ø) - 100 x 100 x 45 mm Material type - Plastic	Polytechnic College Balti
35	Outdoor automotive box	10	electrical equipment	The quantity of automatic switches: 1-16 pieces Installation mode: External Degree of protection: IP20	Polytechnic College Balti
36	Electrician tools set	10	tool	Professional electrician tool set of 68 specially selected tools. The straps and screwdrivers in the kit are insulated up to 1000V	Polytechnic College Balti
37	Assembly table	10	laboratory table	Leg height 22300mm Metal shelf 1330x3000mm Perforated wall 1330x3000mm	Polytechnic College Balti
38	LED street lighting body with solar panel	4	electrical equipment	Power (W): 90 W Color temperature (K): 6500 K Voltage (V) : 6V/14W Luminous flux (lm): 9000 lm Degree of protection (IP) - IP65	IP Agricultural Technical College from Soroca
39	LED street lighting body with solar panel	4	electrical equipment	Power (W): 50 W Average lifetime (h): 12-15 h Color temperature (K): 6400 K Luminous flux (lm): 950 lm Degree of protection (IP): IP65	IP Agricultural Technical College from Soroca
40	Support for street lighting body	8	electrical equipment	Dimensions (L x W x H x Ø) - 300 x 40 mm Material type: Metal	IP Agricultural Technical College from Soroca
41	Single-phase electric meter	4	electrical equipment	Voltage (V): 220 V Current (A): 40 A Type: Digital Number of phases: Single phase	IP Agricultural Technical College from Soroca

42	Three-phase electric meter	2	electrical equipment	Voltage (V): 230 - 400V Current (A): 5 - 100 A Degree of protection (IP): IP20 Type: Digital Number of phases: Three-phase	IP Agricultural Technical College from Soroca
43	Electric cable	100 m	electrical equipment	Color: Black Material type: Copper Number of threads: 3 Type: PVS Section: 1.5 mm ²	IP Agricultural Technical College from Soroca
44	Electric cable	100 m	electrical equipment	Model: PVS White: color Material type: Copper Number of threads: 3 Section: 1.5 mm ²	IP Agricultural Technical College from Soroca
45	Electric cable	100 m	electrical equipment	Color: Black Material type: Copper Number of threads: 3 Type: PVS Section: 2.5 mm ²	IP Agricultural Technical College from Soroca
46	Voltage stabilizer	1	electrical equipment	Power (W): 1200 W Voltage (V): 140 - 275 V	IP Agricultural Technical College from Soroca
47	Voltage stabilizer	1	electrical equipment	Power (W): 4 kW Voltage (V): 220/230 V	IP Agricultural Technical College from Soroca
48	Single-phase inverter	1	electrical equipment	Power (W): 1.5 kW Voltage (V): 220 - 240 V Degree of protection (IP): IP20 Number of phases: Single phase	IP Agricultural Technical College from Soroca
49	Inverter 220 V	1	electrical equipment	Power (W): 2000 W Voltage (V): 12 V Output voltage (V): 220 V	IP Agricultural Technical College from Soroca

50	Three-phase electric motor	2	electrical equipment	Power (W): 0.37 kW Voltage (V): 220/380 V Degree of protection (IP): IP55 Frequency: 50 Hz Idling speed: 1000 rpm Grip method: Sole Shaft size (Ø x L): 14 x 30 mm Mode: S1 Basket ϕ : 0.70 Number of phases: Three-phase	IP Agricultural Technical College from Soroca
51	Three-phase electric motor	1	electrical equipment	Power (W): 750 W Voltage (V): 380 V Degree of protection (IP): IP55 Type: Asynchronous Frequency: 50 Hz Idling speed: 3000 rpm Grip method: Sole Shaft size (Ø x L): 19 x 40 mm Regime: MS Basket ϕ : 0.83 Number of phases: Three-phase	IP Agricultural Technical College from Soroca
52	Three-phase electric motor	1	electrical equipment	Power (W): 1.1 kW Voltage (V): 220/380 V Degree of protection (IP): IP55 Type: Asynchronous Frequency: 50 Hz Idling speed: 1500 rpm Grip method: Sole Shaft size (Ø x L): 24 x 50 mm Mode: S1 Number of phases: Three-phase	IP Agricultural Technical College from Soroca
53	Electrician tools set	2	tool	Professional electrician tool set of 68 specially selected tools. The straps and screwdrivers in the kit are insulated up to 1000V	IP Agricultural Technical College from Soroca

