ANNEX II + III: TECHNICAL SPECIFICATIONS + TECHNICAL OFFER

Contract title: Lot 1: Supply of equipment for Development Agency of Serbia – Supply of Video - Conferencing System with Elements

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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.

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
1.	**Audio / Video System with Touch Screen Controller** • Built in components: 6 beamforming microphones, PTZ camera, 2 speakers, AI Viewfinder, cable management & retention system, table stand, CollabOS platform • Enclosure: All-in-one enclosure with integrated table stand and speaker suspension system to eliminate vibration-induced camera shake and audio interference • Device Management • Displays Supported - 2 • Display Resolution: 1080p • Network Protocol Support: IPv4, IPv6 • Proxy Support: IP based Proxy, FQDN based Proxy, Proxy using PAC file Camera: • Resolution: 4K, 1440p, 1080p, 900p, 720p, and SD at 30fps • Pan: Motorized ±25° • Tilt: Motorized ±15° • Zoom: 15X HD zoom (5X optical, 3X digital available with upcoming software update) • Diagonal Field of View: 90° • Horizontal Field of View: 82.1° • Vertical Field of View: 52.2°			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	• Total Room Coverage (field of view + pan and tilt): 132.1° horizontal x 82.2° vertical Speakers • Drivers: 2x 70 mm / 2.7 in • Sensitivity: 92 dB SPL @1W, 99dB SPL @8.0W, both +/-2dB at ½ meter • Rated Power: 8W • THD: 1kHz <2% at 1W • Speaker Sampling Rate: 48 kHz • Impedance: 4 Ohms Microphones: • Frequency Response: 90Hz – 16kHz • Sensitivity: >-36dBFS +/-1 dB @ 1Pa • Microphone Data Rate Output: 48KHz • Pickup Range: 15 ft / 4.5 m • Beamforming Elements: Six omnidirectional digital MEMS microphones forming five adaptive acoustic broadside beams • Audio Processing: AEC (Acoustic Echo Cancellation), VAD (Voice Activity Detector) • Noise Suppression: AI based de-noising algorithm • Add-on Mics: Supports up to 3 additional Rally Mic Pods for larger conference rooms Additional system technology: • Renders natural skin tones for each participant • Maintains persistent room awareness and detects human figures to auto-frame participants			

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	• Distinguishes speech from other sounds to auto-level voices while suppressing background noise and echo Interfaces: • HDMI Out: 2 • HDMI In: 1 • USB: 3x Type A, 1x Type C • Network: 10/100/1G Ethernet • WiFi: 802.11a/b/g/n/ac • External Mic Input: Yes (proprietary input supports optional Rally Mic Pod, Rally Mic Pod Hub, and Rally Mic Pod Extension Cable) • Remote Control: Bluetooth® Low Energy Power supply and cables: • Power Supply: Auto-sensing • Operating Voltage/Power: 100-240V, 19V, 4.74A • Power Supply Dimensions: 5 in (127 mm) x 2.01 in (51 mm) x 1.18 in (30 mm) • DC Cable: 5 ft (1.5 m) • AC Cable: 3.28 gy (1 m) • HDMI 1.4 Cable: 7 ft (2 m) • USB A to USB C 3.0 Cable: 2.2 m/7.2 ft Environmental: • Operating Temperature: 0 to 40°C • Storage Temperature: -40 to 70 °C • Humidity: 10 to 95% • BTU/hr: 57 idle, 64 in meeting Security: • Full Disk Encryption: AES-128 • Data Encryption: Symmetric Keys, PKI			

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	• Device Identity: Protected by device attestation • Device Access: Authenticated using API • Key Protection: Arm TrustZone, RPMP Certifications & Compatibility • Certifications: Zoom™ Certified, Certified for Microsoft Teams • Compatibility: Plug and play USB connectivity with any video conferencing application • Appliance mode: Supports compatible video conferencing software in appliance mode (no PC required), including Zoom Rooms Appliances. Package Content • Rally Bar • Power supply • AC power cord • HDMI cable • USB cable • Remote control • Lens caps for main camera and AI Viewfinder • User documentation • All elements necessary for installation-mounting of the equipment on the movable stand must be supplied **Touch Screen Controller** Dimensions • Height: 58 mm • Width: 244 mm • Depth: 179 mm			

