CONTRACT NOTICE

concerning the purchase Laboratory equipment and accessories

(indicate the subject of the purchase)

by procurement procedure **Open Tender**

(type of procurement procedure)

1. Name of contracting authority: *I.P. State University of Moldova*

2. IDNO: 1006600064263

3. Address: mun. Chișinău, str. Alexei Mateevici, 60

4. Telephone/fax: 022 241 240 240/060060045

5. E-mail and internet address of the Contracting Authority: achizitii@usm.md/ https://usm.md/

- **6.** E-mail or Internet address from which access to the tender dossier can be obtained: the tender dossier is annexed to the procedure in the AMPSIS.
- 7. Type of contracting authority and main object of activity (if applicable, mention that the contracting authority is a central purchasing authority or that the procurement involves another form of joint procurement): public higher education institution

8. The purchaser invites interested economic operators, who can meet its needs, to participate in the procurement procedure for the supply/performance/performance of the following goods/services/works:

No d/o Lot 1	CPV code	Description ment of Chemistry	Unit of measure	Quanti ties Quanti ty	Full technical specification requested, Reference Standards	Estimated value (to be indicated for each lot)
1.1.	38000000-5	Magnetic stirrer with heating	pcs	2	Plate size 120x120 mm, aluminum powdered plate, maximum heated volume 2L, rotations 100-2000 pm, maximum heating temperature 350 ^{(o) C} , power consumption 180 W, Power source: AC 220V; 50Hz. Warranty: min. 12 months Delivery time: 60 calendar days	6 500,00
Lot 2.	Depart	ment of Industrial a	nd Ecologi	cal Chemi	stry "acad. Gh. Duca"	
2.1.	5-00	Laboratory balance	pcs	1	Maximum capacity (Max): 2500 g;Accuracy: 0,01 g;Accuracy class: II; Mains charger, 220 V. Warranty: min. 12 months Delivery time: 60 calendar days	
2.2.	38000000-5	Analytical balance	pcs	2	Maximum capacity (Max): 220 g; Reading unit: 0.0001 g; Accuracy class: I; Repeatability: 0.1 mg; Linearity: ±0.2 mg. Platen dimensions: 80 - 130 mm Mains charger, 220 V. Warranty: min. 12 months Delivery time: 60 calendar days	44 000,00
Lot 3	Departi	ment of Biology and	Geoscience	es		
3.1.	38000000-5	Technical balance	pcs	1	Technical laboratory balance: Max 2200 g. Minimum capacity: Min 0,5 g. e = 0,1 g. d = 0,01 g. Information is displayed on the LCD display. Powered by 12 V adapter from 220 V mains. Warranty: min. 12 months Delivery time: 60 calendar days	12 083,33
Lot 4	IGFPP	Subprogram 011101	(5107)	I	1	

Sensitivity 9 - 1.5 Vilus-see Tablet - at least 8 inch diagonal (approx. 20 cm) at least USB-2 connection, equipped with microscope cumer as described above. Processor, Coat Coat 4 ; 1.33 Giff and blow. Processor Coat Coat 6 ; 1.35 Giff with IDI graphins processor, touchscreen Memory minimum 2 GB DDR3 RAM, minimum 2 MB code Senger minimum 2 GB DDR3 RAM, minimum 2 MB code Senger minimum 2 GB DDR3 RAM, minimum 2 MB code Senger minimum 3 CB DDR3 RAM, minimum 2 MB code Senger minimum 3 CB DDR3 RAM, minimum 2 MB code Senger minimum 3 CB DDR3 RAM, minimum 2 MB code Senger minimum 3 CB DDR3 RAM, minimum 2 MB code Senger minimum 3 CB DDR3 RAM, minimum 2 MB code Senger minimum 3 CB DDR3 RAM, minimum 2 MB code Senger minimum 3 CB DDR3 RAM, minimum 2 MB code Senger minimum 3 CB DDR3 RAM, minimum 2 MB code Senger minimum 3 CB DDR3 RAM, minimum 2 MB code MB DDR3 RAM, minimum 2 MB code MB DDR3 RAM, minimum 3 MB code RAM, minimum 3 MB	4.1.	3800000-5	Trinocular stereomicroscope with built-in tablet and camera	pcs	1	Trinocular stereomicroscope with zoom. Arm and microscope base - metal. Adjustable zoom objective 0.65x to minimum 5.5x, magnification from minimum 6.5x to minimum 55x. Field of view (WF) 10x minimum 23 mm. Binoculars with diopter and pupil distance adjustment. LED incident and transmitted object illumination minimum 3 W. Adjustable intensity of both lights. Working distance - minimum 10 cm. Stereomicroscope equipped with built-in tablet and camera. Camera - minimum resolution 12 MP, with cables for connections, adapters for mounting on stereomicroscope and tablet, Windows-compatible image processing software. Camera resolution 4000 x 3000 Pixel size 1.33 x 1.33 µm	
Second color						Sensitivity > 1.5 V/lux-sec Tablet - at least 8 inch diagonal (approx. 20 cm) at least USB-2 connection, equipped with microscope camera as described above. Processor: Quad Core 4 x 1.33 GHz with HD graphics processor, touchscreen display, LED illumination. Memory minimum 2 GB DDR3 RAM, minimum 2 MB cache Storage: minimum 32 GB flash SDD, Micro SD/SDHC Webcam 2 MP, 1600 x 1200 pixel. Connectivity USB-C, Wi-Fi 802.11 b/g/n and Bluetooth 4.0 Stereo audio with 3.5 mm audio jack and built-in microphone Lithium Battery, 4000 mAh, Windows 10 operating system Warranty: 12 months	46 080,00
Trinocular biological biologica	Lot 5	IGFPP	Project 23.70105.510	07.04 (ANC	CD) (I)	Oct 1 (DNI10) White the William Street	T
Fower source, V 220, Power consumption, W 5; Cassette capacity, grain, pos. 100; Number of simultaneous grains in field of view 10; Overall dimensions, mm 260x120x260; Weight, kg 4 Warranty; 12 months Delivery time; 30 calendar days Lot 7 IGFPP Project 23.70105.5107.04 (ANCD) (III)	5.1.	38000000-5	biological microscope with	pcs	1	field diaphragm. 6V 20W halogen bulb, dimmable. Eyepiece: wide field WF 10x/18 mm. Lenses: achromatic 4x0.1; 10x/0.25, 40x/0.65; 100x/1.25 (oil immersion). Condenser: Abble N.A. 1.25 Camera with all necessary adapters for connection to microscope, minimum 5 megapixels. Warranty: 12 months	22 200,00
100, Number of simultaneous grains in field of view 10; Overall dimensions, Bodivery time: 30 calendar days	Lot 6	IGFPP	Project 23.70105.510	07.04 (ANC	CD) (II)		
Possibility Proposed Propos				1		100; Number of simultaneous grains in field of view 10; Overall dimensions, mm 260x120x260; Weight, kg 4 Warranty: 12 months	16 250,00
Platform material: stainless steel; Illuminated display. Working temperature: - 5 709,00	Lot 7	IGFPP	Project 23.70105.510	7.04 (ANC	CD) (III)		ı
Substitute of Applied Physics 23.70105.5007.14T (1) Volume: not less than 0.39 L; Maximum temperature: 1250 °C; Continuous operating temperature: 1250 °C; Power. 3.7 W; Nominal supply voltage: 230 V; Number of phases: 1; Nominal frequency: 50/60 Hz; Chamber material: ceramic; Maximum heating time: not more than 50 min; Temperature uniformity: 10°C; Air flow: natural; Chamber depth: not less than 675 mm; Total depth: not less than 545 mm; Total width: not less than 675 mm; Total depth: not less than 545 mm; Total height: not less than 565 mm; Mass: not more than 38 kg; Delivery time: 60 calendar days; Warranty: 1 year; Measurement ranges: 0 to 200 mT and 200 to 2,400 mT; Measuring direction: transverse; Magnetic field: static; Unit: mT, G; Resolution: not more than 0.01 mT; Automatic shutdown: after 5 minutes in idle state; Modes: hold mode, measurement mode; Display: not less than 40 min; Temperature uniformity: 1 year; 25 760,00 Display: not less than 40 gits with backlight; Operating temperature: 0 to +50°C; Measuring cable length: not less than 1 m; Power supply: battery, rechargeable battery or power pack; Delivery time: 60 calendar days; Warranty: 1 year; 25 760,00 Display: not less than 4 digits with backlight; Operating temperature: 0 to +50°C; Macauring cable length: not less than 1 m; Power supply: battery, rechargeable battery or power pack; Delivery time: 60 calendar days; Warranty: 1 year; 25 760,00 Display: not for some part of power supply: battery rechargeable battery or power pack; Delivery time: 60 calendar days; Warranty: 1 year; 25 760,00 Display: not for some part of power supply: battery rechargeable battery or power pack; Delivery time: 60 calendar days; 25 760,00	7.1.	38000000-5		pcs	1	Platform material: stainless steel; Illuminated display. Working temperature: -10+40°C Warranty: 12 months	5 709,00
8.1. Vignal and the state of th	Lot 8	Institut	e of Applied Physics	23.70105.5	5007.14T (
Lot 9 Institute of Applied Physics 23.70105.5007.14T (II) Page	8.1.	38000000-5	Tubular furnace	pcs	1	operating temperature: 1250 °C; Power: 3.7 W; Nominal supply voltage: 230 V; Number of phases: 1; Nominal frequency: 50/60 Hz; Chamber material: ceramic; Maximum heating time: not more than 50 min; Temperature uniformity: 10°C; Air flow: natural; Chamber depth: not less than 200 mm; Chamber diameter: not less than 50 mm; Total width: not less than 675 mm; Total depth: not less than 545 mm; Total height: not less than 565 mm; Mass: not more than 38 kg; Delivery time: 60 calendar days;	68 919,33
9.1. 9.1. Gaussmeter pcs 1 Measuring direction: transverse; Magnetic field: static; Unit: mT, G; Resolution: not more than 0.01 mT; Automatic shutdown: after 5 minutes in idle state; Display: not less than 4 digits with backlight; Operating temperature: 0 to +50°C; Measuring cable length: not less than 1 m; Power supply: battery, rechargeable battery or power pack; Delivery time: 60 calendar days; Warranty: 1 year; Lot 10 Institute of Applied Physics 23.70105.5007.14T and 23.70105.5007.15T Lot 10 Institute of Applied Physics 23.70105.5007.14T and 23.70105.5007.15T Calibration Sample For Scanning Electron Microscope Resolution Resolution Test Pcs 1 Sample contains particle sizes between 10 and 100 nm	Lot 9	Institut	e of Applied Physics	23.70105.5	5007.14T (II)	
Lot 10 Institute of Applied Physics 23.70105.5007.14T and 23.70105.5007.15T Calibration Sample for Scanning Electron Scanning Electron Microscope Diameter of mounting platform: 10 to 12.5 mm; Pin diameter: 3.2 mm; Pin height: 8 to 10 mm; Mounting platform material: aluminum; Delivery time: 60 days; Resolution Test pcs 1 Sample contains particle sizes between 10 and 100 nm				•		Measuring direction: transverse; Magnetic field: static; Unit: mT, G; Resolution: not more than 0.01 mT; Automatic shutdown: after 5 minutes in idle state; Modes: hold mode, measurement mode; Display: not less than 4 digits with backlight; Operating temperature: 0 to +50°C; Measuring cable length: not less than 1 m; Power supply: battery, rechargeable battery or power pack; Delivery time: 60 calendar days; Warranty: 1 year;	25 760,00
Sample for Scanning Electron Microscope Sample for Scanning Electron Microscope Sample thickness: 525 μm; Sample material: Cr/Au; Diameter of mounting platform: 10 to 12.5 mm; Pin diameter: 3.2 mm; Pin height: 8 to 10 mm; Mounting platform material: aluminum; Delivery time: 60 days; Resolution Test pcs 1 Sample contains particle sizes between 10 and 100 nm	Lot 10	Institu				and 23.70105.5007.15T	T
Resolution Test pcs 1 Sample contains particle sizes between 10 and 100 nm	10.1.	38000000-5	Sample for Scanning Electron	pcs	1	Sample thickness: 525 µm; Sample material: Cr/Au; Diameter of mounting platform: 10 to 12.5 mm; Pin diameter: 3.2 mm; Pin height: 8 to 10 mm; Mounting platform material: aluminum; Delivery time: 60 days;	10 949,99
	10.2.			pcs	1		

