श्रीचित्रातिरुनालआयुर्विज्ञानऔरप्रौद्योगिकीसंस्थान, तिरुवनंतपुरम- 11, केरल
SreeChitraTirunal Institute for Medical Sciences and Technology, Thiruvananthapuram- 11, Kerala
(भारतसरकारकेअधीनराष्ट्रीयमहत्वसंस्थान)
(An Institute of National Importance under Government of India)
टेलीफॉननं./Telephone No. 0471-2443152 फाक्स/Fax 0471-24464332550728
ई-मेल/E-mail :sct@sctimst.ac.inवेबसाइट/ Website : www.sctimst.ac.in

CORRIGENDUM -1 dtd 14.01.2022

TENDER NO.SCT/H/IMP-IND/P1/2021-22/9

BIPLANE DSA FOR NEURO INTERVENTION of IS&IR

A. Date of Submission of Bid (Online and Offline) and Tender Opening date is changed.

Particulars	Dates given as per E-Tender dtd 21.10.21	Date and Time changed to
Last date and time of online submission of bids	**10/12/2021 up to 5.00 PM**	**15/02/2022 up to 5.00 PM**
Last date and time of submission of Hardcopy of Techno-commercial Bid with supporting documents (price bid has to be submitted online only). ***The tender will stand rejected if the price bid is submitted along with hardcopy of techno-commercial bid***	**14/12/2021 up to 01.00 PM**	**19/02/2022 upto 01.00 PM**
Date of tender Opening	**15/12/2021 at 2.30 PM**	**21/02/2022 at 2.30 PM**

B. Terms and conditions of Tender document of BIPLANE DSA FOR NEURO INTERVENTION

Sl. No.	Description	To be read as
1	Biplane Digital Flat Panel Cathlab	Biplane DSA for Neuro Intervention
18 (c)	Annual Maintenance Contract (AMC) Labour: Maximum 2.5% of order value in INR value + Applicable GST after Warranty period (Escalation of 5% will be applicable once in three years). Cost of the AMC on equipment procured outside India will be arrived in accordance to the exchange rate applicable at the time of release of payment against the Purchase order.	**Deleted**

18 (g)	Added	The cost of Comprehensive Annual Maintenance Contract (CAMC) which shall include preventive maintenance including testing & calibration as per technical/service/ operational manual of the manufacturer, labour and all spares, after satisfactory completion of Warranty period may be quoted for next seven years for complete equipment including third party items as per Price Schedule.
18 (h)	Added	The cost of CAMC may be quoted along with GST applicable as on the date of Bid Opening. The CAMC rate shall not exceed 5% of the equipment cost. The CAMC will be renewed once in three years with a maximum of 5% escalation from the previous period (after every three years).
18 (i)	Added	Before commencement of CAMC period, the suppliers shall furnish a Performance Bank Guarantee for 2.5% of the cost of the AMC contract value (as per Proforma given in bidding document Annexure-6) valid till 3 months extra after expiry of entire CAMC period.
18 (j)	Added	All software updates should be provided free of cost during CAMC. In case of failure by the supplier, the Bank Guarantee of CAMC will be forfeited.
18 (k)	Added	The payment of CAMC will be made on half yearly basis after satisfactory completion of said period duly certified by end User.
18 (l)	Added	TDS appropriate rate shall be made from the service charges, if applicable.
23	Delivery period required for supplying the material should be invariably specified in the bid. The consignment should be delivered at Main Store, SCTIMST, Trivandrum between 9:00 AM to 4 PM during the working days.	Supply, Installation and Commissioning to be completed within **120 days** from the date of Purchase Order or date of opening of LC or date of approval of layout drawing (in case applicable) or readiness of site as certified by the institute whichever is later. The consignment should be delivered at Main Store, SCTIMST, Trivandrum between 9:00 AM to 4 PM during the working days.
C. PART-I of Annexure-1		
1B	Latest state of art Biplane with flat detector technology Digital Angiography System with DSA, Rotational angiography, 3D Angio, 3D roadmap & CT imaging required for Neurodiagnostic& Interventional procedures.	Latest state of art Biplane with flat detector technology Digital Angiography System with DSA, Rotational angiography, 3D Angio, 3D roadmap & CT imaging required for

