

NOTICE OF PARTICIPATION

regarding the purchase of an audio-video debriefing simulator for medical staff training
through an open tender procedure

*The procedure has been included in the contracting authority's public procurement plan
(Yes/No): **Yes**

Link to the published public procurement plan: www.ambulanta.md

1. Name of the contracting authority: PMSI National Center for Prehospital Emergency Medical Assistance
2. Unique Identification Number (IDNO): 1015600032824
3. Address: Chisinau, Constantin Vârnăv Street, 16
4. Telephone/Fax number: +373 22 02-59-21
5. Email and website of the contracting authority: cnamup@ambulanta.md / www.ambulanta.md
6. Email or website from which the tender documentation can be accessed: the tender documentation is attached within the procedure in the Automated Public Procurement System (SIA RSAP)
7. Type of contracting authority and main field of activity: Public Medical-Sanitary Institution
8. The purchaser invites interested economic operators, who can meet the requirements, to participate in the procurement procedure for the delivery of the following goods:
Lot no. 1: Audio-visual debriefing and simulation system for medical staff training

Annex No. 1

Description of the premises and the software

1. Technical framework conditions

1.1 Preliminary remarks

The subject of the tender is the delivery, installation and commissioning of the system described below, including all components. All specialist soldering and patching work, the assembly of the plug connections, internal cabling, the power sub-distribution of the system as well as all consumables and fastening materials necessary for the legally compliant operational suitability of the system components are included in the subject matter of the tender and are therefore to be provided by the contractor.

The signal supply lines to the plant room laid in the suspended ceiling are provided by the customer and must be agreed with the electrical planner.

All cables used in the visible area must be white; this only does not apply if there is a deviating specification. In addition, the quality and design of all cables used must correspond to the state of the art. Furthermore, all cables required for the subject of this tender must be halogen-free.

The system components must be configured and arranged according to user requirements. In addition, all system components must be labeled according to user requirements. Furthermore, all system components must be secured in accordance with the applicable regulations. In addition, the Contractor must provide its services with the care of a specialist in accordance with the generally recognized rules of technology, in compliance with all applicable laws and regulations, all relevant standards and technical guidelines, the safety regulations and in compliance with all conditions required by the authorities.

1.2 Description Audiovisual recording and debriefing system for simulation training

The PMSI National Center for Prehospital Emergency Medical Assistance is planning to set up Emergency, Disaster and Crisis Medicine Training Center in which simulation training focusing on communication and assessment will be carried out. An audiovisual recording and debriefing system is to be purchased for this purpose. This must be modular and expandable to allow for future expansion.

Part of the modular expandability is the ability to seamlessly combine mobile A/V simulation systems with the permanently installed system.

The hardware and software must be coordinated with each other. The software developed for planning, controlling, recording, and debriefing simulations in the healthcare sector must be state of the art and guarantee scope for future developments. All components must be perfectly coordinated and implemented in the corresponding rooms.

The system that is the subject of this order comprises **6 simulation rooms, 5 control rooms, 3 debriefing rooms and a technical/server room.**

The integrated system shall include all equipment and software necessary to fully equip the following premises (see room plans) in accordance with the requirements and functions described in this service book. The system will be fully implemented and managed by the successful provider who will ensure the seamless integration of the proposed solution in relation to the requirements and premises.

All rooms of the Center must be used simultaneously, the simulation training or exam must be filmed, viewed live and played back for debriefing.

1.2.1 Simulation rooms

The simulation rooms are to be equipped with IP cameras, microphones and loudspeakers. In addition, a screen should be provided for the display of media files.

Voice quality is an important criterion for the audio system. This should be clearly understandable to the best of our ability. All room microphones must transmit their signals via the Dante network protocol (<https://www.audinate.com>) and must be implemented in a central, professional digital audio optimization system. The audio signals must therefore be enhanced by a digital audio DSP with functions such as Acoustic Echo Cancellation (avoiding echo or feedback of the voice-to-room), Background Noise Compensation and Automated Gain Control before they are recorded or streamed.

Simulation rooms

Room 030 Sală: simulatoare electronice (41 m²)

Room 104 Sală: simulator traumă, adult, pediatrie, naștere (22 m²)

Room 106 Sală: simulator „ambulanță” (37 m²)

Room 116 Sală: simulator traumă, adult, pediatrie, naștere (40 m²)

Room 129 Sală: simulator „dispecerat” (25 m²)

Room 132 Sală: simulator „ambulanță” (34 m²)

1.2.2 Control rooms

In the control rooms, users can view and control the video and audio signal via control software and start and stop the scenario recordings. A comment function makes it possible to add a unique time stamp to observations, comment on them and find them again later in the debriefing. Ideally, the control software is operated via 2 screens with touch input. However, conventional operation via keyboard and mouse must also be possible.

Tablets should be provided as a mobile solution for inserting time stamps and comments or filling in checklists. Ideally, these are also used to control debriefing.

Push-to-talk microphones must be provided for communication in the various rooms. These should enable the following communication variants:

- Voice to Room (permanently installed loudspeakers in all simulation rooms)

It must be possible to select all output devices from all five control rooms. Ideally, only one microphone is required for this.

A recording device via HDMI or video grabber should be provided for the integration of external video sources (e.g. patient vital monitor). In addition, other I/O interfaces should enable the integration of other devices (e.g. via UDP).

Control rooms

Room 031 Încăpere IT - Control Room 1 (11 m²)
Room 105 Încăpere IT - Dual Control Room 2 (8 m²)
Room 115 Birou operator IT - Control Room 3 (12 m²)
Room 129 Încăpere IT - Control Room 4 (5 m²)
Room 131 Încăpere IT - Control Room 5 (8 m²)

1.2.3 Debriefing rooms

A large-screen TV is planned in each debriefing room to display live streams during the scenario and video recordings during debriefings.

As already mentioned, the debriefing software should ideally be controlled via a tablet. The debriefing is based on the timestamps set during the recording and the notes. The timestamps set should only be visible on the tablet for control purposes, but not on the debriefing screen. The video should only be played back if it has been started on the tablet.

The video must be played back directly from the software. Manually searching for the video in the recording folder in the file structure of the recording computer is not permitted.

Debriefing rooms

Room 130 Sală: briefing 1 (21 m²)
Room 117 Sală: briefing 2 (19 m²)
Room 103 Sală: briefing 3 (26 m²)

1.2.4 Technical room/IT room

Servers, IT center etc. are to be located in room 114 (16 m²) to minimize disruption (noise, heat dissipation).

Technical room/IT room

Room 114: Technical room (16 m²)

1.3. Usecase

1.3.1 Preparation

The simulation room is checked in preparation for simulation training. The viewing angles of the cameras are checked for this. Ideally, a live stream is available on a tablet or smartphone for this purpose.

1.3.2 Simulation training

During the simulation, the participants work through a scenario played out by actors. Instructors and observers are not in the same room in order to make the situation as realistic as possible. Control and observation are carried out from the control room or the debriefing room.

The live transmission usually includes several video streams from different angles or from other playback devices (e.g. surveillance monitor).

The cameras are controlled from the control room. In addition, instructions are given to various audio devices (voice to room).

All audio and video signals that were recorded, as well as the time stamps and annotations that were created during the recording, are saved for immediate playback during the debriefing or archived long-term for the documentation of examinations. Ideally, the annotation can be assigned to an instructor.

1.3.3 Follow-up

The debriefing takes place directly after editing the scenario in the debriefing room. The entire video is not shown, but only selected sequences. This requires direct access to the timestamps and comments in the debriefing software. During the debriefing, the group uses the video to identify and discuss good and less good solutions. This provides optimal support for learning through the AV system.

2. Technical specifications

2.1 Central server cabinet

The Center has a technical room in which a server cabinet in 19" format may need to be installed. The required network and audio technology must be installed in this.

- Multiple servers can be installed. The particular specification will depend on the requirements of the provider and must be powerful enough to easily manage all the tasks required for the overall operation of the AV system. The servers must be able to record all cameras in the system simultaneously and maintain a central database. The dedicated server shall be located in a dedicated storage room at the simulation center. It must be possible to connect to the facility's network. In this case, hardware support is also the responsibility of the provider.
- If installed on a dedicated server, the server system must store up to 5000 hours of video recordings and have a RAID 6 configuration or similar. For long-term storage, a backup storage system may be provided by the facility.
- a central audio DSP system with professional acoustic echo cancellation (AEC), background noise compensation, automatic gain control and equalizer for all microphones in the care lab.
- all network switches (PoE or PoE+) for the proper operation of the system
- All additional devices required for full system operation can be placed in the server room.

All cabling (network connections terminated at the patch panel) are provided by the contracting authority.

2.2 Simulation rooms

Each of the following simulation rooms:

- 104: simulator traumă, adult, pediatrie, naștere (22 m²)
- 106: simulator „ambulanță” (37 m²)
- 116: simulator traumă, adult, pediatrie, naștere (40 m²)
- 129: simulator „dispecerat” (25 m²)
- 132: simulator „ambulanță” (34 m²)

is to be equipped with the following components:

- 1 pc. IP camera for fixed installation, FullHD quality; 2.5x optical zoom and autofocus; control via software, ceiling mounting
 - 1 pc. PTZ IP camera for fixed installation, FullHD quality; 10x optical zoom and autofocus; control via software, ceiling mounting
 - 1 pc. Patient-monitor capture device for capturing the video signal from vital monitors with video-out
 - 1 pc. Professional microphone; mounted in or on the ceiling
 - 1 pc. Professional loudspeaker with sufficient volume for clear instructions from the control room; ceiling mounting
 - 1 pc. All-in-One PC with 24" touchscreen display for media playback PC (media screen).
- 030: simulators electronice (41 m²)

This room includes a slightly extended configuration:

- 2 pcs. IP camera for fixed installation, FullHD quality; 2.5x optical zoom and autofocus; control via software, ceiling mounting

- 4 pcs. PTZ IP camera for fixed installation, FullHD quality; 10x optical zoom and autofocus; control via software, ceiling mounting
- 1 pc. Patient-monitor capture device for capturing the video signal from vital monitors with video-out
- 2 pcs. Professional microphone; mounted in or on the ceiling
- 2 pcs. Professional loudspeaker with sufficient volume for clear instructions from the control room; ceiling mounting
- 1 pc. All-in-One PC with 24" touchscreen display for media playback PC (media screen).
- 1 pc. Portable wireless WiFi camera, FullHD, point-of-view perspective, minimum 3 hours battery life

2.3 Control Rooms

Control Rooms 031, 115, 129, 131

The following control rooms have identical configurations:

- 031: Control Room 1 (11 m²)
- 115: Control Room 3 (12 m²)
- 129: Control Room 4 (5 m²)
- 131: Control Room 5 (8 m²)

Each room must include:

- 1 pc. Control PC, high-performance, mini form factor
- 2 pcs. Monitors, 24" or larger with touch-functionality, keyboard and mouse
- 1 pc. Conference microphone, control station with 2 channels
- 1 pair Active desktop loudspeakers

- 105: Dual Control Room 2 (8 m²)

This room requires:

- 2 pcs. Control PC, high-performance, mini form factor
- 4 pcs. Monitors, 24" or larger, with keyboard and mouse
- 2 pcs. Conference microphone, control station with 2 channels
- 4 pcs. Headphones for operator monitoring
- 2 pcs. Amplifier for headphones to connect multiple headphones to one PC
- 2 pairs Active desktop loudspeakers

2.4 Debriefing Rooms

Debriefing Rooms 103, 117, 130

Each of the following debriefing rooms requires the same configuration:

- 130: Briefing Room 1 (21 m²)
- 117: Briefing Room 2 (19 m²)
- 103: Briefing Room 3 (26 m²)

Required components per room:

- 1 pc. Debriefing PC system, mini format, capable of fulfilling all media and debriefing operations
- 1 pc. Remote control tablet for managing live transmissions and debriefing playback
- 1 pc. Sound bar, wall-mounted
- 1 pc. Professional display (rated for 24/7), minimum 75", 4K resolution, wall-mounted

2.5 Network and Infrastructure Requirements

- WiFi coverage must be ensured in all simulation rooms, control rooms, and debriefing rooms. The wireless network must support stable operation of mobile and tablet-based AV control and video playback across the entire AV system.

- A central AV server must be provided to handle recording, streaming, and media playback functionality.
- An audio DSP (digital signal processor) is required for central audio signal management and routing.
- All required network switches (PoE and/or standard) for AV signal distribution and network connectivity must be provided and installed in the designated server room.

3. Functional and software requirements

3.1 User accounts and security roles

Users must be able to log into the system with their access data and have access to the videos according to their assigned security roles.

Administrators must be able to create different access data for users and assign different security roles. A possibility of authentication via LDAP protocol, as well as single sign-on via Microsoft 365 (SAML or OAuth.) to integrate the system into an existing user login system is desired.

3.2 Preparation of the scenarios

The software must offer the option of preparing and editing scenario templates and uploading media for them. A scenario template can contain the following:

- Various media types (images, videos, PDF documents), which can be displayed via the media screen in the simulation rooms.
- Audio files that can be recorded via the voice-to-room to output a wide variety of ambient sounds.
- Checklists that can be used by teachers for assessment.
- Different types of symbols for bookmarks that can be used for commenting in the respective scenario.

3.3 Control and recording software

- The control software must be simple and intuitive to operate. Operation via a touchscreen is desirable.
- The latency of the live transmission of all video streams must be as low as possible - less than 0.3 seconds required.
- Room Audio must be time synchronized with video streams.
- All video sources (cameras and video grabbers) connected to the system must be accessible via the control software. The number of possible video sources must not be restricted on the software side in order to enable future expansion of the system.
- Option to control the cameras (moving, zooming, focusing) directly from the software without additional external hardware (e.g. joystick).
- Option to combine the video sources into several logically connected views to enable simultaneous viewing of the scene from several angles and also to display the data of any surveillance monitor. It must be possible to name and save these views individually. It must also be possible to arrange the individual video streams in different layout patterns (e.g. quad-split, 1 large and 3 small videos, picture-in-picture, etc.).
- The control software must display a live stream of all video feeds of the currently activated view.
- System must record metadata (e.g. teacher, participants, date, time, etc.). Ideally, this is done via unique IDs of the persons involved.
- Starting and ending a recording must be possible using buttons in the software. When recording is activated, all activated audio and video feeds of the current view must be recorded. Each video

feed must be recorded separately and be at least 1080p HD with a frame rate of 25 frames per second or higher. The software must be able to record videos from several rooms simultaneously.

