

SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES & TECHNOLOGY

BIOMEDICAL TECHNOLOGY WING, POOJAPPURA. P.O., TRIVANDRUM-695 012

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BMT/ST-14/TIC/597/PROJ-8141/01.

27-03-2017

GLOBAL TENDER

Sealed Tenders in two bid system are invited for the supply of the following equipment from reputed (a) Foreign Manufacturers / their accredited Indian agents, (b) Indian manufacturers / their authorized distributors.

Sl.No.	Particulars	Tender No.	Quantity
1	3D Bio-printer for tissue and Organ Printing	BMT/GT-07/TIC/597/PROJ-8141/01	1

The tenders should be superscribed tender for (specify name of the item) and addressed to the Director, Sree Chitra Tirunal Institute for Medical Sciences & Technology, Medical College P.O., Trivandrum -11. Late tenders will not be accepted. The tenders will be opened at 05-06-2017 PM on 11:00 am in the presence of such of the tenderers or their authorized representatives who may be present at that time.

The tender notices are posted in the website of the Institute (www.sctimst.ac.in) and 'http://eprocure.gov.in/epublish' for downloading by the prospective tenderers. The cost of tender documents (Rs.500/- + VAT @ 5%) can be paid by tenderers in the form of demand draft drawn in favour of the Director of the Institute, which is not refundable under any circumstances, while submitting their offers with the bid / tender documents. The cost of such downloaded documents should be kept along with the Technical bid. Tender forms are not transferable.

Tenders will be received upto 03-06-2017 on 1:00 pm. All tenders should be accompanied by EMD for 5% of the total FOB value of the quoted items (rates multiplied by quantity). The exchange rates shall be at Bill Selling rates prevailing on the date of opening of tenders. The EMD can be by way of Demand Draft favouring Director, SCTIMST or Bank guarantee (format enclosed). The EMD should be enclosed with Commercial bid only, not with the Technical bid. The cost of tender documents and EMD will be waived based on relevant certificates for the tendered items on production of documents such as DGS&D / NSIC Registration Certificate, etc. for the specific category of item and should remain valid for the period required for EMD.

The Director of the Institute reserves the right to accept or reject all or any tender at his sole discretion without assigning any reason.

(Sd/-)
Director

TERMS & CONDITIONS

In addition to the conditions mentioned in the tender notice and attached schedule the following will also form part and parcel of the tender documents.

- 1) The prices quoted should be FOB in foreign currency by Ocean Freight/Air Freight or FOR Trivandrum for delivery at our Institute in INR, if the tenderer prefers to quote in INR. (This clause is applicable as per the mode of quote.)
- 2) a) The tenderers should clearly state whether he/they are manufacturer, accredited agents, or sole representative (indicating the name of Principal) on the top of the Bid.

b) The Foreign Manufacturers, whether they participate in the tender directly or through their Accredited Agents should furnish an undertaking that they will directly or through their agents take the responsibility of maintenance of the equipment supplied and installed for a period of 10 years from the date of successful installation and commissioning of the equipment.
- 3) Agency Commission if any to be deducted from Ex-works/ FOB/CIF value and is payable to Indian Agents should be indicated separately for payment in Indian Rupees, if the quotation is in foreign exchange.
- 4) Customs Duty, Excise Levies etc. if payable should be mentioned in the quotation separately. Rates quoted should be firm for acceptance by us within a period of 6 (six) months (180 days) from the date of opening.
- 5) a. Detailed **Technical bid** and **Commercial bid** should be furnished in separate covers. The items to be included in both the bids are given at annexure- 2. Technical bid will be opened first and after evaluation, the commercial bid will be opened on prior intimation to qualified tenderers. Both the technical bid and commercial bid should be in sealed covers and can be enclosed in a larger sealed cover.

- b. Negotiation may be conducted with the lowest qualified tenderer. The lowest price is calculated by adding basic cost with all incidentals required for the performance of the system including Comprehensive Maintenance Contract cost for a period of 10 years.

6) All offers should be accompanied with:-

- a) Detailed specifications of the items offered.
- b) Technical diagrams, illustrations etc.
- c) The delivery schedule of item should be specified in the offer.
- d) Other documents detailed as per schedule.