	Companies should quote the most technically advanced models with all advanced dose reduction techniques.	Neurodiagnostic& Interventional procedures. Companies should quote the most technically advanced models with all advanced dose reduction techniques and image processing applications.
1J	Added	Turnkey work: Removal of existing floor tiles and Re fixing of new polished glazed Vitrified Tiles (PGVT) of size 600x600mm in the Cath lab room, console room and the main passage to Cath lab room. Removal of existing ceramic wall tiles and fixing of new 600mm x 600mm Vitrified Tiles up to false ceiling height in Cath lab& console room and the main passage to Cath lab room. Replace the existing false ceiling and Provide new Modular Grid Ceiling with mineral fibre board of size 600x600 mm in Cath lab room, technical room, console room and main passage. Demolishing of existing main Passage, Cath lab room & console room doors and refixing of 2mm Thick lead lined new door including door frames with 35mm thick shutter & 1mm thick laminate. Repairing of existing technical room & observation room doors and making it in good condition with panelling and repainting of premium quality enamel paint. Fixing of new Waterproofed wall lamination in main passage after removing the existing wall laminate sheet. Removal of the existing Cath lab room cupboards with new cupboards made of marine grade plywood and lamination.3 cupboards in the cath lab and one in the console room. Drawer channels must be Hafele/Hettich brand. Supply and installation of new reporting table in the console room matching the existing reporting table size with 18mm thick matching colour granite countertop. Also, the supplier must remodel the existing granite countertop table as per site requirement. Remodelling the existing Aluminium window with 2 track sliding facility and locking arrangements, outer iron grill to be provided for protection. Rewiring of entire point wiring & power point wiring from DB Point including the replacement of existing DB in Cath lab, Console, Technical Room & main entry passage. The supplier has to Replace all existing plug points in the above-mentioned rooms with new modular plug points. Electrical sockets, switches and boards must be from Legrand brand, Myrius model. Ensure adequate lighting for the cath lab procedure table. Replacement of old Tube Light fittings with

		new 600x 600 mm 40 watts LED light fittings in Cath Lab, Console, Technical room & Main passage. The supplier has to provideadditional 2nos. focusing spotlights for the nurse's procedure trolley.Foot switch to be provided for the control of cath lab room lights. Peripheral LED strips (white light) to be provided in the false ceiling of cath lab and console area. All lightings and their drivers should be from Philips lightings. Audio cable wiring to be provided in the cath lab room to connect with the console room music system. Supply and installation of new 600x 600 mm copper plate earth for Cath Lab machine as per the manufacturer requirement.
D.PART-II OF Annexure-1		
2.E	In the event of no multiple power supplies in the large monitor, the bidder shall supply two 19 inch backup monitors.	Two 19 inch backup monitors to be used in case of the failure of 50 inch large area monitor.
4.A.7	The system shall have safety devices to prevent collision of the C-arm with the table and the floor, patient and also between both the planes.	The system shall have latest safety devices to prevent collision of the C-arm with the table and the floor, patient and also between both the planes. Automated collition detection and prevention to be included.
6.B	The tabletop shall have length of 300 cm, width 45 cm	The tabletop shall have length of 300 cm, width - 20cms at head area, 45 cms at trunk area and 65 cms at tail area, widest availabe table should be provided.
6.D	The longitudinal movement of the table top shall be at least 100 cm and the transverse movement shall be not less than 15 cm.	The longitudinal movement of the table top shall be at least 100 cm and the transverse movement shall be not less than 10 cm.
6.E	Fluoroscopic coverage of the table should be 150 cm or above	Fluoroscopic coverage of the table should be 150 cm or above mention coverage length in cms from the head end
6.F	Table height shall be electrically adjusted in the range of 75 cm to 100cm above floor level by means of a foot switch and a controller.	Table height shall be electrically adjusted in the range of 80 cm to 100cm above floor level by means of a foot switch and a controller.
6.H.2	Cerebral filters	Removed
6.H.7	Peripheral filter set	Removed