54	Tool set	1	tool	Material type - Chrome vanadium Pieces in set - 94	IP Agricultural Technical College from Soroca
55	Photovoltaic plant for laboratory	1	electrical equipment	4 x 275W panels 1 x Inverter 1100W Aluminum fasteners Power cable 4-6mm Connections fitting	IP Agricultural Technical College from Soroca
56	Assembly table	5	laboratory table	Leg height 22300mm Metal shelf 1330x3000mm Perforated wall 1330x3000mm	IP Agricultural Technical College from Soroca
57	LED projector with the solar battery	2	electrical equipment	Power (W): 60 W Color temperature (K): 6400 K Luminous flux (lm): 1040 lm Protection (IP): IP65	IP Agricultural Technical College from Soroca
58	Sensor day/night	8	electrical equipment	Power (W): 1200 W Voltage (V): 220 - 240 V Protection (IP): IP44 Form type: Indoor Type: Radar Lighting level (lux): 50	IP Agricultural Technical College from Soroca
59	Motion sensor	5	electrical equipment	Power (W): 1000 W Voltage (V): 220 - 240 V Form type: Outside Protection (IP): IP20 Type: Infrared Ambient temperature during operation: up to 24°C Options: 2 adjustable buttons (Time, luxury) Angle (degrees): 360° Distance (m): 8 m Lighting level (lux): 2000 Actuation duration (time): From 5 sec to 8/12 min	IP Agricultural Technical College from Soroca

60	Digital timer socket	10	electrical equipment	Power (W): 3680 W Voltage (V): 230 V Current (A): 16 A Protection (IP): IP20 Type: programmable	IP Agricultural Technical College from Soroca
61	Analog programmable switch	5	electrical equipment	Power supply: 230 V ~ - 50/60 Hz Front panel 3-position "ON-AUTO-OFF" boost switch Manual switch to summer / winter time 1 output 16 A - 250 V ~ - $\mu \cos = 1$ Daily schedule 1 segment = 15 minutes Accuracy: ± 5 minutes Vertical keyboard With a power reserve of 100 hours Number of modules: 1	IP Agricultural Technical College from Soroca
62	Electronic socket timer	5	electrical equipment	Operating temperature range, °C: 0 ... + 40 Rated operating voltage U _e , V: 230 Rated frequency, Hz: 50 Rated current I _n , A: 8A (AC1) Characteristic: Maximum number of V / O cycles per day / week: 140; The minimum step of setting the operating time: 1 min; Battery life: at least 150 hours.	IP Agricultural Technical College from Soroca
63	Mechanical time relay (programmable 24h analogue socket)	5	electrical equipment	power supply: 230V AC / 50Hz nominal load: 3500 W / 16 A mode: 24 hours	IP Agricultural Technical College from Soroca
64	Wi-fi smart socket	5	electrical equipment	Current (A): 16 A Voltage (V): 250 V Frequency (Hz): 50...50 Hz Earthing: Yes Number of sockets - 1 With On/Off switch - Yes Protection (IP) - IP20	IP Agricultural Technical College from Soroca

65	Unitary socket outdoor	5	electrical equipment	Current intensity: 16A Voltage (V): 220V Socket with child protection: Yes Mounting Type: Apparent Degree of protection (IP): IP44 Grounded: Yes	IP Agricultural Technical College from Soroca
66	External unitary switch	20	electrical equipment	Destination: Outside Voltage (V): 230 V Current (A): 10 A Protection (IP): IP44 Frequency: 50 Hz	IP Agricultural Technical College from Soroca
67	External double switch	20	electrical equipment	Voltage (V): 250 V Current (A): 10A Degree of protection (IP): IP44 Type: Hermetic Frequency: 50 Hz	IP Agricultural Technical College from Soroca
68	UZO automatic switch	5	electrical equipment	Current intensity: 25A Number of poles: 2 Ambient temperature during operation: from -40°C to +50°C Nominal leakage current: 30mA Degree of protection (IP): IP20	IP Agricultural Technical College from Soroca
69	Automatic switch	10	electrical equipment	Voltage (V): 230 - 400V Current (A): 16 A No. Poles: 1P Car. electromagnetic release: C	IP Agricultural Technical College from Soroca

70	Photorele	5	electrical equipment	Power (W): 1100 W Voltage (V): 220 - 240 V Form type: Indoor Degree of protection (IP): IP44 Type: Radar Ambient temperature during operation: from -25°C to +40°C Options: 1 adjustable button (lux) Fixing method: Fixing support Lighting level (lux): 50	IP Agricultural Technical College from Soroca
71	Distribution box	10	electrical equipment	Dimensions (L x W x H x Ø) - 100 x 100 x 45 mm Material type - Plastic	IP Agricultural Technical College from Soroca
72	Generator gasoline 3 kW 220 V	1	electrical equipment	Output voltage (V) 220 V frequency 50 Hz Fuel type Benzine Rated power (W) 3kW	IP Agricultural Technical College from Soroca