7) The successful tenderer will have to arrange for remitting security deposit and execute an agreement as called upon by the institute. This may be in the form of a Performance Bank Guarantee/Demand Draft for 10% of total assignment (purchase value) from commercial bank which should be valid for a period of 60 days beyond the completion of all contractual obligations of the supplier including warranty.

8) Price list of essential spares shall be provided along with the quotation, it should be frozen for a minimum period of 3 years after warranty period.

9) a) Warranty should be for a minimum period of 3 years from the date of installation and commissioning of system.

b) After warranty, if the institute desires to enter into AMC, the maximum of Annual Maintenance Charges for comprehensive service is 5% and for AMC Labour service is 2.5% of Ex-Works/ FOB/CIF value as the case may be. Both the AMC charges will be allowed 5% increase annually to the maximum. AMC exchange rate calculation-FOB at the time of RV.

10) Mode of payment should be indicated. The payment modes available are following:-

- a) **Irrevocable Letter of Credit.**
- b) **Sight Draft against original documents through our banker's (STATE BANK OF TRAVANCORE, MEDICAL COLLEGE BRANCH, THIRUVANANTHAPURAM-695011, PH:0471-2443271, Email:mctrivandrum@sbt.co.in**
- c) **Wire Transfer/Telephonic Transfer or Demand Draft will be applicable only after receipt of the item.**
- d) **By cheque within 30 days of satisfactory installation & commissioning of the system.**

- 11) All bank charges outside India are to the beneficiary's account.
- 12) Tenders not accompanied with sufficient EMD (5% FOB value of the quoted products/rates multiplied by quantity) shall automatically stand rejected. The exchange rates shall be at the Bill selling rates prevailing on the date of opening of tenders. The EMD should have a validity of 180 days from the date of opening. **The successful tenderer has to extend the validity of the EMD if required by the Institute.**
- 13) REMOTE SERVICE ACCESS if required has to be provided at the supplier's cost.
- 14) The tenderer submitting his tender would be deemed to have considered and accepted all the terms and conditions.
- 15) The quantity shown in the Schedule may increase or decrease to any extent depending upon the actual requirement.
- 16) The tenderer shall submit the pre-requisite information like Civil works/ Electrical works, Air Conditioning etc. within 2 weeks from the date of receipt of order or establishment of letter of credit as the case may be.
- 17) In the case of placement of Purchase Order, the vendor (the tenderer whose tender is accepted) shall have to confirm the purchase order within 7 days from the date of receipt of purchase order otherwise it will be deemed that the purchase order is accepted by vendor. However, if the supplier notices any mistake in the contents of the order, he must bring the same to the notice of the Institute and seek clarifications. Supplier will have to bear the responsibility for failure to take this action.
- 18) All disputes arising out of this purchase contract, the legal jurisdiction will be Trivandrum, Kerala, India.
- 19) Penalty Clause:
 - 1) Delay Delivery: If the delivery is not effected on due date, the Director of SCTIMST will have the right to impose penalty at 0.5% per week subject to a maximum of 5% of order value.
 - 2) Performance (during warranty period and AMC period): (a) Uptime means 95% of total days in a year excluding Sundays and Institute Holidays. (b) Down time means any shortage in achieving the uptime of 95%. (c) Down time penalty will be levied at the rates shown below;
 - a) Equipment for which EX-works/FOB/CIF value is up to Rs. 10 Lakhs penalty is 0.5% per day of such value of the equipment.

- b) Equipment for which Ex-Works/FOB/CIF value is above Rs. 10 Lakhs but upto Rs. 50 lakhs, penalty at 0.2% per day of the cost of the equipment subject to a minimum of Rs. 5000/- per day.
- c) Equipment for which Ex-Works/FOB/CIF value exceeds Rs. 50 Lakhs, penalty is at 0.1% per day of the cost of the equipment subject to a minimum of Rs.10,000/- per day and maximum of Rs. 50,000/- per day.
- d) Penalty will be leviable for each (a single) equipment.
- e) Even if the total days of down time in a year is below 5%, if the equipment is Down for more than 5 working days continuously, excluding reporting and repairing days and also holidays, on any occasion, penalty at the above rate will be levied for such down time exceeding 5 days. For this purpose, repairing day is a single day on which the machine is reported as repaired and working means fully working.
- 20) Recovery Clause: All losses liquidated or otherwise due to the violation of terms and conditions of the purchase order or defective documentation will be to the supplier/agent's account.
- 21) Installation & Commissioning: Supplier should undertake installation, commissioning and demonstration at our facility free of cost.
- 22) Training: Supplier should provide training either at our site or at their works free of cost.
- 23) Form No. 16, DSIR Certificate if needed for clearing the item shall be mentioned in the Technical Bid.
- 24) In the case of import items purchase, following documents will be required for negotiation of documents.
- (1) Airway bill.
 - (2) Certificate of Origin issued by or certified by local chamber of commerce.
 - (3) Packing list.
 - (4) Invoice.
- 25) If the items involve softwares, companies should avail software license in the name of Director, SCTIMST and the paper license/email license is to be transferred to the concerned HOD and should be mentioned in the invoice.
- 26) Two Nos. of technical/service manual in original will also be provided along with the equipment at free of cost.

