**Section II: Schedule of Requirements**

E-Sourcing reference: RFQ/2023/48374

**A.Summary of Requirements for Ultrasound machines - 2 PCS**

UNOPS requirements are comprised of the following:

**Ultrasound machine - 2 PCS.**

**B.Technical specification for goods**

| **N** | **UNOPS minimum technical requirements** | **Is quotation compliant?** | **Details of goods offered.** |
| --- | --- | --- | --- |
| **1** | **Main characteristics and functions:** | ☐ Yes ☐ No |  |
| 1.1 | Abdominal examinations: Availability | ☐ Yes ☐ No |  |
| 1.2 | Vascular examinations: Availability | ☐ Yes ☐ No |  |
| 1.3 | Examination of superficially located organs and structures: Availability | ☐ Yes ☐ No |  |
| 1.4 | Musculoskeletal examinations: Availability | ☐ Yes ☐ No |  |
| 1.5 | Cardiology examinations: Availability | ☐ Yes ☐ No |  |
| 1.6 | Transcranial examinations: Availability | ☐ Yes ☐ No |  |
| 1.7 | Obstetrics and gynaecology examinations: Availability | ☐ Yes ☐ No |  |
| 1.8 | Paediatrics and neonatology examinations: Availability | ☐ Yes ☐ No |  |
| 1.9 | Oncology: Availability | ☐ Yes ☐ No |  |
| 1.10 | Vascular: Availability | ☐ Yes ☐ No |  |
| 1.11 | Mammology: Availability | ☐ Yes ☐ No |  |
| 1.12 | Urology examinations: Availability | ☐ Yes ☐ No |  |
| **2** | **Main unit:** | ☐ Yes ☐ No |  |
| 2.1 | Digital ultrasound beam transmission and reception: Availability | ☐ Yes ☐ No |  |
| 2.2 | Transducers supporting a wide range of frequencies: Availability | ☐ Yes ☐ No |  |
| 2.3 | System dynamic range, at least: 250 dB | ☐ Yes ☐ No |  |
| 2.4 | Frequency range, at least: 1.6 – 20 MHz | ☐ Yes ☐ No |  |
| 2.5 | Number of transmit focal zones, at least: 8 | ☐ Yes ☐ No |  |
| 2.6 | Tissue specific optimization with possibility of reception focus compensation: Availability | ☐ Yes ☐ No |  |
| 2.7 | Image zoom in real-time and static mode: Availability | ☐ Yes ☐ No |  |
| 2.8 | Maximum scanning depth, at least: 40 cm | ☐ Yes ☐ No |  |
| 2.9 | Number of transducer connectors (not including the pencil transducer  connector), at least: 4 ports | ☐ Yes ☐ No |  |
| 2.10 | Integrated workstation: Availability | ☐ Yes ☐ No |  |
| 2.11 | Ability to display annotations and icons: Availability | ☐ Yes ☐ No |  |
| 2.12 | Max number of volumes per second in 4D mode: at least 40 | ☐ Yes ☐ No |  |
| 2.13 | Max frames per second, at least: 800 | ☐ Yes ☐ No |  |
| 2.14 | System weight, maximum: 150 kg | ☐ Yes ☐ No |  |
| 2.15 | Maximum power consumption: 1500 VA | ☐ Yes ☐ No |  |
| **3** | **Scanning modes:** | ☐ Yes ☐ No |  |
| 3.1 | B-mode: Availability | ☐ Yes ☐ No |  |
| 3.2 | Maps q-ty, at least: 9 | ☐ Yes ☐ No |  |
| 3.3 | M-mode: Availability | ☐ Yes ☐ No |  |
| 3.4 | Colour M-mode: Availability | ☐ Yes ☐ No |  |
| 3.5 | Anatomical M-mode: Availability | ☐ Yes ☐ No |  |
| 3.6 | Activation of anatomical M-mode from stored cine-loops: Availability | ☐ Yes ☐ No |  |
| 3.7 | Pulsed-wave Doppler mode: Availability | ☐ Yes ☐ No |  |
| 3.8 | PWD PRF range, at least: 500-26000 Hz | ☐ Yes ☐ No |  |
| 3.9 | Continuous-wave Doppler mode: Availability | ☐ Yes ☐ No |  |
| 3.10 | CWD Speeds range cm/s, at least: 2.5 - 15.0 m/s | ☐ Yes ☐ No |  |
| 3.11 | Doppler Auto Trace: Availability | ☐ Yes ☐ No |  |
| 3.12 | Colour Doppler mapping mode: Availability | ☐ Yes ☐ No |  |
| 3.13 | CDI PRF range, Hz, at least: 500-17000 Hz | ☐ Yes ☐ No |  |
| 3.14 | Power Doppler mode: Availability | ☐ Yes ☐ No |  |
| 3.15 | Directional power Doppler mode: Availability | ☐ Yes ☐ No |  |
| 3.16 | Tissue Doppler mode: Availability | ☐ Yes ☐ No |  |
| 3.17 | Spectral tissue Doppler mode: Availability | ☐ Yes ☐ No |  |
| 3.18 | Real-time mode combination (duplex and triplex): Availability | ☐ Yes ☐ No |  |
| 3.19 | Dual imaging mode (B-mode combined with real-time color mode): Availability | ☐ Yes ☐ No |  |
| 3.20 | Tissue harmonic imaging mode: Availability | ☐ Yes ☐ No |  |
| 3.21 | Multibeam scanning (function reduces ultrasound wave interference within tissues): Availability | ☐ Yes ☐ No |  |
| 3.22 | Speckle noise and acoustic shadows reducing: Availability | ☐ Yes ☐ No |  |
| 3.23 | Trapezoid scanning using linear transducers: Availability | ☐ Yes ☐ No |  |
| 3.24 | 3D visualisation generated from the 2D image: Availability | ☐ Yes ☐ No |  |
| 3.25 | Strain elastography: Availability | ☐ Yes ☐ No |  |
| 3.26 | Assessment of tissue stiffness/elasticity ratios: Availability | ☐ Yes ☐ No |  |
| 3.27 | Shear wave elastography: Availability | ☐ Yes ☐ No |  |
