



# All India Institute of Medical Sciences Jodhpur

Admn/Prop/42/2019-AIIMS.JDH

Dated: - 30<sup>th</sup> August 2019

**Subject:** Purchase of High End Ultrasound Machine for the Department of Radiology at AIIMS, Jodhpur on proprietary basis - **Inviting comments thereon.**

The Institute is in the purchase of High End Ultrasound Machine for the Department of Radiology at AIIMS, Jodhpur from M/s Supersonic Imagine, 510, ruye Rene Descartes-13857, Aix-en-provence Cedex, France on proprietary basis. The proposal submitted by M/s Supersonic Imagine, France and PAC certification by user are attached.

The above document are being uploaded for open information to submit objection, comments, if any from any manufacturer regarding proprietary nature of the equipment within 21days of issue giving reference Admn/Prop/42/2019-AIIMS.JDH. The comments should be received by office of Administrative Officer, Medical College at AIIMS, Jodhpur on or before 23<sup>rd</sup> September 2019 upto 03:00 PM failing which it will be presumed that any other vendor is having no comment to offer and case will be decided on merits.

**Yours faithfully,**

**Administrative Officer**

**Enclosed: Related documents enclosed.**



*Ref Item no 4a.*

**SUPERSONIC**  
imagine

Les Jardins de la Duranne 881, E & F - 510 rue René Descartes  
13057 Aix-en-Provence Cedex - France  
+33 (0)4 42 99 24 24 - contact@supersonicimagine.com

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**Proprietary Article Certificate**

19<sup>th</sup> April, 2018

To Whom it may concern,

This is to certify that below is the list of unique features and capabilities of the Aixplorer Ultimate Ultrasound system that are currently only available from Supersonic Imagine, The sole manufacturer and supplier of the Aixplorer.)

1. Only Real Time Shearwave Elastography System – Real-time ShearWave Elastography, pioneered by SuperSonic Imagine, allows physicians to visualize and quantify the stiffness of tissue in a real-time, reliable, and reproducible manner. Tissue stiffness has become an important parameter in diagnosing potentially malignant tissue or other diseased tissue. More than 500 peer-reviewed publications have demonstrated the value of SWE for the clinical management of patients in a wide range of diseases. : Patent number : US 136 42478A, US 2009 599260, US2003526407A, WO2014/B3123A
2. Elastography guided Biopsy – Visualization of biopsies in Elastography mode is possible due to our unique Real Time design – Patent Number: US2003526407A
3. TriVu - Aixplorer is now the only ultrasound system that offers TriVu, a real-time simultaneous imaging mode that combines B-mode, SWE™ and enhanced color imaging. This allows physicians to visualize anatomy, tissue stiffness and blood flow simultaneously.
4. Needle PL.U.S. – Needle PL.U.S. enables you to visualize biopsy needles and anatomical structures in real time with unrivaled precision, and also predict where the needle is supposed to go. You save time, gain in comfort and reliability.
5. Real Time Shearwave Elastography in all transducers including Hockey Stick Linear, Micro Convex, 3D Linear, 3D Endocavity & details of all the other transducer. This is unique to SuperSonic Imagine Products due to our proprietary design. Patent Number: WO2014/B3123A

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supersonicimagine.com

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SOCIÉTÉ ANONYME AU CAPITAL DE 2 320 856,00 € - SIRET 491 581 890 00037 - CODE APE 2860Z

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## SUPERSONIC imagine

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6. Ultrafast Doppler – Extending the limits of workflow ease and ultrasound technology, the Aixplorer now brings its patented UltraFast™ imaging platform to the Doppler arena by combining Color Flow Imaging with Pulsed Wave Doppler in one easy-to-use ultrasound mode. Patent Number: US13984011A
7. Fusion / Navigation– SuperSonic Imagine’s Real Time Shearwave Imaging allows to use advanced tools such as Fusion / Navigation and to guide interventional procedures allowing for more precision
8. Angio PL.U.S. - PLanewave UltraSensitive™ imaging, provides a new level of microvascular imaging through significantly improved color sensitivity and spatial resolution while maintaining exceptional 2D imaging.

