

***ANNEX II + III :* TECHNICAL SPECIFICATIONS + TECHNICAL OFFER**

Contract title: “Laboratory for analysis of evidence required for crime case processing”

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Lot 1 - Technical – HVAC and safety monitoring equipment

Columns 1-2 should be completed by the Contracting Authority

Columns 3-4 should be completed by the tenderer

Column 5 is reserved for the evaluation committee

Annex III - the Contractor's technical offer

The tenderers are requested to complete the template on the next pages:

- Column 2 is completed by the Contracting Authority shows the required specifications (not to be modified by the tenderer),
- Column 3 is to be filled in by the tenderer and must detail what is offered (for example the words “compliant” or “yes” are not sufficient)
- Column 4 allows the tenderer to make comments on its proposed supply and to make eventual references to the documentation

The eventual documentation supplied should clearly indicate (highlight, mark) the models offered and the options included, if any, so that the evaluators can see the exact configuration. Offers that do not permit to identify precisely the models and the specifications may be rejected by the evaluation committee.

The offer must be clear enough to allow the evaluators to make an easy comparison between the requested specifications and the offered specifications.

Unless otherwise specified, the requirements in these Technical Specifications are presented as a minimum standard which the offered goods must meet.

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
1.1	Windows joinery Set Quantity: 1 set					
	Specification:	Quantity				
	Window parapet covers of MDF, thickness minimum 16 mm or 25 mm. Covers 104,5 or 57cm width shall be placed on steel substructure of boxy sections 20mmx20 mm. Finishing of MDF shall be 3D gluing of chemically resistant melamine foil of 1 mm thickness, with vacuum or membrane press. Chromed ventilation grids shall be placed over radiators.	m	80,5			
1.2	Air conditioning system Quantity: 1 set					
	Specification:	Quantity				
	1.2.1 Outdoor units of the VRF (Variable refrigerant flow) system: • cooling capacity 28 kW; • heating capacity 31,5 kW; • cooling power 7,34 kW; • heating power 7,4 kW	pieces	2			
	1.2.2 Outdoor units of the VRF (Variable refrigerant flow) system: • cooling capacity 33,5 kW; • heating capacity 37,5 kW; • cooling power 9,25 kW; • heating power 9 kW.	pieces	2			
	1.2.3 Outdoor units of the VRF (Variable refrigerant flow) system:					

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> cooling capacity 22,4 kW; heating capacity 25 kW; cooling power 5,54 kW; heating power 5,09 kW. 	pieces	3			
	1.2.4 Outdoor units of the VRF (Variable refrigerant flow) system: <ul style="list-style-type: none"> cooling capacity 28 kW; heating capacity 31,5 kW; cooling power 7,15 kW; heating power 6,73 kW. 	pieces	3			
	1.2.5 Indoor wall mounting units of the VRF (Variable refrigerant flow) system: <ul style="list-style-type: none"> cooling capacity 2,8 kW; heating capacity 3,2 kW; cooling power 0,04 kW; heating power 0,04 kW. 	pieces	4			
	1.2.6 Indoor wall mounting units of the VRF (Variable refrigerant flow) system: <ul style="list-style-type: none"> cooling capacity 3,6 kW; heating capacity 4,0 kW; cooling power 0,04 kW; heating power 0,04 kW. 	pieces	11			
	1.2.7 Indoor wall mounting units of the VRF (Variable refrigerant flow) system: <ul style="list-style-type: none"> cooling capacity 4,5 kW; heating capacity 5,0 kW; cooling power 0,04 kW; heating power 0,04 kW 	pieces	6			