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	• Weight: 1.25 kg maximun Touch sensitive display: • 10.1" diagonal screen with 14° display angle • Oleophobic and anti-glare coating • 1280 x 800 resolution (minimum) System requirements • Windows® 10 • Chrome OS™ 80 and higher • USB 2.0, 3.0, or 3.1 Type A port Ports and Interfaces • USB 2.0/3.0/3.1 Type C (to meeting room host system) • USB 2.0 Type A (for accessory connection) • HDMI input (for 1080p video + audio content sharing) • 3.5 mm 4 pole Headset Jack • Internal cable retention and strain relief system • Integrated ultrasonic speaker • Integrated PIR Motion Sensor • 100mm x 100mm VESA FDMI (Flat Display Mounting Interface) • Kensington Lock slots 2 Compatibility and Certificates: • Certified as a touch controller for video conferencing room solutions • Google Meet™, GoToRoom, Microsoft Teams Rooms on Windows, Pexip™ Room, RingCentral Rooms™, Zoom Rooms™ • DisplayLink Plug and Display™: Controller can connect over USB as additional display for			

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	supported operating systems including Windows 10 i Chrome OS Package content for Touch Screen Controller: Package content for Touch Screen Controller with Cat5e Kit: - Touch Screen Controller - Cat5e Kit (all necessary Cat5e cables and connectors) - Receiver - Dongle Transceiver - 100-240v Power Supply with International Adaptor Set - 2.97 m Cat5e Cable - 7.0 m Cat5e Cable - HDMI 1.4a cable 2.0 m - VESA Mounting Screws (4) - All necessary elements for wall mounting or desktop mounting - Microfiber Cloth - Documentation - Audio-video system must be installed/mounted at movable stand by contractor - Audio-video system must be functionally connected to a computer, connected to a controller and operationally tested and functional.			
	Quantity 1			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
2	**Computer:** • Processor Intel, Core i7, 8 cores, Intel i7-10700T (or equivalent), 2.0 GHz • Chipset Q470 (or equivalent) • RAM 16 GB, DDR4 2666MHz • HDD 512 GB SSD • OS Windows 10 Pro • Wireless PC adapter • HDMI port x1 • Display port x1 • USB 2.0 port x2 • USB 3.0 port x3 • USB 3.1 port x1 • USB Type C_PC x1 • Case - Desktop Mini • Keyboard - Wireless, Serbian Latin + batteries for the keyboard • Mouse Wireless, optical + batteries for the mouse • Case dimensions (WxHxD mm) 180x35x180 (maximum) **Quantity:1**			
3	**Wi-Fi Access Point**			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	General: - AP Type: AP type: Indoor, dual radio, 5GHz 802.11ax 4x4 MIMO and 2.4GHz 802.11ax 2x2 MIMO Networking: - Form Factor: In-ceiling - Connectivity Technology: Wireless - Data Transfer Rate: 4.8 Gbps - Line Coding Format: CCK, 64 QAM, 256 QAM, BPSK, QPSK, 16 QAM, OFDM, 1024 QAM, OFDMA - Data Link Protocol: IEEE 802.11b, IEEE 802.11a, IEEE 802.11g, IEEE 802.11n, IEEE 802.11ac, Bluetooth 5.0, IEEE 802.11ax (Wi-Fi 6) - Spread Spectrum Method: OFDM, DSSS - Frequency Band: 2.4 GHz, 5 GHz - Performance: Maximum data rate (2.4 GHz): 575 Mbps, Maximum data rate (5 GHz): 4.8 Gbps, Aggregate bandwidth: 5.4 Gbps - Capacity: Wireless clients per Wi-Fi radio: 256, OFDMA units: 16, BSSIDs per radio: 16 - Status Indicators: System, status - Features: Trusted Platform Module (TPM), LACP support, Adaptive Radio Management (ARM), Maximum Ratio Combining (MRC), Low Density Parity Check (LDPC), Transmit Beam-forming (TxBF) ready, Direct Sequence Spread Spectrum (DSSS), Cyclic Delay Diversity (CDD), Space Time			