		Carbon for Scanning				
		Electron Microscope Calibration grid	pcs	1	A single 1000 mesh TEM grid of 3 mm diameter for calibration.	
10.3.		(1000 mesh) for Scanning Electron	pes	1	Pitch: 25µm, Bar width: 6µm	
		Microscope Electron			Hole width: 19µm Delivery time: 60 days;	
Lot 11	Institu	ute of Applied Physic	s 23.70105	3.5007.15T		
11.1.		SEM sample holder with 4 mm	pcs	1	Aluminum 2.5 mm aluminum stiffener with one slot and two screws, Slot is 4 mm wide	
11111	200-5	slot			Delivery time: 60 days;	
11.2.	38000000-5	SEM sample holder with 45/90° angle	pcs	1	12.7 mm diameter, 45/90° angle Material: Aluminum Delivery time: 60 days;	1 583,33
	380	SEM sample holder	pcs	1	25 mm diameter, double 90° angle Material: Aluminum	
11.3.		25 mm diameter, double 90° angle			Delivery time: 60 days;	
		ute of Chemistry_Ch roadening molecular			ndary metabolites from local natural sources and valorization of their application of their applications of the transfer applications of the	ation potential on
the ba		Toauching molecular	diversity		Wavelength 365 nm / 254 nm. Tubes x Power (W) = $1 \times 6 \times 365$ nm and $1 \times 6 \times 6 \times 365$ nm and $1 \times 6 \times 6 \times 365$ nm and $1 \times 6 \times $	
12.1.	38000000-5	UV lamp	nce	1	254 nm Irradiance (mW/cm²) = 0.610 for 356nm and 0.400 for 254nm.	14 000,0
12.1.	8000	Ov tamp	pcs	1	Delivery time: 60 calendar days;	14 000,0
Lot 1		tute of Chemisture S	lymthaaia a	and study	Warranty: 1 year of new materials based on complex combinations with polyfunctional lig	ands and useful
		medicine, biology an			of new materials based on complex combinations with polyiunctional ng	gands and userur
					Fully automatic, LCD display, IP20, 1 capillary inlet.	
					Alarm signal on reaching the melting point. Fast cooling by integrated fan.	
	2-0				Digital display of all important data.	
13.1.	38000000-5	Melting point	pcs	1	German or English display. With RS-232 interface compatible with CBM910 printer.	54 000,0
	3800	meter	1		Easy to clean membrane keyboard.	,
	(1)				Protective case with minimum 100 capillaries included. Small sample volume.	
					Delivery time: 60 calendar days;	
Lot 14	Institu	 ute of Chemistry Lal	 	dvanced N	Warranty: 1 year; Materials in Biopharmaceutics and Engineering (I)	
2001	1115010				Distillation capacity: 6-8 L/hr.	
	S				Distilled water volume: 1.0-1.4 L/min. Conductivity of distilled water at 20C: approx. 1,5 µS/cm.	
	38000000-5	Stainless steel			Heating control system.	
14.1.)000	distiller	pcs	1	Flow control system. Distillation cut-off device in case of over or low water level.	10 000,0
	38				Power supply: 230 V, 50/60 Hz, 26 A.	
					Delivery time: 60 calendar days; Warranty: 1 year;	
Lot 15	Institu	ute of Chemistry_Ad	vanced Bio	opharmace	eutical and Technical Materials Laboratory (II)	
		Natural			Digital thermoregulator. Sturdy stainless steel construction. Maximum temperature 20-200°C. Natural circulation. Capacity: 100-110 L, 2	
15.1.		circulation	pcs	1	shelves.	
		incubator, 110 L			Delivery time: 60 calendar days;	
	0-5			1	Warranty: 1 year; Tank capacity: 2-5 liters.	
	38000000-5	Ultrasonic bath			Ultrasonic power: max. 150 Watt. Ultrasonic power control: 50/75/100%. Ultrasound frequency: max 45 kHz. Heating power: max 200 W. Adjustable	27 500,00
15.2.	3800	with heating	pcs	1	heating control: 20 - 80 ° C. Timer: 1-60 min / continuous.	
					Delivery time: 60 calendar days;	
		Manuel			Warranty: 1 year; TMA<20-280 C, 100-1500 rpm	1
15.3.		Magnetic stirrer with heating	pcs	3	Delivery time: 60 calendar days;	
Lot 16	Institu	ute of Chemistry Ec	l ological C	l hemistry L	Warranty period: 1 year; aboratory	1
		<u>, </u>		, =	Exchange unit 20 mL.	
	38000000-5	F 1			Exchange unit with integrated data chip, 20 mL glass cylinder and light protection. PCTFE/PTFE flat tap, FEP tubing connection, antidiffusion	
16.1.	0000	Exchange unit 20 mL	pcs	1	burette tip and glass reagent bottle, compatible with 848Titrino plus automatic	30 000,00
	380				titrator. Delivery time: 60 calendar days;	
_			<u> </u>		Warranty: min. 1 year	
Lot 17	Institu	ute of Chemistry_En	vironmen	tal Quality	Monitoring Laboratory (GEOLAB) Drying cabinet with temperature range: +30 - +250 and accuracy ± 5 C.	
17.1.		Drying cabinet	pcs	1	Delivery time: 60 calendar days;	18 000,00
I at 10	Inctit	ute of Chamistmy D.	oject "Ver	Ing Soion#	Warranty: 1 year; sts", code: 24.80012.5007.14TC	
LUL 18	11151111	ate of Chemistry_ Pro	 	ing scienti	- Digital display.	
					- Connection for external temperature sensor.	
İ	38000000-5	Magustiti			- External temperature sensor Stirring speed setting from 200 to 1500 rpm.	
18.1.	10000	Magnetic stirrer with heating	pcs	2	- Maximum temperature not less than 200 °C.	24 000,00
	380				- Plate material: stainless steel coated with a ceramic material Maximum load: 2 liters.	
					Delivery time: 60 calendar days;	
		<u> </u>			Warranty: 1 year	