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	1.2.8 Indoor wall mounting units of the VRF (Variable refrigerant flow) system: • cooling capacity 7,1 kW;					
	• heating capacity 8,0 kW; • cooling power 0,04 kW; • heating power 0,04 kW	pieces	2			
	1.2.9 Indoor unit connection kit: • electric expansion valve; • accompanying temperature sensors for air; • accompanying temperature sensors; • wire controller; • accompanying automation for the control of the electric expansion valve:					
	1.2.9.1 air handling unit controller: • cooling capacity 11,2 kW; • heating capacity 12,5 kW.	pieces	2			
	1.2.9.2 air handling unit controller: • cooling capacity 28,0 kW; • heating capacity 31,5 kW.	pieces	4			
	1.2.10 Central controller with a touch screen and the ability to connect the external units.	piece	1			
	1.2.11 Interface module for the communication and regulation of the air conditioning system with the central monitoring and control system, complete with power supply.	piece	1			
	1.2.12 Condensate drain pumps for indoor units.	pieces	2			

1. Item Number	2. Specifications Required			3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	1.2.13 Split system for air conditioning of the area of the RACK cabinet <ul style="list-style-type: none"> • cooling capacity 7,1 kW; • heating capacity 8,0 kW; • cooling power 2,13 kW; • heating power 1,96 kW 	pieces	2					
	1.2.14 Wired controller for air conditioning system: <ul style="list-style-type: none"> • LCD screen; • programmable timer for minimum 7 days in advance; • programmable temperature and airflow, minimum 7 patterns per day; • temperature range restriction; • Installation cable 2×0,75 mm², minimum 890 m. 	pieces	2					
	1.2.15 Remote controllers	pieces	29					
1.3	Ventilation System Quantity: 1 set							
	1.3.1 Air condition chamber,	Quantity						

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Type 1: <ul style="list-style-type: none"> • immovable shutter; • control dumper; • filter class EU4 section; • heater section, hot water is the fluid: - $Q_g = 57,47 \text{ kW}$ - $t_{vu/i} = -12 \text{ °C} / 26 \text{ °C}$; - $t_{wu/i} = 80 \text{ °C} / 60 \text{ °C}$ <ul style="list-style-type: none"> • cooler section with drop eliminator: - $Q_h = 29,54 \text{ kW}$ - $T_{vu}/T_{vi} = +33\text{°C} / + 12,9\text{°C}$; - $t_{wu/i} = 5\text{°C} / 45\text{°C}$; <ul style="list-style-type: none"> • discharge fan section - $V_u = 3480 \text{ m}^3/\text{h}$, - $p_{ext} = 200 \text{ Pa}$, with freq. reg., - $P_{em} = 1,5 \text{ kW}$.	Piece	1				
	1.3.2 Air condition chamber,	Quantity					

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Type 2: <ul style="list-style-type: none"> • immovable shutter; • control dumper; • filter class EU4 section • heater section, hot water is the fluid: - Qg = 17,76 kW - tvu/i = -12 °C / 26 °C; - twu/i = 80 °C / 60 °C <ul style="list-style-type: none"> • cooler section with drop eliminator: - Qh = 10,33 kW - Tvu/Tvi = +33 °C / + 12,9 °C; - twu/i = 5 °C / 45 °C; <ul style="list-style-type: none"> • discharge fan section - Vu = 1155 m³/h, - pext = 376 Pa, with freq. reg., - Pem = 0,37 kW.	piece	1			
	1.3.3 Air condition chamber, Type 3:	Quantity				
	<ul style="list-style-type: none"> • immovable shutter; • control dumper; • filter class EU4 section • heater section, hot water is the fluid: - Qg = 92,08 kW - tvu/i = -12 °C / 26 °C; - twu/i = 80 °C / 60 °C <ul style="list-style-type: none"> • cooler section with drop eliminator: - Qh = 46,16 kW - Tvu/Tvi = +33 °C / + 12,9 °C - twu/i = 5 °C / 45 °C;					

