

MOBILE NEURONAVIGATION ON BUYBACK BASIS**For Technical Clarifications contact:****Dr. Dwarakanath Srinivas, Prof & Head – Mobile: - +91-80-9480829605****Office Landline: +91-80-26995403/5724****Dept. of Neurosurgery, Faculty Building, NIMHANS, Hosur Road, Bengaluru****Email ID: dwarakaneuro@yahoo.com & surgery.nimhans@gmail.com****UPDATED TECHNICAL SPECIFICATIONS FOR
MOBILE NEURONAVIGATION SYSTEM ON BUYBACK BASIS**

1. Solid-state drive - 240GB or more ample space to store examinations of patients
2. Capability of importing images from PACS, USB
3. RAM - 8 GB or more for fast performance and image manipulation
4. Optical camera with large tracking volume provides flexibility in positioning and addressing line-of-sight issues
- 5. Navigation Platform:**
 - Navigation system should be easy to set up and should work under Windows/Linux/Unix operating system environment. The system should be plug n play and system software should be user friendly wizard guided to control set up, registration and navigation procedure
 - System should have Optical and advanced wireless passive marker tracking technology
 - The system should have two medical grade HD touch-sensitive screen and could be used in sterile field.
 - It should have Rapid data transfer directly to the navigation station with USB 3.0 port for direct data import and also have direct and seamless integration with the hospitals PACS system
 - The system must have dynamic referencing so that registration is not lost even if the camera or patient moves.
 - It should have separate mobile cart for the camera stand for flexible positioning and laser pointer for easier positioning & aiming. The mobile stand for the camera should be telescopic with pneumatic braking to take care of line of sight issues
 - It Should be HIPPA compliant including authentication, accountability log and automatic log-off features
 - The navigation system should be operable without keyboard or mouse
 - Optical camera should have a large tracking volume for flexibility in positioning and addressing line-of-sight issues.

- System should have RAM of 8 GB & 240GB SSD for fast performance
- System should have high end processor like i5 or equivalent with SSD 240GB, and min 2GB Graphics
- System should have feature of screenshot for documentation
- System should have video Input and output ports for external device integration e.g. Ultrasound, C-Arm and Microscope

6. Electromagnetic Module

- Software should offer electromagnetic navigation in neurosurgical procedures with a Field size of atleast 50 x 50 x 50 cms
- Software should have a interface designed for intra-operative touch screen control
- Should provide disposable wired electromagnetic standard instruments for patient registration and navigation suitable for 200 surgeries or a set of disposable instruments set for 200 surgeries should be provided
- Should have facility to integrate third party instruments-required adapter size should be for small, medium, large, extra-large, conical and for cylindrical instruments **in either optical or electromagnetic.**
- The data sheet of disposables should clearly indicate the number of times it can be used and the manufacturer should provide a written undertaking to that effect as well so that the disposables are only used the actual number of times they are approved/intended to be used

7. Platform Main Cart

- 2 cart assembly to ensure optimized placement of cart and better OT management
- 2 operational medical grade **Large high definition or better touch screen** monitors that provide ultimate flexibility in interacting with the system
- One-handed docking and undocking mechanism
- The Platform should be able to support Optical Navigation and Electromagnetic Technology
- The optical navigation should be based on passive marker technology

8. Camera Cart

- Updated optical camera with latest technology
- The system should have separate camera cart

9. Planning

- Plan procedures when and where convenient
- Supports tumor resection, biopsy, and catheter placement procedures
- Intuitive software workflows designed for ease of use

10. Electromagnetic Navigation

- The Electromagnetic Navigation Module should be able to support Cranial and ENT surgeries.