- It must be possible to broadcast the ongoing recording live to one or more rooms. The option of a live stream via MS Teams is ideal. The live transmission may only play the video views and the synchronized audio, but not the readings and annotations made by the teacher during the simulation.
- Teachers must be able to mark and comment on events during the recording. This should be done by tapping/clicking the relevant symbol on the user interface and setting a time marker. These time markers are visible in a timeline or chronological marker list. It must be possible to add comments to the events via keyboard input.
- During the simulation, the electronic checklists in the control software must be able to be filled in and receive at least three different statuses (e.g. not fulfilled, partially fulfilled, fully fulfilled)
- It must be possible to control the sensitivity (volume) for all microphones individually in the software. It must be possible to activate and deactivate the microphones individually.
- The voice-to-room and voice-to-patient audio tracks must be recorded directly from the microphone in the control room.
- Ideally, the media screens in the simulation rooms and the associated debriefing rooms are controlled via the control software. The teacher must be able to select images, videos or PDF documents from the system's media database and activate and deactivate their display on the media screens.
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3.4 Marking and annotating via tablets

It should also be possible to set timestamps and comments using tablets or other mobile devices. It should also be possible to complete checklists on a mobile device. These recordings should be provided with the ID of the respective person and included in the timeline or the chronological marker list of the recording. This option should function simultaneously with annotation in the control room.

3.5 Live viewing and debriefing software

The software installed on the PCs in the debriefing rooms must support the display of live streams from each simulation room and enable the playback of videos for the purpose of video-based debriefing. The recorded videos must be available for video debriefing immediately after the end of the recording. It must also be possible to start the recording of the next scenario in the control room while the previous scenario is being discussed in the debriefing room.

The software package for the debriefing ideally consists of two parts. On the one hand, this is the playback software for the recorded videos, which are played on the screen of the debriefing room via a PC installed there. On the other hand, there is a tablet or other mobile device that can be used to control the debriefing.

The teacher must be able to open the recorded video with the video player, select the respective sequences via the time stamps set during the recording and start the video 10 seconds before the time stamp. The time stamps and comments are displayed on the mobile device for control purposes. The display on the screen is not necessary; if present, it must be possible to deactivate it.

The video is displayed in the view as it was set during recording. However, it must be possible to play back individual video feeds in full-screen mode.

The files that were displayed on the media screen during the simulation must also be able to be displayed during the debriefing.

3.6 Browser-based access

In addition to the access options to the software (control, debriefing), access to the stored recordings must also be guaranteed via browser-based access (including user authentication). These must be searchable and filterable according to various characteristics (e.g. date, participants, ID, scenario, etc.). If the security role of the logged-in user allows it, it must be possible to edit metadata and delete videos. The browser-based interface must also offer an export function for individual video files containing all recorded audio and video streams. The exported video must be in a resolution of at least 1080p and in a standard format (e.g. mp4) and must be able to be re-encoded. The recording archive should be accessible to all authorized computers in the facility's network.

Ideally, scenarios can also be created and edited via browser-based access to the control software. It should also be possible to upload and provide media files to the media archive via the browser.

4. Planning, installation and commissioning

The offer must include the costs of planning, delivery, configuration, and commissioning of all audiovisual equipment. The installation must be carried out in accordance with the best industry standards and norms applicable at the installation site.

Complete documentation must be provided:

- Professional CAD room plans with the mapping of all equipment
- Block diagrams of entire system and all components
- Detailed cable pulling plans for the system

Network cabling and audio cabling between the rooms is not to be provided. Star-shaped CAT7 network cabling is provided between the central server cabinet and all network devices (cameras, computers) in the care laboratory. Star-shaped audio cabling between the central server cabinet and the individual microphones and loudspeakers in the various rooms is also provided.

Once the audio components have been installed, the speakers and microphones must be individually adjusted and levelled to the room conditions. This includes

- Loudness/Volume equalization (same volume in all rooms)
- Echo cancelation
- Filtering of static background noises
- Dynamic optimization via EQ and compressors

5. Training

The offer must include suitable training packages (at least two full days of on-site training) for both the technical and educational staff.

6. Warranty

The supplier shall provide a minimum warranty of 2 years for all equipment and installations, as follows:

- **In the first year of the warranty:** replacement of defective equipment and installations.
- **In the following warranty years:** repair of equipment and installations. If repair is not possible, the equipment and installations shall be replaced.

All replaced equipment and installations shall be new.

7. Maintenance and support

The supplier must provide a maintenance and support package for a period of 5 years to ensure the continuous operation and integrity of the system.

This includes:

- Hardware and software support during business hours (Monday to Thursday 8-17h CET, Friday 8-15h CET), available by e-mail and telephone in English
- Remote maintenance of the software via the Internet (Teamviewer or similar).
- Software updates at least once a year

8. Privacy policy

Due to the highly sensitive nature of the audio and video data processed, the system must comply with Emergency, Disaster and Crisis Medicine Training Center's privacy policy. The data protection guidelines are intended to ensure that sensitive information remains within the protected network and that the risk of unauthorized disclosure or unauthorized access to personal data is minimized.

The following guidelines must be observed:

The processing and storage of personal data, in particular audio and video recordings, may only take place on servers and computers in the local network of the Emergency, Disaster and Crisis Medicine Training Center. The storage of personal data on external servers or computers outside the network is not permitted. The rules for the processing and storage of data include the transmission of audio and video recordings between mobile and stationary systems. This means that the transfer of data may and must only be possible in the local closed network without an internet connection.

Annex No. 2

Specificații tehnice

No	CPV code	Lot name	UoM	Quantity	Full required technical specification, reference standards	Estimated value (excl. VAT)
1		SIMULATION ROOMS Room 030 Sală: simulatoare electronice (41 m²)				
1.1	38970000-5	IP-Camera, FullHD, 2.5x Optical Zoom, Dome Format	pcs	2	Type: Fixed dome camera for indoor surveillance Functions: min. pan, tilt, rotate Housing: min. IP52 and IK10 certified Resolution: min. 2 MP FullHD 1920x1080 Optical Zoom: min. 2.5x Frame Rate: min. with WDR (Wide Dynamic Range) 25/30 frames per second at 50/60Hz; min. without WDR 50/60 frames per second at 50/60Hz Adjustable Camera Angle: min. +/- 180° pan min. +/- 75° tilt min. +/- 175° rotate Memory: min. 1024 MB RAM min. 8192 MB Flash Video Compression: min. H.264, H.265, Motion JPEG Video Streaming: min. multiple individually configurable video streams in H.264, H.265, and Motion JPEG Adjustable frame rate and bandwidth Low-latency mode Multi-view min. up to 2 individually cropped view areas at full frame rate Image Settings: min. saturation, contrast, brightness, sharpness, forensic min. WDR up to 120 dB depending on the scene min. white balance min. image rotation, mirroring	41800,00

					min. dynamic text and image overlay Network Protocols: min. IPv4, IPv6, USGv6, ICMPv4, ICMPv6 Network Security: min. IEEE 802.1X, IEEE 802.1AR, Network Time Security min. IP address filtering Interfaces: min. 1x RJ45 min. 4-pin terminal block 2.5mm min. audio 4-pin connector block 2.5mm for audio input and audio output: min. input for external microphone System Integration: min. open API for software integration: Support for SIP (Session Initiation Protocol) for integration into VoIP systems, peer-to-peer or SIP (PBX) Analytics Function: incl. analytics function, detection of object classes such as people, and detection of scenarios such as objects in the area, dwell time in the area Power Supply / Power: min. PoE IEEE 802.3af / IEEE 802.3at max. 5.5W Weight: max. 700g Mounting: incl. mounting bracket with holes for junction box, as well as for wall or ceiling mount	
1.2		PTZ IP-Camera, FullHD, 10x optical zoom, Dome Format	pcs	4	Type: PTZ dome camera for indoor surveillance Housing: IP66, NEMA 4X and/or IK09 certified Resolution: min. 2 MP FullHD 1920x1080 Optical Zoom: min. 10x Frame Rate: min. with WDR (Wide Dynamic Range) 25/30 frames per second at 50/60Hz min. without WDR 50/60 frames per second at 50/60Hz Pan/Tilt: min. 360° endless min. 90° Memory: min. 512 MB RAM min. 256 MB Flash Video Compression: min. H.264, Motion JPEG Video Streaming: min. multiple individually configurable video streams in H.264 and Motion JPEG Image Settings: min. saturation, contrast, brightness, sharpness, forensic min. white balance min. image freeze during PTZ Network Protocols: min. IPv4, IPv6, USGv6, HTTP Network Security: min. IEEE 802.1X, brute-force protection, password protection min. IP address filtering Interfaces: min. 1x RJ45 min. 6-pin connection block with spring-loaded terminals for 4 configurable inputs/outputs System Integration: min. open API for software integration Analytics Function: incl. analytics function Power Supply / Power: min. PoE IEEE 802.3af / IEEE 802.3at max. 14 W Weight: max. 1.3 kg Mounting: incl. mounting bracket or accessories, as well as for wall or ceiling mount Sustainability: PVC-free Control: Via software	130967,00
1.3		Wireless Headcam (POV), Full-HD	pcs	1	Type: Wireless Camera – Wearable (headband style) Resolution: min. 1920x1080 at 30 fps Lens Type: min. 120° wide-angle Water Resistance: min. IPX4 Connectivity: min. Bluetooth 4.0 and Wi-Fi Microphone: Built-in, with noise reduction	10028,00

					Sensor Type:4MP CMOS Weight:max. 100 g Battery:min. 3000 mAh rechargeable Li-Ion Storage:e.g. Micro SD, SDHC, SDXC, up to 256 GB File Format:MP4 (H.264)	
1.4		HDMI Patient monitor Capture device, PoE	pcs	2	Type:HDMI Video Grabber Video Input:HDMI 1.4 Input Resolution:1920x1080P_50/60Hz; 1920x1080I_50/60Hz; 1280x720P 50/60Hz; 720x576; 640x480 etc. Output Resolution:1920x1080P@60fps; 1680x1050; 1280x720; 1024x576; 850x480; 720x576; 720x480; 640x480; 480x360; 360x240; auto; custom etc. Encoding:H.264 Baseline, H.264 Main, H.264 High, H.265 Main Bitrate:0.5 Mbps–20 Mbps Bitrate Control:CBR, VBR, AVBR, FIXQP Protocol:NDI@ HX, HTTP, HLS, RTSP, RTP/UDP Unicast/Multicast, RTMP (RTMPS) Audio Input:HDMI embedded, Line-in (3.5 mm jack) Encoding:AAC, MP3, MPEG2, PCMA Sampling Rate:16K, 32K, 44.1K, 48K Sampling Accuracy:16 Bit Bitrate:32 Kbit/s – 256 Kbit/s Network Stream IN Video: H.264 Baseline, Main, High Level 4.2; H.265 Main, Level 4.1 Audio: MPEG2, MP3, AAC Protocol: NDI@ HX Stream, HTTP, HLS, RTSP, RTP, UDP, RTMP (pull), SRT Connections:1x HDMI IN 1x HDMI OUT 1x Audio IN 1x Audio OUT 1x USB 2.0 1x Ethernet RJ45 1000BASE-T Power Supply:Power over Ethernet Max. Power Consumption:6 Watts Dimensions:10 x 6 x 3.2 cm	43590,00
1.5		Room microphone, PoE	pcs	2	Type:Room Microphone Consisting of the following three components: – MZH goosenecks – Microphone module – Dante converter Type:MZH Gooseneck Color: Black or white Diameter: min. 6 mm Length: min. 400 mm Weight: max. 130 g Type:Microphone Module Type: Permanently polarized condenser microphone heads Durable metal housing, non-reflective surface Color: Black or white Frequency Range: min. 40 to 2000 Hz Acoustic Operating Principle: Pressure gradient transducer Polar Pattern: Cardioid Power Supply: via MZH goosenecks Dimensions: approx. diameter 12 x 18 mm (reference value) Weight: max. 10 g Dante Converter: The device must be fully compatible with Dante. Type:Microphone Input to Dante Connection: min. 1 x balanced microphone input on locking XLR socket Fine Gain Control: min. rotary potentiometer for fine microphone gain adjustment Coarse Gain Control: min. switch for coarse microphone gain Power Supply: via PoE 802.3af	35420,00