					- Accuracy 0.001 g Linearity not greater than 0.003 g Maximum weighing capacity 300 g Illuminated LCD display - Internal Calibration Power supply 100 V - 240 V 50 / 60 Hz. Delivery time: 60 calendar days; Warranty: 1 year - computational and environmental chemistry, identification of technologic	cal processes for
19.1.	ient, fo	rmation of water qua Combustion and reduction tubes	pcs	5	Combustion and reduction tubes. Material - quartz Compatible with Elementar Vario EL III. Equivalent to: Delivery time: 60 calendar days; Warranty: 1 year	
19.2.	-5	Protection tube	pcs	4	Protection tube. Material - quartz Compatible with Elementar Vario EL III Equivalent to: Delivery time: 60 calendar days; Warranty period: 1 year	
19.3.	3800000-5	Support tube	pcs	3	Support tube. Material - quartz, length 65 mm. Compatible with Elementar Vario EL III Equivalent to: Delivery time: 60 calendar days; Warranty: 1 year	71 500,00
19.4.		Tin bezel 6 x 6 x 12 mm	pcs	2	Tin bezel 6 x 6 x 12 mm. Compatible with Elementar Vario EL III. Equivalent to: Delivery time: 60 calendar days; Warranty: 1 year	

					Key features:	
					- Absolute Virtual Instrument (AVI) system.	
					- Automatic attachment recognition and configuration	
					- Atmospheric influence correction system	
					- Scientist inside - spectrum quality control and operator assistance	
					General technical features:	
					- Must be able to realize sample reading in the range 8000 - 350 cm-1, with	
					KBr beam splitter	
					- Spectral resolution must be at least 0.4 cm-1 at 3028 cm-1 for methane	
					- Wavelength accuracy to be at least +/- 0.02 cm-1, at 2000 cm-1	
					- Wavelength repeatability to be at least 0.02 cm-1, at 2000 cm-1	
					- The signal to noise ratio is required to be at least:	
					50000:1 (for 1 minute measurements)	
					- Allow several spectra to be scanned per second	
					- System allowing analysis of solid (powder), liquid and paste samples.	
					Possibility of using a reusable desiccant for drying the optics of the device.	
					Optical system:	
					- Source: temperature-stabilized, air-cooled halogen lamp.	
					- It shall be isolated from the external environment by an airtight housing	
	-5	Fourier transform			that does not allow the ingress of moisture and other fine particles	
	00	infrared			- To keep the humidity level low, the desiccant used must have a life	
20.1.	38000000-5	spectrophotometer	set	1	expectancy indicator and be completely replaceable or regenerable.	
	800	(FT - IR)			- To avoid errors, the instrument plate must be protected from vibration	
	3	(1.1 - 111)			- Self-compensating Michelson type rotating interferometer, for fast	
					scanning, being permanently aligned, and which is immune to movement and	
					vibration.	
					- Kinematically mounted optical system, in which the internal components	
					do not move inside the instrument, and do not require alignment	
					- The optical system must be aluminum or gold plated.	
					- Mirrors must have high reflectivity and a low angle design with respect to	
					the axis	
					- The source shall have a long lifetime, be electronically stabilized with hot-	
					spot and be easily replaceable by the user	
					- The system shall be capable of being fitted with at least 2 permanently	
					mounted internal and one external detector	
					- The instrument shall be capable of mounting a minimum of two external	
					analysis accessories simultaneously	
					- the instrument shall be capable of being retrofitted with dedicated imaging	
					system	
					- It must be possible to activate the detectors by simple selection from the	
					software-ware	
					- Provide at least two beam output ports	
					110 - 120 at 1200 the ocum output ports	

				 The spectrometer shall have a built-in NIST traceable validation filter and software for validation parameters NIR or FIR domain upgradeable The system must include continuously variable J-stop fully software controlled. System must allow calibration transfer and allow active standardization of instrument response to improve repeatability and protect data integrity Must allow minimization of the effect of atmospheric water and CO2 in the sample spectru using an algorithm without the need for reference spectra or calibration. They must work with different instrument settings without the need for correction recalibration All sample spectra must be scanned for common errors that may occur. Key instrument components must be continuously monitored The system must automatically detect when a sample is introduced into the sample compartment. Data must be collected when the user enters the sample data Accessories must be able to be automatically recognized and the status of accessories must be continuously monitored by software. Equipment parameters shall be automatically changeable according to the accessory in use. Software features: The software shall be able to monitor all operations performed throughout the analysis: instrument control, data management and analysis, customized reports according to the parameter being monitored Allow access on different levels, with user and password Be able to support the functions required for infrared analysis: identification of potential spectral quality problems and operator warning, mathematical spectral comparison routine, pairwise binning, data collection function, processing, storage, PLS function package, PCR, Beer's law, spectral library searches, peak labeling, multiple graph customization possibilities, 1st to 4th order derivatives with variable filters, normalization, A-order modes, %T, %R, KM, LOG(1/R), abscissa modes: cm-1, nm, μ, deconvolut	1 999 850,00
¥	<u> </u>	F. C		Warranty period: 1 year	
21.1.	Equipment for studying materials in magnetic fields over a wide temperature range	set F Comp	lementary 1		2 000 000,00