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> discharge fan section: - $V_u = 5540 \text{ m}^3/\text{h}$, - $p_{ext} = 230 \text{ Pa}$, with freq. reg., - $P_{em} = 2,2 \text{ kW}$. 	piece	1			
	1.3.4 Filter batteries with minimum 3 filtration classes: G4, H13, F7, for fume hoods with capacity $\leq 480 \text{ m}^3/\text{h}$.	Quantity				
		pieces	8			
	1.3.5 Filter batteries with minimum 3 filtration classes: G4, H13, F7 for safety boxes with capacity maximum $30 \text{ m}^3/\text{h}$.	Quantity				
		pieces	11			
	1.3.6 Filter batteries with minimum 3 filtration classes: G4, H13, F7 for ventilation arms with capacity maximum $100 \text{ m}^3/\text{h}$.	Quantity				
		pieces	13			
	1.3.7 Filter sections for primary ventilation minimum 3 filtration classes: G4, H13, F7 for the following rooms:	Quantity				
	chemistry min. $2710 \text{ m}^3/\text{h}$;	piece	1			
	explosives min. $1270 \text{ m}^3/\text{h}$;	piece	1			
1.4	fibre, colours min. $3515 \text{ m}^3/\text{h}$;	piece	1			
	toxicology min. $5712 \text{ m}^3/\text{h}$.	piece	1			
1.4	Diesel Aggregate Quantity: 1 set					
	1.4.1 Aggregate: The container type aggregate:	Quantity				
	<ul style="list-style-type: none"> power, StandBy mode 250 kVA, 200 kW; voltage: three-phase; sound isolated case; power factor: $\cos \varphi = 0,80$; frequency: 50 Hz; 					

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> operation type: automatic start, operation under changeable over-current; Diesel electrical aggregate is delivered completely with: <ul style="list-style-type: none"> relevant rubber mechanical dampers; command cabinet for automatic mode: control, supervision and management generator set with manual and automatic start-up; transfer switch (ATS) for switching over-current network; aggregate with electromotive three-position switch in a separate electric cabinet; tank for autonomy of minimum 10 hrs; electronic rev. regulator. 	piece	1			
	1.4.2 Stand-alone automatic control cabinet with equipment for switching over-current network-aggregate with electromotive three-position switch delivered with aggregate. Stand alone control cabinet, with equipment for manual change-over switch, 400A, 3x400VAC, for bypassing ATS cabinet in case of male function of ATS.	Quantity				
		piece	1			
	1.4.3 Connection for the newly designed cable type XP00 3x240 mm 2+120 mm ² to the distribution box of the existing TC.	Quantity				
		Lump Sum				
	1.4.4 Discharging diesel aggregate,	Quantity				

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	adjusting the voltage and frequency and 24 hrs test operation.	Lump Sum				
	1.4.5 Charging diesel aggregate with fuel and lubricant according to the manufacturer's recommendation.	Quantity				
		Lump Sum				
	1.4.6 Marking elements and cables on outlets and inlets with engraved plates.	Quantity				
		Lump Sum				
	1.4.7 Executed state design with complete instructions for proper usage and maintenance of the respective diesel aggregate.	Quantity				
		Lump Sum				
	1.4.8 Delivery of the diesel aggregate maintenance book.	Quantity				
		Lump Sum				
1.5	Uninterruptible Power Supply (UPS) Quantity: 1 set					
	1.5.1 Uninterruptible power supply, 20 kVA, 400 V. Built-in maintenance bypass, 2 battery modules. Full color display; Minimum Autonomy of 9 minutes under 20kW; Dimension: compatible with 19" rack, height 1 m.	Quantity				
		piece 1				
	1.5.2 Uninterruptible power	Quantity				

1. Item Number	2. Specifications Required			3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	supply, 40 kVA, 400 V. Built-in maintenance bypass, 4 battery modules. Full color display; Minimum Autonomy of 9 minutes under 40kW; Dimension: compatible with 19" rack, height 1,4 m.	piece	1					
1.6	Automatic Fire Detection System Quantity: 1 set							