| 3.28 | Ultrasound wave attenuation measurement: Availability | ☐ Yes ☐ No |  |
| 3.29 | Quantitative identification of diffuse abnormalities of liver: Availability | ☐ Yes ☐ No |  |
| 3.30 | Microblood flow visualisation: Availability | ☐ Yes ☐ No |  |
| 3.31 | Automatic calculation of Intima Media Thickness (IMT): Availability | ☐ Yes ☐ No |  |
| 3.32 | B-scan mode with oblique scanning and improved visibility of biopsy needle with linear transducer: Availability | ☐ Yes ☐ No |  |
| 3.33 | Quantitative analysis of vascularization in PDI mode: Availability | ☐ Yes ☐ No |  |
| **4** | **Software:** | ☐ Yes ☐ No |  |
| 4.1 | Automatic optimisation of image in B-mode: Availability | ☐ Yes ☐ No |  |
| 4.2 | Automatic optimisation of image in colour mapping mode: Availability | ☐ Yes ☐ No |  |
| 4.3 | The measurement and calculation items can be displayed for each application measurement (Data editing is possible).  Trend graphs can be displayed on ultrasound unit: Availability | ☐ Yes ☐ No |  |
| 4.4 | Vascular measurements: Availability | ☐ Yes ☐ No |  |
| 4.5 | Cardiology measurements: Availability | ☐ Yes ☐ No |  |
| 4.6 | Obstetrics and gynaecology measurements: Availability | ☐ Yes ☐ No |  |
| 4.7 | Abilities to create reports on the system and adjusting the report template: Availability | ☐ Yes ☐ No |  |
| **5** | **System monitor and console parameters:** | ☐ Yes ☐ No |  |
| 5.1 | Monitor Diagonal, at least: 22 inches | ☐ Yes ☐ No |  |
| 5.2 | Monitor Resolution, at least: 1600x900 px | ☐ Yes ☐ No |  |
| 5.3 | Tilt and swivel monitor: Availability | ☐ Yes ☐ No |  |
| 5.4 | Horizontal swivel, at least: ±90 ° | ☐ Yes ☐ No |  |
| 5.5 | Operation panel: Availability | ☐ Yes ☐ No |  |
| 5.6 | One-button automatic image optimization: Availability | ☐ Yes ☐ No |  |
| 5.7 | Gel warmer: Availability | ☐ Yes ☐ No |  |
| 5.8 | Touch command screen: Availability | ☐ Yes ☐ No |  |
| 5.9 | Operation panel adjustable vertically and horizontally: Availability | ☐ Yes ☐ No |  |
| **6** | **Auxiliary equipment:** | ☐ Yes ☐ No |  |
| 6.1 | B/W digital printer: Availability | ☐ Yes ☐ No |  |
| 6.2 | Reference Signal kit to display ECG, complete with a set of cables: Availability | ☐ Yes ☐ No |  |
| 6.3 | Uninterrupted power supply: Availability | ☐ Yes ☐ No |  |
| **7** | **Image storage:** | ☐ Yes ☐ No |  |
| 7.1 | Cine loop, max frames: Availability | ☐ Yes ☐ No |  |
| 7.2 | Hard Disk capacity, at least, Gb: 500Gb | ☐ Yes ☐ No |  |
| 7.3 | USB flash drive storage: Availability | ☐ Yes ☐ No |  |
| 7.4 | Ethernet network: Availability | ☐ Yes ☐ No |  |
| 7.5 | DICOM Function: Availability | ☐ Yes ☐ No |  |
| **8** | **Supported transducers:** | ☐ Yes ☐ No |  |
| 8.1 | Single crystal technology transducers: Availability | ☐ Yes ☐ No |  |
| 8.2 | Convex: Availability | ☐ Yes ☐ No |  |
| 8.3 | Microconvex: Availability | ☐ Yes ☐ No |  |
| 8.4 | Linear: Availability | ☐ Yes ☐ No |  |
| 8.5 | 4D transducers: convex: Availability | ☐ Yes ☐ No |  |
| 8.6 | Phased array (Sector): Availability | ☐ Yes ☐ No |  |
| 8.7 | Endocavity: Availability | ☐ Yes ☐ No |  |
| **9** | **Transducers included in delivery set:** | ☐ Yes ☐ No |  |
| **9.1** | **Single crystal Convex transducer for abdominal examinations: Availability** | ☐ Yes ☐ No |  |
| 9.1.1 | Frequency range, Mhz, at least: 2.0 – 5.0 MHz | ☐ Yes ☐ No |  |
| 9.1.2 | Number of elements, at least: 192 | ☐ Yes ☐ No |  |
| 9.1.3 | Field of view/angle, at least: 70° | ☐ Yes ☐ No |  |
| 9.1.4 | Curvature, not more than: 50 mm | ☐ Yes ☐ No |  |
| 9.1.5 | Support for shear wave elastography: Availability | ☐ Yes ☐ No |  |
| 9.1.6 | Support for strain elastography: Availability | ☐ Yes ☐ No |  |
| 9.1.7 | Support for attenuation coefficient measurement: Availability | ☐ Yes ☐ No |  |
| 9.1.8 | Biopsy adapter: Availability | ☐ Yes ☐ No |  |
| **9.2** | **Matrix linear transducer for peripheral vessels, small parts: Availability** | ☐ Yes ☐ No |  |
| 9.2.1 | Frequency range, at least: 4.5 – 15.0 MHz | ☐ Yes ☐ No |  |
| 9.2.2 | Field of view, not more than: 60 mm | ☐ Yes ☐ No |  |
| 9.2.3 | Number of elements, at least: 760 | ☐ Yes ☐ No |  |
| 9.2.4 | Support for strain elastography: Availability | ☐ Yes ☐ No |  |
| 9.2.5 | Biopsy adapter: Availability | ☐ Yes ☐ No |  |
| **9.3** | **Single crystal Sector (phased) transducer for use in cardiology, transcranial examinations: Availability** | ☐ Yes ☐ No |  |