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	Blocking Code (STBC), Advanced Cellular Coexistence (ACC), ClientMatch, cyclic shift diversity (CSD), AppRF technology, MU-MIMO technology, packet aggregation A-MPDU, packet aggregation A-MSDU, Air Monitor (AM), Intelligent Power Monitoring (IPM), Dynamic Frequency Selection (DFS), Secure Core Technology (SCT), High-Throughput (HT) support, 4x4 MU-MIMO technology, LED off mode, Orthogonal Frequency Division Multiplexing (OFDM), Aruba AirMatch, spectrum analyzer, Very High Throughput (VHT) support, Orthogonal Frequency Division Multiple Access (OFDMA), unified AP support, custom deep-sleep mode, High Efficiency (HE) support, Target Wait Time (TWT) • Encryption Algorithm: WPA, WPA2, WPA3 • Compliant Standards: IEEE 802.11b, IEEE 802.11a, IEEE 802.3af, IEEE 802.11g, IEEE 802.11n, IEEE 802.3at, IEEE 802.11ac, IEEE 802.3bz, IEEE 802.3bt, IEEE 802.11ax Expansion / Connectivity: • Interfaces: 1 x Smart Rate - RJ-45, 1 x 1000Base-T - RJ-45, 1 x USB 2.0 - Type A, 1 x console - micro-USB • Power: • Power Over Ethernet (PoE) Supported PoE • Power Consumption Operational 16 Watt			

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	Antenna: - Antenna Internal - Antenna Quantity 4 - Directivity Omni-directional - Gain Level 7.5 dBi - Compliant Standards: UL 2043, FCC, EN 60601-1-1, CE/EMC, Directive 2014/35/EU, Directive 2014/30/EU, ISED, Directive 2014/53/EU, IEC/EN/UL 60950, EN60601-1-2, ETS 300 019 Class 1.1, ETS 300 019 Class 2.3 - Environmental: humidity 5 - 93%, temperature (T-T) 0 - 50 °C, - All elements necessary for installment/mounting of the equipment to ceiling must be included (e.g. mounts, bolts, screws, etc.) - Equipment must be installed to ceiling by the contractor Quantity: 1			
4	TV: - Screen size 65" (165 cm) - Resolution 4K Ultra HD, LED - Smart functions: OS (Operating System) webOS Smart - Remote control: Smart (Magic remote supported)			

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	• Voice search • Quick Access • Internet browser Video: • Picture Mastering Index 60Hz • HDR tehnology: Active HDR • HDR10 Pro • HLG Pro • Nano Cell tehnologija LCD • Procesor: Quad Core Processor 4K • 4K upscaler Audio: • Audio out (wats) 20W • Speaker system 2.0ch • Clear Voice Slots / Connnectors/ Cables: • HDMI x2 - ARC (Audio Return Channel) • HDMI cable 2m • USB x1 • LAN (Internet access and DLNA) x1 • CI Slot • RF In • WiFi • Bluetooth • Digital Audio Out (Optical) Additional functions • Music player • Channel Advisor			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	• Wi-Di (Wireless Display) – wireless connection with a computer • Airplay (iPhone, iPad, MacBook supported) • Miracast DaSimplink (HDMI CEC) • DLNA • Installment/mounting of the TV onto the movable stand, and all necessary elements (screws, bars etc.) by the contractor must be included **Quantity: 1**			