LOT 2. Measurement and verification equipment for training

Item No	Name of equipment	Quantity	Category of Equipment	Minimum Technical Requirements	Beneficiary institution
1	Combustion Analyzer for Commercial and Industrial Applications	1	M&V	Operating temperature: 23° to 122 °F / -5 to +50 °C Housing: TPE PC Protection class: IP40 Connectable probes: 1 x flue gas probe; 1 x temperature probe; 1 x differential pressure Display type: graphic Display User defined fuels: 10 user-defined fuels incl. test gas as fuel Pump flow: 0.6 l/min (regulated) Hose length: max. 7.8 m (corresponds to two probe hose extensions) Max. pos. press./flue gas: 0.725 psi / 50 mbar Max. neg. press./flue gas: -2.901 psi / -200 mbar Maximum: 100 folders Storage per folder: Max. 10 sites Storage per site: Max. 200 logs Miscellaneous: The max. number of logs is determined by the number of folders or sites Interface: Bluetooth®; USB; IR/IRDA interface; gas outlet; Mains connection; probe input/ probe inputs; Differential Pressure Storage temperature: -4° to 122 °F / -20 to +50 °C	Center of Excellence in Construction
2	Infrared thermometer with laser marking	1	M&V	Measuring range: -22.0° to 752.0 °F / -30 to +400 °C Accuracy: ± 2.7 °F or 1.5 % of mv (32.2° to 752.0 °F) / ± 1.5 °C or ± 1.5 % of mv (+0.1 to +400 °C) ± 3.6 °F or ± 2 % of mv (-22.0° to 32.0 °F) (the higher value applies) / ± 2 °C or ± 2 % of mv (-30 to 0 °C) (the higher value applies) Measuring rate: 0.5 sec Infrared resolution: 0.1 °F / 0.1 °C	Center of Excellence in Construction
3	Pressure and flow velocity measuring instrument	1	M&V	Measuring range: 0 to +800 lnh₂O / 0 to +2000 hPa Accuracy: 0.5 % Fs Resolution: 1 lnh₂O / 1 hPa Overload: ± 1600 lnh₂O / ± 4000 hPa Operating temperature: 32° to 140 °F / 0 to +60 °C Measuring medium: All non-corrosive gases	Center of Excellence in Construction

4	Light meter	1	M&V	Measuring range: 0 to 99999 Lux Accuracy: ± 3 Lux or ± 3 % (compared to reference instrument at 90° light irradiation) Resolution: 1 Lux (0 to 19999 Lux) 10 Lux (Remaining Range) Measuring rate: 0.5 sec	Center of Excellence in Construction
5	Digital temperature meter	1	M&V	Measuring range: -58.0° to 1832.0 °F / -50 to +1000 °C Accuracy: $\pm(0.9$ °F + 0.3 % of mv) (-40.0° to 1652.0) / $\pm(0.5$ °C + 0.3 % of mv) (-40 to +900 °C) $\pm(1.3$ °F + 0.5 % of mv) (Remaining Range) / $\pm(0.7$ °C + 0.5 % of mv) (Remaining Range) Resolution: 0.1 °F (-58° to 391.8 °F) / 0.1 °C (-50 to +199.9 °C) 1.0 °F (Remaining Range) / 1 °C (Remaining Range) Operating temperature: -4.0° to 122.0 °F / -20 to +50 °C Housing: ABS Number of channels: 2-channel	Center of Excellence in Construction
6	Thermal camera	1	M&V	IR Resolution: 320 x 240 pixels (with testo Super Resolution technology 640 x 480 pixels) Thermal Sensitivity/NETD: <0.04 °C Accuracy: ± 2 °C, ± 2 % of m.v.; (greater value applies) Digital Camera: 5 MP Display type: 8.9 cm (3.5") TFT, QVGA (320 x 240 pixels) Storage device: Internal Memory min. 2.8 GB Case included: yes	Center of Excellence in Construction
7	The portable Flowmeter for Gases in hazardous areas	1	M&V	• Measurement uncertainty at the measuring point $\pm 1...3$ % of reading • Repeatability 0.15 % of reading • Flow velocity range 0.03 to 115 ft/s, depending on pipe diameter • Ex zone transmitter FM Class I /Div 2 • Power supply Li-ION, Operat. time >25h • Available transducers Shear wave/Lamb wave for Ex zones FM Class I /Div 2 • for pipe sizes range 0.28 inch to 63 inch • for temperature range -40°F to +392°F	Continuous Training Center in the field of energy efficiency of public buildings

8	Thermal camera	1	M&V	• IR Resolution 320 × 240 pixels • Thermal Sensitivity/NETD <40 mK at 30°C • Accuracy ±2°C or ±2% of the reading • Digital Camera 5 MP, with built-in LED photo/video lamp • Display 4", 640 × 480 pixel touchscreen LCD • Storage Media Removable SD card • Accuracy ±2°C or ±2% of the reading • Object Temperature Range -20 to 120°C; 0 to 650°C	Continuous Training Center in the field of energy efficiency of public buildings
9	Ultrasonic Leak Detector of Gas, Compressed Air, Bearing monitoring, Machinery Lubrication	1	M&V	• Function Multifunction detector • Display Graphic LCD with backlighting (128 x 64) • Keyboard 12 function keys • Built-in sensors: Ultrasonic sensor; Pyrometer (according to the version). • External sensors: Through specific connector (Lemo 7 pin connector) • Data Logger - 100 Measurement Nodes (measurement points) - Total 4000 easurements (measurements data) • Communication: USB interface • Operating temperature -15 °C to +60 °C • Noise isolating, NRR 25 dB (tested in an accredited NVLAP laboratory)	Continuous Training Center in the field of energy efficiency of public buildings