					Max. Power Consumption: 16 W Weight: max. 300 g	
1.6		Ceiling Speaker PoE	pcs	2	Type: Active 2-way ceiling loudspeaker with integrated Dante® module Power: min. 30 W amplifier Drivers: 20 cm (8") woofer with fiberglass cone, 2.5 cm (1") dome tweeter Decoding: 16/24/32 Bit Sample Rates: 44.1 / 48 / 88.2 / 96 kHz Power Supply: PoE (Power over Ethernet) Housing: Plastic frame and metal grille Ceiling Thickness: up to 4 cm Cut-out Diameter: max Ø 240 mm Mounting Depth: min. 225 mm incl. space required for network connection	28265,00
1.7		Media Screen AiO-PC with Touchscreen 24"	pcs	1	Type: All-in-One PC with monitor arm Display Size: min. 23.8" or 24" Display Features: Touchscreen with capacitive multitouch, min. 10 touch points Brightness: min. 250 cd/m² Response Time: max. 8 ms CPU / Processor: min. 6 cores min. 12 threads min. 2.5 GHz base clock min. 18 MB cache Graphics Support: min. 4096×2304 @ 60 Hz (4K) via HDMI 2.0 min. 4096×2304 @ 60 Hz (4K) via DisplayPort 1.4 Operating System: min. Windows 11 Professional Memory (RAM): min. 1×16 GB DDR5 min. 2 memory slots Upgradeable to min. 64 GB Storage: min. 1 TB SSD (M.2 PCIe) Optical Drive: No optical drive Ports & Interfaces (min.): – 2× USB 3.2 Gen 1 – 2× USB 3.2 Gen 2 Type-A – 2× USB 2.0 – 1× HDMI 2.0 – 1× DisplayPort 1.2 – 1× RJ45 – 1× Line in/out – 1× DC-in Wireless Connectivity: min. Wi-Fi 6 (802.11ax) Bluetooth min. version 5.0 Audio / Speakers: min. 6W total power (stereo) Ergonomics: Adjustable with tilt and pivot functionality Power Consumption: Max. input power: 120 W	42594,00
2		Rooms 104, 106, 116, 129, 132				
2.1		IP-Camera, FullHD, 2.5x Optical Zoom, Dome Format	pcs	10	Type: Fixed dome camera for indoor surveillance Functions: min. pan, tilt, rotate Housing: min. IP52 and IK10 certified Resolution: min. 2 MP FullHD 1920x1080 Optical Zoom: min. 2.5x Frame Rate: min. with WDR (Wide Dynamic Range) 25/30 frames per second at 50/60Hz; min. without WDR 50/60 frames per second at 50/60Hz Adjustable Camera Angle: min. +/- 180° pan min. +/- 75° tilt min. +/- 175° rotate Memory: min. 1024 MB RAM min. 8192 MB Flash Video Compression: min. H.264, H.265, Motion JPEG Video Streaming: min. multiple individually configurable video streams in H.264, H.265, and Motion JPEG Adjustable frame rate and bandwidth	209000,00

					<p>Low-latency mode</p> <p>Multi-view</p> <p>min. up to 2 individually cropped view areas at full frame rate</p> <p>Image Settings: min. saturation, contrast, brightness, sharpness, forensic</p> <p>min. WDR up to 120 dB depending on the scene</p> <p>min. white balance</p> <p>min. image rotation, mirroring</p> <p>min. dynamic text and image overlay</p> <p>Network Protocols: min. IPv4, IPv6, USGv6, ICMPv4, ICMPv6</p> <p>Network Security: min. IEEE 802.1X, IEEE 802.1AR, Network Time Security</p> <p>min. IP address filtering</p> <p>Interfaces: min. 1x RJ45</p> <p>min. 4-pin terminal block 2.5mm</p> <p>min. audio 4-pin connector block 2.5mm for audio input and</p> <p>audio output: min. input for external microphone</p> <p>System Integration:</p> <p>min. open API for software integration:</p> <p>Support for SIP (Session Initiation Protocol) for integration into</p> <p>VoIP systems, peer-to-peer or SIP (PBX)</p> <p>Analytics Function:</p> <p>incl. analytics function, detection of object classes such as people, and</p> <p>detection of scenarios such as objects in the area, dwell time in the area</p> <p>Power Supply / Power: min. PoE IEEE 802.3af / IEEE 802.3at</p> <p>max. 5.5W</p> <p>Weight: max. 700g</p> <p>Mounting: incl. mounting bracket with holes for junction box, as well as for wall or ceiling mount</p>	
2.2		PTZ IP-Camera, FullHD, 10x optical zoom, Dome Format	pcs	5	<p>Type:</p> <p>PTZ dome camera for indoor surveillance</p> <p>Housing: IP66, NEMA 4X and/or IK09 certified</p> <p>Resolution: min. 2 MP FullHD 1920x1080</p> <p>Optical Zoom: min. 10x</p> <p>Frame Rate: min. with WDR (Wide Dynamic Range) 25/30 frames per second at 50/60Hz</p> <p>min. without WDR 50/60 frames per second at 50/60Hz</p> <p>Pan/Tilt: min. 360° endless</p> <p>min. 90°</p> <p>Memory: min. 512 MB RAM</p> <p>min. 256 MB Flash</p> <p>Video Compression: min. H.264, Motion JPEG</p> <p>Video Streaming: min. multiple individually configurable video streams in H.264 and Motion JPEG</p> <p>Image Settings: min. saturation, contrast, brightness, sharpness, forensic</p> <p>min. white balance</p> <p>min. image freeze during PTZ</p> <p>Network Protocols: min. IPv4, IPv6, USGv6, HTTP</p> <p>Network Security: min. IEEE 802.1X, brute-force protection, password protection</p> <p>min. IP address filtering</p> <p>Interfaces: min. 1x RJ45</p> <p>min. 6-pin connection block with spring-loaded terminals for 4 configurable inputs/outputs</p> <p>System Integration: min. open API for software integration</p> <p>Analytics Function: incl. analytics function</p> <p>Power Supply / Power: min. PoE IEEE 802.3af / IEEE 802.3at</p> <p>max. 14 W</p> <p>Weight: max. 1.3 kg</p>	163710,00

					Mounting:incl. mounting bracket or accessories, as well as for wall or ceiling mount Sustainability:PVC-free Control:Via software	
2.3		HDMI Patient monitor Capture device, PoE	pcs	5	Type:HDMI Video Grabber Video Input:HDMI 1.4 Input Resolution:1920x1080P_50/60Hz; 1920x1080I_50/60Hz; 1280x720P 50/60Hz; 720x576; 640x480 etc. Output Resolution:1920x1080P@60fps; 1680x1050; 1280x720; 1024x576; 850x480; 720x576; 720x480; 640x480; 480x360; 360x240; auto; custom etc. Encoding:H.264 Baseline, H.264 Main, H.264 High, H.265 Main Bitrate:0.5 Mbps–20 Mbps Bitrate Control:CBR, VBR, AVBR, FIXQP Protocol:NDI@ HX, HTTP, HLS, RTSP, RTP/UDP Unicast/Multicast, RTMP (RTMPS) Audio Input:HDMI embedded, Line-in (3.5 mm jack) Encoding:AAC, MP3, MPEG2, PCMA Sampling Rate:16K, 32K, 44.1K, 48K Sampling Accuracy:16 Bit Bitrate:32 Kbit/s – 256 Kbit/s Network Stream IN Video: H.264 Baseline, Main, High Level 4.2; H.265 Main, Level 4.1 Audio: MPEG2, MP3, AAC Protocol: NDI@ HX Stream, HTTP, HLS, RTSP, RTP, UDP, RTMP (pull), SRT Connections:1x HDMI IN 1x HDMI OUT 1x Audio IN 1x Audio OUT 1x USB 2.0 1x Ethernet RJ45 1000BASE-T Power Supply:Power over Ethernet Max. Power Consumption:6 Watts Dimensions:10 x 6 x 3.2 cm	108976,00
2.4		Room microphone, PoE	pcs	5	Type:Room Microphone Consisting of the following three components: – MZH goosenecks – Microphone module – Dante converter Type:MZH Gooseneck Color: Black or white Diameter: min. 6 mm Length: min. 400 mm Weight: max. 130 g Type:Microphone Module Type: Permanently polarized condenser microphone heads Durable metal housing, non-reflective surface Color: Black or white Frequency Range: min. 40 to 2000 Hz Acoustic Operating Principle: Pressure gradient transducer Polar Pattern: Cardioid Power Supply: via MZH goosenecks Dimensions: approx. diameter 12 x 18 mm (reference value) Weight: max. 10 g Dante Converter: The device must be fully compatible with Dante. Type:Microphone Input to Dante Connection: min. 1 x balanced microphone input on locking XLR socket Fine Gain Control: min. rotary potentiometer for fine microphone gain adjustment Coarse Gain Control: min. switch for coarse microphone gain Power Supply: via PoE 802.3af Max. Power Consumption: 16 W	88550,00

					Weight: max. 300 g	
2.5		Ceiling Speaker PoE	pcs	5	Type: Active 2-way ceiling loudspeaker with integrated Dante® module Power: min. 30 W amplifier Drivers: 20 cm (8") woofer with fiberglass cone, 2.5 cm (1") dome tweeter Decoding: 16/24/32 Bit Sample Rates: 44.1 / 48 / 88.2 / 96 kHz Power Supply: PoE (Power over Ethernet) Housing: Plastic frame and metal grille Ceiling Thickness: up to 4 cm Cut-out Diameter: max Ø 240 mm Mounting Depth: min. 225 mm incl. space required for network connection	70664,00
2.6		Media Screen AiO-PC with Touchscreen 24"	pcs	5	Type: All-in-One PC with monitor arm Display Size: min. 23.8" or 24" Display Features: Touchscreen with capacitive multitouch, min. 10 touch points Brightness: min. 250 cd/m² Response Time: max. 8 ms CPU / Processor: min. 6 cores min. 12 threads min. 2.5 GHz base clock min. 18 MB cache Graphics Support: min. 4096×2304 @ 60 Hz (4K) via HDMI 2.0 min. 4096×2304 @ 60 Hz (4K) via DisplayPort 1.4 Operating System: min. Windows 11 Professional Memory (RAM): min. 1×16 GB DDR5 min. 2 memory slots Upgradeable to min. 64 GB Storage: min. 1 TB SSD (M.2 PCIe) Optical Drive: No optical drive Ports & Interfaces (min.): – 2× USB 3.2 Gen 1 – 2× USB 3.2 Gen 2 Type-A – 2× USB 2.0 – 1× HDMI 2.0 – 1× DisplayPort 1.2 – 1× RJ45 – 1× Line in/out – 1× DC-in Wireless Connectivity: min. Wi-Fi 6 (802.11ax) Bluetooth min. version 5.0 Audio / Speakers: min. 6W total power (stereo) Ergonomics: Adjustable with tilt and pivot functionality Power Consumption: Max. input power: 120 W	212968,00
3		Control Rooms Rooms: 031, 115, 129, 131				
3.1		Mini PC , 2x FullHD Touchscreen 24" Monitors, Mouse and Keyboard (Keyboard LAYOUT), wireless	pcs	4	Type: Mini PC min. 16 GB DDR4 RAM Business Micro/Mini Format Series min. Intel® Core™ i5-1340P processor (12M Cache, up to 4.60 GHz) Intel Iris Xe Graphics Graphics Interfaces: min. 2x HDMI 2.1 TMDS compatible, 2x DP 1.4a via Type-C Support for up to 4 displays min. 1 x 500 GB SSD Operating System: min. Windows 11 Pro Type: Monitor Design: Edge-to-edge glass Screen Size: 23.8" (60.5 cm) Panel Technology: IPS Resolution: 1920 x 1080 (Full HD)	200009,00

					<p>Aspect Ratio: 16:9 Brightness: 400 cd/m² (360 cd/m² with touch panel) Transmittance: 90% Contrast Ratio: 1000:1 Response Time (GTG): 5 ms Viewing Angle: 178°/178° Color Support: 16.7 million, 8-bit Horizontal Frequency: 30 – 83 kHz Active Area (H x W): 527 x 296.5 mm Pixel Pitch: 0.274 mm Housing Color: Black, matte Type: Wireless Keyboard and Mouse Set Manufacturer: Wireless mouse and keyboard must be from the same manufacturer Number of Mouse Buttons: min. 6 Color: Black or white Connectivity: selectable via Bluetooth or 2.4 GHz wireless Operating System: compatible with min. Windows 8 or higher up to Windows 11 Additional Specifications: AES-128 encryption for mouse and keyboard Batteries: min. rechargeable lithium batteries in mouse and keyboard; rechargeable via USB ports Status Indicators: min. for low battery and charging status Accessories: min. incl. nano USB receiver for wireless operation; incl. tilt stand</p>	
3.2		Push-to-Talk Gooseneck Microphone, 2 Channels, PoE	pcs	4	<p>Type: Push-to-Talk Gooseneck Microphone Number of Buttons: min. 2 illuminated buttons with optical feedback, hold function via double-click Call Destination Buttons: min. 2 illuminated call destination buttons (PTT) with optical feedback Call Hold Function: hold function via double-click Call Destination ID: transmitted via DTMF tone on channel 2 Microphone Capsule: dynamic microphone capsule with unidirectional polar pattern Frequency Response: min. 80 Hz – 12 kHz Power Supply: PoE Class 1; max. 4 W Network Protocol: Dante Number of Audio Channels: min. 2 Channel 1: audio Channel 2: DTMF call destination transmission Dimensions (W x D): max. 125 x 175 mm Gooseneck Length: min. 300 mm, max. 330 mm</p>	71622,00
3.3		Active Stereo speakers (Pair) with line out for headphones	pcs	4	<p>Type: Stereo Active Speaker Controls: min. acoustic controls for treble and bass Inputs/Outputs: min. balanced 6.35 mm TRS jack inputs min. unbalanced stereo RCA and 3.5 mm jack inputs min. integrated stereo headphone amplifier with 3.5 mm output jack Protection Circuits: min. RF shielding min. output current limiter min. overheat protection circuit Energy Saving Mode: incl. power-save mode Accessories: incl. speaker cable incl. stereo cable 3.5" TRS jack to RCA incl. 3.5 mm TRS to 3.5 mm TRS</p>	38938,00
4		Room 105 Încăpere IT - Dual Control Room 2 (8 m²)				

