



## Notice Inviting e-Tender

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Supply and Commissioning of USG Machine for IPGME&R and SSKM Hospital

(Submission of Bid through *online*)

Bid Reference No.: WBMSCL/NIT-561/2022

Dated-07.12.2022

### Amendment-I

### Revised Technical Specification

#### Schedule-I

#### USG Machine including Volume Probe

| SI.NO. | TECHNICAL SPECIFICIATIONS                                                                                                                                                                                                                                                                           |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.     | It should be robust state of art, fully digital high end latest Color Doppler Ultrasound System With architecture capable of precision beam forming ,capable of performing imaging applications in abdominal, obs/gynae, Fetal Heart, musculoskeletal, small parts, Urology, Breast, Pediatric etc. |
| 2.     | System should have broad band beam former capable of processing signals from 1-22 MHz ( $\pm 2$ MHz.)                                                                                                                                                                                               |
| 3.     | System should have latest state of the art technology to ensure no Compromise between Temporal and Special resolution                                                                                                                                                                               |
| 4.     | System processing channels must be more than 25,00,000.                                                                                                                                                                                                                                             |
| 5.     | Frame rates more than 2000 frames/sec preferred.                                                                                                                                                                                                                                                    |
| 6.     | System with Digital TGC control is preferred                                                                                                                                                                                                                                                        |
| 7.     | System should have 4 universal probe ports.                                                                                                                                                                                                                                                         |
| 8.     | System must contain inbuilt gel warmer                                                                                                                                                                                                                                                              |

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|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.     | System should incorporate facility for high resolution 2D, M-mode, PW, Color Flow Imaging, Color Power Angio imaging, Power Pulse Inversion Harmonics, Directional Color Power angio imaging modes, Auto IMT, Elastography and Comprehensive 4D Package. |
| 10.    | System should have Tissue Harmonic Imaging, Spatial Compound Imaging, Pulse Inversion Harmonic Imaging, Trapezoidal Imaging, Quad Imaging, Dual Imaging in Horizontal Split, 2D/C Live Imaging, Automatic PW Doppler Adjustment and Auto 2D Adjustment.  |
| 11.    | System should have fully digital real time Multi recording in DVD.                                                                                                                                                                                       |
| 12.    | System should have scan depth of 2 to 40 cm or more. Please specify through data sheet.                                                                                                                                                                  |
| 13.    | System should have 256 shades of gray display                                                                                                                                                                                                            |
| 14.    | System should have feature to Volume shade imaging for skin tones and shading to improve visualization of 3D/4D with variable light source time.                                                                                                         |
| 15.    | System should have facility for real time or frozen, pan or point zoom.                                                                                                                                                                                  |
| 16.    | System should have cine loop review minimum 2000 frames and Loop Review for 2000 Lines or more. Please specify through data sheet.                                                                                                                       |
| 17.    | System should have panoramic extended field of view.                                                                                                                                                                                                     |
| 18.    | System should have Fetoscopic view technology that displays detailed volume rendering, enabling users to easily identify subtle anatomical structures with change in position of light source. Anatomies look realistic when viewed in color.            |
| 19.    | The Endocavity probe should have viewing angle of 180 Degree or more, to visualize entire Uterus from cervix to fundus.                                                                                                                                  |
| 20.    | Console height should be adjustable for user's comfort.                                                                                                                                                                                                  |
| 21.    | Linear probe for MSK and Breast Imaging, with quantification for easier identification of breast Neoplasm and 2D Real time Shearwave Elastography with color coded box                                                                                   |
| 22.    | Convex Probe with Single Crystal will be accepted for higher frame rate and deep penetration. This probe should have 2D Real time Shearwave liver elastography with quantification.                                                                      |
| 23.    | System must have Contrast Ultrasound facility.                                                                                                                                                                                                           |
| 24.    | System should have Advanced Image Processing algorithm to analyze between targets and artifacts so as to sharpen target anatomy, reduce the speckle & artifacts to improve image quality.                                                                |
| 25.    | System should have Dynamic range 256 db or more.                                                                                                                                                                                                         |
| 26.    | It should have extensive software and automatic and user programmable calculation package for gray scale, color Doppler, 3D and 4D applications.                                                                                                         |
| 27.    | System should have more than 23" or more Flat panel Monitor (preferably LED)                                                                                                                                                                             |
| 28.    | System should have 12" or more wide LED Touch Screen Control.                                                                                                                                                                                            |
| 29.    | System should have central lock for all four wheels.                                                                                                                                                                                                     |
| 30.    | System should be able to show hemodynamic color flow .                                                                                                                                                                                                   |
| 31.    | System should be DICOM ready.                                                                                                                                                                                                                            |

| SI.NO.   | TECHNICAL SPECIFICIATIONS                                                                                                                                                                                                                                                                          |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 32.      | System should have built in Image Management Software, for off line application when patient has gone after examination, such as Image Manipulation, Multi Planar reformatting, surface & volume rendering etc. It should have hard disk memory of 512 GB or more with built in CD/DVD read write. |
| 33.      | System should have Micro Vascular Flow to detect very low intensity vascularization.                                                                                                                                                                                                               |
| 34.      | System should have STIC tool for fetal heart evaluation from one volume sweep.                                                                                                                                                                                                                     |
| 35.      | System should be capable of doing 2D real time Shearwave Imaging with Convex and Linear Probe.                                                                                                                                                                                                     |
| 36.      | System should be upgradable of doing Fusion (CT/MRI) Imaging for Liver, Breast & Prostate                                                                                                                                                                                                          |
| 37.      | The quoted model should be European CE (4 digit notified body) & US FDA approved.                                                                                                                                                                                                                  |
| 38.      | Please respond to each specification in the same format and order and support it with Product Data Sheet.                                                                                                                                                                                          |
| 39.      | <b>System should be provided with following transducer:</b>                                                                                                                                                                                                                                        |
| <b>A</b> | Single Crystal Convex Abdominal probe with frequency range from 1 to 7 MHz. (Single Crystal Probe will be required for higher frame rate and deep penetration, also capable of doing Shearwave Elastography). $\pm 2$ MHz Frequency Acceptable                                                     |
| <b>B</b> | Endocavity (TV/TR) 2-11 MHz approx. with 180 Degree or more Angle. $\pm 2$ MHz Frequency Acceptable                                                                                                                                                                                                |
| <b>C</b> | Linear probe (Single Crystal / Matrix Array Technology) for vascular studies and Breast Imaging 2-14 Mhz. also capable of doing Shearwave Elastography. $\pm 2$ MHz Frequency Acceptable                                                                                                           |
| <b>D</b> | Convex Volume (4D) Probe (Single Crystal / Matrix array technology) with frequency range from 1 to 8 MHz to ensure deep penetration.(Single Crystal Technology Probe will be required for higher frame rate and deep penetration) $\pm 2$ MHz Frequency Acceptable                                 |