- The System should have the options of Flat Emitter and Side Emitter or both to support the workflow of the surgeries

11. Spine Navigation –Module

- System should offer Fluoro based spinal application with live Fluoro integration (C-arm).
- The system should use existing C-Arm integration Kit which already available in the Neurosurgery Department at NIMHANS or new C-arm for Integration kits for atleast two C-arms should be provided .Any flat panel 2D C-arm which the institution might buy in future also should be integrated
- System should be provided with Radiolucent Spine Reference Clamp to reduce artifacts in intra-operative navigated surgeries
- Software should allow Zoom, Flip, Rotate , Windowing and PAN features

12. Spine Software

- Supports broad portfolio of integrated navigated instruments
- The system should at least have factory calibrated image guided jamshedi needle and first dilator. Factory calibrated nerve Integrated jamshedi needle is preferable.
- Streamlined instrument management interface
- Should be able to Navigate Powered Drill
- It should support universal auto-registration with the available 2D Imaging systems
- The system should provide an instrument calibration unit for calibrating the geometry (Length, Diameter and Shape) of any instrument provided by spine implant companies like Medtronic, Globus, Depuy synthes etc and the shape of the same has to be virtually simulated by the software on the screen. In case this is not available please provide navigated instrument for cervical, thoracic and Lumar Spine surgeries
- The system should also have the facility for Fluro based spine application with live Fluro integration (C-arm). The system should be capable of being integrated with any available 2D C-arm at the hospital irrespective of the shape and size of the C-arm intensifier. Atleast two 2D C-arm in the department has to be integrated with the system at a time irrespective of the size of the C-arm 12" or 9" and shape Flat panel or Round Bore and digital or Analog

13. Cranial Software

- Supports tumor resection, biopsy, and catheter placement procedures
- Intuitive software workflows designed for ease of use
- Flexible registration techniques for use with or without fiducials
- The system should have facility to integrate with commercially available ultrasounds to calculate brain shift and depth of tumor resection intra-operatively continuously to ensure there is no or minimum inaccuracy involved due to brain shift.

14. Frameless Biopsy

- Frameless Biopsy
- It should have a real time tracking of biopsy needles for the biopsy procedures
- It should have Fine-adjustment for navigated frameless biopsies guided by the navigation system
- The system should be an articulating arm based and the arm should be fixed mayfield or sugita skull clamp
- It should allow precise online tracking according to the preplanned trajectory

15. Microscope Integration –Module: Mandatory Optional Item

- The Software should have the following features
- Navigation System should be capable of Integration with Navigation Ready latest Microscope from Leica / Zeiss

16. Merge Software

- Advanced image correlation algorithms and tools that provide automatic and manual image fusion of different imaging modalities such as MR, CT, O-arm, fMRI, and PET

17. 3D Software

- Enables advanced visualisation of structures such as tumor, cortex, bone, blood vessels, skin and MIP view, crop view etc

18. Stereotaxy Software

- A streamlined procedure workflow for biopsy, depth electrode, catheter, and probe placement
- Supports a variety of stereotactic frames, localizers, and ring and arc configurations to meet specific procedure needs
- Integra, CRW - CT and Luminant localizers
- Elekta Leksell Vantage & Model G - CT and MR localizers
- Inomed RM & ZD - Rev R, and Rev U localizers(Inomed has dbs which has tie up with boston scientific...)
- Standard and lateral ring and arc configurations are supported
- Flexibility through integrated tools that support both stereotactic frame-based procedures in a single solution.

19. DBS Software

- Seamless integration of complex imaging data and advanced planning and navigation.
- Supports a variety of stereotactic frames with automatic localizer detection and registration.
- Integra CRW - CT and Luminant localizers
- Elekta Leksell Vantage & Model G - CT and MR localizers
- Inomed RM & ZD - Rev R, and Rev U localizers
- Simplified AC-PC image reformatting for indirect targeting.

- Overlay a model of microelectrodes and DBS leads onto surgical plans providing visualization of lead and contacts relative to the target and surgical plan.
- Fully-integrated Automatic patient specific Multimodel preferably 3D segmentation of Basal Ganglia and should be integrated with stereotaxy planning to gain a better understanding of the relative location of structures for teaching purposes
- Seamless transfer of white matter tracts from the DTI software for visualization of all information together when planning procedures.