4.1		Mini PC , 2x FullHD Touchscreen 24" Monitors, Mouse and Keyboard (Keyboard LAYOUT), wireless	pcs	2	Type:Mini PC min. 16 GB DDR4 RAM Business Micro/Mini Format Series min. Intel® Core™ i5-1340P processor (12M Cache, up to 4.60 GHz) Intel Iris Xe Graphics Graphics Interfaces: min. 2x HDMI 2.1 TMDS compatible, 2x DP 1.4a via Type-C Support for up to 4 displays min. 1 x 500 GB SSD Operating System: min. Windows 11 Pro Type:Monitor Design: Edge-to-edge glass Screen Size: 23.8" (60.5 cm) Panel Technology: IPS Resolution: 1920 x 1080 (Full HD) Aspect Ratio: 16:9 Brightness: 400 cd/m² (360 cd/m² with touch panel) Transmittance: 90% Contrast Ratio: 1000:1 Response Time (GTG): 5 ms Viewing Angle: 178°/178° Color Support: 16.7 million, 8-bit Horizontal Frequency: 30 – 83 kHz Active Area (H x W): 527 x 296.5 mm Pixel Pitch: 0.274 mm Housing Color: Black, matte Type:Wireless Keyboard and Mouse Set Manufacturer: Wireless mouse and keyboard must be from the same manufacturer Number of Mouse Buttons: min. 6 Color: Black or white Connectivity: selectable via Bluetooth or 2.4 GHz wireless Operating System: compatible with min. Windows 8 or higher up to Windows 11 Additional Specifications: AES-128 encryption for mouse and keyboard Batteries: min. rechargeable lithium batteries in mouse and keyboard; rechargeable via USB ports Status Indicators: min. for low battery and charging status Accessories: min. incl. nano USB receiver for wireless operation; incl. tilt stand	100004,00
4.2		Push-to-Talk Gooseneck Microphone, 2 Channels, PoE	pcs	2	Type: Push-to-Talk Gooseneck Microphone Number of Buttons: min. 2 illuminated buttons with optical feedback, hold function via double-click Call Destination Buttons: min. 2 illuminated call destination buttons (PTT) with optical feedback Call Hold Function: hold function via double-click Call Destination ID: transmitted via DTMF tone on channel 2 Microphone Capsule: dynamic microphone capsule with unidirectional polar pattern Frequency Response: min. 80 Hz – 12 kHz Power Supply: PoE Class 1; max. 4 W Network Protocol: Dante Number of Audio Channels: min. 2 Channel 1: audio Channel 2: DTMF call destination transmission Dimensions (W x D): max. 125 x 175 mm Gooseneck Length: min. 300 mm, max. 330 mm	35810,00
4.3		Overear headphones	pcs	4	Type:HiFi stereo headphones Design:Closed-back construction Voice Coil:Aluminum Headband:Adjustable/spreadable Cable Routing:Single-sided Ear Cups:Rotatable for single-ear listening Weight:max. 150 g Scope of Delivery (min.): – Coiled cable	12276,00

					<ul style="list-style-type: none"> – Carrying pouch – Additional pair of ear pads – Straight cable, min. 1.5 m – Screwable 3.5 mm to 6.3 mm jack adapter 	
4.4		Amplifier for up to four headphones	pcs	2	Type: 4-channel stereo headphone distribution amplifier Headphone Outputs: min. 4× independent 1/4" (6.35 mm) stereo headphone outputs Each channel with individual volume control Inputs: min. 2× balanced 1/4" (6.35 mm) stereo input connectors min. 1× stereo 1/8" (3.5 mm) auxiliary input Additional Features: – Master mute function – Mono-summing switch – 1× stereo 1/8" (3.5 mm) auxiliary output	7741,00
4.5		Active Stereo speakers (Pair) with line out for headphones	pcs	2	Type: Stereo Active Speaker Controls: min. acoustic controls for treble and bass Inputs/Outputs: min. balanced 6.35 mm TRS jack inputs min. unbalanced stereo RCA and 3.5 mm jack inputs min. integrated stereo headphone amplifier with 3.5 mm output jack Protection Circuits: min. RF shielding min. output current limiter min. overheat protection circuit Energy Saving Mode: incl. power-save mode Accessories: incl. speaker cable incl. stereo cable 3.5" TRS jack to RCA incl. 3.5 mm TRS to 3.5 mm TRS	19469,00
5		Debriefing Rooms Rooms: 103, 117, 130				
5.1		Debriefing Mini-PC	pcs	3	Case type: Mini PC RAM: minimum 16 GB, DDR4 Form factor: Business Micro/Mini Format Series Processor (CPU): minimum 12 cores, minimum 16 threads, cache memory: minimum 12 MB Video interface: minimum 2 × HDMI 2.1 (TMDS compatible); minimum 2 × DisplayPort 1.4a via Type-C Support: up to 4 simultaneous displays Storage: minimum 1 × 500 GB SSD Operating system: minimum Windows 11 Professional	86615,00
5.2		Windows Tablet, 10.5"	pcs	3	Type: Tablet PC Display: 10.5" Resolution: 1920x1280, 3:2 aspect ratio, 220 ppi Refresh Rate: 60 Hz Other Features: Multi-touch, 350 cd/m² brightness, digitizer, glass (Corning Gorilla Glass 3), 1500:1 contrast ratio, approx. 76.57% screen-to-body ratio (calculated) CPU: Intel N200, 0C+4C/4T, 1.00–3.70 GHz, 6 MiB + 2 MiB cache, 6W TDP, codename "Alder Lake-N" (Gracemont, Intel 7) RAM: 8 GB LPDDR5 (soldered) Graphics: Intel UHD Graphics (iGPU), 2Xe / 32EU / 256SP, 0.75 GHz, architecture "Xe-LP / Gen 12.2" (Alder Lake GT1) Ports: 1x USB-C 3.1 with DisplayPort (10 Gb/s, power input), 1x 3.5 mm audio jack, 1x microSD (microSDXC) Wireless: Wi-Fi 6 (802.11a/b/g/n/ac/ax), Bluetooth 5.1, NFC Authentication: TPM 2.0 Camera: 2 MP (front), 8 MP (rear) Battery: Li-ion, 12.5 h runtime Special Features: Accelerometer, hall sensor, gyroscope, ambient light sensor, kickstand, docking connector (SurfaceConnect) Weight: max. 521 g Dimensions: max. 245 x 8.3 x 175 mm (W × H × D) Color: Grey (back), Black (front) Type: Hardcase	65914,00

					With hand strap Weight: max. 300 g Length: max. 26 cm Width: max. 20 cm Depth: max. 2 cm	
5.3		Soundbar for TV	pcs	3	Type: Soundbar Frequency Range (-10 dB): in. 42 Hz – 20 kHz Frequency Response (±3 dB): min. 56 Hz – 20 kHz Max. Peak SPL (0 dBV): min. 90 dB-SPL @ 1 m (0 dBV input, max volume, one channel) Inputs: min. 2× RCA (Left & Right) Nominal Input Sensitivity: -10 dBV for 85 dB-SPL @ 1 m (max volume) HF Driver Size: min. 2× 19 mm (0.75") soft-dome tweeters (one per channel) LF Driver Size: min. 4× 51 mm (2.0") woofers (two per channel) Amplifier Power: min. 20 W per channel, Class D Enclosure Material: Injection-molded ABS Finish: Black Mounting/Installation: Incl. two brackets for desk/table or wall mounting (Installation diagrams in manual) Power Supply: Input: 100–240 VAC, 50/60 Hz, 1.5 A Sleep mode: max. 0.25 W @ 100 VAC, 0.36 W @ 240 VAC Dimensions (H × W × D): max. 90 × 900 × 65 mm (3.54 × 35.4 × 2.55 in) Weight: max. 1.8 kg (4.0 lbs)	38997,00
5.4		Professional display 75", 4k incl. wall mount	pcs	3	Type: Professional Display Display Size: min. 75" Display Technology: LCD (IPS) Backlight: Direct LED Resolution: min. 3840 × 2160 px (4K Ultra HD) Brightness: min. 450 cd/m² Contrast Ratio: min. 4000:1 static, min. 10000:1 dynamic Aspect Ratio: 16:9 Refresh Rate: min. 60 Hz Response Time: max. 6.5 ms Viewing Angle: min. 178° horizontal / 178° vertical Display Control: IR remote control, Ethernet, RS-232C Lifespan: min. 50,000 hours Operation Time: min. 18/7 Orientation: Landscape and portrait supported Surface Treatment: Anti-glare HDMI Inputs: min. 2× HDMI 2.0 Type-A HDMI Outputs: min. 1× HDMI 2.0 Type-A USB Ports: min. 1× USB 2.0 Type-A, min. 1× USB 3.0 Type-A, min. 1× USB 2.0 Type-C (DP 1.2 65W) Ethernet: min. 1× RJ-45 Audio Outputs: min. 1× 3.5 mm jack, min. 1× Mini-TOSLINK Serial Interface: RS-232 CPU: ARM Cortex-A55 or better GPU: Mali G51 MP2 or better RAM: min. 4 GB Storage: min. 32 GB Operating System: Android 11 or newer Speakers: Integrated, min. 2× 10 W Wired Network: min. 10BASE-T / 100BASE-T / 1000BASE-T Wi-Fi: min. Wi-Fi 6 (802.11ax), backward compatible Bluetooth: min. Version 5.2 Power Supply: 100–240 V AC, 50/60 Hz Standby Power Consumption: max. 0.5 W Energy Efficiency Class: min. A Operating Temp: 0°C to +40°C Storage Temp: -20°C to +60°C	105145,00

					Humidity (Operating/Storage): 10% – 90% (non-condensing) VESA Mounting Pattern: min. 400 × 200 mm	
6		Room 114: IT room				
6.1		Industrial Rack-Mount Server	pcs	1	Type: Server Rack server with min. 3U height (to support PCIe graphics cards or PCIe Dante cards for future expansion) or tower format server CPU Performance: min. 15,000 PassMark points according to cpubenchmark.net (e.g., Intel Xeon Silver 4210, Intel Xeon E-2236, or AMD EPYC 7262 or newer) RAM: min. 64 GB DDR4 RAM Hardware RAID Controller: Required OS Storage: min. 480 GB SSD in RAID 6 (2x 480 GB SSD) Data Storage: HDD/SATA in RAID 6, min. 20 TB Network: min. 2x 1 Gb LAN ports 1x KVM (IPMI) LAN port, not shared Power Supply: Redundant power supply Operating System: min. Windows Server 2025	143517,00
6.2		Professional Audio DSP, Dante	pcs	1	Type: Audio Processor General: Height: max. 133 mm Width: max. 483 mm Depth: max. 432 mm Weight: max. 8.2 kg Power Supply: Power Consumption: max. 150 W (100~240 VAC, 50/60 Hz) Phantom Power: +48 VDC (7 mA per input) Audio: Input Impedance (balanced): 8 kΩ Input Gain Range (in 6 dB steps): 0 – 66 dB Max. Input Level: +24 dBu Output Impedance (balanced): 200 Ω Max. Output Level: +24 dBu THD+N (20 Hz–20 kHz at +4 dBu): +0 / -0.25 dB EIN (20 Hz–20 kHz, 0 dB): > 108 dB Crosstalk (channel-to-channel at 1 kHz): @ 0 dB gain, +4 dBu input: < -85 dB @ 54 dB gain, -50 dBu input: < -75 dB Sampling Rate: 48 kHz A/D Converter: 24-bit Dante: Supported Certified Solutions: TAA Compliance: TAA-compliant	364422,00
6.3		PoE Switches, 24 + 4 Ports	pcs	4	Type: Managed PoE Switch 24+4 switch with 24x 10/100/1000BASE-T RJ45 ports and 4x 1G RJ45/SFP combo ports Performance: Total number of IPv4 routes: 128 Switching Capacity: 56 Gbps MAC Address Table: 8K Forwarding Rate: 42 Mpps ARP Table: 384 RAM: 128 MB Packet Buffer: 0.5 MB Power:	92576,00

					Input Voltage: 100–240 VAC, 50–60 Hz Output Voltage: 48 VDC Max. Power Consumption: 370 W / 20 W PoE Standard: IEEE 802.3af/at Power Supply: 1 built-in Power Budget: min. 370 W Cooling: Number of Fans: 3 built-in Environment: Operating Temperature: 0 °C to 45 °C (32 °F to 113 °F) Storage Temperature: -40 °C to 70 °C (-40 °F to 158 °F) Physical: Footprint: 1U Mounting Options: Rackmount Product Material: Metal Dimensions (H x W x D): max. 45 x 440 x 208 mm (1.77" x 17.32" x 8.19")	
6.4		Server Rack for all components	pcs	1	Type: Server rack Rack type: Network cabinet Product material: Glass, steel Package contents: 2 keys, screws, brush strips, side panels, front door, rear door, 2 pairs of adjustable mounting rails Rack size: 48.3 cm (19") Height (rack units): 26U Depth: 80 cm Width: 60 cm Height: 134.2 cm Color: Black	16107,00
6.5		WiFi Infrastruktur for all rooms	pcs	5	Type: Access Point(s) Dimensions: max. Ø206 x 46 mm Weight: max. 680 g Housing Material: Polycarbonate, metal Mounting Material: Stainless steel, galvanized steel Network Interface: 1/2.5 GbE RJ45 Management Interface: Ethernet Power Supply: PoE+, UniFi PoE switch Voltage Range: 44–57V DC Max. Power Consumption: 21W Max. Transmit Power: 2.4 GHz – 22 dBm; 5 GHz – 26 dBm; 6 GHz – 23 dBm MIMO: 2x2 (DL/UL MU-MIMO) for all bands Max. Data Rate: 2.4 GHz – 688 Mbps; 5 GHz – 4.3 Gbps; 6 GHz – 5.7 Gbps Antenna Gain: 2.4 GHz – 4 dBi; 5 GHz – 6 dBi; 6 GHz – 5.8 dBi LEDs: White/Blue Button: Factory Reset Mounting: Wall/ceiling (included) Operating Temperature: -30 to 60°C Operating Humidity: 5 to 95% non-condensing Certifications: CE, FCC, IC WiFi Standards: 802.11a/b/g/n/ac/ax/be (WiFi 6/6E, WiFi 7) Security: WPA-PSK, WPA-Enterprise (WPA/WPA2/WPA3/PPSK) BSSID: 8 per radio VLAN: 802.1Q QoS: User-based speed limit Guest Isolation: Supported	27562,00
7		Software				
7.1		Software licenses for	pcs	1	According to specifications Annex No.1; 2 and 3	1502589,00

		system (lifetime licenses)				
8		Implementation (One-Time)				
8.1		Sistem implementation	pcs	1	According to specifications Annex No.1; 2 and 3	2577930,00
8.2		Customer-specific documentation	pcs	64	According to specifications Annex No.1; 2 and 3	150124,00
8.3		On-site customer training	zile	2	According to specifications Annex No.1; 2 and 3	62552,00
Total estimated value (excl. VAT)						6906451,00

Annex no. 3

Software Requirements

Instructions

The tenderer must complete all the fields marked in yellow.