Sincerely,

**SUPERSONIC**  
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RCS AIX 481 581 890  
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President and CEO  
Michèle LESIEUR  
19th April, 2018

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**4.a.High End Ultrasound capable of Real Time Shear Wave Elastography and Contrast Imaging**

**Technical Specifications:**

The system should be state of the art with full digital technology and should be for Abdominal, Renal, Pelvic, Genitourinary, Breast (2D and 3D), Obstetrics, Thyroid, and MSK Imaging Applications. The specific minimum requirements for this equipment are as follows:

The system should be capable of high-resolution 2D, 3D, M, PW, Color flow, Power & Directional Power Doppler, Pulse Wave Doppler, Panoramic imaging and CEUS modes.

It should have Contrast imaging and Real time shear wave elastography modes.

The system should have 60000 or more digital processing channels.

Transducers should be of broadband technology.

The system should have a dynamic range of 180 dB or more.

System should offer Imaging depth of 30cms or more.

The system should have a frame rate on receive of over 5000frames per second or more.

The system should have advanced color Doppler facility to position at least three spectrograms (online or offline) on a single image within the same cardiac cycle to simplify the workflow and reduce the examination time for Vascular application.

System should have microvascular imaging or perfusion imaging to obtain microvascular details in the region of interest.

System should have Panoramic Imaging with at least 60cm of scanning length. It should have skin line scaling markers, curved distance measurement tool and Zoom, Pan, Rotate & Trim facility to trim panoramic images from start or end of the panoramic capture.

System should have integrated ACR BIRADS Lexicon available during the current study and BIRADS results, images and measurements should be fully integrated into the report worksheet for Breast Clinical Application. System should also have Print ready Liver, Obstetric and Vascular worksheets.

Machine should be capable of real time Compound imaging technology on linear, curved and mechanical volume probes for improved visualization. The compound imaging should have at least 9 beam steered lines of sight.

The system should have Basic Imaging Optimization controls like Tissue Harmonic Imaging, High Definition / General / Frame Rate optimization Control, Penetration /

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General / Resolution optimization control, Trapezoidal Imaging and Sector Size Control.

System should have both manual and Auto Doppler Trace facility on live and frozen images to improve the vascular workflow quantification of Doppler parameters.

System must be offered with High Definition Speckle Reduction Imaging

The system should have the 'Speed of Sound Correction' feature. Specify number of such sound correction speeds to adapt to tissue type. This feature should be available both in linear and convex transducers.

The machine should support intima media thickness (IMT) quantification with automatic or user assisted tracing of intima-media complex.

System should also offer Pulse Wave velocity measurement to measure the stiffness of the arterial walls or arteriosclerosis.

System should have High definition and PAN /Zoom facility.

System should be able to support at least four electronic transducers with universal ports with simple electronic selection method for interchanging transducers. Additional parking ports would be preferable.

System should have one touch optimization for 2D & Doppler Modes.

System should have Cine loop facility, both frame by frame and in cine mode, with a memory for at least 3 minutes in 2D, color and Elastography modes. The system should also be able to review and at least 20 seconds of Doppler and M mode data.

The system should have facility of direct storage and retrieval of B/W and color images in both frozen and cine loops in the inbuilt hard disk drive of storage capacity of 1TB or more.

System should have state of the art technology to enhance the needle shaft and tip for biopsy procedures. It should also predict the needle path on B Mode without attaching any needle brackets for more precise free hand biopsies.

The Real time shear wave elastography mode should be capable of performing:

i) Real time Shear Wave tissue elastography imaging with Convex, Linear, Microconvex, Hockey Stick, Endocavitary & 3D transducers.

ii) The Shearwave elastography should be Real-time, Fully automatic; requiring no manual / automatic compression with reproducible results in KPa or m/s for Liver, Breast, Thyroid, Prostate, Gyn, Renal and MSK applications, without any cool down time in between consecutive acquisitions.

iii) System should be able to generate a color coded shearwave elastogram with a

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reference Adjustable Numerical elasticity scale for all the applications.

iv) System should be able to display simultaneously both color coded Shearwave elastogram and corresponding B-Mode image in real time for performing elastography guided biopsies/FNAC.

v) There should be User adjustable elasticity-box size with a Display Depth of 0 - 12cm.

vi) Shearwave Elastography Quantification tool (Ellipse and trace) should be able to provide Mean, Max & Min elasticity values of the tissues in both m/s and kPA (KiloPascal) on all transducers.

vii) System should have integrated report worksheet for Liver elasticity assessment with inbuilt reference cut off values according to different etiologies.

viii) System should have real time simultaneous imaging mode that combines three modes - B-Mode, SWE and microvascular Color flow imaging modes - to visualize anatomy, tissue stiffness and blood flow simultaneously to improve the workflow.