10	Analysis box for exhaust gas analysis systems	1	M&V	Analysis unit equipped with an O2 sensor. Additional gas sensors can be selected from CO, NO, NO2, SO2, H2S, CxHy or CO2. Measuring range: -20 to +50 °C Accuracy: ± 0.2 °C (-10 to +50 °C) Resolution : 0.1 °C (-20 to +50 °C) Ambient temperature samples Type K (NiCr-Ni) Measuring range: -200 to +1370 °C Accuracy: ± 0.4 °C (-100 to +200 °C) ± 1 °C (-200 to -100.1 °C) ± 1 °C (200.1 to +1370 °C) Resolution: 0.1 °C (-200 to +1370 °C) Type S (Pt10Rh-Pt) Measuring range: 0 to +1760 °C Accuracy: ± 1 °C (0 to +1760 °C) Resolution: 0.1 °C (0 to +1760 °C) Differential pressure - piezoresistive Measurement range: -40 to +40 hPa -200 to +200 hPa Accuracy: $\pm 1.5\%$ of measured value (-40 to -3 hPa) $\pm 1.5\%$ of the measured value (+3 to +40 hPa) ± 0.03 hPa (-2.99 to +2.99 hPa) $\pm 1.5\%$ of measured value (-200 to -50 hPa) $\pm 1.5\%$ of the measured value (+50 to +200 hPa) ± 0.5 hPa (-49.9 to +49.9 hPa) Resolution: 0.01 hPa (-40 to +40 hPa) 0.1 hPa (-200 to +200 hPa) Absolute pressure Measuring range: 600 to +1150 hPa Accuracy: ± 10 hPa Resolution: 1 hPa	Continuous Training Center in the field of energy efficiency of public buildings
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11	Multilyzer NG	1	M&V	• Flue gas temperature/temperature difference 0°C/+1,000°C • External wall/air temperature -20°C/+200°C • Draft, nominal +/- 70 hPa • Draft, maximum +/- 130 hPa • O2 0/21% volume • CO2 determination, indication range 0/CO2 max. • COH2 0/4,000 ppm • CO high (solid fuel) 0/20,000 ppm • NO 0/2,000 ppm • NO2 0/200 ppm • SO2 0/2,000 ppm • Table (device) approx. 750 g • LCD display • 7 mm draft/pressure connection • 8 mm gas connection • Data saving of a maximum of 100 measurements • USB, infrared, Bluetooth interfaces.	Continuous Training Center in the field of energy efficiency of public buildings
12	Laser telemeter	1	M&V	• Operating range: 150 m • Accuracy: +/- 1 mm • Laser class: II • Measurement time: 0.5-4 s	Continuous Training Center in the field of energy efficiency of public buildings

13	Electrical clamps wattmeter	1	M&V	• Type of meter: power clamp meter • Max. diameter of measured cable: 42mm • Kind of display used: LCD 4 digits (9999) • Sampling: 1x/6s (kW, kVA, kVAR), 2,5x/s • DC current measuring range: 10nA...99.99µA/999.9µA • AC current measuring range (1) indirect measurement) 10mA...99.99A/999.9A • DC current measuring accuracy: $\pm(1\% + 20 \text{ digits})$ • Bandwidth for AC current measurements: 40...400Hz • AC current measuring accuracy: $\pm(2\% + 20 \text{ digits})$ • DC voltage measuring range: 0.1...999.9mV/ 9999mV/99.9V/600V • DC voltage measuring accuracy: $\pm(1\% + 20 \text{ digits})$ • AC voltage measuring range: 0.1...999.9mV/9999mV/99.99V/600V • AC voltage measuring accuracy: $\pm(1\% + 20 \text{ digits})$ • True RMS AC+DC • Bandwidth for AC voltage measurements 40...400Hz • Resistance measuring range: 9.999kΩ/99.99kΩ/999.9kΩ/9.999MΩ/99.99MΩ • Capacitance measuring range: 1nF...10µF/100µF/1000µF/7000µF • Capacitance measuring accuracy: $\pm(1,5\% + 5 \text{ digits})$	Continuous Training Center in the field of energy efficiency of public buildings
14	Energy analyzer	1	M&V	• AC+DC TRMS voltage up to 1,000 V • TRMS current AC+DC: 5 mA up to 10 kA depending on the sensors • Harmonics from 0 to the 50th order, phase • Transients: up to 210 • Inrush with waveforms for a period > 10 min • TrueInrush function • Recording a selection of parameters at the maximum sampling rate in a period from a few days to a few weeks • Peak detection • Vector representation • IP53/IK08 • IEC 61000-4-30 Class B	Continuous Training Center in the field of energy efficiency of public buildings