		Optical head for cooling system - 1 pc. Type: for optical transmission meters, photoluminescence Made of stainless steel Window ports: min. 5 The first state of the st	
		Field of view through window min. 30 mm;	
		Optical windows: Quartz material (SiO ₂)	
		Quantity - min 5 pcs.	
		Maximum diameter 45 mm; Window thickness: min 2 mm	
		Blind flanges minimum 2 pcs.	
		Optical radiation shield - min. 4 holes Screen material: OFHC Cu, Ni-coated.	
		Magneto-optical head for cooling system - 1 pc	
		Type: for measuring magneto-optical properties	
		Made of non-ferromagnetic material	
		Window ports: min. 2 Field of view through window min. 25 mm;	
		_	
		Optical windows: Quartz material (SiO ₂) Quantity - min 3 pcs.	
		Maximum diameter 40 mm;	
		Window thickness: min. 2 mm	
		Blind flanges min 2 pcs.	
		Optical radiation shield - min. 2 holes Screen material: OFHC Cu, Ni-coated.	
		Magnetic head for cooling system - 1 pc.	
		Type: for galvanomagnetic measurements	
		Made of non-ferromagnetic material	
		Window ports: min. 2 Field of view through window min. 20 mm;	
		Optical windows: Quartz material (SiO ₂)	
		Quantity - min 3 pcs.	
		Maximum diameter 38 mm;	
		Window thickness: min. 2 mm	
		Blind flanges min 2 pcs.	
		Optical radiation shield - min 2 holes	
		Screen material: OFHC Cu, Ni-coated.	
		Temperature controller - 1 pc. Interconnection cable to cryostat - included	
		Sensor input: minimum 2 channels	
		Two control loops for heating elements	
		Communication interfaces: IEEE-488 and USB	
		PID control: Yes Autotune function: Yes	
		Heating element power: minimum 75 W	
		A/D resolution: minimum 16 bit	
		Power range: 0 to 100% with 1% resolution Sample mounting system	
		8-pin hole sample holder - 2 pcs.	
		Type: for optical transmission meters	
		Number of contacts: 8 Hole diameter: min 10 mm	
		Material: Uncoated OFHC copper	
		Fixing: 1/4-28 threaded stud attachment	
		8-pin flat sample holder - 2 pcs. Typey for maggining magnete entired properties	
		Type: for measuring magneto-optical properties Number of contacts: 8	
		Material: Uncoated OFHC copper	
		Fixing: 1/4-28 threaded stud attachment	
		Flat sample holder - 2 pcs. Type: for photoluminescence meters	
		Material: Uncoated OFHC copper	
		Fixing: 1/4-28 threaded stud attachment	
		Sample holder with pogo pins - 2 pcs. Type: for measurements of electro-optical properties	
		Number of contacts: 12	
		Type of contacts: pogo pins (spring loaded pins)	
		Material: uncoated OFHC copper Mounting: 1/4-28 threaded stud attachment	
		Instrumentation for sample temperature control in strong magnetic	
		fields	
		1 heating resistor, metallized thermofoil type, durable, 50 Ohms. 1 calibrated Cernox sensor, mounted on top of the cooling element, for	
		temperature control	
		1 calibrated Cernox sensor, 4" (102 mm) free length, for accurate sample	
		• Bracket for cooling system -1 pc	
		Vertical, four-legged, height adjustable bracket specially designed for	

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					required cooling systems • Pumping system, CF25 connection, consisting of: Preliminary vacuum pump (to lower the initial system pressure from ~1000 mbar to a level where the turbo pump can operate efficiently (< 10-² mbar) - 2 pieces Turbomolecular pump operates based on the mechanical interaction between gas molecules and rotor blades rotating at high speed (approx. 90,000 rpm) in an alternating structure of rotors and stators - 2 pcs.	
					Vacuum cross (vacuum cross / cross piece) - allows simultaneous connection of several components (pumps, sensors, vacuum chamber, etc.) - 2 pcs. Vacuum gauges - Pirani gauges or similar with control unit - 2 pcs. Bayard-Alpert or similar type ion gauges with control unit - 2 pcs. Delivery time: 120 calendar days; Warranty period: min 24;	
Lot 22	2 Institu	ite of Applied Physic	s Optoele	ectronics L	aboratory A.Andrieş, Subprogram 011201	
22.1.	3800000-5	Integration sphere for quantum yield measurement	pcs	1	One excitation window; 2 emission windows at +90° and -90°, symmetrical design; Two retractable baffles. Iris iris diaphragm on excitation window for adjustment of transmitted light intensity; Bracket for mounting to spectrometer; Inner layer reflectance: more than 95% reflectance, from 250 nm flat to 2.5 µm; Micrometer screw on holder for alignment of sample and emission windows with the axis of the meter; Dimensions (xwxhxi): - support 80×105×59 mm; - sphere 58×75×84 mm; Accessories: - Capillary tube for samples; - Quartz insert for capillary tube holder; - Set of screws with metric thread; - Reference samples (2 units): - Barium magnesium aluminate, europium doped; - sodium salicylate; Equivalent to:	188 667,00
					Vertical section Delivery time: 90 calendar days; Warranty: 1 year;	
Lot 23	Institu	te of Applied Physic	s_ Labora	tory Physic	es of Semiconductor Compounds, Subprogram 011201	
23.1.	38000000-5	High precision multimeter	pcs	1	For precise measurements of electric current parameters (direct and alternating) DC voltage: $0.1 \mu V$ - $1000V$; error, not greater than $\pm 0.0075 \ V$ AC voltage: $0.1 \mu V$ - $750V$; error, not greater than $\pm 0.09 \ V$ DC current: $100 \ pA$ - $3A$; error, not greater than $\pm 0.05 \ A$ AC current: $100 \ pA$ - $3A$; error not greater than $\pm 0.33 \ A$ Resistance: $100 \ \mu \Omega$ - $100 \ M \Omega$; error not greater than $\pm 0.014 \ \Omega$ Electrical capacitance: $0.01 \ nF$ - $100 \ \mu F$; error, not greater than $\pm 2nF$ Frequency: tuning range $3Hz$ - $1MHz$; error, not greater than $\pm 0.1 \ Hz$ Display: size not less than $50 \ mm \ (2")$, color or B/W Power supply: $220V$; $50 \ Hz$, Interface: RS-232C, USB, LAN Delivery time: $60 \ calendar \ days$ Warranty: $1 \ vear$;	30 833,00
Lot 24	Institu	te of Applied Physic	s_"Sergiu	Rădăuțan	" Semiconductor Compound Physics Laboratory, Subprogram 011201	

24.1. Lot 25	38000000-5 38000000-5	CCD spectrometer with cosine corrector ate of Applied Physic Tungsten filament	set s Materia set	als Labora	The set will contain a compact NIR spectrophotometer and a cosine corrector Wavelength range: 500-1000 nm Spectral accuracy: < 0,6 nm CCD sensitivity: not less than 160 V/(lx - s) Integration time: 10 µs - 60 s, Interface: USB or LAN Delivery time: 60 calendar days Warranty: 1 year; tory for Photovoltaics and Photonics, Institutional Tungsten tungsten filament compatible with Tescan Vega electron microscope, 10 pcs. in set	66 750,00 16 667.00
					Delivery time: 90 calendar days	
Lot 26	Institu	ute of Applied Physic	s_Laborat	tory Mater	ials for Photovoltaics and Photonics, Subprogram 011201 (I)	
26.1.	3800000-5	Driver/Motor for diode laser	pcs	1	Driver for diode type laser is required to provide local and computerized control of the laser, includes a digital panel. also a manual interface panel containing an LCD display - Maximum current: 230 mA - Operating modes: constant current or constant power - Control: Local panel or USB connection to PC - Complete software package included - Output connector for laser diode: D9 female - Laser diode current limit range: minimum 15 mA up to 200 mA - Laser diode voltage: Up to 10 V at 50 mA (>7 V at 230 mA) - Laser diode current/power setting resolution: <8 μA/1 μW - Laser diode current/power measurement resolution: <0.4 μA (15 bits) - LD/PD configurations supported - Power input: +15 V, -15 V, +5 V - PC connection: USB 3.0 Type-A to Micro-B - Software: compatible with the latest programming languages C#, Visual Basic, LabVIEW The software package allows two methods of use: 1. Graphical User Interface (GUI) utilities for direct interaction and "out of the box" controller control. 2. Set of programming interfaces in C#, Visual Basic, LabVIEW Delivery time: 60 calendar days	46 950.00
26.2.	T. die	Pigtailed laser diode assembly	pcs	1	-Compatible with pigtailed fiber laser diodes -Laser diode package: Pigtailed laser diode holder -Supported pigtailed laser diode types: 3 and 4 pin -Pin configurations: A, B, C, D, E, G and H -Maximum laser diode current: 1A -Maximum TEC current/voltage/power: 4.5A / 3.0V / 7W -TEC connector and laser diode connector: Type D9 Female -Laser modulation in radio frequency: 1Hz 200kHz Delivery time: 60 calendar days	
Lot 27	ınstıtı	ute of Applied Physic	s_ wiateria	ais Ladora	tory for Photovoltaics and Photonics, Subprogram 011201 (II) Quick Insertion and Attachment - Drop-In Cage Brackets allow easy insertion	
27.1.	3800000-5	Bracket with deflection lock	pcs	1	or removal of Ø1" optics from an assembled 30 mm cage structure. -For mounting Ø1" and 6.1 mm thick optics -SM1 thread (1.035"-40) with two retaining rings for fixing optical components -42.4 mm distance between mounting rod axes -Clear opening: 22.9 mm -Cage rod mounting screw: 5/64 in (2.0 mm), hexagonal on both sides -Flexure Lock System:or equivalent. Equivalent to:	2 160.00
27.2.		Ø15 mm cell-type optical system plate	pcs	1	External threaded adapter SM1 (1.035"-40) for long cylindrical components -Inner diameter: Ø11 mm -Minimum length along axis: ≥0.35" (8.9 mm) -Overall length: 0.59" (15 mm) -Nylon-tipped fastening screw to secure components. Delivery time: 60 calendar days	
27.3.		Ring adapter for optical components	pcs	1	Threaded adapter: -external thread SM1- 1,035"-40 -standard internal thread for RMS micro-objectives (Whitworth thread 0.8" x 36),	