5	**Monitor:**
	
	• Monitor Size 23.8"
	• Display Resolution 1920 x 1080
	• Brightness 250 cd/m^2
	• Aspect Ratio 16:9
	• Contrast Ratio 3000:1
	• Connection Type
	    ○ 1 x HDMI 1.4
	    ○ 1 x VGA
	    ○ 1 x Audio Out (3.5mm)
	• Weight 3.1 Kg (max)
	• Backlight WLED
	• Response Time 5ms (Extreme Mode), 6ms (Normal Mode)
	• Panel Type Vertical Alignment
	• Viewing Angle 178 / 178 degrees
	• Stand Tilt Angle (-5° / 22°)
	• EU Energy Rating A+			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	• Power Requirement 100 - 240 VAC, 47 - 63 Hz • Included Accessory HDMI cable 1,8m (minimum) • Color Support 16.7 Million • Kensington Lock • Power Consumption 18W Typical, 23W Max, <0.5W Sleep, <0.3W Power Off **Quantity 1**			
6	**Projector:** Technology • Projection System: 3LCD Technology, RGB liquid crystal shutter • LCD Panel: 0,61 inch with MLA (D10) Image • Color Light Output: 3.400 Lumen- 2.200 Lumen (economy) In accordance with ISO 21118:2013 • White Light Output: 3.400 Lumen - 2.200 Lumen (economy) In accordance with ISO 21118:2013 • Resolution: Full HD 1080p, 1920 x 1080, 16:9 • High Definition: Full HD • Aspect Ratio: 16:9 • Contrast Ratio: 16.000 : 1 • Light source: Lamp • Lamp: UHE, 210 W, 6.000 h durability, 12.000 h durability (economy mode)			

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	• Keystone Correction: Auto vertical: ± 30 °, Manual horizontal ± 30 ° • Colour Video Processing: 10 Bits • 2D Vertical Refresh Rate: 192 Hz - 240 Hz • Colour Reproduction: Upto 1.07 billion colours Optical • Throw Ratio: 1,02 - 1,23:1 • Zoom: Manual, Factor: 1,2 • Lens: Optical • Screen Size: 30 inches - 300 inches • Projection Distance Wide/Tele: 1,02 m - 1,23 m (60 inch screen) • Projection Lens F Number: 1,58 - 1,7 • Projection Lens Focal Length: 14,06 mm - 16,82 mm • Projection Lens Focus: Manual • Offset: 14 : 1 Connectivity • USB Display Function: 2 in 1: Image / Mouse • Interfaces: USB 2.0 Type A, USB 2.0 Type B, VGA in, HDMI in (2x), Composite in, Cinch audio in, Wireless LAN IEEE 802.11b/g/n, Miracast, Stereo mini jack audio out: Advanced Features • Security: Kensington lock, Security cable hole, Password protection • 2D Color Modes: Dynamic, Cinema, Bright Cinema			

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	• Other features: AV Mute Slide, Automatic keystone correction, Built-in speaker, Horizontal and vertical keystone correction, MHL audio/video interface, Quick Corner, Split-Screen-Function • Video Color Modes: Cinema, Dynamic, Game, Bright Cinema Power Consumption • 327 Watt, 225 Watt (economy), 0,3 Watt (standby), On mode power consumption as defined in JBMS-84 286 Watt • Supply Voltage o AC 100 V - 240 V, 50 Hz - 60 Hz Dimensions (W x D x H) • 302 x 252 x 92 mm (max) • Weight 3 kg (max) Noise: • Noise Level Normal: 37 dB (A) - Economy: 28 dB (A) Package content: • Main unit, Power cable, Quick Start Guide, Remote control incl. batteries, User manual (CD), Warranty card, HDMI cable 3m • Positioning Ceiling Mounted, Desktop • Additional lamp in the package **Quantity 1**			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
7	**Projection Screen (wall mount electrical):** Type: Electric with remote control • Dimensions 180cm x 180cm • Viewing area 172cm x 172cm • Sides Ratio 1:1 (square) • Positioning: wall mount, ceiling mount • Case dimensions 202.8cm x 9.2cm x 9.2cm (L1xD2xD2), with ceiling mounts • Weight 11kg (max) • Remote control with batteries • Projection Screen must be mounted to the wall by the contractor upon delivery **Quantity: 1**			
8	**Projection Screen (movable on tripod):** • Type: Manuel, on tripod • Tripod • Dimensions 180cm x 180cm • Viewing area 172cm x 172cm • Sides Ratio 1:1 (square) • Weight 7.5kg (max) **Quantity: 1**			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
9	**Movable stand for the video-conferencing system (TV, camera, speakers, PC)** • Stand with wheels must be fully mobile/movable while holding/supporting the mounted video-conferencing equipment • Power distribution unit (PDU) with minimum of 6 outlets and circuit overload switch. • Stand must have adaptable height (a possibility to mount the equipment at several heights, several holes for mounting must be present) • TV 65" bars and screws for mounting on a movable stand • All ancillary mounts, bolts, screws, washers etc., necessary for mounting of equipment onto movable stand • A shelf for computer with mini-case and other elements • Mounting and installment of the TV and video-conferencing system must be included by the contractor • Provide the necessary elements for mounting on a mobile stand **Quantity: 1**			