| 9.3.1 | Number of elements, at least: 96 | ☐ Yes ☐ No |  |
| 9.3.2 | Frequency range, at least: 1.5 – 4.0 MHz | ☐ Yes ☐ No |  |
| 9.3.3 | Field of view/angle, at least: 90º | ☐ Yes ☐ No |  |
| 9.3.4 | Support for tissue doppler imaging: Availability | ☐ Yes ☐ No |  |
| **9.4** | **Endocavity transducer for use in urology and gynaecology: Availability** | ☐ Yes ☐ No |  |
| 9.4.1 | Frequency range, at least: 4,0 –9,0 MHz | ☐ Yes ☐ No |  |
| 9.4.2 | Field of view/angle, at least: 140° | ☐ Yes ☐ No |  |
| 9.4.3 | Number of elements, at least: 150 | ☐ Yes ☐ No |  |
| 9.4.4 | Support for strain elastography: Availability | ☐ Yes ☐ No |  |
| 9.4.5 | Support for shear wave elastography: Availability | ☐ Yes ☐ No |  |
| 10 | General requirements: | ☐ Yes ☐ No |  |
| 10.1 | The equipment should have certificate of registration for use of goods within the territory of Ukraine according to the current Ukrainian legislation including the Certificate of state registration | ☐ Yes ☐ No |  |
| 10.2 | Bidder which does not manufacture or produce the Goods it offers to supply, shall submit the Manufacturer’s Authorization to demonstrate that it has been duly authorised by the manufacturer or producer of the Goods to supply these Goods in the country of destination | ☐ Yes ☐ No |  |
| 10.3 | Manufacturer’s standards. All offered equipment has to be manufactured by ISO 13485:2016 certified manufacturers. Copies of the original certifications, issued by authorised notified bodies, shall be included in the bid | ☐ Yes ☐ No |  |
| 10.4 | Medical equipment standards. All offered medical equipment, tools and consumables shall be in possession of European conformity marking (CE Mark), according to 93/42/EEC directive or 98/79/EC, or FDA approval or compliance to other internationally recognized medical devices regulatory systems. | ☐ Yes ☐ No |  |
| 10.5 | Bidders shall ensure conformity of the equipment with all applicable Ukrainian regulations | ☐ Yes ☐ No |  |
| 10.6 | The period of validity of the Warranty. The warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination. The Warranty should include preventive maintenance, replacement of defective parts/equipment, repair of equipment, labour for equipment repair and/or parts replacement | ☐ Yes ☐ No |  |
| 10.7 | Warranty service. Within the warranty period, the Supplier or its authorised service centre shall provide maintenance and/or repair services to the equipment operation site not later than 5 (five) workdays from the date of receipt of written or E-mail notification from an authorised party. The name of the company, address, telephone- and fax numbers, e-mail address must be mentioned in the bid. The service centre shall have at least one certified engineer in its staff. All costs connected with warranty maintenance are covered by the Supplier | ☐ Yes ☐ No |  |
| 10.8 | Technical documentation for maintenance and repair of the supplied goods. For each offered item, the Bidder shall provide the technical documentation for performing maintenance and operating repair of the supplied Goods by the technical staff of the Consignee and/or end-users. Such documentation shall include all necessary electrical diagrams, drawings, technical specifications of the devices and their parts, troubleshooting information, safety instructions, etc. that will allow the technical staff of the Consignee and/or end-users to conduct maintenance and operating repair in strict compliance with Goods specifications. The minimum set of technical documents to be provided with each piece of equipment delivered is the following: 1) User Manual and Operating Instructions (in Ukrainian or English); 2) Technical Certificate / maintenance guidelines (in Ukrainian or English). | ☐ Yes ☐ No |  |
| 10.9 | The Bidder has to organise appropriate user training in Ukrainian or Russian language for effective and problem-free use of the equipment included in this tender at the location of delivery. A training proposal for the operation of the equipment must be submitted by the Bidder in the tender. This proposal shall include at least: 1) Schedule and duration; 2) Description of training materials. | ☐ Yes ☐ No |  |
| 10.10 | Bid includes total gross weight of the goods in kg and total volume in m3. | ☐ Yes ☐ No |  |
| 10.11 | Bid includes brand/model of the equipment and manufacturer's technical literature/catalogue, all confirming that the offered items comply with required specifications. | ☐ Yes ☐ No |  |