					-thickness on mechanical axis-5,1mm	
					Delivery time: 60 calendar days	
Lot 28	Instit	ute of Applied Physic	cs_Labora	tory Mater	rials for Photovoltaics and Photonics, Subprogram 011201 (III) - Function: Collimates fiber optic light to free space	1
28.1.	38000000-5	Fiber Collimator, adjustable	pcs	1	 Function: Confinites fiber optic right to free space Fiber connector type: FC/PC with 2.1 mm wide key Aspherical lens: focus f = 2,0 mm Anti-reflection coating: for wavelengths 350 - 700 nm Numerical aperture (NA): 0,5 Mode field diameter: Output waist diameter - 0,36 mm Maximum waist distance: 103,4 mm Divergence: 0,100° Fiber-lentil distance: 0,4 - 3,0 mm Axial dimension: 17,0 mm Fixing diameter: 14.7 mm External thread for FC/PC connector: M8x0.7 CFC2-A Delivery time: 60 calendar days 	18 643.00
28.2.		Coupling for single-mode fiber optic with one input and two polarized outputs	pcs	1	- Polarization preserving coupler for single mode fiber optic with one input and two polarized outputs 1x2 Polarization preserving coupler - for wavelength 670nm ± 15 nm Division ratio at coupler outputs: 75:25, - 2.0 mm FC/PC connectors, with narrow type connector key - Polarized extinction ratio ≥18 dB PER - Insertion loss ≤2.0 dB / ≤7.0 dB - Numerical aperture 0.12, Monomod Fiber type - PANDA or equivalent - Optical Return Loss ≥60 dB - Fiber cables with length 0.8 m and tolerance +0.075 m / -0.0 m Delivery time: 60 calendar days	
Lot 29	<u>Instit</u>	ute of Applied Physic	cs_Labora	tory Mater	rials for Photovoltaics and Photonics, Subprogram 011201 (IV) Microobjective 1	1
29.1.		Microobjective Set	set	1	- Microscope/ infinity corrected objective, - Achromat plane Numerical aperture (NA): 0,25 - Working distance: 10,6 mm - Working spectrum: Visible light - Magnification: 10X (when used with 180 mm tube lens) - Effective focal length: 18 mm - Entry pupil diameter: 9 mm - Resolution: 1.3 μm - Optical field number: 22 - parfocal length: 45,06 mm - Coating plate thickness: 170 μm - Lens thread: RMS; depth 4.8 mm - Micro Lens 2 - Microscope/ infinity corrected objective, - Achromat plane - Numerical aperture (NA): 0,4 - Working distance (WD): 1,2 mm - Working spectrum: visible range - Magnification: 20X (when used with 180 mm tube lens) - Effective focal length: 9 mm - Entrance pupil diameter: 7.2 mm - Resolution: 0,8 μm - Optical field number: 22 - parfocal length: 45,06 mm - Coating slide thickness: 170 μm - Lens thread: RMS; depth 4.8 mm - Microscopic imaging objective, corrected for infinity - Achromatic plane - Numerical aperture (NA): 0,65 - Working distance (WD): 0,6 mm - Working spectrum: Visible light - Magnification: 40X (when used with 180 mm tube lens) - Effective focal length: 4.5 mm - Input pupil diameter: 5.9 mm - Resolution: 0,5 μm - Optical field number: 22 - parfocal length: 4.5 mm - Input pupil diameter: 5.9 mm - Resolution: 0,5 μm - Optical field number: 22 - parfocal length: 45,06 mm - Coating plate thickness: 170 μm - Lens thread: RMS; depth 4.8 mm - Delivery time: 60 calendar days	46 710.00

30.1.	38000000-5	Plano-Convex Lens Set	set	1	Lens 1 Plano-Convex lens - Diameter: Ø1" (25.4 mm) - Material: Glass N-BK7 - Anti-reflection (AR) coating: 350 - 700 nm - Focal length: 200 mm - Radius of curvature: 103,0 mm - Center thickness: 2.8 mm - Edge thickness: 2.8 mm - Effective focal length: 197.5 ± 0.5 mm - Design wavelength: 587,6 nm - Refractive index: 1,515 for 0,633 nm - Thickness tolerance: ±0,03 mm - Diameter tolerance: ±0,0 / -0,1 mm - Useful aperture: >90% of diameter - Focal length tolerance: ±1% Lens 2 Double Achromatic (Plan-Convex Lens) - Diameter: Ø1" (25.4 mm) - Material: Glass N-BK7N-SSK5/LAFN7 - Anti-reflection (AR) coating: 350 - 700 nm - Focal length: 200 mm - Back focal length: 194.0 mm - Design wavelength: 400 - 700 nm - Thickness tolerance: ±0.03 mm - Diameter tolerance: ±0.03 mm - Diameter tolerance: ±0.07 on the coating that	2 462.00			
I -4 21	T4*4	-46 A1: -1 Dk:	- M	:I D	Delivery time: 60 calendar days				
31.1.	Institu	Platinum- Rhodium thermocouple:	buc	1	rties of Materials Laboratory "Yulia Boiarskaya", Subprogram 011201 (I) Platinum-Rhodium thermocouple: minimum length 600 mm. Delivery time: 60 calendar days	8 750.00			
Lot 32	Institu		s_Mechan	ical Proper	rties of Materials Laboratory "Yulia Boiarskaya", Subprogram 011201 (II)				
32.1.	3800000-5	Diamond indenter for nanoindentation	pcs	1	Indenter with tetrahedral pyramidal diamond tetrahedral pyramidal tip, compatible with Nanovea CB500 nanoindentation plant and Nano1800 module. Equivalent to: 136 Delivery time: 60 calendar days	41 667.00			
Lot 3	3 Insti	tute of Applied Ph	ysics, Sub	program	011202, "Tadeusz Malinowski" Physical Methods of Solid State "Tadeu	ısz Malinowski"			
	atory (·				
33.1.	3800000-5	Digital apparatus for melting point determination	pcs	1	Digital; PID and PWM controller; Display-LCD touch screen display; RS232-USB interface; Melting curve to record automatically; Can automatically calculate the average value of initial and final melting points. Resolution- 0.1°C; Measuring range- RT(room temperature)~400°C; Temperature ramp-1°C-20°C/min; Temperature accuracy- 0.4°C(≤200°C), 0.7°C(>200°C); Repeatability- 0.3°C; Power supply- AC110/220V±10%, 50/60HZ; Capillary dimensions- φ1.4mm(outer diameter), φ1.0mm(inner diameter), 80mm (height); Sample loading height-3~5mm; Delivery time: 60 calendar days	54 167.00			
Lot 34	Lot 34 Institute of Applied Physics_Laboratory of Physical Methods of Solid-State "Tadeusz Malinowski", Subprogram 011202 (II)								
34.1.		Set Ultraviolet (UV) lamp with two wavelengths and viewing camera.	set	1	Set UV lamp with viewing camera designed to observe the reactions of crystals under ultraviolet radiation Long wavelength-365nm, Short wavelength -253,7-254nm), Power- 220 - 240V/50 - 60Hz Delivery time: 60 calendar days	20 833.00			
Lot 35	Institu	ite of Applied Physic	s_Therma	l and Hydi	odynamic Processes Laboratory, Subprogram 011203 (I)				