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<p>1.6.1 Microprocessor addressable fire central for fire signalization for the construction of an interactive, fully redundant, capacity of 4 addressable loops with 127 addressable interactive analogue detectors in each loop and with the possibility of extending.</p> <p>The Central must contain a power supply unit including accumulator batteries 2x12v, 18Ah for reserve power supply minimum 72 hours in a quiet and 30 minutes in alarm mode, in case of failure of power supply.</p> <p>The Central must have the ability to perform software selection of sensitivity and criteria of work of fire detectors (smoke, temperature or a combination).</p> <p>The Central must contain a relay module with 16 freely programmable bi-stable foldable contacts (outputs) 24V/3A for the needs of disconnection of dampers, electricity, firefighting (FF) doors or equivalent in case of fire.</p> <p>The Central must have the capability to network with other centrals, control panels, parallel tableaux etc.</p>					
	The Central has VdS attest and meets the standard SRPS EN54-2 and CEN/TC 72.	piece	1			

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	1.6.2 CD with the addresses of all the elements and access codes to all levels.	piece	1			
	1.6.3 The network module for connection of control panels, analogue, in the system through RS485 and/or Ethernet IP Technology: RS 485/100 Base-TX interface board, 2×RS 485, 1×100 Base-TX.	piece	1			
	1.6.4 The operative management console to handle the system, with TFT display of minimum 5,5“, with possibility to navigate through menus. All states of the system must be shown in text form on the display, with possibility to choose print in 2 languages, one of which is Serbian, with possibility to change the language during the work of the Central. Console must have function keys and LED indicators for showing priority status.	piece	1			
	1.6.5 The parallel console with LCD display of 6 lines ×40 characters, with LEDs indicators and buttons, freely programmable, to indicate the status of fire detection system.	piece	1			
	1.6.6 The automatic telephone alarm call point with 3 inputs to forward alarm messages to up to 12 phone numbers.	piece	1			

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<p>1.6.7 The interactive addressable combined fire detector (multi-criteria smoke and temperature detector), that has to combine the advantages of temperature and smoke detection in a single detector.</p> <p>Intelligent logic must ensure reliable detection with the least possibility of occurrence of false alarms. Sensitivity of detector must be automatically adjusted to the ambient temperature, with the possibility to examine the state of contamination of the software profile settings (smoke, temperature, or a combination), with integrated loop insulator that in the event of a short circuit or line interruption ensures uninterrupted operation of detectors (call points), with the universal foot for mounting on the suspended ceiling or the ceiling.</p> <p>The detector must have VdS attest and meets the standards SRPS EN54-7:2000 and SRPS EN54-5:2000 ; and CEN/TC 72.</p>	pieces	107			
	<p>1.6.8 The parallel light indicator for automatic fire detector, mounted in the space of suspended ceiling.</p>	pieces	77			
1.7	Detector System Quantity: 1 set					

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Checking the existing installations and equipment and installation of the components of the existing fire alarm system:	Quantity				
	1.7.1 Optical detector;	pieces	165			
	1.7.2 Thermal detector;	pieces	2			
	1.7.3 Detectors in ventilation ducts;	pieces	6			
	1.7.4 Manual call point with addressable modules;	pieces	8			
	1.7.5 EX-detector: addressable input module for binding collective elements in the loop, Safety Zener barrier for accepting and connecting Exi fire detectors, for installation outside of the potentially explosive area in a distribution cabinet or box; Optical fire detector in Exi version, with the foot for mounting.	piece	1			
	1.7.6 Siren;	pieces	10			
	1.7.7 Addressable module with 4 inputs in a box for mounting, for bonding of existing centrals, for activation of fire extinguishing SFP 512 on fire central	pieces	3			
1.8	Structured Cabling System (GC-MS) Quantity: 1 set					
	Device for uninterrupted power supply (UPS) of active equipment in the communication cabinet, Online UPS, RM (2U), 2000 VA, 1800 W, 6-16 min, 6xIEC-C13.	Piece	1			