20. DTI Software

- General-purpose surgical planning software application that enables import of DICOM datasets, review in 2D and with 3D volume rendering, multi-modality image fusion, segmentation of structures with manual and semi-automatic tools, and export of results to a PACS or to a Navigation™ System for display at the time of surgery.
- The DTI Package performs white-matter tractography. It enables realignment of diffusion-weighted gradients if necessary, co-registration with other anatomical and functional datasets, and tensor calculations. It provides for interactive fiber-tracking with start, mid, and end regions, including arbitrarily shaped regions. All tracts can be exported to a Navigation System for display at the time of surgery.
- Fully automated DICOM DTI Data Processing including De-noising, Motion and Eddy current correction
- Region of interest based tracking using built-in simple ROI Brush
- Intuitive user interface for manual adjustment of tracking parameters and instant update of fibre tracking results
- Automatic calculation of colored fractional anisotropy (FA) and anisotropic diffusion coefficient (ADS) maps
- Support of DICOM DTI data from Siemens, Philips, GE and manufacturers using standard DICOM MR diffusion information (at least 6 and upto 256 directions)
- All tracts can be exported to a Navigation System for display at the time of surgery
- Fibre tracking software should support Brain projection views while visualisation of fibre tracts
- Conversion of results into 3D objects for export to Navigation system

21. SCHALTENBRAND AND WHAREN ATLAS

- 2D / 3D Atlas to gain a better understating of the relative location of structures for teaching purposes
- Contour overlay of atlas structures in 2D views
- Interactive Talairach Grid for aligning structures to patient's anatomy
- Segmentation should be based on multiple types of MRI (T1, T2, FLAIR) images of the same patient.
- It should be based on anatomical mapping based on Synthetic Tissue Model and it should do immediate data processing upon patient selection and should have Automatic body part detection.
- Customisable list of Objects to be segmented depending on workflow and clinical

protocol.

- The list of segmented objects should include Thalamus Right, Thalamus Left, STN Right, STN Left, Putamen Left, Putamen Right, Nucleus ruber Right, Nucleus ruber Left, Globus Pallidus External, Globus Pallidus Internal, Substantia Nigra Left, Substantia Right, Caudatus Right, Caudatus Left, Capsula Intema Right, Acpsula Intema Left.
- Interfaces with intraoperative imaging systems, including iMRI, iCT, C-arms to orient surgeons with 3-D images of the patients anatomy
- Tracks surgical instruments in real time, based on preoperative and intraoperative images
- Relays movements of instrumentation relative to patient anatomy via optical or electromagnetic navigation options
- Helps guide your planning and approach prior to and during surgery, allowing you to create, store, and simulate progression along one or more surgical trajectories
- Integrates with external devices like endoscopes and microscopes, Ultra sound and streaming visualization workflows

22. Capabilities

- Wireless connectivity to hospital and medical devices, allowing the import and export of exams from anywhere within the hospital network

23. Connectivity

- Operating system adapts to any 16:9 aspect ratio, with resolutions up to full HD 1920 x 1080 and display on multiple screens in the OR
- Digital and analog output, allowing integration

24. Cyber security

- The system should be HIPPA compliant

25. The hardware and software's of the system should be FDA and CE approved

26. One full time man power support has to be provided by the vendor for service and application support

27. All available software as per Tender Specification should be quoted mandatorily. Additional software should be quoted separately.