7.E	It should have automatic exposure control device for radiographic fluoroscopy and Angio mode.	It should have automatic exposure control device for DSA fluoroscopy and 3D Angio mode.
8.A	Both planes should be provided with rotating anode high speed tubes. X-Ray tube should have minimum two focal spots. Nominal focal spot size should be 1mm or less for the large focus & 0.5 mm or Less for the small focus. An intermediate focus may be included.	Both planes should be provided with rotating anode high speed tubes. X-Ray tube should have minimum two focal spots. Nominal focal spot size should be 1mm or less for the large focus & 0.5 mm or Less for the small focus. An intermediate focus may be included if available with the model.
8.C	The anode heat storage capacity of the tube shall be not less than 3MHU. X ray tube cooling should be available for uninterrupted operationfor more than 6 hours	The anode heat storage capacity of the tube shall be not less than 3MHU. Grid switch technology in Tube to be provided to reduce scattered radiations..X ray tube cooling should be available for uninterrupted operation for more than 6 hours.
10.C	The spatial resolution shall be 3 lp/mm. Available FOV/Zoom fields (should be the same for both planes)	The spatial resolution shall be 2.5 lp/mm. Available FOV/Zoom fields (should be the same for both planes)
11.B	Examination room - Display monitors should show the images in the following format for each planes - simultaneous display of live flouro, live road map, stored image. In addition to this, continuous active display of images from workstation and patient monitoring physiological parameters should be possible.	Examination room - Display monitors should show the images in the following format for each planes - simultaneous display of live flouro, live road map, stored images of both planes. In addition to this, continuous active display of images from workstation and patient monitoring physiological parameters should be possible. (4x4 format)
11.E	Console room - 19 inch or more diagonal size TFT colour monitors, for the display of patient physiological parameters	Console room - 19 inch or more diagonal size TFT colour monitors, for the display of patient physiological parameters and an additional wall mounted 19 inch colour slave monitor for the display of ventillator parameters.
12.B	Availability of image analysis software both in examination room and console room.	Availability of image analysis software both in examination room and console room. Provision of touch panel display in the examination room for image analysis.
12.F	Digital pulsed fluoroscopy at variable pulse frequencies from 1 to 30f/s shall be available preferably with real time and motion detection.	Digital pulsed fluoroscopy at variable pulse frequencies from 1 to 30 f/s shall be available preferably with real time and motion detection and cancellation.
12.G	Facility to use the reference image as a roadmap by super imposing of fluro image on the reference image shall also be provided.	Facility to use the reference image or any DSA acquisition as a roadmap by super imposing of fluro image on the reference image shall also be provided.
12.H	It shall have the capacity to acquire digital online subtracted images in 1024x1024 matrix, 14 bit depth, with standard acquisition speed of 0.5 to 7.5 frames or speed per second. Segmental DSA with capability to set variable frame rates is preferred.	It shall have the capacity to acquire digital online subtracted images in 1024x1024 matrix, 14 bit depth, with standard acquisition speed of 0.5 to 7.5 frames or speed per second. Segmental DSA with capability to set variable frame rates is preferred for arterial capillary and venous phases.