Name of bidder

ID	Requirements		* Yes/No	Comments (optional)
*The bidder must indicate in these fields whether the product offered fulfils the requirement described. The answer options are Yes/No and the tenderer must select the correct option from the menu for each requirement.				
1. MUST-MEET CRITERIA GENERAL		Cat.	*Yes/No	Comments (optional)
1.1	The software must be user-friendly, as well as simple and intuitive to use. The software has a uniform user interface for all system controls (PC, tablets). The user interface is optimised for its core functions for operation via touchscreen, i.e. without a mouse and keyboard.	A		
1.2	The software must be available in English, Moldovan, and Russian. If the software is not currently translated into these languages, it must include tools at no extra cost to add additional languages.	A		
1.3	The software can be run on third-party devices (PCs) using the current version of the Google Chrome browser.	A		

1.4	The software is specifically designed for the control, recording, live broadcasting, debriefing, as well as archiving of simulation and skills training, which is connected and compatible with the required hardware to form a complete system.	A		
1.5	In the software, individual user accounts can be created. Each person who can log into the system is assigned a security role with appropriate permissions, such as administrators, technicians, instructors, and students. The creation of users and the assignment of security roles can be performed by administrators.	A		
1.6	All data is transmitted over the network encrypted according to the state of the art.	A		
1.7	The solution must not require an internet connection for the core functions (control, recording, live broadcasting and debriefing of audio-video).	A		
1.8	The videos must be stored on a local server on premise (not in the cloud) and the software must have user-configurable automatic deletion functions of recordings and metadata.	A		
1.9	The software can be used simultaneously in all simulation rooms, debriefing rooms and control rooms without restrictions (e.g. unlimited number of trainings, debriefings at one time)	A		
1.10	The installed cameras and all other video sources can be flexibly assigned in the user interface from all control rooms from corresponding simulation rooms. Simulations can be started and controlled from each control room in all simulation rooms. The control includes starting and stopping the recording, creating annotations, as well as transmitting live audio and media to and from the corresponding simulation room.	A		
1.11	The number of possible video and audio sources is not limited by the software.	A		
1.12	The control software can display a live stream of up to 9 video feeds, each in Full HD resolution (1920x1080p) in the recording view.	A		
1.13	The integration of IP cameras, as well as external video sources (via HDMI-In, video grabber) is possible	A		
1.14	The video sources can be combined into several individually adaptable and logically connected views (layouts) (at	A		

	least single frame, quad split, picture in picture)			
1.15	The cameras (moving, zooming, focusing) can be controlled directly in the software without additional hardware (e.g. joystick). Control is done by clicking directly on the image and not by a separate controller in the software.	A		
1.16	When recording is enabled, all enabled audio and video feeds of the current view are recorded at a resolution of at least 1080p at 25 frames per second or higher	A		
1.17	In addition to playing the video in the selected layout that was set during recording, individual video feeds can be played both live and when the recording is played back in fullscreen mode	A		
1.18	All audio signals are processed via a digital audio DSP (Digital Signal Processor) with Acoustic Echo Cancelling, Background Noise Compensation, Automated Gain Control. As a result, there are no echo effects (the room announcements that are output in the simulation room are not listened back in the control room, but are filtered out digitally. Continuous background noise, e.g. from ventilation, is filtered out and mechanisms to improve speech intelligibility are configured on the DSP. The software communicates directly with the DSP to route the sound signals out of and into the right rooms.	A		
1.19	Mixing multiple audio inputs and outputs is possible directly in the software without additional hardware	A		
1.20	The sensitivity (volume) of the microphones can be controlled in the software in each control room without additional hardware	A		
1.21	The audio and video tracks must be in sync. The latency of transmitting audio and video tracks from the simulation rooms to the control and debriefing rooms is a maximum of 0.3 seconds.	A		
1.22	The input of audio files into the simulation room via the ceiling speakers (e.g. announcements, background noise) is possible without additional hardware in the control room. Audio files can be played either in a loop or once. The volume of the audio files being played can be controlled in the software during the scenario.	A		
1.23	The software has a dedicated debriefing function. The time stamps	A		

	("annotations") can be selected directly. The playback of the recording starts at least 5 seconds before the time of the selected time marker.			
1.24	Playback of the recording during the debriefing is possible directly from the software no later than 30 seconds after the end of the recording	A		
1.25	The recording can be started and stopped by means of a button in the software without additional hardware	A		
1.26	An annotation function with unique timestamps in the recording and user identification is available in the software. Multiple users on multiple devices can annotate for the same scenario at the same time. The annotations are collected in debriefing mode and displayed in a filterable way for each user.	A		
1.27	Bookmarks and annotations can be displayed as a chronological list or in a timeline in both the director's software and the debriefing software	A		
1.28	Electronic checklists must be able to be completed in the control room software. The minimum requirement is simple checklists with a yes/no criterion.	A		
1.29	In addition to the control room, a live broadcast of the current recording is also possible in one or more other rooms. The live broadcast to other rooms can be easily started and ended in the software from the control room.	A		
1.30	This live transmission of the current recording to other rooms exclusively in the control room only reproduces the video streams and synchronized audio tracks, but not the annotations that are created	A		
1.31	The start (recording) of the next scenario can take place in parallel with the debriefing of the previous scenario without any problems	A		
1.32	The software has a built-in media database. The media can be played back from the control room on a screen specially installed in the simulation room, but also on a tablet during the debriefing after selection. Media in common image and video formats (jpg, png, mp4), but also PDF and PowerPoint (pptx) files must be playable. If a medium is displayed during a scenario, a bookmark with a timestamp is created for it - so that the time at which this medium was shown is later visible in the debriefing and the medium can be called up again in the	A		

	debriefing by clicking on the bookmark.			
1.33	Access to the administration area of the software, including the archive of recordings, is possible from any computer in the same network using a browser, protected by access data	A		
1.34	The archive database can be searched and filtered using a wide variety of metadata (at least instructor, actor/simulator, participants, date, time, scenario)	A		
1.35	Editing metadata and deleting recordings is possible with an appropriate security role	A		
1.36	A download/export function of the individual video files in a common format (z.B. mp4), in a resolution of 1080p at 25 frames per second or higher, is available. Only users with appropriate permission can use this feature.	A		
1.37	Participants, instructors and, if necessary, acting patients can be assigned to each recording before, during and after the end of the recording	A		
1.38	The software is installed as an on-site installation on the servers and computers included in the purchase	A		
1.39	The software is updated regularly (at least 2 times a year) with security and performance updates	A		
1.40	The software is prepared for remote support. If necessary, the manufacturer's support can directly access all devices via the Internet to provide optimal and fast support.	A		
2. SHOULD-MEET CRITERIA - AUDIO		Cat.	*Yes/No	Comments (optional)
2.1	The system records all audio sources separately from video sources as audio files. This means that the audio is not encoded into the video via the camera, but completely separated as separate audio files, so that they can be played back or edited separately later	C		
2.2	The sensitivity (the recording volume) of all microphones can be controlled in the software for each microphone individually before and during recording	B		

2.3	For each audio source, the software can be controlled separately during recording whether it should be (1) recorded, (2) listened to in the control room, and (3) heard in the live broadcast in the Audience Room	B		
2.4	With a Push-to-talk gooseneck table microphone in the control room, several buttons can be used to speak (1) "Voice-to-Room" to the simulation room, (2) to a separate "Voice of Patient" speaker and (3) to a wireless in-ear system via several buttons. The volume of these audio tracks can be controlled in the software. The audio tracks of "Voice-to-Room" and "Voice-of-Patient" are integrated directly from the microphone through the software into the live broadcast and recording (and not via the recording via the room microphone in the simulation room).	B		
2.5	In a scenario library, matching (background) sounds can be uploaded to the software in MP3 format and assigned. These can be played during the simulation via the speakers in the simulation room with the possibility of automatic replay (loop) for background noise. The software can be used to determine whether and how loud the background noise should be heard in the simulation room, but also in the recording and live broadcast. The system's DSP is programmed in such a way that recorded background noise in the simulation room is digitally filtered out of the recording so that the communication of the participants in the recording remains optimally intelligible.	C		
3. MUST-MEET CRITERIA - VIDEO		Cat.	*Yes/No	Comments (optional)
3.1	In the control room software, any number of views can be defined, in which up to 9 camera streams or HDMI encoder streams can be assigned. The layout of the streams can be done in different selectable layouts, e.g.: single video, quad split with four videos, 1 large and several small videos, picture-in-picture. With Picture-in-Picture, the level of transparency and location of the small video stream can be configured. Different of these layouts can be	B		

	created for each room. Each view can be saved with its own name			
3.2	The control room software is optimized for one monitor, but especially for display on two monitors. When using two monitors, one monitor is used to display the video streams, and the other monitor is used for control and annotation functions	B		
3.3	At any time, even while recording, you can seamlessly switch between rooms and/or stream layouts. This makes multi-room scenarios possible. The associated audio inputs and outputs (microphones and speakers) are automatically switched when changing rooms, so that the right sound is always heard with the right image	B		
3.4	For each camera, at least four pre-saved positions can be configured by users in the software, which can then be approached with one click	C		
3.5	Each video stream can be zoomed in in two stages (up to full-screen mode) in the recording view in the control room	B		
4. SHOULD-MEET CRITERIA - AUDIENCE ROOM		Cat.	*Yes/No	Comments (optional)
4.1	In the control room software, it is possible to control whether and in which rooms a live broadcast should take place. The live broadcast can be started or stopped at any time before, during and after recording by pressing a button in the Regisraum software. It is also possible to start only one live broadcast (without recording).	B		
4.2	The live broadcast is automatically started when a recording starts, if a live broadcast room has previously been assigned in the software for the scenario. The live broadcast is automatically stopped when a recording is stopped.	B		
4.3	In the control room software, the layout and composition of the video streams can be controlled specifically for the live broadcast. For example, only 2 camera streams can be shown in the live broadcast, while four camera streams appear in the control room and in the recording.	C		

4.4	If a medium (e.g. image or video) is displayed on a screen in the simulation room, this medium is also displayed in the live broadcast in the Audience Room. If the Audience Room has only one screen, the media will be displayed for between 10-20 seconds instead of the video stream. If the Audience Room has two screens, the media will be displayed on the second screen without any time limit, while the live video broadcast will run on the first screen	B		
4.5	Formattable texts for the scenario (e.g. briefing, clinical vignette) can be entered in the control room software, which are displayed on the screen in the live broadcast room by clicking on the screen. The display can take place before, during or after the recording, controllable by the control room software	C		
5. SHOULD-MEET CRITERIA - DEBRIEFING		Cat.	*Yes/No	Comments (optional)
5.1	The system has a dedicated debriefing application, which is controlled via a tablet. The videos themselves are not played on the tablet, but on a separate screen in the debriefing room ("debriefing player"), the media playback of which is controlled by the tablet.	B		
5.2	On the screen of the debriefing player, on which all participants view the videos, no annotations or other comments by the instructors are displayed. These can only be found on the tax tablet of the debriefing person	B		
5.3	The annotations and checklist entries of the recording are displayed on the tablet in a list or timeline. When the user clicks on an event (bookmark, annotation or checklist entry), the video jumps to a point in time 5-15 seconds (exact lead time period can be set in the software) before the time of the respective annotation entry and can be played from there.	B		
5.4	The volume of playback of the debriefing player can be controlled from the debriefing tablet	C		
5.5	A control tablet is not tied to a specific room and can be used in any debriefing room. Before the start of the debriefing, the debriefing room and screen on which the debriefing is to take place can be selected on the control tablet.	B		

5.6	Before the debriefing session, the planned debriefing duration can be set on the control tablet. The control tablet visually alerts the debriefer when the pre-set time has elapsed.	C		
5.7	The tablet has all the necessary video control functions (start, pause, stop, manual forward and rewind). By operating these functions, the videos are promptly controlled on the debriefing player.	B		
5.8	The arrangement of the videos (split-screen, single video) can be controlled by the tablet during video playback.	C		
5.9	The screen on which the videos are played always automatically switches to dark when no video is played, so as not to draw the attention of the participants to the screen during the discussion phases in the debriefing.	B		
5.10	The debriefing application on the tablet allows you to show the media stored in the media library of the simulation scenario on the debriefing player.	B		
5.11	A media and document database can be accessed via the control tablet to access general presentation and learning materials on the Debriefing Player screen. For documents in PowerPoint or PDF format, the software on the tablet acts as a remote control for scrolling back and forth.	C		
6. SHOULD-MEET CRITERIA ANNOTATIONS, ASSESSMENTS, EXAMS		Cat.	*Yes/No	Comments (optional)
6.1	The software has an extensive, intuitive bookmarking and annotation module. By clicking on ready-made buttons with icons, bookmarks can be created in the control room software. There are different buttons available (at least 3 icons for neutral, good and bad events)	B		
6.2	There is a library with at least 40 icons for communication-related or medical-professional events, which can be used as buttons for creating bookmarks depending on the scenario.	C		
6.3	For each bookmark created by clicking on an icon, a free text can also be entered as an annotation during recording.	B		