WARRANTY: 5 YEARS

COMPREHENSIVE MAINTENANCE CONTRACT [CMC]: 6TH to 10TH Year (5 Years)



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Corrigendum Details

Tender No. : NIMHANS/2019-20/IND553/CALL-2

Department : National Institute of Mental Health & Neuro Sciences

Tender Title : MOBILE NEURONAVIGATION ON BUYBACK BASIS

Tender Dates

Bid Validity Period (In Days) 120 Days

Date	Original Date	Changed Date
Last Date & Time for receipt of tenders	27-01-2020 11:00:00	04-02-2020 11:00:00
Last Date & Time for Tender Queries/Clarifications	17-01-2020 11:00:00	27-01-2020 11:00:00
Date & Time for Opening of Technical Bid	28-01-2020 11:00:01	05-02-2020 11:00:01

Refer
Karnataka
Transparency
in Public
Procurement
Rules
Chapter
V, Rule 17 for
Minimum
Time for
Submission
of Tenders

Description for Corrigendum

Sl No	Reference Number*	Read As*
1	Sub Point of Sl. No: 12	"The system should at least have factory calibrated image guided jamshedi needle, factory calibrated nerve Integrated jamshedi needle and image guided factory calibrated first dilator designed specifically for image guided surgery" SHOULD BE READ AS "The system should at least have factory calibrated image guided jamshedi needle and first dilator. Factory calibrated nerve Integrated jamshedi needle is preferable"
2	Sl. No: 2	"Capability of importing images from CD, DVD, PACS, USB" SHOULD BE READ AS "Capability of importing images from PACS, USB"
3	Sub Point of Sl. No: 10	"The System should have the options of both Flat Emitter and Side Emitter to support "the workflow of the surgeries" SHOULD BE READ AS "The System should have the options of Flat Emitter and Side Emitter or both to support the workflow of the surgeries"
4	Sl. No: 27	"All available software should be quoted mandatorily" SHOULD BE READ AS "All available software as per Tender Specification should be quoted mandatorily. Additional software should be quoted separately"
5	Sub Point of Sl. No: 7	"2 operational medical grade Large high definition 27-inch or better touch screen monitors that provide ultimate flexibility in interacting with the system" SHOULD BE READ AS "2 operational medical grade Large high definition or better touch screen monitors that provide ultimate flexibility in interacting with the system"
6	Sub Point of Sl. No: 6	"Should have facility to integrate third party instruments-required adapter size should be for small, medium, large, extra-large, conical and for cylindrical instruments" SHOULD BE READ AS "Should have facility to integrate third party instruments-required adapter size should be for small, medium, large, extra-large, conical and for cylindrical instruments in either optical or electromagnetic"
7	Sub Point of Sl. No: 5	"The system should have touch-sensitive screen and could be used in sterile field. The display should be of Full HD resolution (1920X1080) with screen size of 21 Inch or more" SHOULD BE READ AS "The system should have two medical grade HD touch-sensitive screen and could be used in sterile field"
8	Sl. No: 1	"Solid-state drive - 512GB or more ample space to store examinations of patients" SHOULD BE READ AS "Solid-state drive - 240GB or more ample space to store examinations of patients"

Reason for Corrigendum :

AS PER RECOMMENDATION OF THE END-USER AND APPROVAL OF THE COMPETENT AUTHORITY

Corrigendum Documents :

Sl No	Document
1	approved amended specifications.pdf

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





















Status: Department Location:

Tender Published From Date: Tender Published To Date:

Tender Submission From date: Tender Submission To Date:

Regular tenders Prequalification tenders Reserved tenders

Sl No	Department/Location	Tender Number	Tender Title	Tender Type	Category	Sub Category	Estimated Value	NIT Published Date	Last Date for Bid Submission	Actions
1	NIMHANS	NIMHANS/2019-20/IND552/CALL-2	3D C ARM	OPEN	GOODS		----	20/01/2020 17:21:39	19/02/2020 11:00:00	
2	NIMHANS	NIMHANS/2019-20/IND584	Microprocessor based Ultrasonic processor with Accessories	OPEN	GOODS		----	20/01/2020 15:04:44	18/02/2020 11:00:00	
3	NIMHANS	NIMHANS/2019-20/IND582	Ultrapure Water Purification System	OPEN	GOODS		----	20/01/2020 15:02:44	18/02/2020 11:00:00	
4	NIMHANS	NIMHANS/2019-20/IND583	STR-D2/EQPT/511/FNIRS/YOGA/19-20	OPEN	GOODS		----	20/01/2020 14:53:51	11/02/2020 11:00:00	
5	NIMHANS	NIMHANS/2019-20/IND578	STR-D2/NIMHANS/2019-20/IND578	OPEN	GOODS		----	18/01/2020 13:53:22	01/02/2020 23:00:00	
6	NIMHANS	NIMHANS/2019-20/IND577	STR-D2/NIMHANS/2019-20/IND577	OPEN	GOODS		----	18/01/2020 13:34:17	01/02/2020 23:00:00	
7	NIMHANS	NIMHANS/2019-20/IND576	Supply of Video Conferencing Camera	OPEN	GOODS		----	17/01/2020 16:33:52	05/02/2020 11:00:00	
8	NIMHANS	NIMHANS/2019-20/IND575	Supply of IBM SPSS Statistics Software	OPEN	GOODS		----	17/01/2020 16:33:15	05/02/2020 11:00:00	
9	NIMHANS	NIMHANS/2019-20/IND571	High Performance Computing Systems for Human Sleep Research Laboratory	OPEN	GOODS		----	14/01/2020 16:46:36	28/01/2020 11:00:00	
10	NIMHANS	NIMHANS/2019-20/BD/WORK_INDENT164	Construction of first and second floor over new carpentry section in NIMHANS campus, Bangalore.	OPEN	WORKS	Buildings	----	14/01/2020 15:55:11	24/01/2020 16:00:00	
11	NIMHANS	NIMHANS/2019-20/IND570	CONFOCAL MICROSCOPE	OPEN	GOODS		----	14/01/2020 12:47:58	14/02/2020 11:00:00	
12	NIMHANS	NIMHANS/2019-20/IND567	Six slices or higher SPECT-CT Scanner as a buy back for the existing SPECT-CT	OPEN	GOODS		----	09/01/2020 16:27:28	08/02/2020 11:00:00	
13	NIMHANS	NIMHANS/2019-20/IND568	Rate Contract for the Department of Human Genetics2	OPEN	GOODS		----	09/01/2020 10:22:09	11/02/2020 11:00:00	
14	NIMHANS	NIMHANS/2019-20/IND486/CALL-2	Gait assessment system	OPEN	GOODS		----	07/01/2020 16:32:22	06/02/2020 11:00:00	
15	NIMHANS	NIMHANS/2019-20/IND492/CALL-2	Specimen Storage Cabinet	OPEN	GOODS		----	06/01/2020 15:30:33	05/02/2020 11:00:00	

Sl No	Department/Location	Tender Number	Tender Title	Tender Type	Category	Sub Category	Estimated Value	NIT Published Date	Last Date for Bid Submission	Actions
16	NIMHANS	NIMHANS/2019-20/IND376/CALL-3	Laser Cassette Printer	OPEN	GOODS		----	06/01/2020 15:29:50	05/02/2020 11:00:00	    
17	NIMHANS	NIMHANS/2019-20/IND553/CALL-2	MOBILE NEURONAVIGATION ON BUYBACK BASIS	OPEN	GOODS		----	04/01/2020 16:41:20	04/02/2020 11:00:00	    
18	NIMHANS	NIMHANS/2019-20/IND566	CADAVER STORAGE	OPEN	GOODS		----	30/12/2019 14:26:21	29/01/2020 11:00:00	    
19	NIMHANS	NIMHANS/2019-20/IND565	NEUROSURGICAL OPERATING MICROSCOPE	OPEN	GOODS		----	30/12/2019 14:25:36	07/02/2020 11:00:00	    
20	NIMHANS	NIMHANS/2019-20/IND564	FLASH AUTOCLAVE [LITTLE SISTER]	OPEN	GOODS		----	30/12/2019 14:23:50	29/01/2020 11:00:00	    



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