15	Digital multimeter	4	M&V	Type: 6 in1 Ambient temperature during operation: from -10°C to +60°C Sound level: 35 - 100 dB Measuring range: 33%...99%RH	Technological College from Chisinau
16	Digital clamp meter for measuring voltage and resistance	4	M&V	AC voltage: 600 V AC: 1000 A Resistance: 20mOm Diode test: da	Technological College from Chisinau
17	Ammeter	6	M&V	Current (A): 0 - 50 A	Technological College from Chisinau
18	Voltmeter	6	M&V	Voltage (V): 0 - 20 V Working voltage: 0 - 20 V	Technological College from Chisinau
19	Oscilloscope	1	M&V	Type of oscilloscope: digital Kind of oscilloscope: DSO Display: colour Number of channels: 2 Sampling: 1Gsps Max. input voltage: 300V Input coupling: AC, DC, GND In. imp.: 1M Ω /20pF Time base: 2n...1ks/div Interface: USB	Technological College from Chisinau

20	Laboratory power supply	4	M&V	Digital display: voltage, current Coarse and fine adjustment (voltage and current (current limit)) Stepless voltage adjustment Short-circuit protection Two ranges of current display: mA / A Output voltage: 0-30 V Output current: 0-5 A Current limitation: 0-5 A Accuracy: 0.1 V Voltage stability: <0.01% +/-2 mV Temperature coefficient: <200PPM/°C The power supply features high stability, reliability and low noise	Technological College from Chisinau
21	Electronic scale	1	M&V	Capacity: 130 kg Resolution: 10g Accuracy: +/-0.1%	Technological College from Chisinau
22	Digital thermometer	2	M&V	Measured Variable: Temperature Temperature measuring range: -40 - +150 °C Accuracy: +/- 1 °C Temperature Resolution: +/- 0.1 °C Temperature Units: °C Scope of Supply: Batteries RoHS Conformity: Yes	Technological College from Chisinau

23	Digital multimeter	2	M&V	DC Voltage: 0.1 mV–1000 V AC TRMS Voltage: 0.1 mV–750 V DC Current: 0.1 μ A–10 A AC TRMS Current: 0.1 μ A–10 A Resistance: 0.1 1–40 M Ω Frequency: 1 Hz–400 MHz Capacitance: 0.001 nF–40 mF Temperature: –40 °F to 1382 °F –40 °C to 800 °C	Technological College from Chisinau
24	Luxmeter	10	M&V	Illuminance measurement (LUX): 0~199,900Lux Illuminance measurement (Fc): 0~18,500Fc Accuracy: 0~9999Lux/0~999Fc: $\pm(4\%+8)$ ≥ 10000 Lux/ ≥ 1000 Fc: $\pm(5\%+10)$ ≥ 100000 Lux/ ≥ 9999 Fc: $\pm(5\%+10)$ Resolution: 1Lux (0~9999Lux) 10Lux ($\geq 10,000$ Lux) 100Lux ($\geq 100,000$ Lux) 1Fc (0~9999Fc); FC=Lux/10.76 10Fc ($\geq 10,000$ Fc); FC=Lux/10.76 Sampling time: 0.5s	Polytechnic College Balti
25	Voltmeter and digital ammeter	4	M&V	Voltage (V): 220 - 240 V Current (A): 5 A	IP Agricultural Technical College from Soroca
26	Digital voltmeter	3	M&V	Voltage (V): 220 V Accuracy: 1% Working voltage: 0 - 600 V Consumption: <3VA	IP Agricultural Technical College from Soroca
27	Digital ammeter	3	M&V	Current (A): 5A	IP Agricultural Technical College from Soroca