6.4	Both individual events (marking a specific point in time) and longer-lasting events (e.g. phase from the beginning to the end of resuscitation) can be recorded by the bookmark and annotation system. For continuous events, the event duration is automatically calculated and stored in the annotation text	B		
6.5	Checklist entries can be evaluated not only in terms of yes/no status, but also on a freely definable three- to n-level (max. 10) scale.	B		
6.6	Complex checklists and assessment forms with single-choice, multiple-choice, open-ended question and comment fields for each question can be created and completed electronically in the system.	C		
6.7	The software must allow the definition of competency categories (e.g., clinical skills, communication, etc.) for each exam question. It should also support assigning different weightings to each category (e.g., 30% clinical skills, 70% communication) to reflect the specific focus and importance of each competency in the assessment.	A		
6.8	Assessment forms can be configured with scoring functionality for exams. The system is capable of generating evaluations based on the completed assessments and allows for the export of these evaluations	A		
6.9	Questions items can be marked as critical (K.O.) items. If a K.O. question item is failed the entire exam is automatically rated as unsuccessful, regardless of performance on other questions or the overall score.	A		
6.10	Questions and notes can be formatted using text styling options such as bold and italics to highlight key information or clarify specific instructions. Additionally, images can be embedded, displayed as thumbnails that can be enlarged to full screen with a click for detailed viewing. T	B		
6.11	The software allows exam flows to be configured with at least two mandatory phases: "Student Ready" and "Encounter." Additionally, optional phases such as "Pre-Encounter" and "Post-Encounter" can be defined and included in the exam flow as needed.	A		
6.12	For each exam flow, the length of each phase can be configured, and sounds can be set to play at specific times (e.g., play a "gong" sound at the start of the encounter phase).	B		

6.13	Examiners have the ability to view the clinical vignette presented to students during the "Student Ready" phase	C		
6.14	Before and during exams, an overview can be opened that displays the status of each exam station, examiner, student, and simulated patient. This overview is also accessible on mobile devices such as laptops and tablets.	B		
6.15	The software supports the use of "floor screens" that guide students to their assigned exam stations and display the current exam phase, helping to ensure smooth transitions and efficient navigation during the examination process.	C		
6.17	In addition to the control room software, all bookmarking, annotation, checklist and assessment functions can also be recorded simultaneously by other users using tablets. The system stores which user has created which entries and also displays this meta information in the recording archive and in the debriefing application.	B		
7. MUST-MEET CRITERIA TRAIN THE TRAINER		Cat.	*Yes/No	Discription (Optional)
7.1	In order to train new instructors, it is possible to load previously recorded videos into the control room software instead of live video, so that the operation of the software and the creation of bookmarks and annotations can be practiced. It is not apparent to users that these are recordings.	C		
8. MUST-MEET CRITERIA RECORDING ARCHIVE		Cat.	*Yes/No	Discription (Optional)
8.1	In the archive, subsequent annotations, completion of checklists and evaluations with scoring are possible	B		
8.2	Recordings can be exported as rendered video, which combines all video streams and audio tracks, and transferred to an external storage medium.	B		
8.3	The video and audio tracks can also be exported as individual raw data for post-processing in video editing programs.	C		
8.4	Periods can be set for the automatic deletion of recordings (e.g.: 12/24/36 hours, 100 days). Certain recordings can be locked in the archive so that	B		

	they are not deleted by automatic deletion.			
8.5	It is possible to add metadata such as names, locations or names of the participants (before, during, and after the training) to the recordings of the simulation session in the archive.	B		
9. SHOULD-MEET CRITERIA ADMIN		Cat.	*Yes/No	Comments (optional)
9.1	The software has a scenario designer module in which the templates for exercise scenarios can be configured with all descriptions, the media and teaching materials to be destroyed, the appropriate bookmark icons and sound files.	B		
9.2	The software has a comprehensive scheduling module that can be used to plan exercises, book rooms, and assign all participants and instructors. The scheduling module has a calendar function and is able to send personalized invitations to attendees via email.	C		
9.3	The software has extensive media databases to manage all required images, videos, presentations and teaching materials that are used in the operation of the software	B		
9.4	The software has a module for creating checklists, surveys and evaluation sheets, which can be used to create even complex electronic forms.	C		
9.5	The system offers a wide range of options for editing and managing user rights, e.g. via an Access Control List (ACL)	B		
9.6	It is possible to connect the system to an LDAP server (e.g. Active Directory) and use this interface for user authentication.	C		
9.7	Alternatively, it is also possible to configure the system with a Shibboleth interface for user authentication.	C		
9.8	A separate administrator account allows you to edit all the settings of the software.	B		

Instructiuni				
Ofertantul trebuie să completeze toate câmpurile marcate cu galben.				
Numele ofertantului				

ID	Cerințe		* Da/Nu	Comentarii (opțional)
*Ofertantul trebuie să indice în aceste câmpuri dacă produsul oferit îndeplinește cerința descrisă. Opțiunile de răspuns sunt Da/Nu, iar ofertantul trebuie să selecteze opțiunea corectă din meniul aferent pentru fiecare cerință.				
1. CRITERII GENERALE OBLIGATORII		Cat.	* Da/Nu	Comentarii (opțional)
1.1	Software-ul trebuie să fie prietenos cu utilizatorul, simplu și intuitiv de utilizat. Software-ul dispune de o interfață unificată pentru toate comenzile sistemului (PC, tablete). Interfața utilizatorului este optimizată pentru funcțiile sale principale, astfel încât operarea să poată fi realizată prin ecran tactil, fără a fi necesară utilizarea mouse-ului și a tastaturii.	A		
1.2	Software-ul trebuie să fie disponibil în limbile engleză, română și rusă. Dacă în prezent, software-ul nu este tradus în aceste limbi, aceasta trebuie să includă, fără costuri suplimentare, instrumente care să permită adăugarea limbilor suplimentare.	A		
1.3	Software-ul poate fi rulat pe dispozitive terțe (calculatoare) utilizând versiunea curentă a browserului Google Chrome.	A		
1.4	Software-ul este proiectat special pentru controlul, înregistrarea, difuzarea în direct, debriefing-ul, precum și arhivarea sesiunilor de simulare și instruire a competențelor, fiind conectat și compatibil cu echipamentul hardware necesar pentru a forma un sistem complet.	A		
1.5	În software pot fi create conturi individuale de utilizator. Fiecărei persoane care se poate autentifica în sistem i se atribuie un rol de securitate cu drepturi corespunzătoare, cum ar fi administrator, tehnician, instructor sau student. Crearea utilizatorilor și atribuirea rolurilor de securitate pot fi realizate de către administratori.	A		
1.6	Toate datele sunt transmise prin rețea în format criptat, conform celor mai avansate standarde tehnologice.	A		
1.7	Soluția nu trebuie solicitarea unei conexiuni la internet pentru funcțiile principale (control, înregistrare, difuzare live și debriefing audio-video).	A		
1.8	Videoclipurile trebuie stocate pe un server local la sediu (nu în cloud), iar software-ul trebuie să dispună de funcții automate de ștergere înregistrărilor și metadatelor configurabile de către utilizator.	A		
1.9	Software-ul poate fi utilizat simultan în toate sălile de simulare, sălile de debriefing și sălile de control, fără restricții (de exemplu, un număr nelimitat de instruiți și debriefinguri desfășurate în același timp).	A		
1.10	Camerele instalate și toate celelalte surse video pot fi alocate în mod flexibil în interfața utilizatorului din toate sălile de control, corespunzător sălilor de simulare. Simulările pot fi inițiate și controlate din orice sală de control, pentru toate sălile de simulare. Controlul include pomirea și oprirea înregistrării, crearea de adnotări, precum și transmiterea în timp real a sunetului și a materialelor media către și dinspre sala de simulare corespunzătoare.	A		
1.11	Numărul de surse video și audio posibile nu este limitat de software.	A		
1.12	Software-ul de control poate afișa un flux video live de până la 9 surse video, fiecare în rezoluție Full HD (1920x1080p), în vizualizarea de înregistrare.	A		
1.13	Este posibilă integrarea camerelor IP, precum și a surselor video externe (prin HDMI-In, dispozitiv de captură video).	A		
1.14	Sursele video pot fi combinate în mai multe vizualizări (layouturi) individual adaptabile și logic corelate (cel puțin cadru unic, împărțire în patru – quad split, imagine în imagine – picture in picture).	A		
1.15	Camerele (mișcare, zoom, focalizare) pot fi controlate direct din software, fără echipamente hardware suplimentare (de exemplu, joystick). Controlul se realizează prin clic direct pe imagine și nu printr-un controler separat în cadrul software-ului.	A		

1.16	Când înregistrarea este activată, toate fluxurile audio și video activate ale vizualizării curente sunt înregistrate la o rezoluție de cel puțin 1080p, cu 25 de cadre pe secundă sau mai mult.	A		
1.17	Adiționa la redarea videoclipului în layout-ul selectat, setat în timpul înregistrării, fluxurile video individuale pot fi redade atât în direct, cât și la redarea înregistrării, în modul ecran complet.	A		
1.18	Toate semnalele audio sunt procesate printr-un DSP (Digital Signal Processor) audio digital, care include anularea ecoului acustic (Acoustic Echo Cancelling), compensarea zgomotului de fond (Background Noise Compensation) și controlul automat al amplificării sunetului (Automated Gain Control). Ca rezultat, nu există efecte de ecou (anunțurile emise în sala de simulare nu sunt auzite în sala de control, ci sunt filtrate digital). Zgomotele de fond continue, de exemplu cele provenite de la sistemul de ventilație, sunt eliminate, iar pe DSP sunt configurate mecanisme pentru îmbunătățirea clarității vorbirii. Software-ul comunică direct cu DSP-ul pentru a direcționa semnalele audio către și dinspre sălile corespunzătoare.	A		
1.19	Mixarea mai multor intrări și ieșiri audio este posibilă direct în software, fără necesitatea echipamentelor hardware suplimentare.	A		
1.20	Sensibilitatea (volumul) microfoanelor poate fi controlată în software din fiecare sală de control, fără echipamente hardware suplimentare.	A		
1.21	Pistele audio și video trebuie să fie sincronizate. Întârzierea (latency) în transmiterea semnalelor audio și video din sălile de simulare către sălile de control și debriefing nu trebuie să depășească 0,3 secunde.	A		
1.22	Introducerea fișierelor audio în sala de simulare prin difuzoarele de tavan (de exemplu, anunțuri, zgomot de fundal) este posibilă fără echipamente hardware suplimentare în sala de control. Fișierele audio pot fi redade fie în mod repetat, fie o singură dată. Volumul fișierelor audio redade poate fi controlat din software pe durata scenariului.	A		
1.23	Software-ul dispune de o funcție dedicată de debriefing. Marcăjele temporale („adnotările”) pot fi selectate direct. Redarea înregistrării începe cu cel puțin 5 secunde înainte de momentul marcajului temporal selectat.	A		
1.24	Redarea înregistrării în timpul debriefing-ului este posibilă direct din software cel târziu în termen de 30 de secunde după încheierea înregistrării.	A		
1.25	Înregistrarea poate fi pornită și oprită prin intermediul unui buton din software, fără a fi necesar echipament hardware suplimentar.	A		
1.26	Software-ul dispune de o funcție de adnotare cu marcaje temporale unice în înregistrare și identificarea utilizatorului. Mai mulți utilizatori, de pe mai multe dispozitive, pot adnota simultan același scenariu. Adnotările sunt colectate în modul de debriefing și afișate într-un mod filtrabil pentru fiecare utilizator.	A		
1.27	Marcajele și adnotările pot fi afișate sub forma unei liste cronologice sau într-o linie temporală (timeline), atât în software-ul coordonatorului, cât și în software-ul de debriefing.	A		
1.28	Checklist-urile electronice trebuie să poată fi completate în software-ul din sala de control. Cerința minimă este ca aceste checklist-uri să fie simple și să utilizeze criterii de tip da/nu.	A		
1.29	Pe lângă sala de control, este posibilă și difuzarea live a înregistrării curente în una sau mai multe săli suplimentare. Transmisiunea live către celelalte săli poate fi pornită și oprită cu ușurință din software, direct din sala de control.	A		
1.30	Transmisie live a înregistrării curente către celelalte săli, realizată exclusiv din sala de control, reproduce doar fluxurile video și pistele audio sincronizate, dar nu și adnotările create.	A		
1.31	Pornirea (înregistrarea) următorului scenariu poate avea loc în paralel cu debriefing-ul scenariului anterior, fără nicio problemă.	A		

1.32	Software-ul include o bază de date media integrată. Conținutul media poate fi redat din interfața sălii de control, fie pe un ecran dedicat instalat în sala de simulare, fie pe o tabletă utilizată în timpul sesiunii de debriefing, în urma selecției manuale. Sistemul trebuie să suporte redarea fișierelor în formatele standard de imagine și video (JPG, PNG, MP4), precum și afișarea fișierelor PDF și PPTX. În timpul derulării unui scenariu, dacă este afișat un fișier media, aplicația generează automat un bookmark cu marcat temporal, care permite identificarea ulterioară a momentului exact al afișării și accesul rapid la fișier printr-un clic pe bookmark, în interfața de debriefing.	A		
1.33	Accesul la zona de administrare a software-ului, inclusiv la arhiva înregistrărilor, este posibil de pe orice calculator din aceeași rețea, prin intermediul unui browser, fiind protejat prin date de autentificare.	A		
1.34	Baza de date a arhivei poate fi căutată și filtrată utilizând o varietate largă de metadata, cel puțin după: instructor, actor/simulator, participanți, dată, oră și scenariu.	A		
1.35	Editarea metadatelor și ștergerea înregistrărilor sunt posibile doar pentru utilizatorii care dețin un rol de securitate corespunzător.	A		
1.36	Este disponibilă funcția de descărcare/export a fișierelor video individuale într-un format comun (de exemplu, mp4), la o rezoluție de 1080p și cu o rată 25 de cadre pe secundă sau mai mare. Această funcție poate fi utilizată doar de către utilizatorii care dețin permisiunea corespunzătoare.	A		
1.37	Participanții, instructorii și, după caz, pacienții fictivi pot fi desemnați pentru fiecare înregistrare înainte, în timpul și după încheierea înregistrării.	A		
1.38	Software-ul este instalat local, pe serverele și calculatoarele incluse în achiziție.	A		
1.39	Software-ul este actualizat periodic (cel puțin de două ori pe an) cu actualizări de securitate și performanță.	A		
1.40	Software-ul este configurat pentru suport la distanță, permițând echipei producătorului să acceseze direct toate dispozitivele prin Internet, atunci când este necesar, pentru a asigura o asistență rapidă și eficientă.	A		
2. CRITERII DE CONFORMITATE – AUDIO		Cat.	*Yes/No	Comentarii (opțional)
2.1	Sistemul înregistrează toate sursele audio separat de cele video, salvându-le ca fișiere audio individuale. Astfel, sunetul nu este încorporat în înregistrarea video prin cameră, ci este stocat separat, permițând redarea sau editarea lui independentă, ulterior.	C		
2.2	Sensibilitatea (volumul de înregistrare) fiecărui microfon poate fi ajustată individual în software, atât înainte, cât și în timpul înregistrării.	B		
2.3	Pentru fiecare sursă audio, software-ul permite controlul individual, chiar și în timpul înregistrării, astfel încât se poate stabili separat dacă: (1) să fie înregistrată, (2) să fie redată în sala de control și (3) să fie inclusă în transmisia live din Sala de Audiență.	B		
2.4	În sala de control, microfonul de masă cu braț flexibil și funcție „Push-to-talk” permite utilizarea mai multor butoane pentru comunicare: (1) „Voce către Sală” – către camera de simulare, (2) către un difuzor separat denumit „Vocea pacientului” și (3) către un sistem wireless cu căști in-ear. Volumul acestor canale audio poate fi reglat prin software. Pistele audio „Voce către Sală” și „Vocea pacientului” sunt transmise direct din microfon prin software în cadrul transmisiunii live și înregistrării, fără a trece prin microfonul din camera de simulare.	B		
2.5	În biblioteca de scenarii, sunetele de fundal pot fi încărcate în software în format MP3 și atribuite corespunzător. Acestea se pot reda în timpul simulării prin difuzoarele din sala de simulare, cu opțiunea de redare automată loop. Software-ul permite reglarea prezenței și volumului zgomotului de fundal, atât în sala de simulare, cât și în înregistrare și în transmisiunea live. Procesorul DSP al sistemului filtrează digital zgomotul de fundal înregistrat în sala de simulare, pentru a asigura o claritate optimă a comunicării participanților în înregistrare.	C		