35.1.	3800000-5	Multimeter data collection and recording system	buc	1	Multimeter data collection and recording system containing a 20-channel multiplexer - Voltage: 1 uV to 3000 uV with a basic DCV accuracy of 0.0025% DCV Current 0.1 A to 2.7 A - Resistance: 140 μΩ to 12 ΜΩ - Capacitance: 0.63 pF to 10.0 μF - Temperature measurement with thermocouples, resistance temperature detectors and thermistors from -6.0°C to 167°C - 1 M measurements/s, 16-bit digitizer with storage of 7 million measurements - More options for test systems with 12 plug-in switching modules and up to 20 channel capacity - Multi-touch capacitive touch screen with graphical display - 6 ½ digit traceable traceable multimeter with 0.0025% DCV (1 V, 10 V range) basic accuracy - Standard communication LAN/LXI and USB-TMC interfaces - Optional interfaces include GPIB, RS-232 and TSP-Link technology or equivalent - Up to 20 channels with 2-pole thermocouple, thermistor temperature measurement - Scan speeds up to 800 channels/second with solid state relay module - Front panel jacks for stand-alone DMM operation Delivery time: 120 calendar days Warranty period: min 24 months	82 800.00
Lot 36	Institu	ute of Applied Physic	s Therma	d and Hydi	rodynamic Processes Laboratory, Subprogram 011203 (II)	
36.1.		Canister	pcs	1	Capacity/div: 100g/0.01g, Backlit LCD display Automatic shut-off after 2 minutes Delivery time: 90 calendar days Warranty: min 12 months Electrophysical and Electrochemical Methods of Materials Processing "Bo	292.00
		011204 (I)	5105_2400	ratory or	Breet opinystem and Breet venement received of relations frocessing Bo	, ,
37.1.	3800000-5	Precision balance	pes	1	Precision balance with digital display. Weighing capacity: min. 3000 g. Accuracy - 0.01 g. Minimum weight: max 500mg. Digital display with backlight. Pan size [min]: 120x120mm or Ø120mm. Platen material: stainless steel. Calibration: internal or external (for external calibration, the set of weights must be included in the set). Accessories: mains adapter. 220/240V AC/50Hz. Equipment supplied will be new, not refurbished. Warranty: min. 1 year. Delivery time: 60 calendar days	10 000,00
Lot 3	8 Insti	tute of Applied Phy	sics_Labo	ratory of	Electrophysical and Electrochemical Methods of Materials Processing "Bo	ris Lazarenko",
	ogram	011204 (II) Digital thermometer	pes	2	Digital contact thermometer with probe. Temperature range: -50°C to +300°C. Temperature resolution: ±0.1°C. Probe length: min. 125 mm. Material: stainless steel + ABS. Power supply: battery included. Equipment supplied will be new, not refurbished. Warranty: min. 1 year. Delivery time: 60 calendar days	,
38.2.	3800000-5	Portable digital analyzer	pcs	1	Portable digital analyzer pH// EC //TDS // Salinity // T. Technical specifications: pH// µs/cm// ppm// %// °C Measuring range: pH: 0.00 +14.00; resolution: 0.01pH; EC: 0 -19990 µs/cm, 0-19.9 ms/cm; TDS: 0-19990 ppm, 0-19.9 ppt; salinity: 0-10000ppm, 10.1-200.0ppt, Temperature [min]: 0.0 +50.0 °C. Warranty: min. 1 year. Delivery time: 60 calendar days Programmable digital temperature controller	3 584,00
		Controller	pcs	1	Type: On-Off/PID. Input: 1(2) channel; output: min 1 channel.Supply voltage: AC230V Delivery time: 60 calendar days	
			sics_Labo	ratory of	Electrophysical and Electrochemical Methods of Materials Processing "Bo	ris Lazarenko",
39.1.	ogram 3-000008E	Diode Laser Module	pcs	1	Diode Laser Module Emitting power (W): min 20 Wavelength(nm): 455; Tolerance (nm): max ±6; Supply voltage: AC 100-240V, 50-60Hz . Equipped with controller and power supply" Delivered equipment will be new, not refurbished. Delivery time: 60 calendar days	20 333,00
		tute of Applied Phy 011204 (IV)	sics_Labo	ratory of	Electrophysical and Electrochemical Methods of Materials Processing "Bo	ris Lazarenko",

		1		1		
40.1.	38000000-5	Thermal Imaging Chamber	pcs	1	Thermal imaging camera: Sensor resolution: min 300×200 pixels; Frame rate: min 16Hz; Temperature sensitivity: less than 50mK; Maximum measurable temperature: min 400°C; Minimum measurable temperature: down to -20°C; Measurement error: max. ±2 °C; OS compatibility: Android System connector: USB-C. Equipment delivered will be new, not refurbished. Delivery time: 60 calendar days	5 833,00
Lot 4	Instit	tute of Applied Phy	sics_Labor	ratory of l	Electrophysical and Electrochemical Methods of Materials Processing "Bo	oris Lazarenko",
Subpr	ogram	011204 (V)	T	1		
41.1.	38000000-5	Multimeter	pcs	1	Clampmeter type digital multimeter. Automatic range selection. True RMS measurement. Measurement ranges:DC Voltage: 600V; AC Voltage: 600V; DC Current: 600 A; AC Current: 600 A; Resistance: 60 MOhm. Capacitance: 60mF; Temperature: - 40°C ~ 1000°C. Diode Testing. Equipment supplied will be new, not refurbished. Warranty: min. 1 year. Delivery time: 60 calendar days	2 333,00
Lot 4	2 Instit	tute of Applied Phy	sics Labo	ratory of l	Electrophysical and Electrochemical Methods of Materials Processing "Bo	ris Lazarenko",
		011204 (VI)				,
42.1.	38000000-5	Thermostatized water bath	pcs	1	Single tank water bath. Volume: 2-3 L. Material: stainless steel. Thermostat: PID microprocessor controller. Temperature range: 20-100 °C. Temperature accuracy: max. ± 1°C. Display: digital, LED. Equipped with timer. Programmable temperature hold time up to 600 min. Power: max 1000W. Warranty: min. 1 year. Delivery time: 60 calendar days	5 833,00
		tute of Applied Phy 011204 (VII)	sics_Labo	ratory of l	Electrophysical and Electrochemical Methods of Materials Processing "Bo	oris Lazarenko",
43.1.	3800000-5	Tester for measuring internal resistance	pcs	1	Tester for measuring internal resistance. Digital sinusoidal AC meter with four wires. Measuring range: min. 0.01 mOhm - 200 Ohm; Minimum resolution value: 0.01. Operating voltage: 0 V to 100 V DC Minimum resolution value: from 0.00001 V Accessories: 1 test stand with cables; - 2 x test probes with cables; - 2 x Kelvin test clamps with cables Equipment supplied will be new, not refurbished. Warranty: min. 1 year. Delivery time: 60 calendar days	3 333,00
Lot 44	Institu	ute of Applied Physic	s Semicor	ductor and	d Device Physics Laboratory, Subprogram 011207 (I)	
44.1.	3800000-5	Mass flow regulator for gases I	pcs	1	Flow (possibility of intermediate values of these is required) (values obtained for N2): Min. 0.06 - 3 mln/min Nom. 0.06 - 5 mln/min Max. 0.06 - 9 mln/min Accuracy (incl. linearit.) (based on calibration): ±0.5% (reading value (RD)) plus ±0.1% (full scale (FS)) Repeatability < 0.2 % RD; Turndown ratio: up to 1:187.5 (1:50 in analog mode); The device must be able to store a minimum of 8 calibration curves for different fluids; Stabilization time maximum 2 s or less; Control stability < ± ± 0.1 % FS or better Operating temperature range -10 °C+70 °C or wider Zero temperature stability: < 0.05% FS/°C or better; full scale: < 0.05% RD/°C or better Pressure sensitivity 0.1% RD/bar (typical N2) or better; 0.01% RD/bar (typical H2) Maximum Kv: 6.6 x 10-2 Leak test < 2 x 10 mbar /b He Measurement/control system Maximum positioning error at 90° angle to horizontal is 0.2% (at 1 bar pressure, for N2) Set-up time for optimum accuracy is max. 30 min. and for ± 2% FS accuracy is max. 2 min. Mechanical characteristics of the device The material of which the gas-contacting components of the device are made: Type 316L stainless steel or other with comparable properties; Pressure range (PN) 64 bar Connections: by compression couplings: 6 mm OD compression type Sealing gasket made of FKM or better materials The mass of the device shall not exceed 2.0 kg Degree of protection of the device according to EN 60529 or IEC 60529: IP65 Electrical characteristics Supply voltage +15+24 V (direct current) Max. consumption	120 000,00

