| Procurement of Medical Equipment and Consumables<br><br>Simplified Procedure<br><br>Lot number 2 |
|---|
| **Project Name:** CAREMED – Community-based Approach for Resilient Mediterranean Health |
| **Programme:** Interreg NEXT MED Programme |
| **Reference:** A_T_3.2_0066 |
| **Beneficiary:** Lebanese University - MOF 258375 |
| **Contracting Authority:** Lebanese University |
| **Date of Publication:** September 10, 2026 |
| **Total Budget:** 46,000 $ (USD) |

## 1. Invitation Letter

Dear Sir/Madam,

The Lebanese University, within the framework of the Interreg NEXT MED co-funded project **CAREMED – Community-based Approach for Resilient Mediterranean Health**, invites your company to submit a quotation for the supply of medical equipment. This Lot Number 2, is designated for the purchase of a cardiovascular ultrasound machine**.**

Interested suppliers are invited to submit their financial and technical offers in accordance with the enclosed Technical Specifications.

- **Submission Deadline:** October 11, 2026.
- Offers shall remain valid for **90 calendar days**.
- **Quotations and required documents shall be submitted by email to:** e.hadchity@ul.edu.lb ; eliehadchity@hotmail.com

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## 2. Instructions to Tenderers

**Contracting Authority:** Lebanese University Medical Center, Rafic Hariri University Campus, Hadat – Lebanon

**Procurement Method:** Simplified Procedure (Request for Quotations)

**Contract Type:** Supply Contract

**Source of Financing:** Lebanese University

**Delivery Period:** Maximum 10 (ten) calendar days after contract signature

**Delivery Location:** Lebanese University Medical Center / Rafic Hariri University Campus, Hadat

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## 3. Scope of Supply

The successful contractor shall supply, deliver, install, commission, and provide training for one complete cardiovascular ultrasound/echocardiography system.

The supply shall include installation, commissioning, acceptance testing, initial quality-control testing, on-site clinical training, user and technical documentation, a minimum two-year comprehensive warranty, and technical/after-sales support.

The equipment shall be brand new, defect-free, supplied in original packaging, and compliant with applicable international medical-device quality and safety standards, including CE, ISO 13485, and applicable IEC standards.

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## 4. Requested Medical Equipment

| Item | Quantity |
|---|---|
| Cardiovascular Ultrasound / Echocardiography System | 1 |

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## 5. General Technical Requirements

The proposed equipment shall be a new, fully digital cardiovascular ultrasound and echocardiography system**,** suitable for routine adult cardiac and vascular examinations.

The system shall support:

- Adult transthoracic echocardiography (TTE)
- 2D cardiac imaging
- M-mode
- Color Doppler
- PW Doppler
- CW Doppler
- Tissue Doppler
- Basic cardiac quantification

- LV and RV function assessment
- Valvular assessment
- Stress echocardiography capability
- Carotid and peripheral vascular examinations
- ECG integration
- DICOM connectivity

The system shall be supplied as a complete operational package including console, monitor, probes, software, accessories, installation, training and warranty.

### 5.1. Ultrasound Console

Minimum requirements:

- Fully digital high-performance cardiovascular ultrasound platform.
- Dedicated cardiovascular capability.
- Minimum 2 active transducer ports, preferably 3 or more.
- Automatic probe recognition.
- Dedicated cardiac examination presets.
- Ergonomic adjustable control panel.
- Adjustable medical-grade monitor.
- Integrated ECG interface.
- Cine-loop acquisition and review.
- Real-time image optimization.
- User-programmable presets.
- High-frame-rate cardiac imaging.
- Simultaneous display of ultrasound and ECG.
- Cardiac measurement and calculation packages.
- Built-in patient database.

### 5.2. Monitor

Minimum requirements:

- Minimum 21-inch high-resolution LCD/LED monitor.
- Full HD or higher.
- Adjustable viewing angle.
- High brightness and contrast.
- Suitable for detailed visualization of cardiac structures and Doppler waveforms.