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
1.9	Video Surveillance System Quantity: 1 set					
	1.9.1 Camera for indoor installation: <ul style="list-style-type: none"> ▪ 1,3 MPix, 1/3 inch colour IP camera SXGA 1280×960: max. 12 fps, VGA 640×480 or QVGA 320×240: max. 25 fps; ▪ integrated lens 3,0 – 90mm, F1-2; ▪ mechanical IR filter; ▪ integrated Web Server; ▪ duplex two-way audio G.726; ▪ min. illumination 0.4 Lux; ▪ auto electric shutter between 1-25 and 1-10,000 sec; ▪ back-light compensation (BLC); ▪ 1×BNC, 1×Ethernet 10/100 Mbps, audio jack 3,5 mm, 1 alarm input, 1 alarm output, RS 485 connector; ▪ multi-user environment; ▪ motion detection and e-mail notification; ▪ signal and noise ratio minimum 50 dB; 					
	<ul style="list-style-type: none"> ▪ alarm input; ▪ power supply 12 V DC - 24 V AC or PoE; ▪ supported protocols TCP/IP, UDP/IP, DHCP, DNS, HTTP, RTP (RTCP, RTSP), SMTP, NTP, IGMP v3, UPnP; 2GB SD card.	pieces	12			

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<p>1.9.2 PC:</p> <ul style="list-style-type: none"> ▪ Case: Desktop,Midi Tower AC 230V, 50-60 Hz ▪ Processor: minimum 3.2GHz, 6MB Cache ▪ minimum USB 2.0 x 4, minimum USB 3.0 x 2 ▪ Memory minimum 8GB DDR3 1600MHz ▪ Hard Drive minimum 1TB SATA 7200RMP ▪ Graphic Card, Minimum 1GB DDR3, 128-bit, DVI-I, DisplayPort ▪ CD/DVD +/- RW ▪ LCD Display 24", minimum resolution 1920x1080, DisplayPort and DVI input; ▪ The operational processing capabilities to 16 stream signals of video surveillance. ▪ Operating System: Windows 7 Professional 64-bit or equivalent 	piece	1			
	<p>1.9.3 Workstation – PC with required characteristics for client software of video surveillance system, equipped with a graphics card with outputs and network card 10/100 Mb:</p> <p>Processor minimum 3MB cache;</p>					

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> ▪ SATA 4; 1× PCI-Ex16; 1×PCI-E; 2×PCI; ▪ VGA, HDMI; 4×USB 2.0 on board; 4×USB 2.0 external to the body; ▪ Network 1000Mb/s; ▪ Memory minimum 4 GB DDR3, 1600MHz ▪ Hard disk minimum 500GB; SATA; 3.5 " ▪ Graphics Card minimum 1GB DDR3; 128 bit; D-sub, DVI, HDMI; ▪ Optical drive (DVD) - DVD / CD RW; SATA; ▪ Keyboard set-YU, PS-2 ▪ Optical mouse, PS-2; ▪ Power-500W ATX; ▪ Computer chassis with power-Midi-Tower, ATX; ▪ Power requirements – AC 230 V, 50-60 Hz ▪ Operating System: Windows 7 Professional 64-bit or equivalent 	pieces	2			
	1.9.4 LCD Display 24", minimum resolution 1920x1080, LED-backlit, DisplayPort and DVI input	pieces	4			
	1.9.5 Poe switch: <ul style="list-style-type: none"> ▪ 24×10/100/1000 AT-POE RJ45 ports; ▪ 4×combo SFP ports; ▪ 2× dedicated stacking ports and external RPS connector; 	piece	1			