12.S	All dose saving features and image quality improvement should be provided as standard.	All latest advanced dose saving features and image quality improvement should be provided as standard.
12.T	Artificial intelligence powered digital imaging chain is desirable.	Artificial intelligence powered digital imaging chain is desirable, provide details
12.U.1	Acquisition mode: shall be possible for any body part to provide 3D impression of arteries and complex vasculature.	Acquisition mode: shall be possible for any body part (atleast up to the hip joint level) to provide 3D impression of arteries and complex vasculature.
12.U.2	Digital rotation angiography at a speed of 30°/sec or more shall be available in 1k matrix or more	Digital rotation angiography at a speed of 30°/sec or more shall be available in 512 matrix or more
12.U.3	Facility for dynamic display of subtracted images in 1024 matrix should be available.	Facility for dynamic display of subtracted images in 512 matrix or more should be available.
12.U.4	It should be possible to trigger digital rotational angiography runs to reduce the radiation dose & improve image quality.	It should be possible to trigger digital rotational angiography runs to reduce the radiation dose & improve image quality.Synchronisation between the pressure injector and 3D-RA acqusition should be optimum to reduce radiation expossure. Faclity to take 3D RA with IV contrast injection should alsobe provided.
12.U.5	Method of 3D RA to be specified (thresholding or subtraction 3D RA)	Method of 3D RA display to be specified (thresholding or subtraction 3D RA)
12.U.12	Acquisition mode: shall be possible for any body part to provide 3D impression of arteries and complex vasculature.	Other required applications/ facilities for – (1). aneurysm and parent vessel morphometry, (2). planning and vessel navigation for brain arterio venous malformation, enhancing stent visualization, flow diverter visibility without increasing the radiation dose, (3). reducingartifacts from coils and metallic embolization agents (eg: Onyx) in 3D images,(4). active motion artefact (cardiac and respiratory motion) reduction features, (5).transfer 3D data for 3D printing in compatible data formats, (6). Vendor neutral 3D image fusion – facility to fuse/integrate 3D images with 3D generated data from other modalities (CT/MRI) irrespective of the manufacturer, (7). virtual needle guidance especially for vertebroplasty and biopsy procedures, (8). 3D-Roadmap – facilities to adjust vessel transparency, vessel subtraction, zooming without significant increase in radiation, (9). pixel shift, motion artefact reduction, vessel border drawing, marking over the roadmap with various coloured pen tools. (10). Computational flow dinamic (CFD) evaluation, (11). artificial intelligence powered applications for dose reduction, image analysis and diagnosis (12) Facility for robotic assisted intervention to be specified. Associated driving catridge and integrating software to be quoted

12.V.3	CT option to visualize soft tissue shall be available. The CT 3D volume can be viewed in control room and examination room as well.	CT option to visualize brain soft tissue shall be available, without additional increase in radiation dose. The CT 3D volume can be viewed in control room and examination room as well.
12.V.11	All image manipulation and post processing should be possible from the examination room also.	All image manipulation and post processing should be possible from the examination room also. WiFi enabled mouse to be provided in the examination room for 3D image processing and evaluation.
13.C	Ability to export DICOM vascular images onto CD or other image recording medium.	Ability to export DICOM vascular images onto CD, other image recording medium and 3D printer in contatible data format
14.G	Retrieve and review of any image / any series from the system independent to the ongoing work on the main system.	Retrieve and review processing and printing of any image / any series from the system independent to the ongoing work on the main system.
14.K	The system shall have facilities to import images from CT or MRI images for 3D fusion with automatic alignment of two data sets based on similar structures in the data sets, landmark based registration with convenient landmark editor for point-based registration using anatomical landmarks, side by side visualization of both data sets with correlated pointer and 2D alpha-blending in monochrome or pseudo-colour with adjustable balance between the two superimposed data sets.	Vendor neutral 3D image fusion – facility to fuse/integrate 3D images with 3D generated data from other modalities (CT/MRI) irrespective of the manufacturer.The system shall have facilities to import images from CT or MRI images for 3D fusion with automatic alignment of two data sets based on similar structures in the data sets, landmark based registration with convenient landmark editor for point-based registration using anatomical landmarks, side by side visualization of both data sets with correlated pointer and 2D alpha-blending in monochrome or pseudo-colour with adjustable balance between the two superimposed data sets.
14.L	Any assisting software for planning and guiding tool for AVM, aneurysm or similar to be quoted	Any assisting/simulation software for planning and guiding tool for AVM, aneurysm, stroke, needle guided interventions or similar to be provided
15.M	There should be a colour touch screen in the console room	There should be a colour touch screen in the console room for setting various injection parameters and for starting injection.
15.N	The unit should be synchronized with the application	The unit should be synchronized with all angiographic applications
16.D	Should have a facility to connect to the central supply (oxygen and air) , pin index cylinder one each of oxygen and air with on screen digital display of pressure gauges for central supply and cylinder.	Should have a facility to connect to the central supply (oxygen and air) , pin index cylinder one each of oxygen with on screen digital display of pressure gauges for central supply and cylinder.
16.I	Should have compact autoclavable breathing system and soda lime chamber maximum capacity of 1.5L. The sodalime canister should be compatible with the devices in all the operating rooms.	Should have compact autoclavable breathing system. Soda lime chamber minimum capacity of 1.5L. The sodalime canister should be compatible with the devices in all the operating rooms.