3. CRITERII DE CONFORMITATE – VIDEO		Cat.	* Da/Nu	Comentarii (opțional)
3.1	În software-ul din sala de control, poate fi creat un număr nelimitat de vizualizări, cu capacitatea de include până la 9 fluxuri de la video camera sau encodere HDMI. Layout-ul fluxurilor este configurabil prin mai multe opțiuni, cum ar fi: vizualizare cu un singur video, ecran împărțit în patru, un video principal mare însoțit de mai multe video-uri mici sau modul imagine în imagine (Picture-in-Picture). În modul Picture-in-Picture, pot fi ajustate transparența și poziția fluxului video mic. Pentru fiecare sală pot fi create layout-uri diferite, iar fiecare vizualizare poate fi salvată cu un nume distinct.	B		
3.2	Software-ul din sala de control este optimizat pentru a funcționa bine atât pe un singur monitor, cât și pe două monitoare. În cazul utilizării a două monitoare, unul afișează fluxurile video, iar celălalt este destinat pentru funcțiile de control și adnotări.	B		
3.3	În orice moment, chiar și în timpul înregistrării, este posibilă comutarea fără întreruperi între săli și/sau diferite layout-uri de fluxuri video. Aceasta face posibilă utilizarea scenariilor cu mai multe săli. Intrările și ieșirile audio asociate (microfoane și difuzoare) se comută automat odată cu schimbarea sălii, astfel încât să fie auzit întotdeauna sunetul corect, sincronizat cu imaginea corespunzătoare.	B		
3.4	Pentru fiecare cameră video, utilizatorii pot configura în software cel puțin patru poziții predefinite, care apoi pot fi accesate cu un singur clic.	C		
3.5	Fiecare flux video poate fi mărit în două etape (până la modul ecran complet) în vizualizarea înregistrării din camera de control.	B		
4. CRITERII DE CONFORMITATE – SALA DE AUDIENȚĂ		Cat.	* Da/Nu	Comentarii (opțional)
4.1	Software-ul din sala de control permite configurarea transmisiunii live, inclusiv selecția sălilor în care aceasta va fi difuzată. Transmisiunea poate fi pornită sau oprită în orice moment – înainte, în timpul sau după înregistrare – printr-un singur buton în software-ul Regisraum. De asemenea, sistemul permite lansarea unei transmisiuni live fără a activa funcția de înregistrare.	B		
4.2	Dacă în scenariul configurat în software a fost atribuită în prealabil o sală pentru transmisie live, aceasta pornește automat odată cu începerea înregistrării și se oprește automat la finalizarea acesteia.	B		
4.3	Software-ul din sala de control permite configurarea individuală a layout-ului și compoziției fluxurilor video pentru transmisia live. Astfel, în transmisia live pot fi afișate doar două fluxuri video, în timp ce în sala de control și în înregistrare pot fi vizualizate patru fluxuri video simultan.	C		
4.4	Dacă un material media (de exemplu, o imagine sau un videoclip) este afișat pe un ecran din sala de simulare, acesta va fi redat și în transmisiunea live din Sala de audiență. În cazul în care Sala de audiență este echipată cu un singur ecran, materialul media va înlocui temporar fluxul video și va fi afișat pentru o durată de 10–20 de secunde. În cazul în care Sala de audiență este echipată cu 2 ecrane, materialul media va fi afișat pe al doilea ecran fără limită de timp, în timp ce transmisia video live va continua pe primul ecran.	B		
4.5	Textele formatabile pentru scenariu (de exemplu, briefingul sau cazul clinic) pot fi introduse în software-ul din sala de control și afișate pe ecran în sala de transmisie live printr-un clic pe ecran. Afișarea poate avea loc înainte, în timpul sau după înregistrare, fiind controlată din software-ul din sala de control.	C		
5. CRITERII DE CONFORMITATE – DEBRIEFING		Cat.	* Da/Nu	Comentarii (opțional)
5.1	Sistemul dispune de o aplicație dedicată pentru debriefing, care este controlată prin intermediul unei tablete. Redarea videoclipurilor nu are loc pe tabletă, ci pe un ecran separat din sala de debriefing („player debriefing”), iar redarea materialelor media pe acest ecran este controlată de pe tabletă.	B		

5.2	Pe ecranul player-ului de debriefing, unde toți participanții vizionează videoclipurile, nu sunt afișate adnotări sau comentarii ale instructorilor. Acestea pot fi vizualizate doar pe tableta persoanei care conduce debriefingul.	B		
5.3	Adnotările și înregistrările din checklist sunt afișate pe tabletă sub formă de listă sau cronologie. Când utilizatorul selectează un eveniment (cum ar fi un marcaj, o adnotare sau o intrare din checklist), redarea videoclipului se va deplasa automat cu 5 până la 15 secunde înainte de momentul înregistrării acelui eveniment (intervalul exact poate fi setat în software). Din acel moment, videoclipul poate fi redat pentru a analiza contextul evenimentului.	B		
5.4	Volumul player-ului de debriefing poate fi ajustat direct de pe tableta de control utilizată în timpul sesiunii de debriefing.	C		
5.5	Tableta de control este mobilă și poate fi utilizată în orice sală de debriefing. Înainte de începerea debriefingului, utilizatorul selectează din interfața tabletei sala și ecranul pe care se va desfășura redarea materialului video.	B		
5.6	Durata planificată a sesiunii de debriefing poate fi configurată în prealabil pe tableta de control. La atingerea timpului setat, tableta generează o notificare vizuală care avertizează instructorul că intervalul alocat s-a încheiat.	C		
5.7	Tableta dispune de toate funcțiile necesare pentru controlul video (pornire, pauză, oprire, derulare manuală înainte și înapoi). Prin utilizarea acestor funcții, videoclipurile sunt controlate în timp real pe player-ul de debriefing.	B		
5.8	Aranjamentul videoclipurilor (ecran împărțit sau vizualizare video unică) poate fi controlat de pe tabletă în timpul redării.	C		
5.9	Ecranul pe care se redau videoclipurile trece automat în modul întunecat atunci când nu este redat niciun video, pentru a nu distrage atenția participanților în timpul discuțiilor din debriefing.	B		
5.10	Aplicația de debriefing de pe tabletă permite redarea conținutului media stocat în biblioteca media a scenariului de simulare pe player-ul de debriefing.	B		
5.11	Prin intermediul tabletei de control se poate accesa baza de date cu fișiere media și documente pentru a vizualiza prezentări generale și materiale educaționale pe ecranul player-ului de debriefing. Pentru documentele în format PowerPoint sau PDF, software-ul de pe tabletă funcționează ca o telecomandă pentru derularea înainte și înapoi.	C		
6. CRITERII DE CONFORMITATE – ADNOTĂRI, EVALUĂRI, EXAMENE		Cat.	* Da/Nu	Comentarii (opțional)
6.1	Software-ul include un modul extins și intuitiv pentru crearea marcajelor (bookmark-uri) și adnotărilor. În software-ul din sala de control, marcajele pot fi adăugate prin tastare unor butoane predefinite, fiecare având o pictogramă specifică. Sunt disponibile cel puțin trei tipuri de butoane, corespunzătoare evenimentelor neutre, pozitive și negative.	B		
6.2	Biblioteca conține cel puțin 40 de pictograme reprezentând evenimente legate de comunicare sau profesionale medicale, care pot fi utilizate ca butoane pentru crearea marcajelor, în funcție de scenariu.	C		
6.3	Pentru fiecare marcaj creat prin tastarea unei pictograme, se poate introduce și un text liber ca adnotare în timpul înregistrării.	B		
6.4	Atât evenimentele individuale (care marchează un moment specific în timp), cât și evenimentele cu durată mai lungă (de exemplu, faza de la începutul până la sfârșitul resuscitării) pot fi înregistrate prin sistemul de marcaje și adnotări. Pentru evenimentele continue, durata este calculată automat și inclusă în textul adnotării.	B		
6.5	Intrările din checklist pot fi evaluate nu doar în funcție de statutul Da/Nu, dar și pe o scară liber definită de la trei la n-niveluri (max. 10).	B		

6.6	În sistem pot fi create și completate electronic checklist-uri și formulare de evaluare complexe, care includ întrebări cu răspuns unic, răspuns multiplu, întrebări deschise și câmpuri pentru comentarii pentru fiecare întrebare.	C		
6.7	Software-ul trebuie să permită definirea categoriilor de competențe (de exemplu, abilități clinice, comunicare etc.) pentru fiecare item din examen. De asemenea, trebuie să suporte atribuirea unor ponderi diferite fiecărei categorii (de exemplu, 30% abilități clinice, 70% comunicare) pentru a reflecta importanța și focalizarea specifică a fiecărei competențe în procesul de evaluare.	A		
6.8	Formularele de evaluare pot fi configurate cu funcționalitate de notare pentru examene. Sistemul poate genera evaluări pe baza formularelor completate și permite exportarea acestora.	A		
6.9	Întrebările pot fi marcate ca întrebări critice (K.O.). Dacă o astfel de întrebare nu este răspunsă corect, întregul examen este automat considerat nereușit, indiferent de rezultatele obținute la celelalte întrebări sau de punctajul total.	A		
6.10	Întrebările și notele pot fi personalizate cu opțiuni de formatare a textului, precum caractere aldine sau cursive, pentru a sublinia informațiile importante sau pentru a clarifica anumite instrucțiuni. De asemenea, pot fi integrate imagini, afișate inițial ca miniaturi, care pot fi mărite la dimensiune completă printr-un clic, oferind astfel o vizualizare detaliată.	B		
6.11	Software-ul permite configurarea fluxului de examinare cu cel puțin două etape obligatorii: „Student Ready” (Pregătirea studentului) și „Encounter” (Întâlnirea). Suplimentar, pot fi adăugate etape opționale, precum „Pre-Encounter” (Etapa pre-întâlnirii) și „Post-Encounter” (Etapa post-întâlnirii), în funcție de specificul examenului.	A		
6.12	Pentru fiecare flux de examinare, durata fiecărei etape poate fi configurată, iar redarea sunetelor poate fi programată pentru momente prestabilite – de exemplu, un sunet de „gong” la începutul etapei „Encounter” (Întâlnirea).	B		
6.13	Examinatorii pot vizualiza cazul clinic prezentat studenților în faza „Student Ready” (Studentul este pregătit).	C		
6.14	Înainte și în timpul examenelor, poate fi accesat un panou de prezentare generală care afișează, în timp real, statutul fiecărei stații de examen, al examinatorilor, al studenților și al pacienților simulați. Acest panou este disponibil și pe dispozitive mobile, inclusiv laptopuri și tablete.	B		
6.15	Software-ul permite utilizarea ecranelor de orientare (floor screens), care afișează faza curentă a examenului și indică studenților stațiile de examen care le-au fost alocate, facilitând tranziții fluide și o navigare eficientă pe parcursul întregului proces de examinare.	C		
6.17	Pe lângă software-ul din sala de control, toate funcțiile de marcare, adnotare, completare a checklist-ilor și evaluare pot fi utilizate simultan și de alți utilizatori prin intermediul tabletelor. Sistemul înregistrează identitatea utilizatorului care a creat fiecare intrare și afișează aceste metainformații atât în arhiva de înregistrări, cât și în aplicația de debriefing.	B		
7. CRITERII DE CONFORMITATE – FORMAREA FORMATORILOR		Cat.	* Da/Nu	Comentarii (opțional)
7.1	Pentru instruirea noilor formatori, este posibilă încărcarea în software-ul din sala de control a unor înregistrări video anterioare, în locul transmisiunii live. Astfel, se poate exersa utilizarea software-ului, inclusiv crearea marcajelor și adnotărilor, fără ca utilizatorii să își dea seama că este vorba despre o înregistrare.	C		
8. CRITERII DE CONFORMITATE – ARHIVA ÎNREGISTRĂRILOR		Cat.	* Da/Nu	Comentarii (opțional)
8.1	În arhivă, pot fi adăugate ulterior adnotări, completări ale checklist-ilor și realizate evaluări cu punctaj.	B		