	Specifications Required	Specifications Offered	Notes, remarks, ref to documentation
a)	**Commercial warranty** For Items under No. 1, 2, 3, 7, 8, 9 (Audio/video system, computer, Wi-Fi AP, Projection Screen Electrical, Projection Screen manual and Movable wheeled stand)	2 years manufacturer's warranty with free spare parts and the work of authorized service technicians, counting from the date of Provisional Acceptance Certificate. Link to the manufacturer's website where the user can check the length and type of warranty based on the serial number of the device must be provided. It is obligatory that on the territory of the Republic of Serbia there is an authorized service center of the manufacturer for subject equipment. This must be proved by submitting a valid service contract of the tenderer with the equipment manufacturer or a certificate issued by the equipment manufacturer, which clearly states that in the territory of the Republic of Serbia there is an authorized manufacturer's service center for the equipment in question. Tenderer must provide a detailed description of the organisation of the proposed service (e.g. name of the authorised service provider).	

	Specifications Required	Specifications Offered	Notes, remarks, ref to documentation
b)	**Commercial warranty** For Items under No. 4, 5 (TV and Monitor)	3 years manufacturer's warranty with free spare parts and the work of authorized service technicians, counting from the date of Provisional Acceptance Certificate.	
c)	**Commercial warranty** For Item under No 6 (Projector, lamp and additional lamp)	2 years manufacturer's warranty for the projector and 3 years warranty for the lamps or 3000h with free spare parts and the work of authorized service technicians, counting from the date of Provisional Acceptance Certificate.	
d)	**Mounting and Testing** For Items No 3 (Wifi access point)	Mounting Wifi access point to ceiling, connecting it with network and operational and functional testing of the equipment is necessary.	

	Specifications Required	Specifications Offered	Notes, remarks, ref to documentation
e)	**Assembling, mounting, testing and operational and functional testing and commissioning** For Items No 1, 2, 4, 9 (audio / video system, computer, TV and Movable wheeled stand)	Mounting of the TV, computer and audio-video conferencing system onto movable wheeled stand, connecting all the system elements, connecting the internet via wifi access point and testing of the operational and functional work of the system and commissioning.	
f)	**Mounting and testing** For Item No 7 (Projection Screen (wall mount electrical))	Mounting onto the wall and operational and functional testing.	
g)	**General conditions**	Items must comply with the all of applicable regulations of Republic of Serbia and European Union regarding quality of materials and workmanship, class of motor and fuel, electricity, environmental protection and safety.	

	Specifications Required		Specifications Offered	Notes, remarks, ref to documentation
h)	**Documentation**	Upon delivery of the goods a technical documentation for equipment (such as instruction manual for the use, maintenance, calibration, etc. as applicable), shall be provided.		

Annex II + III: Technical Specifications + Technical Offer - part II – Place of delivery/Acceptance

Item	ARTICLE	Name of person responsible for provisional and final acceptance	Place of acceptance
Lot 2	**All items under Lot 2, Items No.1- No. 9**		Ministry of Economy 10 Vlajkovićeva St, floor III, Belgrade 11 000 Serbia

Authorised Contact Person	Delivery address
Name: Zoran Jovanović **Phone:** +381 64 89 33 217 **E-mail:** zoran.jovanovic@privreda.gov.rs **Working hours:** 7:30 – 15:30	Ministry of Economy 10 Vlajkovićeva St, floor III Belgrade 11 000 Serbia