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	1.9.6 Software for video surveillance, package with basic license for 5 cameras; with licensed database capacity 2500 photos/sec, with 1 Master client and 1 Just View client.	pieces	8			
	1.9.7 Programming and parameterizing of video surveillance software, input of logic connecting elements, communication networks	Lump Sum				
1.10	Access Control System and Video Interphone – Set 1 Quantity: 1 set					
	1.10.1 The central device of access control system, with the possibility of programming of the system according to customer requirements, with the possibility to establish a connection to the computer, with the power supply and rechargeable battery 12V - 26Ah, with the software support.	piece	1			
	1.10.2 Dual interface module (DRI) in housing, with inlets, protection category IP66: <ul style="list-style-type: none"> input-output reader or two independent readers; relay output for lock; REX key input 3 additional inputs; input for gate control; additional relay output; LEDs indicators for status monitoring; 12 – 32 V DC power supply; 	pieces	6			

1. Item Number	2. Specifications Required			3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	1.10.3 Proximity reader with additional integrated encoder: ▪ Miro/Hitag1/Hitag2/Sipass cards; ▪ 125 KHz; ▪ reading range $\leq 7\text{cm}$; ▪ RS485, Clock/Data, Wiegand interface; ▪ protection category IP65;	pieces	12					
	1.10.4 Registration reader: ▪ ability to input and read data from the sector and card blocks;	piece	1					
1.11	Access Control System and Video Interphone – Set 2 Quantity: 1 set							
	1.11.1 PVC proximity card, 13,56 MHz.	pieces	100					
	1.11.2 Server of access control system: ▪ Case: Desktop/Midi Tower AC 230V, 50-60 Hz							

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> Processor: minimum 3.2GHz, minimum 6MB Cache, 64-bit LAN, Audio, RS-232, minimum USB 2.0x4, minimum USB 3.0 x2 Memory: minimum 8GB DDR3 1600MHz Hard Drive: minimum 2X2 TB SATA 7200RMP 64MB cache Graphic Card: minimum 1GB DDR3, 128-bit, DVI-I, DisplayPort CD/DVD +/- RW LCD minimum 24", resolution 1920x1080, DisplayPort and DVI input Operating System: Windows 7 Professional 64-bit or equivalent 	piece	1			
	1.11.3 Software license for access control system, for its control and full management, complete with a software package for the development of relational databases and graphic description pages of events, historical database, interaction with other systems	piece	1			
1.12	Access Control System and Video Interphone – Set 3 Quantity: 1 set					
	Programming of the access control system.	Lump Sum				

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
1.13	Automatic Gas Detection System Quantity: 1 set					
	Distribution cabinet of switchboards for reporting increased concentrations of toxic or explosive vapours and gases.	Quantity				
	1.13.1 Central unit for gas detection for placement of the control modules for connection of designed gas detectors and place for subsequent extensions: <ul style="list-style-type: none"> intended for wall mounting, with lockable door (dimensions WxHxD 600x800x300mm); 35 inlets PG 13,5; 30 inlets PG 11; control module for gas detector connection, with capacity of 32 detectors, expandable ≤ 64 detectors; two input cards with minimum 16 analogue inputs AI 16, with minimum one output card DIO 32 and alarm relays with switching contacts; LCD display for alternate display of the measured gas concentrations in detectors; LED indicators for alarms, faults and power; charging unit 220 V AC - 24 V DC, 3 A, with rechargeable batteries 2x12 V - 7,2 Ah for charging the control module, gas detector and alarm devices; 					

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> 6 relay cards with three relays each 24 V - 2 A; internal buzzer; 30 pcs. of VS terminals; 8 pcs. of end VS terminals; melting fuse 10 A. Complete with accessories for connecting the equipment and wall mounting. 	piece	1			
	1.13.2 Detectors for toxic and explosive gases: <ul style="list-style-type: none"> explosive protection and certificates II 3G EEx nA IIC T4; tests: II 2G EEx d IIC T4 PTB 00 ATEX 1076U; SIL 1 capability; detection principle – catalytic by combustion; gas measuring – explosive gases and vapours; measuring range 0 – 100% LEL; signal exit: 4 – 20 mA; operating temperature: -40 +55°C; charging voltage: 24 V DC; protection level – IP 54; construction – stainless steel sensor, aluminium housing; detector calibration – at H2; re-certification of detector. 	pieces	12			
	1.13.3 Illuminated board, one-sided, for inside installation, with inscription “GAS! NE ULAZI”.	pieces	8			