8.2	Înregistrările pot fi exportate ca fișiere video redacte, care combină toate fluxurile video și piste audio, și pot fi transferate pe un suport de stocare extern.	B		
8.3	Pistele video și audio pot fi exportate separat ca fișiere neprocesate (raw) pentru post-procesare în programe de editare video.	C		
8.4	Pot fi configurate perioade pentru ștergerea automată a înregistrărilor (de exemplu: 12/24/36 ore sau 100 de zile). Anumite înregistrări pot fi protejate în arhivă pentru a preveni ștergerea automată.	B		
8.5	Este posibilă adăugarea metadatelor, cum ar fi nume, locații sau numele participanților, înainte, în timpul și după sesiunea de instruire.	B		
9. CRITERII DE CONFORMITATE – ADMINISTRARE		Cat.	* Da/Nu	Comentarii (opțional)
9.1	Software-ul dispune de un modul de proiectare a scenariilor, în care pot fi configurate șabloane pentru scenariile de exercițiu, cu toate descrierile, materialele media și didactice ce urmează a fi utilizate, pictogramele corespunzătoare pentru marcaje și fișierele audio.	B		
9.2	Software-ul dispune de un modul complet de programare, care permite planificarea exercițiilor, rezervarea sălilor și repartizarea tuturor participanților și instructorilor. Modulul include o funcție de calendar și poate trimite invitații personalizate participanților prin e-mail.	C		
9.3	Software-ul dispune de baze de date media extinse pentru gestionarea tuturor imaginilor, videoclipurilor, prezentărilor și materialelor didactice necesare utilizării sale.	B		
9.4	Software-ul dispune de un modul pentru crearea checklist-ilor, sondajelor și fișelor de evaluare, care pot fi utilizate în permite crearea formularelor electronice complexe.	C		
9.5	Sistemul oferă o gamă largă de opțiuni pentru editarea și gestionarea drepturilor utilizatorilor, de exemplu prin intermediul listei de control al accesului (ACL).	B		
9.6	Sistemul poate fi conectat la un server LDAP (de exemplu, Active Directory) și poate folosi această interfață pentru autentificarea utilizatorilor.	C		
9.7	Alternativ, sistemul poate fi configurat și cu o interfață Shibboleth pentru autentificarea utilizatorilor.	C		
9.8	Un cont separat de administrator permite editarea tuturor setărilor software-ului.	B		

9. In the case of preselection procedures, the minimum number of candidates and, if applicable, the maximum number of candidates: Not applicable

10. In the event the contract is divided into lots, an economic operator may submit an offer (select one): Not applicable

- 1) For a single lot
- 2) For multiple lots
- 3) For all lots
- 4) Other limitations regarding the number of lots that may be awarded to the same bidder: _

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11. Acceptance or prohibition of alternative offers: Not accepted

12. Delivery terms and conditions requested: The system shall be delivered under DDP conditions in accordance with INCOTERMS 2020, within 90 calendar days from the contract signing date. The supplier shall deliver, install, and configure the equipment at the following address: 17 Muncești Highway, Chișinău Municipality.

13. Contract validity period: 31.12.2030

14. Payment terms and conditions for residents/non-residents: Payment for delivered goods shall be made by IMSP CNAMUP in EUR/MDL according to the official NBM exchange rate on the payment date, within 15 working days after the goods have been received, installed, and commissioned, based on the Acceptance Certificate signed by the Supplier and the Beneficiary.

Payments for the delivered goods shall be made via bank transfer to the settlement account of the Supplier indicated in the contract, as follows: 60% upon delivery of goods and 40% after installation and configuration of the equipment.

The following transfer instruments are accepted: letter of credit/bank transfer, in accordance with the legislation of the Republic of Moldova.

15. Procurement reserved for sheltered workshops or executable only under protected employment programs (if applicable): No

16. Provision of the service reserved for a specific profession under laws or administrative acts (if applicable): No

17. Brief description of the criteria regarding the eligibility of economic operators that may lead to their exclusion, and the selection/preselection criteria; the minimum level(s) of any requirements imposed; information requested (DUAE, documentation):

Nr. d/o	Qualification and selection criteria (criterion/requirement description)	Method of demonstrating compliance with the criterion/requirement:	Minimum Level / Mandatory Requirement
1	Price Specification	Original confirmed by applying the electronic signature of the company administrator indicated in the Extract from the State Register of Legal Entities, or by an authorized person. In the case of delegation or authorization, the authorization document must be attached to the offer. This is in accordance with Annex No. 23 of the Standard Documentation approved by Order No. 115 of the Ministry of Finance, dated 15.09.2021. Note: The offer price includes transportation to the Beneficiary's premises, installation and commissioning, technical training on operation and maintenance. Reference: EU – Republic of Moldova Free Trade Agreement (DCFTA).	Yes
2	Technical Specifications	Original confirmed by applying the electronic signature of the company administrator indicated in the Extract from the State Register of Legal Entities, or by an authorized person. In the case of delegation or authorization, the authorization document must be attached to the offer. This is in accordance with Annex No. 22 of the Standard Documentation approved by Order No. 115 of the Ministry of Finance, dated 15.09.2021. Note: In the offer, the "Technical Specifications Form" must be completed in full with the proposed technical specification, providing detailed information on all parameters.	Yes
3	Bid Guarantee – 1% of the offer value, excluding VAT	If the bid guarantee is to be presented in the form of a bank guarantee, it shall be submitted in original in accordance with Annex No. 9 of the Standard Documentation approved by Order No. 115 of the Ministry of Finance dated 15.09.2021, and shall be valid for at least 90 days. In the case of a bid guarantee provided by bank transfer, the economic operator shall submit the payment order with confirmation from the bank of the execution of the payment,	Yes

		no later than the offer submission deadline — copy confirmed by applying the electronic signature of the company administrator indicated in the Extract from the State Register of Legal Entities, or by an authorized person. In the case of delegation or authorization, the authorization document must be attached to the offer. Note: The validity period of the bid guarantee shall be the same as the validity period of the bid.	
4	ESPD – European Single Procurement Document	The standard form of the European Single Procurement Document (ESPD) — Original confirmed by applying the electronic signature of the company administrator indicated in the Extract from the State Register of Legal Entities, or by an authorized person. In the case of delegation or authorization, the authorization document must be attached to the offer. Note: Submission of any ESPD form other than the one attached to the procedure shall constitute grounds for disqualification of the economic operators.	Yes
5	Declaration on the tender validity	Original – confirmed by the electronic signature of the company administrator listed in the Extract from the State Register of Legal Entities, or by an authorized representative. In cases of delegation or empowerment, the authorization document must be attached to the offer. This is in accordance with Annex No. 8 of the Standard Documentation approved by Order No. 115 of the Ministry of Finance dated 15.09.2021. Note: The offer validity period of 90 days shall be calculated from the date of the offer opening.	Yes
6	Documents attesting to the quality of goods	A valid CE Certificate of Conformity and/or CE Manufacturer's Declaration of Conformity, issued in accordance with applicable EU directives and standards.	Yes
7	Proof of Registration of the Legal Entity – Evidence of the legal registration of the economic operator in accordance with the applicable laws of the country in which the bidder is established	Certificate/Decision of Company Registration / Extract from the State Register of Legal Entities; List of Founders of the Economic Operator (full name, personal identification number). For non-resident economic operators, documents issued in the country of origin must be submitted to demonstrate the legal form of registration, certification, or professional affiliation. Copies shall be confirmed by the electronic signature of the company's administrator listed in the Extract from the State Register of Legal Entities, or by an authorized representative. In cases of delegation or empowerment, the power of attorney/authorization document must be attached to the tender submission.	Yes
8	Certificate confirming the absence or presence of outstanding liabilities to the national public budget	Issued by the State Tax Service (validity of the certificate – according to the requirements of the State Tax Service of the Republic of Moldova), valid on the date of bid opening. The non-resident economic operator shall present documents from the country of origin proving the absence or existence of debts to the state budget – a copy confirmed by the application of the electronic signature by the company's administrator indicated in the Extract from the State Register of Legal Entities or by the authorized person. In the case of delegation or authorization of a person, the bid shall be accompanied by the power of attorney/authorization document.	Yes
9	Declaration on ultimate beneficial owners and absence of criminal convictions	The successful bidder shall, within 5 days from the date of communication of the results of the public procurement procedure, submit to the Contracting Authority and to the Public Procurement Agency the Declaration in accordance with Order of the Minister of Finance No. 145 of 24 November 2020, signed electronically by the company's	Yes

		administrator as indicated in the Extract from the State Register of Legal Entities, or by a duly authorized person. In the event of delegation or authorization, the relevant power of attorney or authorization document shall be attached to the offer.	
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18. Bid Security – Amount: 1% of the Bid Value (excluding VAT)

The Bid Security may be provided in MDL or EUR.

Payment by Bank Transfer

The amount shall be transferred to the Contracting Authority's account as per the following bank details:

Beneficiary: IMSP **National Centre for Prehospital Emergency Medical Assistance**

Bank Name: BC "MAIB" S.A., Gheorghe Asachi Branch

Fiscal Code: **1015600032824**

IBAN (MDL): **MD18AG000000022515454988**

IBAN (EUR): *[to be indicated]*

Payment reference: "Bid Security in the amount of 1% for Public Procurement Procedure No. ____ dated ____"

Note: In the case of a bank transfer, the economic operator shall submit the payment order with confirmation from the bank of the execution of the payment, no later than the bid submission deadline.

or

Bank Guarantee – as per Annex No. 9 of the Standard Documentation approved by Order of the Minister of Finance No. 115 of 15 September 2021.

Note: If the bid security is submitted in the form of a bank guarantee, it shall be presented in original (if bearing a handwritten signature from the bank) at the IMSP CNAMUP premises within 72 hours after bid opening. The validity period of the bank guarantee shall be the same as the validity period of the bid. Submission of any form other than that approved by Order No. 115 of 15.09.2021 shall constitute grounds for rejection of the bid in accordance with point 49 of the said Order.

19. Performance Guarantee – Amount: 5% of the Total Contract Value

The Performance Guarantee may be provided in MDL or EUR.

The transfer shall be made to the Contracting Authority's account, as per the following bank details:

Beneficiary: IMSP **National Centre for Prehospital Emergency Medical Assistance**

Bank Name: BC "MAIB" S.A., Gheorghe Asachi Branch

Fiscal Code: 1015600032824

MDL account: IBAN: MD18AG000000022515454988 – denominated in Moldovan lei (MDL);

EUR account: IBAN: _____ – denominated in euro.

The payment order shall indicate the following note: "Performance Guarantee – 5% – Public Procurement Procedure No. ____ dated ____."

or

Bank Guarantee in accordance with Annex No. 10 of the Standard Documentation approved by Order of the Ministry of Finance No. 115 of 15.09.2021, submitted in original together with the contract.

The submission of any guarantee form other than that approved by Order of the Ministry of Finance No. 115 of 15.09.2021 shall constitute grounds for rejection of the offer, in accordance with point 49 of said Order.

The conversion rate for calculating the guarantee amount shall be the official exchange rate of the National Bank of Moldova on the date of the opening of offers.

Note: The performance guarantee of the contract shall be returned to the Supplier after the delivery, installation, and setup of the equipment in the amount of 95%, while the remaining 5% shall be returned during the validity period of the contract.

20. Reason for Resorting to the Accelerated Procedure (in the case of open, restricted, or negotiated procedures, as applicable): electronic auction; 3 rounds; minimum bid decrement step of 0.1%; duration of the rounds established by the SIA RSAP.
21. Specific Awarding Techniques and Tools (if applicable, specify whether a framework agreement, dynamic purchasing system, or electronic auction will be used): Not applicable.
22. Special Conditions for Contract Performance (if applicable): Not required.
23. Currency of Bid Submission: Moldovan Lei (MDL) and/or other currency. Conversion Rate: The official exchange rate of the National Bank of Moldova (BNM) on the date of bid opening shall be applied.
24. Evaluation Criterion for Contract Award: The lowest price excluding VAT, combined with full compliance with the technical and administrative requirements specified for each lot.
25. Evaluation Factors for the Most Economically Advantageous Tender (MEAT) and their respective weightings:

No.	Name of the evaluation factor	Weight (%)
	-	-

26. Deadline for submission/opening of tenders: in accordance with SIA RSAP.
27. Address to which tenders or requests to participate must be sent: Tenders or requests to participate shall be submitted electronically via SIA RSAP.
28. Tender validity period: 90 days.
29. Place of opening of tenders: SIA RSAP.
Late tenders will be rejected.
30. Persons authorised to attend the opening of tenders: Tenders shall be submitted via SIA RSAP.
31. Language(s) in which tenders or requests to participate must be drawn up: State language / English.
32. This contract is related to a project and/or programme financed by European Union funds: No.
33. Name and address of the competent body for appeal procedures:
National Agency for the Settlement of Complaints
Address: mun. Chişinău, bd. Ştefan cel Mare şi Sfânt No. 124 (4th floor), MD 2001
Tel/Fax/Email: +373 22 820 652, +373 22 820 651, contestatii@ansc.md
34. Date(s) and reference(s) of previous publications in the Official Journal of the European Union concerning the contract(s) to which this notice relates (if applicable): Yes.
35. In the case of periodic procurements, the estimated schedule for future notices: Not applicable.
36. Date of publication of the prior information notice, or where applicable, indication that no such notice has been published: such notice has been published.
37. Date of dispatch of the contract notice for publication: in accordance with SIA RSAP.
38. In the framework of this public procurement procedure, the following shall be used/accepted:

Name of the Electronic Tool	Will it be used/accepted?
Electronic submission of tenders or requests to participate	Yes
Electronic ordering system	No
Electronic invoicing	Yes

Electronic payments	Yes
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39. The contract is subject to the World Trade Organization Agreement on Government Procurement (only for notices sent for publication in the Official Journal of the European Union):
No

40. Other relevant information: –

Head of the working group:

Iurie CRASIUC _____
S.S.