16.P	System should be European CE or FDA approved and confirms to EN 60601-2-13 (Requirement for safety and essential performance of anaesthesia system)	Removed
16.Q.9	High peak inspiratory flow upto 160 LPM or more.	High peak inspiratory flow upto120 LPM or more.
16.Q.10	Tidal volume adjustment range 5 ml to 1500 min volume control mode.	Tidal volume adjustment range 5 ml to 1500 min volume control / pressure control mode.
16.Q.11	Adjustable PEEP:Off, 2 to 35 hPa (or cmH2O);and CPAP: 0, 2 to 35 mbar	Adjustable PEEP:Off, 4 to 30 hPa (or cmH2O);and CPAP: 0, 4 to 30 mbar
16.Q.12	Respiratory frequency from 3 to 100 per min.	Respiratory frequency from 4 to 100 per min.
16.Q.13	I:E : max 1:50 to 50:1	I:E : "2:1 to 1:8 "
16.Q.14	Should be able to ventilate with machine, in case of total fresh gas failure including Oxygen.	In case of total fresh gas failure including Oxygen, facility to ventilate the patient with Oxygen via Anaesthesia workstation must be available
16.U	Should have display of up to 4 real time wave forms and display of concentration of CO2, O2, and anesthetics agents, airway pressure, inspiratory and expiratory flows and loops for P-V and F-V loops.	Should have display of up to 3 or more real time wave forms and display of concentration of CO2, O2, and anesthetics agents, airway pressure, inspiratory and expiratory flows and loops for P-V and F-V loops.
16.W	Should have pause mode for short term interruptions of ventilation with variable time period up to 60 mins.	Should have pause mode for short term interruptions of ventilation with variable time period up to 60 sec.
16.Y	Should be supplied with Sevoflurane and Isoflurane / Desflurane vaporizer (one of them as requested); All the vaporizers and monitor should be manufactured from same company as anaesthesia machine.	Should be supplied with Sevoflurane and Isoflurane / Desflurane vaporizer (one of them as requested); All the vaporizers and monitor should be manufactured from same company as anaesthesia machine.Company should submit quotation for All vapourisors. Any one from Isofurane and Desflurane will be considered along with Sevoflurane
16.AF	Should have anytime facility for manual ventilation possible at least with fresh gas O2 delivery and dosage of volatile agents with airway pressure monitoring in case of system failure / system “off”.	Should have anytime facility for manual ventilation possible at least with fresh gas O2 delivery and dosage of volatile agents
16.AJ	Machine should have tools to support low and minimal flow anesthesia such as Econometer, low flow wizard, O2 uptake and MV*CO2 values	Machine should have tools to support low and minimal flow anesthesia such as "Econometer/ Ecoflow, low flow wizard"
16.AM	Should have heated breathing system for optimized minimal flow anaesthesia usage and ventilation quality.	Should have heated breathing system or equivalent" for optimized minimal flow anaesthesia usage and ventilation quality.
16.AO.2	Should have automatic activation of low agent alarm	Should have automatic activation of low agent alarm /concentration alarm