**C. Delivery requirements and Comparative Data Table**

| **UNOPS Requirements** | | **Is bid compliant?** Bidder to complete | **Details**  Bidder to complete |
| --- | --- | --- | --- |
| **Delivery time** | Bidder shall deliver the goods within **90 calendar days** after Contract signature. Bidder shall provide commissioning of the equipment and training within **3 and 14 calendar days** respectively after delivery of the equipment. | ☐ Yes ☐ No | Insert details |
| **Delivery place and Incoterms rules** | 1 PCS - DAP Customs cleared Kyiv, Ukraine  1 PCS - DAP Customs cleared Odesa, Ukraine  Tax exemption documents will be provided to the successful Bidder. | ☐ Yes ☐ No |  |
| **Consignee details** | UNOPS, Consignee details will be provided to the successful bidder | ☐ Yes ☐ No |  |
| **Warranty** | The Bidder shall remain liable for the packing and consistency of the items supplied for the period of shipment and acceptance for use. Any items found unacceptable shall be returned and changed at no costs to UNOPS. | ☐ Yes ☐ No |  |
| **Packing standards** | The Bidder shall ensure the best international packing standards of goods supplied, including use of eco-friendly packing materials. | ☐ Yes ☐ No |  |

**D. Inspections and tests**

The following inspections and tests shall be performed:

(i) The Supplier shall perform all needed tests before the shipment to confirm that the goods meet the Purchaser requirements. Documented confirmation of such tests has to be sent to the Purchaser before the shipment;

(ii) The Purchaser will check the availability of Compliance Certificates issued for equipment supplied;

(ііі) The Supplier shall demonstrate that the software has been properly installed on all corresponding equipment;

(іv) The Purchaser (with the assistance of the Supplier) will check the functionality/operability and the compliance of main characteristics of all items of equipment with Technical Requirements. If the consumables should be used for equipment checking (reagents for rapid-response analysers, etc.) - they must be provided by the cost of the Supplier.

UNOPS or its representative may inspect and/or test any or all items of the goods to confirm their conformity to the contract, prior to dispatch from the supplier’s premises. Such inspection and clearance will not prejudice the right of the consignee to inspect and test the goods on receipt at destination.

If the goods fail to meet the laid down specifications, the supplier shall take immediate steps to remedy the deficiency or replace the defective goods to the satisfaction of the purchaser.