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	1.13.4 Illuminated board, one-sided, for inside installation, with inscription "GAS! NAPUSTITE PROSTORIJU! "	pieces	7			
	1.13.5 Alarm sirens with yellow flash, for internal installation on the wall, 24 V, 46 mA.	pieces	9			
	1.13.6 220V or 360V for interruption of the gas flow at the main system supply line.	Lump Sum				
	1.13.7 Cable type NHXHX 4×1,5 mm ² for detectors connection.	m	280			
	1.13.8 Cable type JE-H(St)H 2×2×0,8 mm FE180/E30 for connection of signal elements and executive function.	m	390			
	1.13.9 Cable type NHXHX 3×1,5 mm ² FE180/E30 for connection of EM valve.	m	80			
	1.13.10 Halogen free elastic PVC hose Ø 25 mm	m	280			
	1.13.11 Commissioning: ▪ Control of correctness of the performed installation; ▪ Switchboard program; ▪ Documents (operation and programming manual, list of devices and certificates); ▪ Report on the correctness.	Lump Sum				
1.14	Distribution of Special Gasses System Quantity: 1 set					
	Specification:	Quantity				
	1.14.1 solenoid valve connections for Æ 12×1 mm pipe;	pieces	2			

1. Item Number	2. Specifications Required			3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	1.14.2 inlet-outlet connections for connection of primary panels with main pipes, material stainless steel, connections with indenting rings;	pieces	15					
	1.14.3 control panels for secondary reduction EM 65-1, inlet P max. = 40 bar, outlet P max. = 10 bar for nitrogen 5.0, hydrocarbons free synthetic air 5.0, hydrogen 5.0, argon 5.0 and helium 5.0;	pieces	86					
	1.14.4 fire protection cartridge for hydrogen;	pieces	17					
	1.14.5 seamless stainless steel pipes; ▪ fi12×1 mm;	m	485					
	1.14.6 seamless stainless steel pipes; ▪ fi8×1 mm;	m	400					
	1.14.7 elbows, T-pieces, couplings: ▪ fi12×1 mm;	pieces	120					
	1.14.8 elbows, T-pieces, couplings: ▪ fi8×1 mm;	pieces	120					
	1.14.9 connectors for connecting the pipelines;	pieces	86					
	1.14.10 aluminum channels for pipeline guidance;	m	60					
	1.14.11 plastic pipe holders: ▪ fi12×1 mm;	pieces	330					
	1.14.12 plastic pipe holders: ▪ fi8×1 mm;	pieces	330					
	1.14.13 pipe holders, made of perforated galvanized strap;	pieces	16					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	1.14.14 installation of electric cable for signaling	Lump Sum					
1.15	Electromotive Drive System Quantity: 1 set						
	Command centre	Quantity					
	1.15.1 Hardware – PC workstation <ul style="list-style-type: none"> ▪ Case: Desktop/Midi Tower AC 230V, 50-60 Hz ▪ Processor: minimum 3.2GHz, minimum 6MB Cache, 64-bit ▪ minimum USB 2.0x4, minimum USB 3.0 x2 ▪ Memory: minimum 4GB DDR3 1600MHz ▪ Hard Drive: minimum 1TB SATA 7200RMP 64MB cache ▪ Graphic Card: minimum 1GB DDR3, 128-bit, DVI-I, DisplayPort ▪ CD/DVD +/- RW ▪ LCD minimum 23", resolution 1920x1080, DisplayPort and DVI input ▪ Operating System: Windows 7 Professional 64-bit or equivalent 	piece	1				
	1.15.2 Software <ul style="list-style-type: none"> ▪ visualization; ▪ time programming; ▪ drivers for EY-modules, 2 series; ▪ 5 Web clients; 						
	<ul style="list-style-type: none"> ▪ report generation; ▪ PLC functionality; ▪ OPC server and client. 	Set	1				