28	Digital cable detector	2	M&V	Steel detection depth: 100 mm Copper detection depth: 80 mm Detection depth of live conductors: 50 mm Detectable materials: ferrous, non-ferrous metals, electrical conductors	IP Agricultural Technical College from Soroca
29	Digital clamp	3	M&V	Voltage (V): 0-600 V Type - AC/DC	IP Agricultural Technical College from Soroca
30	Digital multimeter	1	M&V	Voltage (V): 0.1m...200m/2V/20V/200V/1000V Weight: 375 g Current (A): 0.1μ...200μ/20μ/20m/200m/2A/20A Type: AC/DC Frequency: 40 - 200 Hz	IP Agricultural Technical College from Soroca
31	Electric cable detector in the walls	1	M&V	Frequency: 0-60 Hz Ambient temperature during operation: from 0°C to +40°C	IP Agricultural Technical College from Soroca
32	Compact mini anemometer	1	M&V	Ambient temperature during operation: from 0°C to +50°C Measuring range: 1.1-30 m/s	IP Agricultural Technical College from Soroca
33	Luxmeter	3	M&V	Illuminance measurement (LUX): 0~199,900Lux Illuminance measurement (Fc): 0~18,500Fc Accuracy: 0~9999Lux/0~999Fc: ±(4%+8) ≥10000Lux/≥1000Fc: ±(5%+10) ≥100000Lux/≥9999Fc: ±(5%+10) Resolution: 1Lux (0~9999Lux) 10Lux (≥10,000Lux) 100Lux (≥100,000Lux) 1Fc (0~9999Fc); FC=Lux/10.76 10Fc (≥10,000Fc); FC=Lux/10.76 Sampling time: 0.5s	IP Agricultural Technical College from Soroca

LOT III. Laboratory stands for training

Item No	Name of equipment	Quantity	Category of Equipment	Minimum Technical Requirements	Beneficiary institution
1	Calorimeters	1	laboratory installation	• Measuring range max.40000 J • Touchscreen: yes • Working temperature: 22 - 30 °C • Temperature measurement resolution: 0.0001 K • Cooling medium temperature: 12 - 27 °C • Cooling medium permissible operating pressure 1.5 bar • Cooling medium tap water • Type of cooling flow • Chiller RC 2 basic • Flow rate: 60 - 70 l/h • Rec. flow rate at 18°C: 60 l/h • Oxygen operating pressure max. : 40 bar • Interface scale: RS232 • Interface printer USB • Interface PC: RS232	Continuous Training Center in the field of energy efficiency of public buildings
2	Drying oven	1	laboratory installation	• Heat output: 2400 W • Working temperature: room temp. +5 – 250 °C • Adjustment and display resolution: 0.1 K • Temperature constancy in medium: 0.3 ±K • Temperature display: yes • Timer display: 7 segment LED • Time setting range: 1 – 144000 min • Number of trays max.: 6 • Load for one tray max.: 30 kg • Operating area inner chamber: 550 x 525 x 450 mm • Total volume inner chamber: 125 l • Permissible ambient temperature: 5 – 40 °C • Permissible relative humidity: 80%	Continuous Training Center in the field of energy efficiency of public buildings

3	Laboratory stand „Heat pump“	1	laboratory installation	• heating capacity: approx. 2,3 kW at 5/65°C • Heating and source circuit pumps • max. flow rate: 3m3/h • max. head: 4m Heating controller • inputs: up to 16 • outputs: up to 16 • interfaces: DL bus, CAN, LAN Refrigerant • R410A Measuring ranges • temperature: • 4x -50...180°C • 3x 0...120°C • 1x -20...60°C • flow rate: 2x 20...2500L/h (water) • pressure: • 1x -1...15bar • 1x -1...49bar • 2x 0...6bar • 2x 0...50bar • 1x 0...18bar • 2x 0...10bar 400V, 50Hz, 3 phases; 400V, 60Hz, 3 phases 230V, 60Hz, 3 phases; UL/CSA optional	Continuous Training Center in the field of energy efficiency of public buildings
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4	Laboratory stand „Underfloor heating / geothermal energy absorber“	1	laboratory installation	Pipes lengths: 10m, 20m, 30m material: polyethylene wall thickness: 2mm outer diameter: 16mm operating pressure: max. 3bar Tank volume: 200L Measuring ranges temperature: 3x -50...180°C flow rate: 20...2500L/h 230V, 50Hz, 1 phase UL/CSA optional	Continuous Training Center in the field of energy efficiency of public buildings
5	Laboratory stand „Fan heater / air heat exchanger“	1	laboratory installation	Fan speed: 900/1400min-1 flow rate: 683/1155m ³ h-1 Heat exchanger nominal cooling capacity: 2kW max. operating pressure: 10bar Measuring ranges temperature: 3x -50°C...180°C flow rate: 20...2500L/h 230V, 50Hz, 1 phase	Continuous Training Center in the field of energy efficiency of public buildings