Sd/-

DIRECTOR

ANNEXURE- 1

SPECIFICATIONS FOR 3D bio printer

Computer controlled multi axis 3d bio printer suitable for tissue fabrication, cell printing and printing medical grade biological gels; having multiple temperature controlled head units, capable of holding cartridges or syringes of various capacities to extrude multiple materials in a single job; using air pressure/ screw or similar non contact extrusion mechanisms. The detailed specification is given below.

Detailed specification:

Printing unit:

1. Advanced multi axis 3d bio printer with minimum 3 axis compatible to print hydrogels such as Chitosan, Collagen, Fibrin, Gelatin, Alginate, polymers like Polyurethane, Silicone, thermoplastics like PCL, PLLA, PLGA.
2. Minimum build capacity(X/Y/Z) of 100mm x 100mm x 50mm.
3. Minimum resolution of 5 micrometer or lower.
4. Minimum 2 materials to be printed in a single job.
5. Screw/pneumatic extrusion with necessary hepa filters.
6. XYZ motor drive resolution of better than 5 micrometer required.
7. Curing using laser and/or UV.
8. Wavelength of UV light for photo cross linking: 360nm-400nm
9. Automatic height control using z sensors or video camera.
10. Z height resolution of 10 micrometer or better required.
11. Automatic nozzle/needle tip calibration required.
12. Automatic nozzle/needle cleaning required.
13. Computer control of printer speed, pressure and temperature required.
14. Manual or semi automatic material calibration preferred.
15. Having sturdy stainless steel or aluminum body with transparent toughed glass doors and windows is preferred to provide vibration free printing.
16. Certification: comply to CE/UL standards.
17. The 3d bio printer must have proven track record in application of tissue fabrication and cell printing with reports published in international journals/conferences.

Printing head:

18. The printer must have minimum of two print heads with independent temperature control and capable of carrying cartridges or syringes of different volumes with following features.

19. The print heads shall work simultaneously or sequentially without manual interference.
20. Automatic identification of head units preferred.
21. Capability to print multiple materials in same job is required.
22. The head units should be suitable for printing hydrogel and various polymers using reusable SS or disposable plastic cartridges/syringes.
23. Head unit should be compatible for stainless steel cartridges/syringes suitable for the extruder head unit with stainless steel nozzles.
24. Cartridges to be sterilizable.
25. Additional steel nozzles of various sizes such as 100, 200, 300 and 600 μm diameter to be included.
26. Plastic syringes with blunt end needles with tip diameter 100, 200, 300, 400, 600 μm or nozzles with different gauge within the range 20 – 32 g to be included.
27. If the system doesn't support other commercially available syringes, sufficient number of stainless steel needles and plastic/ bio printing needles should be included.
28. Each head units should be individually controlled for material, temperature and print settings.
29. Cooling in print head is required.
30. At least one head unit should be temperature controlled from 10 $^{\circ}\text{C}$ to 45 $^{\circ}\text{C}$.
31. At least one head unit should be temperature controlled up to 250 $^{\circ}\text{C}$ for thermo plastic extrusions.
32. The head unit should be capable to carry cartridge/syringe sizes ranging from 10ml to 30ml
33. Cartridge holder shall have luer lock adaptors.
34. Provision for temperature control of cartridges/syringe at parked positions is required.