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	1.15.3 Services regarding the automatic control cabinet: <ul style="list-style-type: none"> cabinet installation on the building; electrical connecting of the previously marked cables on the cabinet side; starting-up the cabinet; Installation service of the automatic stations (AS) 	Lump Sum				
	1.15.4 Application software for programming of microprocessor sub-stations with all the necessary program modules for proper operation of the system with minimum 250 addresses.	piece	1			
	1.15.5 Programming of required regulators in order to provide functional operation of systems	Lump Sum				
1.16	Documentation for the automatic stations system end user Quantity: 1 set					
	1.16.1 Documentation for the equipment in the field and automatic stations. <ul style="list-style-type: none"> description of the automatic control; manual for command managing unit; system application schemes; 					

1. Item Number	2. Specifications Required	3. Specifications Offered		4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> ▪ list of the equipment in the field; ▪ list of signals with addresses; ▪ list of automatic stations; ▪ list of valves with calculation data; ▪ installed equipment certificates; ▪ equipment catalogue lists; ▪ electronic version of complete documentation; ▪ programs and licenses; 	Lump Sum			
	1.16.2 Command centre: Programming the workstation in the command centre (CC) in accordance with the thermal-technical and electrical installations and programs in automatic stations (AS) for safe operation of all installations managed on site, providing graphic screens for process data display and selecting commands, navigation and trends.	Lump Sum			

All items	Authorization that the tenderer is approved distributor of the equipment; If the tenderer is not the manufacturer of the equipment, it should provide a proof (certificate or confirmation by the manufacturer) that it is approved/authorized distributor of the equipment in question.			
All items	Installation performed by contractor or authorised service provider. All the equipment must include all necessary parts and standards for its installation.			
All items	Testing of all basic functions of the instrument on a set of producers standard samples commonly used for the corresponding instrument. Installed equipment must be tested as system, compatible with existing system.			
For items 1.12 and 1.15	Training for minimum 3 persons (upon delivery) on equipment handling (familiarisation during installation - working with the equipment in all basic functions of the equipment), equipment maintenance. Details of proposed training methodology, shall be presented in the tender proposal and shall refer to the related equipment			
All items	Technical documentation for equipment (Operating manuals/ Users Guide/ Equipment operating instructions/ Cleaning procedures/ Maintenance procedures/ Calibration procedures) upon delivery.			
All items	Warranty Tenderers must provide local reliable warranty service agent providing maintenance and the rapid supply of equipment spare parts and consumables for the Warranty duration of one year. Offer must include warranty service description including: <ul style="list-style-type: none"> • Service organisation contact data including name, 			

	<p>postal address, telephone number, fax number and e-mail address;</p> <ul style="list-style-type: none"> • Help Desk (phone) support, which must be available during working hours, 8AM – 6PM; • Guaranteed maximum response time to submitted maintenance support request (fax or e-mail) of 1 (one) working day; • Guaranteed that any requests for services will be attended to within 24 hours; • Guarantee that all items can be repaired or alternatively replaced within a maximum of 72 hours; • Guarantee that genuine spare parts and consumables will be available for a period of minimum 3 years from the date of final acceptance of the equipment. 			
All items	<p>Commercial warranty</p> <p>1 year (after the end of 1 year standard warranty) in accordance with the conditions laid down in Article 32 of the General Conditions and Article 33 of the Special Conditions.</p> <p>Detailed description of the organisation of the proposed service and description of the Manufacturer's commercial warranty shall be included in the offer.</p>			