				15 V - 290 mA (I/O voltage)	
				24 V - 200 mA (I/O voltage)	
				15 V - 320 mA (current I/O) 24 V - 215 mA (current I/O)	
				Analog output 05 (10) V DC or 0 (4)20 mA (sourcing output)	
				Digital standard for communication: RS232;	
				Acceptable options: CANopen®, DeviceNet TM , EtherCAT®, PROFIBUS DP,	
				PROFINET, Modbus RTU, ASCII or TCP/IP,	
				EtherNet/IP, POWERLINK	
				Electrical connections that are present on the device:	
				Analog/RS232- 8 DIN (male);	
				PROFIBUS DP bus- 5-pin M12 (mother);	
				CANopen® / DeviceNet™ - 5-pin M12 (father);	
				Modbus-RTU/ASCII- 5-pin M12 (female);	
				Modbus TCP / EtherNet/IP / bus: 2 x 5-pin M12 (mother) (in/out);	
				POWERLINK (power): 8 DIN (father);	
				EtherCAT®/ PROFINET bus: 2 x 5-pin M12 (father) (in/out); power: 8 DIN	
				(father); The device must meet the standards:	
				IEC 61010-1 IEC-61010-1:2010	
				Equipment supplied shall be new, not refurbished.	
				Warranty: min. 1 year.	
				Delivery time: 120 calendar days	
			1	Flow rate (possibility of intermediate values is required) (values obtained for	
				N2):	
				Min. 4 - 200 mln/min	
				Nom. 4 - 500 mln/min	
				Max. 4 - 750 mln/min	
				Accuracy (incl. linearit.) (based on calibration): ±0.5% (reading value (RD))	
				plus ±0.1% (full scale (FS))	
				Repeatability < 0.2% RD;	
				Turndown ratio: up to 1:187.5 (1:50 in analog mode);	
				The device must be able to store a minimum of 8 calibration curves for different fluids:	
				Stabilization time maximum 2 s or less;	
				Control stability $< \pm \pm 0.1$ % FS or better	
				Operating temperature range -10 °C+70 °C or wider	
				Zero temperature stability: < 0.05% FS/°C or better; full scale: < 0.05%	
				RD/°C or better	
				Pressure sensitivity 0.1% RD/bar (typical N2) or better; 0.01% RD/bar	
				(typical H2)	
				Maximum Kv: 6.6 x 10-2	
				Leak test < 2 x 10 mbar l/s He	
				Measurement/control system	
				Maximum positioning error at 90° angle to horizontal is 0.2% (at 1 bar	
				pressure, for N2)	
				Set-up time for optimum accuracy is max. 30 min. and for ± 2% FS accuracy	
				is max. 2 min.	
				Mechanical characteristics of the device	
				The material of which the gas-contacting components of the device are made: Type 316L stainless steel or other with comparable properties;	
	Mass flow			Pressure range (PN) 64 bar	
44.2.	regulator for	pcs	1	Connections: by compression couplings 6 mm OD compression type	
17.2.	gases 2	Pes	•	Sealing gasket made of FKM or better materials	
	G			The mass of the device shall not exceed 2,0 kg	
				Degree of protection of the device according to EN 60529 or IEC 60529: IP65	
				Electrical characteristics	
				Supply voltage +15+24 V (direct current)	
				Max. consumption	
				15 V - 290 mA (I/O voltage)	
				24 V - 200 mA (I/O voltage)	
				15 V - 320 mA (current I/O)	
ļ				24 V - 215 mA (current I/O)	
				Analog output 05 (10) V DC or 0 (4)20 mA (sourcing output)	
				Digital standard for communication: RS232; Supported options: CANopen®, DeviceNet TM , EtherCAT®, PROFIBUS DP,	
				PROFINET, Modbus RTU, ASCII or TCP/IP,	
				EtherNet/IP, POWERLINK	
				Electrical connections that are present on the device:	
				Analog/RS232- 8 DIN (male);	
				PROFIBUS DP bus- 5-pin M12 (female);	
				CANopen® / DeviceNet TM - 5-pin M12 (father);	
				Modbus-RTU/ASCII- 5-pin M12 (female);	
				Modbus TCP / EtherNet/IP / bus: 2 x 5-pin M12 (mother) (in/out);	
				POWERLINK (power): 8 DIN (father);	
				EtherCAT®/ PROFINET bus: 2 x 5-pin M12 (father) (in/out); power: 8 DIN	
				(father);	
				The device must meet the standards:	
	1			IEC 61010-1 IEC-61010-1:2010 Equipment supplied shall be new, not refurbished.	
				1 1 1	
				Warranty: min. 1 year. Delivery time: 120 calendar days	

45.1.	3800000-5	Device for optical signal modulation	buc	1	Technical characteristic of the optical modulator Diameter of the paddle disk for optical signal modulation min Ø100 mm Thickness of paddle disk for optical signal modulation min 0,200 mm Mounting base: using: M6 screws General characteristics Frequency range obtained with an inner and outer vane disk Inner blades 20 Hz - 1 kHz, Outer vanes 200 Hz - 10 kHz Frequency resolution: 0.1 Hz Inner paddles: 10 Outer palettes: 100 Frequency drift <20 ppm/°C Input and Output Connections: BNC Display minimum 240 x 124 Pixel LCD Menu Control button (or analog) Power Input Connections IEC Connector Minimum operating temperature range 10 - 40 °C Mass 3 kg max Power Supply Input voltage 230 VAC ± 10% Input voltage Frequency 50 - 60 Hz Input Power 20 VA Max Electrical fuses 125 mA @ 230 VAC Fuse Type IEC60127-2/III (250 V, Slo-blo Type 'T') Input/Output Characteristics TTL/CMOS input compatibility Input voltage range 0 - 5 V Input High > 2 V Input Low <0.8 V Input Impedance 200 Ω TTL/CMOS Output Compatibility Output reference signals 0 - 5 V Output Impedance 200 Ω Load impedance min. 500 Ω Output reference signals Signal on the inside and outside of the modulation disk, Frequency sum/difference signal Communication USB communication port USB Protocol (RS232 Emulated) Baud Rate 115,200 (fixed) Data Bits 8 Stop Bits 1 Equipment supplied will be new, not refurbished. Warranty: min. 1 year. Delivery time: 120 calendar days	38 333,00
46.1.	3800000-5	Pulsed xenon source for fluorescence	pcs	1	wavelength range: 220 nm - 750 nm (inclusive) Pulse power: 45 μJ/pulse (maximum) Average power: 9,9 W Frequency: 220 Hz (maximum) Pulse time: 5 μs Mode: Multiple mode: up to 220 Hz Single mode: 1 - 220 Hz Lamp lifetime: at least 109 pulses (estimated 230 days continuous operation, pulse frequency 50 Hz) Trigger/stop input signal: TTL; 1-220 Hz or equivalent Trigger/switch connection: SUB-D-15 pin or equivalent Power consumption: 1.3 A @ 11V @ 220 Hz 100 mA @ 12V @ 10Hz." Delivery time: 60 calendar days Warranty: min. 1 year	64 167,00
Lot 47	Institu	ute of Applied Physic	s_Labora	tory Mater	ials for Photovoltaics and Photonics, Institutional Funding	T
47.1.		Thermal Evaporation Carbon Coating Plant	pes	1	The facility is designed to prepare samples for scanning electron microscopy (SEM) by applying a thin layer of conductive carbon to the surface of nonconductive samples. Technical specifications: Vacuum Pump: Type: oil rotary pump Pumping speed: min 8 m³/h (2,2 L/s) Maximum Evaporating Current: min 100 A Vacuum Pressure Limit: 2 Pa Working Pressure: 4-6 Pa Vacuum Time: < 5 minutes (up to 2 Pa) Evaporation Chamber: Dimensions:min φ150 mm x 120 mm Material: scratch resistant quartz glass Evaporation Source: Carbon wire (diameter 2 - 5 mm) Power Supply: Voltage: AC 220V 50Hz Power consumption: < 2500 W Accessories Included: Vacuum pump Carbon wire: min 10 m Delivery time: 60 calendar days	158 333,00

		Warranty: min. 1 year	
		Total estimated value	5 569 317,98

- 9. If the contract is divided into lots one economic operator may submit a tender (to be selected):
 - 1) For a single lot;
 - 2) For several lots;
 - 3) For all lots;
 - 4) Other limitations on the number of lots that can be awarded to the same tenderer
- 10. Admission or prohibition of alternative bids: not admitted

(indicate whether admitted or not)

- 11. Delivery terms and conditions requested: from contract signature within:
 - 30 calendar days Lot 4, 5, 6, 7;
 - 60 calendar days Lots 1, 2, 3, 8, 9, ,10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 37, 38, 39, 40, 41, 42, 43, 46, 47;
 - 90 calendar days Lot 22, 25, 36;
 - 120 calendar days Lot 20, 21, 35, 44, 45;

at the address indicated in Annex 23.