**Fully optimized Contrast Imaging mode should be available on Convex, Linear and Endocavitary transducers with simultaneous acquisition of B-mode and Contrast images in real-time in full screen or Side-by-side display.**

i) On-screen Contrast timer should be available allowing up 5minutes of streamed prospective cine capture

ii) Independent control of contrast color maps, TGC curves, and Dynamic Range

iii) Flash micro bubble destruction mode should be available

iv) User adjustable number of frames, Micro-vascular Imaging, and persistence imaging should be available to assess slow micro-vessel perfusion.

**A high resolution, fully articulation non-interlaced flicker free antiglare, flat panel display of 21 inches or more. System should have facility to transfer data from the hard disk on to a removable media (CD /DVD/USB).**

**The system should be DICOM 3.0 (or higher version) ready (like send, receive, print, record on CD/DVD, acknowledge etc.) for connectivity to any network, PC/computer etc. in DICOM format. Vendor will connect the machine to existing PACS and to local other laser cameras without additional cost.**

**DICOM structured reporting for Obstetrics should be available.**

**The system should have advanced Query Retrieve capabilities to Query full native data from the PACS, and display Retrieved images side-by-side with real-time ultrasound on system's monitor.**

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System should be upgradable to FUSION Imaging, Needle guidance and Volume Navigation with ability to fuse Shearwave Elastography and color imaging data with the dataset of second modality during FUSION Imaging.

The system should have CD-DVD and USB archival (DICOM and PC format) and WIFI capability.

Both the machine and the Real time shear wave elastography should be USA FDA certified.

Transducers: Following transducers should be offered with the system (All transducers must have Shearwave Elastography imaging mode available):

1. Curved array 1 - 6 MHz.
2. Linear array 4 - 15 MHz.
3. Linear array 2-10 MHz
4. Endocavitary probe 3 - 12 MHz with FOV of 135 or above

**Optional: Please quote separately**

6. Microconvex Probe 3-12 MHz.
7. Linear 3D volume probe 5-16 MHz.
8. Phased Array Probe 1-5 MHz
9. Endocavitary 3D Probe 12-3MHz

### Accessories

1. Online UPS OF 2KV<sub>a</sub> for at least 30mins backup
2. Patient Couch (fully motorized high end with adjustable height to enable easy transfer of patients) & two ergonomic high back operator Chairs.
3. Patient stool and stepper (one each).
4. Offline solution for Contrast Wash-in/wash out quantification.
5. 30 vials of ultrasound contrast agent (Sonovue)
6. One Computer desktop with core i7 CPU - Minimum 4 GB RAM, 1 TB storage with 32 inch display. It should have the software required for real time transfer of ultrasound images in DICOM format from the scanner to the computer.
7. One black and white laser paper printer of reputed company.
8. One good quality colour paper printer with scanner.
9. Any other hardware required for optimum utilization of advanced applications on the scanner.
10. Stand alone gel warmer capable of holding three ultrasound bottles of standard size at a time (Thermasonic or equivalent brand).
11. Wall mounted cabinets to be installed in the ultrasound room.

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12. Patient privacy curtain and appropriate partition to optimize space utilization.
13. Ambient lighting in the room as per the ACR norms.
14. Signages as per the PC-PNDT guidelines.
15. Appropriate probe cleansing solution adequate for one year.
16. Customised suitcases for keeping probes for storage.
17. Heavy duty cover for cables of probes to safeguard against rodent damage.
18. B&W Thermal Printer with 20 nos of Paper Rolls
19. Biopsy guide attachments:
  - a. Convex Curved array 1 - 6 MHz: One in number (non disposable).
  - b. Linear array 4 - 15 MHz: One in number (non disposable).
  - c. Endocavitary probe 3 - 12 MHz: One in number (non disposable).

**Kindly note: The vendor will have to ensure that the ultrasound scanner has GPS and tracker enabled as per PC-PNDT requirements. The same should also be maintained for five years from date of installation.**

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