### 5.3. Required Imaging Modes

The system shall include, as a minimum:

- 2D/B-mode imaging
- M-mode
- Anatomical M-mode
- Color Doppler

- PW Doppler
- CW Doppler
- Tissue Doppler Imaging
- Duplex imaging
- Triplex imaging
- Harmonic imaging
- Speckle/noise reduction
- Zoom function
- Cine-loop
- ECG-triggered acquisition
- Automatic image optimization

### 5.4. Adult Cardiac Transducer

The system shall include **one high-quality adult phased-array cardiac probe** with:

- Broadband technology
- Approximately frequency range **1–5 MHz** or wider
- Suitable for adult transthoracic echocardiography
- High temporal and spatial resolution.
- High sensitivity for cardiac imaging.
- High frame-rate capability.
- Excellent near-field and far-field performance.
- 2D
- M-mode
- Color Doppler
- PW Doppler
- CW Doppler
- Tissue Doppler
- Good temporal and spatial resolution

### 5.5. Vascular Transducer

The system shall include one high-frequency linear-array transducer:

- Broadband frequency range approximately 4–13 MHz or wider.
- Excellent spatial resolution.
- Suitable for:
    - Carotid ultrasound
    - Vertebral arteries
    - Peripheral arterial studies
    - Peripheral venous studies
    - Superficial vascular examinations
- High sensitivity Color Doppler and spectral Doppler.

### 5.6. Cardiac Doppler

The system shall provide high-quality:

- Color Doppler
- PW Doppler
- CW Doppler
- Tissue Doppler
- High-PRF Doppler, where applicable
- Automatic Doppler tracing, preferably

The system shall permit accurate calculation of:

- Peak velocity
- Mean velocity
- VTI
- Pressure gradients
- Valve area
- Regurgitation parameters
- Intracardiac flow parameters
- Pulmonary artery pressure estimation.

### 5.7. Cardiac Measurements and Quantification

The system shall include dedicated cardiac measurement packages for:

#### Left Ventricle

- LVEF
- EDV
- ESV
- Stroke volume
- Cardiac output
- Fractional shortening
- LV mass
- LV dimensions
- Regional wall-motion assessment

#### Right Ventricle

- TAPSE
- RV dimensions
- RV systolic function
- Tissue Doppler measurements

#### Left Atrium

- LA dimensions
- LA volume
- LA volume index

Diastolic Function

- Mitral E velocity
- Mitral A velocity
- E/A ratio
- Deceleration time
- Septal and lateral
- Other standard diastolic-function parameters.

### 5.8. Myocardial Strain / GLS

Global Longitudinal Strain (GLS) capability is preferred but not mandatory and may be included in the standard configuration or offered as a software upgrade.
Where GLS is included, the system should provide:

- 2D speckle-tracking strain imaging.
- Automated or semi-automated GLS.
- LV longitudinal strain.
- Segmental strain analysis.
- Bull's-eye / 17-segment display.
- Strain curves.
- Manual correction of automated contours.

RV strain and LA strain are preferred but not mandatory.

### 5.9. Stress Echocardiography

The system should support stress echocardiography, either as part of the standard configuration or as an available software upgrade. Where stress echocardiography is included, the system should provide:

- Rest/stress examination workflow.
- Multiple-stage acquisition.
- Stress protocol management.
- Side-by-side image comparison.
- Wall-motion analysis.
- ECG integration.
- Multiple cardiac-cycle storage.
- Stress echo reporting.

### 5.10. Vascular / Carotid Examination

The system shall provide:

- Carotid examination package.
- Peripheral arterial examination package.
- Peripheral venous examination package.
- Color Doppler.
- PW Doppler.

- Spectral Doppler.

The system shall allow measurement of:

- PSV
- EDV
- RI
- PI
- Flow velocities
- Vessel diameter
- Plaque measurements.

Automatic IMT measurement is preferred.

### 5.11. ECG

The system shall include:

- Integrated ECG module.
- ECG display during echocardiography.
- ECG synchronization.
- ECG-triggered acquisition.
- Storage of ECG with the examination.
- At least 3-lead ECG capability, preferably 12-lead compatibility.

### 5.12. Advanced Automation / AI

The system should preferably provide, where available, validated automated tools for:

- Automatic LVEF measurement.
- Automatic LV volume calculation.
- Automated cardiac chamber quantification.
- Automated Doppler tracing.
- Automated strain/GLS analysis.
- Automated cardiac measurements.
- Automated image optimization.
- Automated wall-motion analysis, where available.