6	Laboratory stand „Steam generator, electrical"	1	laboratory installation	Steam boiler • volume: 24L • max. pressure: 7bar • heating power: 6kW • max. steam output: 8,1kg/h Feed water tank: 45L Superheater • power: 750W • max. temperature: 250°C Condensate pump • max. flow rate: 0,6L/min Submersible pump • max. flow rate: 10L/min Storage tank: 15L Measuring ranges • temperature: 6x 0...400°C • pressure: 0...1,6bar abs. (condenser), 0...16 bar abs. (live steam) • flow rate: 0...720L/h (cooling water) Steam supply unit 230V, 60Hz, 3 phases, 400V, 60Hz, 3 phases 400V, 50Hz, 3 phases Steam processing 230V, 60Hz, 1 phase, 230V, 50Hz, 1 phase 120V, 60Hz, 1 phase, UL/CSA optional	Continuous Training Center in the field of energy efficiency of public buildings
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7	Laboratory stand „Comparison of various heat exchangers“	1	laboratory installation	Plate heat exchanger, (water-water) • number of plates: 10 • heat transfer area: approx. 0,26m² • output: 15kW Tubular heat exchanger (water-water) • heat transfer area: 0,1m² Shell & tube heat exchanger (water-water) • output: 13kW Finned tube heat exchanger (water-air) • heat transfer area: approx. 2,8m² • fan max. flow rate: 780m³/h • fan max. pressure difference: 430Pa Stirred tank with double jacket and coiled tube (water-water) • double jacket heat transfer area: 0,16m² • coiled tube heat transfer area: 0,17m² Measuring ranges • differential pressure: • 1x 0...10mbar (air) • 1x 0...1000mbar (water) • flow rate: 2x 0...3m³/h • temperature: 10x 0...100°C 230V, 50Hz, 1 phase UL/CSA optional	Continuous Training Center in the field of energy efficiency of public buildings
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8	Laboratory stand „Gas turbine with power turbine"	1	laboratory installation	Gas generator (compressor and high-pressure turbine) • speed range: 60000...125000min-1 • max. pressure ratio: 1:2,0 • max. mass flow rate (air): 0,115kg/sec • max. fuel consumption: 120g/min Power turbine • speed range: 10000...40000min-1 • mechanical power: 0...1,5kW • electrical power: 0...1kW • sound level at 1m distance: max. 80dB(A) • temperature exhaust gas: 700°C Measuring ranges • temperature: 4x 0...200°C / 3x 0...1200°C • speed: 0...199999min-1 • electric power: 0...1999W • velocity: 0...28m/s (air inlet) • flow rate: 1,5...10,5kg/h (fuel) • supply pressure: 0...25bar (fuel) • nozzle pressure: 0...4bar (fuel) • combustion chamber pressure loss: 0...20mbar • pressure (inlet):power turbine 0...2,5bar (power turbine) • pressure (inlet): 0...250mbar (power turbine) 230V, 50Hz, 1 phase UL/CSA optional	Continuous Training Center in the field of energy efficiency of public buildings
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9	Laboratory stand „Axial steam turbine“	1	laboratory installation	Single-stage axial impulse turbine • rotor inner diameter: 54mm • max. speed: 40000min-1 • max. inlet pressure: 9bar abs. • max. outlet pressure: 1bar abs. • nominal power output: 50W Measuring ranges • pressure: • 0...16bar (steam) • 0...1,6bar (condenser) • differential pressure: 0...50mbar • flow rate: 0...720L/h (cooling water) • speed: 0...50000min-1 • torque: 0...70Nmm • temperature: 0...400°C 230V, 50Hz, 1 phase UL/CSA optional	Continuous Training Center in the field of energy efficiency of public buildings
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10	Laboratory stand „Parabolic trough collector with solar tracking"	1	laboratory installation	PLC: Eaton XV-303 Collector • parabolic mirror • trough length: 1,4m • aperture width: 1,1m • mirror surface: 1,5m² • focal length: 0,3m • absorber • selectively coated absorber tubes with U-tube line for heat transfer fluid • double-walled glass shell to reduce heat loss • solar circuit station • solar pump: adjustable Hot water circuit • plate heat exchanger: 3kW, 10 plates • buffer tank: 70L Measuring ranges • flow rate: 20...320L/h • temperature: 4x 0...160°C • pressure: 0...6bar 230V, 50Hz, 1 phase, UL/CSA optional	Continuous Training Center in the field of energy efficiency of public buildings
11	Laboratory stand "Electrical networks and installations"	1	laboratory installation	Power supply: 1~220 V, 50 Hz Power consumption, kW, max - 0,3 Overall dimensions, max: width, mm 1310 height, mm 1470 depth, mm 610 Weight, kg, max 70	IP Agricultural Technical College from Soroca

12	Laboratory stand "Installation and adjustment of electrical installations"	2	laboratory installation	Power supply 3~380/220V, 50Hz Power consumption, Watt, max 500 Stand overall dimensions, max: Width, mm 1310 Height, mm 1470 Depth, mm 600 Weight, kg, max 60 Desktop version overall dimensions, max: Width, mm 1310 Height, mm 680 Depth, mm 600 Weight, kg, max 45	IP Agricultural Technical College from Soroca
13	Laboratory stand "DC motor excited in series with MPSU"	1	laboratory installation	Power supply ~50Hz 220V / 3~50Hz 220V 3P+PE+N (at power supply from step-down transformer 380/220 V) Power consumption, kW, max 0,3/1 Overall dimensions, max: width, mm 1025 height, mm 1455 depth, mm 600 Weight, kg, max 120	IP Agricultural Technical College from Soroca