16.AO.4	System leak and fresh-gas deficiency alarm	System leak and fresh-gas deficiency alarm / indicator tool to eliminate Hypoxia and fresh gas insufficiency
16.AP	Should have fully automated self-test including calibration of all sensors without any user action necessary after start to test.	Should have fully automated self-test including calibration of all sensors
17.C	Monitor should be IT enabled for single point access to web-based applications (like HIS, PACS, PDMS, LIS and more) without requiring extra server, hardware and software	Monitor should be IT enabled/ HL 7 complaint for single point access to web-based applications (like HIS, PACS, PDMS, LIS and more) without requiring extra server, hardware and software
17.G	Should have non-volatile graphic and tabular trending of all monitored parameters as standard for minimum 96hrs.	Should have non-volatile graphic and tabular trending of all monitored parameters as standard for minimum 72 hrs.
17.H	Should have manual as well as automatic setting of screen format with selectable parameter priority & colour selection for parameter on screen.	Should have manual as well as automatic setting of screen format with selectable parameter priority & colour selection for parameter on screen / any device like laptop, desktop, tablets etc.
17.M	It should be US FDA and European CE approved for monitor as well as all the parameters.	Removed
17.AA.1	BIS/Entropy to measure depth of anaesthesia	BIS/Entropy to measure depth of anaesthesia as standard
17.AA.2	NMT Neuro muscular transmission module	NMT Neuro muscular transmission module as standard
17.AA.3	Cardiac Output by thermodilution technique	Cardiac Output by thermodilution technique as optional
17.AA.4	Masimo rainbow SET; SpHb, SpOC, SpCO, SpMet or PVI, at the users discretion from one sensor source.	Masimo rainbow SET; SpHb, SpOC, SpCO, SpMet or PVI, at the users discretion from one sensor source as optional
19.A	10nos of ultra-light weight lead free aprons - 04nostwo piece wrap around/ 06nossingle piece wrap around	10 Nos. of ultra-light weight lead free aprons – 04 Nos. two piece wrap around/ 06 Nos. single piece wrap around medium size (Dr.Goose/ Mavic)
19.B	10nos thyroid collars	10nos thyroid collars (Dr.Goose/ Mavic)
19.D	Ceiling-suspended lamp with shield	Ceiling-suspended lamp and shield
19.E	Ceiling mounted and floor movable lead glass shield with frame of at least 2ft x 4ft - 2 nos	Ceiling mounted and floor movable lead glass shield with frame of at least 2ft x 4ft - 2 nos. Floor movable body contoured lead glass shield (right and left) one each.
19.L	Wireless remote communication with operators from outside	Wireless two way remote audio communication system between the console and examination room

19.M	Music system (as per site requirement)	Music system inside the console room with a wired speaker extension to the examination room.
19.O.3	Pressure infusor weight sensor with alarm	Pressure infuser weight sensor with alarm to use along with VBM pressure infusor
20.A	The quoted DSA system should have a valid Indian standards quality certification. If there is no Indian standard is available, then the item /equipment should have a US FDA/ European CE with four digit identification number from a notified body of certification.	The quoted DSA and all other equipment should have a valid Indian standards quality certification. If there is no Indian standard is available, then the quoted DSA and all other equipment should have a US FDA/ European CE with four digit identification number from a notified body of certification.
22.B	CE Marking according to Directive 93/42/EEC	Removed
22.C	US FDA	Removed
23.A	All the medical devices shall be CE marked as per EU Medical Device Directive No.93/42/EEC and other component parts shall bear CE mark as per relevant EU directive/s. or US FDA Approved. Self-declaration of conformity documents with other related certificates e.g. Notified Body certificates shall be uploaded. Additional documents to verify the claims may be asked for.	Removed
24.A	The equipment's and all accessories shall have CE mark with valid EU'S MDD certificate from notified body of certification.	Removed
24.B	European Conformity (EC) notified bodies issued from European address or valid US FDA approval and documentary evidence to that effect shall be submitted.	Removed
E. General points of Technical Compliance		
E	All materials used are to be of the best new available and subject to the Institute representative's approval, and of durable nature, guaranteed, not liable to any base exchange and manufactured according to applicable Standards. Execution also is subject to approval of Institute representative and shall be the best available common practice in engineering codes at the time of execution.	All materials used are to be of the best latest and new available and subject to the Institute representative's approval, and of durable nature, guaranteed, not liable to any base exchange and manufactured according to applicable Standards. Execution also is subject to approval of Institute representative and shall be the best available common practice in engineering codes at the time of execution.

I & II	Added	Pl ref point No I & II in the last page of compliance sheet.
F. Technical Compliance is revised and is attached		
G. BOQ (IND) and BOQ (IMP) is revised and is attached		
H. Annexure-6 (Performance Security Format for CAMC) is attached		

Sd/-

Director