### 5.13. Connectivity / DICOM

The system shall provide:

- DICOM compatibility.
- DICOM Storage.
- Network connectivity.
- Ethernet connection.
- USB connectivity.
- Secure transfer of images and reports.
- Patient database.

- Storage of still images and cine loops.

DICOM Modality Worklist and PACS connectivity are preferred but not mandatory.

### 5.14. Internal Storage

- Minimum 500 GB, preferably 1 TB.
- SSD storage is preferred.
- Storage of images, cine loops, Doppler data and reports.
- USB/network export.

### 5.15. Minimum Accessories

The complete offer shall include:

1. Ultrasound cardiovascular console.
2. Medical-grade monitor.
3. Adult cardiac phased-array probe.
4. High-frequency linear vascular probe.
5. ECG module and cables.
6. DICOM Storage capability. PACS connectivity is preferred.
7. Probe holders.
8. Gel holder.
9. Footswitch, where applicable.
10. UPS / voltage protection.
11. All necessary cables and accessories.
12. User manuals.
13. Technical documentation.
14. All mandatory software licenses required for the operation of the proposed system.

### 5.16. 3D/4D

3D/4D cardiac imaging capability is preferred but not mandatory.

### 5.17. TEE Capability

TEE capability is optional and not mandatory.

### 5.18. Safety and Regulatory Compliance

The equipment shall comply with all applicable international and local medical-device requirements.
The bidder shall provide:

- CE marking under applicable legislation.
- Manufacturer's Declaration of Conformity.
- ISO 13485 certification.
- Applicable IEC 60601 standards.

- Applicable ultrasound-specific safety standards.
- Manufacturer's technical documentation.

### 5.19. Warranty

- Minimum **2-year comprehensive warranty**.
- Warranty covering the console and supplied transducers.

### 5.20. Installation and Training

The supplier shall provide:

- Delivery.
- Installation.
- Commissioning.
- Acceptance testing.
- Initial quality-control testing.
- On-site clinical training**.**

### 5.21. Financial Requirement

**Maximum available budget:** 46,000 $ (USD), VAT included.

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## 6. Required Documents

Tenderers shall submit:

- Technical Offer
- Financial Offer (Section 11)
- Company Registration Certificate
- Tax Registration Certificate
- Product Catalogues
- CE Certificates where applicable
- Delivery Schedule
- Warranty Declaration

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## 7. Evaluation Method

The evaluation will be conducted in three stages:

**Stage 1 – Administrative Compliance (Pass/Fail)**

Offers will first be assessed against the administrative requirements specified in Sections 6 and 8. Incomplete offers or offers failing to provide the required mandatory documentation will be rejected.

**Stage 2 – Technical Compliance (Pass/Fail)**
Only administratively compliant offers will proceed to technical evaluation. The proposed equipment will be assessed against all mandatory technical specifications and requirements set out in Section 5. Offers failing to meet any mandatory technical requirement will be considered technically non-compliant and will not proceed to financial evaluation.
No technical scoring or weighting will be applied. Compliance with the mandatory technical requirements will be assessed on a Pass/Fail basis.

**Stage 3 – Financial Evaluation**
Only technically compliant offers will proceed to financial evaluation. The contract will be awarded to the technically compliant tenderer offering the lowest total price, provided that the Grand Total does not exceed USD 46,000, VAT included.

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## 8. Administrative Compliance

The quotation shall include:

- Signed Quotation (The Grand Total shall not exceed 46,000 USD, VAT Included)
- Company Registration
- Tax Certificate

Incomplete quotations will be rejected.

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## 9. Payment

Payment shall be made after:

- complete delivery;
- inspection and acceptance;
- submission of invoice;

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## 10. Delivery

Maximum delivery period: **10 calendar days**
Delivery shall include transportation and unloading.

## 11. Financial Offer Form

| Item | Unit | Qty | Unit Price | Total |
|---|---|---|---|---|
| … | | | | |

**Subtotal**

**VAT**

**Grand Total**

- **Company Name:** _____
- **VAT Number:** _____
- **Authorized Representative Name:** _____
- **Signature & Stamp:** _____
- **Date:** ___ / ___ / 2026