K. DELIVERY AND OTHER RELATED REQUIREMENTS

Delivery date	Bidder shall deliver the goods as per below table:				
	Deliverable	Target Date from the date of contract signature			
		LOT 1 Tools and electrical equipment for training	LOT 2 Measurement and verification equipment for training	LOT 3 Laboratory stands for training	
		<u>Deliverable 1.</u> Delivery of equipment necessary for training and continuous training process according to LOT applied	3-5 weeks	9-10 weeks	16-18 weeks
		<u>Deliverable 2.</u> Installation and arrangement of delivered equipment in coordination with the final beneficiary according to LOT applied	1-2 weeks	1-2 weeks	2-4 weeks
	<u>Deliverable 3.</u> Training of educational institutions regarding the use of delivered equipment (5 targeted institutions) according to LOT applied	1 week	1 week	1 week	
	Note: The time period shown has been estimated to be sufficient/feasible for the equipment delivered and the scope of work to be successfully completed and is proposed as a guide for the duration of the assignment. The implementation of the Deliverable 3 (training course) will take into account the constraints related to the availability of trainers and internal activities scheduled before the signing of the Contract. Provision of contemplated deliverables approved by UDNP shall be the sole criterion for completion of the Contractor's work and eligibility for payment/s.				
Delivery place / terms (INCOTERMS 2020)	DDP Chisinau DDP Balti DDP Soroca				
	As per each LOT beneficiary institutions' addresses:				
	#	The beneficiary institution	Location/Address		
	1	Center for Continuing Education of the Technical University of Moldova	UTM, Facultatea Energetica si Inginerie Electrica, Moldova, Chisinau, str. 31 August 1989, 78, of. 2-202		
	2	Center of Excellence in Construction	Moldova, Chisinau, str. Gheorghe Asachi, 71		
	3	Chisinau Technological College	Moldova, Chisinau, str. Bogdan Voievod 8/1		
	4	Soroca Agriculture Technical College	Moldova, Soroca, str. Calea Baltului 2		

	5	Balti Polytechnic College	Moldova, Balti, str. Ivan Franco nr. 11
Customs clearance (must be linked to INCOTERM)	Shall be done by: ☒ Supplier/Bidder UNDP is available to provide support to the contractor with required documents necessary for customs clearance and VAT payment exemption, if needed.		
Packing requirements	N/A		
Mode of transport	Any		
Installation Requirements	As per specifics of delivered equipment.		
Testing Requirements	On site		
Scope of Training on Operation and Maintenance	Training is required at the premises of the beneficiary institutions. The trainings should be held during the workweek, after the delivery of the equipment to the addresses stated in this ITB. Training should be provided by the company's trainer(s). Training will focus on the procedures for using the delivered equipment, the security techniques and the appropriate maintenance and operation procedures. Training should last one day for each beneficiary institution. The End User is responsible for organizing training premises. The Supplier should cover trainers fee, travel costs to and from Moldova, accommodation costs during the training as well as the transportation costs from Chisinau to beneficiaries for trainer(s). UNDP will organize translation, if needed. Thus, for the trainings within the Technical University of Moldova, a minimum of 10 people will be trained, for the Agricultural Technical College from Soroca at least 5 people, for the Balti Polytechnic College at least 8 people, the Chisinau Technological College at least 3 people and for the Center of Excellence in Construction at least 5 people.		
Commissioning	Required		
Warranty Period	The supplier shall cover all equipment under warranty for any material defects, defects in workmanship and premature failures under normal use and service, for a period of minimum twelve (12) months from the date of delivery and goods acceptance. The supplier shall repair or replace any defective equipment or parts throughout the warranty period and cover any related cost. After delivery and acceptance of equipment the Supplier shall provide a warranty certificate or similar issued to the beneficiary institution.		
Local Service Support	The Contractor must provide a list of at least one authorized representative located in Moldova or neighbouring countries. For the local/regional representative, the Contractor should indicate the web page, telephone, email address and headquarters.		
Technical Support Requirements	The Selected Bidder shall provide the following online and offline methods of technical support: On-site support and/or online support including answering technical queries online (email and telephonic) when feasible and needed. Turnaround time for answering queries will be less than three (3) days. In case on site support is needed it needs to be provided within 20 days from the moment of beneficiary's notification.		
After-sale services Requirements	☒ Warranty on Parts and Labor for minimum period of twelve (12) months ☒ Technical Support		
Payment Terms	100% within 30 days upon UNDP's acceptance of the goods delivered as specified and receipt of invoice		
Conditions for Release of Payment	☒ Inspection upon arrival at destination ☒ Installation ☒ Testing ☒ Training on Operation and Maintenance		

	☒ Written Acceptance of Goods based on full compliance with ITB requirements
All documentations, including catalogues, instructions and operating manuals, shall be in this language	☒ English; ☒ Others: Russian, Romanian