- 12. Period of validity of the contract: 31.12.2025
- 13. Procurement contract reserved for sheltered workshops or that it can only be performed under sheltered employment programs (as applicable): <u>no</u>

(indicate yes or no)

14. Is the provision of the service reserved to a particular profession by virtue of legal or administrative provisions (if applicable): *no*

(indicate the legislative or administrative provisions concerned)

15. Brief description of the criteria for the eligibility of economic operators which may lead to their elimination and of the selection criteria; minimum level(s) of requirement(s), if any; indication of the information required (DUAE, documentation):

No d/o	Description of criterion/requirement	How to demonstrate that the criterion/requirement is fulfilled:	Minimum level/ Mandatory
1	Application for participation	Completed in accordance with Annex 7 of the Standard Documentation, confirmed by electronic signature of the EO.	Mandatory
2	DUAE	Form DUAE, approved by MF Order No 72/2020, completed in accordance with the attached model, confirmed by the application of the electronic signature of the EO.	Mandatory
3	Declaration on the validity of the tender	Completed in accordance with Annex No. 8 of the Standard Documentation, confirmed by applying the electronic signature of the SO. Validity period of the tender - 60 days from the opening day of the tenders.	Mandatory
4	Tender security	Form of guarantee - 1%: a) Tender guarantee by transfer to the account of the Contracting Authority, according to the following bank details, confirmed by applying the electronic signature of the EO, as per Annex no. 9: Payee: IP State University of Moldova Bank Name: BC Victoriabank SA, Branch No. 17 Chisinau Fiscal code: 1006600064263 IBAN: MD25V10000000000002252251717171710MDL Bank Code: VICBMD2X457 or	Mandatory

		1) = 1	
		b) The offer shall be accompanied by a bank	
		guarantee letter (issued by a licensed bank) in	
		accordance with Annex No. 9 of the standard	
		documentation approved by Order of the Minister	
		of Finance No. 115 of 15.09.2021	
		*The validity term of the bid bank guarantee	
		shall be equal to the validity term of the bid.	3.5
5	•	Completed in accordance with Annex No. 22,	Mandatory
		confirmed by applying electronic signature of the	
		EO.	3.6 1.4
6		Completed in accordance with Annex No 23,	Mandatory
		confirmed by application of the electronic	
Dan		signature of the EO.	41
		to art. 20 para. (8), Law no. 131/2015, on public pro	
		nic means, with the application of electronic signation of documents, demonstrating the fulfillment of all of	
	selection criteria.	ing documents, demonstrating the furthinnent of an c	quanification
7	Proof of registration of the legal entity	Registration certificate/registration	Mandatory
′	1 1001 01 registration of the regar entity	decision/extract issued by the authorized body,	ivianuatory
		copy electronically signed;	
8	Bank account allocation certificate	Issued by the bank holding the account, valid,	Mandatory
	Dank account anocation continuate	original/electronically signed copy;	ivialidatol y
9	Financial Report	Copy of the latest financial report, confirmed	Mandatory
	i manerar Report	by electronic signature of the EO.	ivialidatory
10	Technical Passport/Technical	Copy confirmed by electronic signature of the	On request
10	File/Technical Specification	EO	onrequest
	The recimiear specification	*Original Technical Passport/Technical	
		Sheet to be submitted by the successful bidder	
		on delivery mandatory.	
11	Declaration confirming that the	Completed in accordance with the Regulation	Mandatory
	manufacturer/ distributor of electrical	on Waste Electrical and Electronic Equipment,	Ĭ
	and electronic equipment (EEE) is	approved by GD no. 212 of 07.03.2018 - by	
	included in the List of manufacturers	indicating the registration number from the	
	of products subject to Extended	mentioned List of Producers.	
	Producer Responsibility regulations		
12	Declaration on the confirmation of the	Completed in accordance with the Form	Mandatory
	identity of the beneficial owners and	approved by MF Order no. 145 of 24.11.2020	, and the second
	their non-conviction for participation	- in original electronically signed;	
	in the activities of a criminal		
	organization or group, corruption,	*To be submitted within 5 days by the	
	fraud and/or money laundering.	successful bidder.	
13	Minimum 3 years of specific	Declaration of the list of main	Mandatory
	experience in delivery of similar good	* *	
	and/or services	years of activity as per Annex No. 12.	
14	Performance guarantee	Transfer to the account of the contracting	Mandatory
		authority confirmed by the payment order, in	
		the amount of 5% of the value of the proposed	
		tender:	
		Payee: IP State University of Moldova	
		Bank name: BC Victoriabank SA,	
		Branch No. 17 Chisinau	
		Fiscal code: 1006600064263	
		IBAN:	
		MD25VI00000000002252251717171710MDL	
		Bank Code: VICBMD2X457	
		*To be presented by the successful bidder at	
	1	the signature of the contract	İ

16. Tender deposit - 1% of the tender value excluding VAT.

- 17. Contract performance guarantee 5% of the contract value including VAT
- 18. Reason for use of the accelerated procedure (in the case of open, restricted and negotiated procedure), if applicable: *not applicable*
- 19. Specific award techniques and instruments (if applicable, specify whether framework agreement, dynamic purchasing system or electronic auction): <u>electronic auction</u>, <u>Number of rounds 3. Minimum step 1%.</u>
- **20.** Special conditions attached to the performance of the contract (indicate as appropriate): <u>not</u> applicable
- **21.** Evaluation criteria applied for the award of the contract: <u>lowest price per lot and compliance with the requirements of the tender specifications</u>

22. Factors for evaluating the most economically advantageous tender and their weightings:

not applicable

No d/o	Name of the evaluation factor	Weighting % Weighting
	-	-
	-	-

- 23. Deadline for submission/opening of tenders
 - until: [exact time] Information can be found in the SIA RSAP
 - by: [date] The information can be found in the SIA RSAP
- 24. Address to which tenders or requests to participate must be sent:

Tenders or requests to participate shall be submitted electronically via the SIA RSAP

- 25. Period of validity of tenders: 60 calendar days from the date of opening of tenders
- **26.** Place of opening of tenders: Tenders or requests to participate must be submitted electronically via the SIA RSAP. Late tenders will be rejected.
- 27. Persons authorized to be present at the opening of tenders:

 Bidders or their representatives are entitled to attend the bid opening unless the bids have been submitted through the "RSAP" CIS.
- 28. Language or languages in which tenders or requests to participate must be drawn up: Romanian
- 29. This contract concerns a project and/or program financed by European Union funds: not applicable

(specify the name of the project and/or program)

- 30. Name and address of the competent body responsible for settling appeals: National Agency for Dispute Settlement Address: mun. Chisinau, bd. Ştefan cel Mare şi Sfânt nr.124 (et.4), MD 2001; Tel/Fax/email: 022-820 652, 022 820-651, contestatii@ansc.md
- 31. Date(s) and reference(s) of previous publication(s) in the Official Journal of the European Union of the contract(s) concerned by the respective notice (if applicable): OJS 111/2025 12/06/2025
- **32.** In the case of periodic purchases, the estimated timetable for publication of future notices: not applicable
- 33. Date of publication of the notice <u>of intention or</u>, <u>where appropriate</u>, indication that no such notice has been published: *BAP No 43 of 06.06.2025*
- **34.** Date of dispatch for publication of the invitation to tender: According to the information in the 'RSAP' CIS.
- 35. In the public procurement procedure will be used/accepted:

Name of the electronic tool	Will be used/accepted or not		
Electronic submission of tenders or requests to	Accepted		
participate			
Electronic ordering system	Not accepted		
Electronic invoicing	Accepted		
Electronic payments	Accepted		

36. The contract is covered by the Government Procurement Agreement of the World Trade Organization (only in the case of notices submitted for publication in the Official Journal of the European Union): <u>Yes</u>

Leader of the working groupace Than Clark Activity

Pro-Rector for Economic and Financial Activity

and International Relations

Vladimir DOLGHI