Print bed:

35. Temperature controlled print bed with provision to place multi exchangeable base plates, petri dish, multi wells, plates and bathes.
36. Print bed temperature range($^{\circ}\text{C}$) : 10 $^{\circ}\text{C}$ to 45 $^{\circ}\text{C}$
37. Automatic print bed height control

Work station:

38. The 3d bio printer should have a computer loaded with suitable licensed software for controlling the bio printer and making designs with complete control of printing parameters such as temperature, pressure, and speed with following features.
39. Computer hardware: multi-core processor - 2ghz (min), ram 8gb in multiple slots or better configuration
40. Cad optimized graphics card, ethernet adapter, and 21.5 inch flat screen (min), with mouse or better configuration
41. Operating system: windows 7/8 or higher versions compatible with bio-printer
42. Input data file format: STL/ DICOM/ AMF/DXF etc
43. Network compatibility: WI-FI/LAN
44. 3d bio printer software: easy to use CAD/CAM software package for designing 3d models, controlling the printer.
45. 3d bio printer software capable of printing 3d models from medical images obtained from CT/MRI preferred.

46. Computer must have all necessary accessories such as cables, adaptors for proper communication with bio printer.

Electrical requirements:

47. Power supply: 230v/50Hz suitable for electrical power supply at site.

48. Power cable suitable for Indian electrical sockets.

Environmental conditions:

49. Prevailing environmental conditions at site

Accessories:

50. All necessary accessories for heating of print heads and base plate to be included

51. All necessary equipment for providing cooling of the cartridges, base plate such as chillers, power converters, cables and connectors to be included.

52. All necessary accessories for connecting pressure line, chiller lines to the printer to be included.

53. Adequate samples of various sizes of cartridges, needles/nozzles, luer locks, head changing tools, cables must be provided.

54. Computer must have all necessary accessories such as cables, adaptors for proper communication with bio printer.

55. Installation, onsite set up and operator training to be provided.

56. Necessary HEPA filters must be provided to avoid contamination.

57. Suitable air compressor to be included.

58. Any other recurring consumables necessary for the sustained operation of the bioprinter must be included in sufficient quantity.

Warranty:

59. Minimum 3 year comprehensive onsite warranty

60. Inclusive of all essential parts and accessories.

ANNEXURE - 2

TECHNICAL BID

The technical bid consists of the following:

1. Clear specification matching as given in the tender document
2. Product No. / Catalogue No. (Catalogue in original to be attached)
3. Model No.
4. Technical features
5. Technical parameters
6. How old is this technology and when it is going to be discontinued
7. When is the upgraded / updated version likely to come
8. Additional features very particular to the system.
9. If work station or PC is quoted, its full configuration, brand, model No. etc
10. Period of warranty as called for in the Tender.
11. AMC rate.
 - a. Comprehensive (Spares and Labour)
 - b. Labour alone
12. History of service and maintenance support in the Institute
13. List of installations in public sector / private sector with contact person name and telephone no.
14. List of essential spares
15. Tender form fee receipt/Demand draft Rs.525/- (Rs.500+VAT 5%)

(Compliance Statement should be submitted)-format below

Sl.No.	Our specification	Yes/No	Your Brand Model/Cat.No. if any

COMMERCIAL BID

1. Item wise cost of components given in the technical bid
2. Excise duty if any (for INR purchase)
3. Customs duty if any (for import purchase)
4. Packing, forwarding, freight, insurance etc. if applicable
5. Central Sales Tax / VAT if any
6. Delivery period
7. Mode of dispatch
8. Mode of payment
9. Price of essential spares listed in the technical bid
10. Agency Commission rate
11. EMD (5% of the FOB value of the quoted items (rates multiplied by quantity) value valid upto 180 days by way of **Bank Guarantee/Demand Draft-Director, SCTIMST payable at Thiruvananthapuram**)

GUARANTEE BOND FOR EARNEST MONEY DEPOSIT

In consideration of the Director, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, Kerala (hereinafter called the "Employer") having agreed to exempt M/s. (hereinafter called the said "Contractor") from the demand under the terms and conditions of Tender No. dated issued by the Employer to the said Contractor for Rs..... (Rupees) only of Earnest Money Deposit for the due fulfillment by the said contractor of the terms and conditions contained in the said tender on production of a bank guarantee for Rs., we, Bank of do hereby undertake to indemnify and keep indemnified the Employer to the extent of Rs. against any loss or damage caused to or suffered by the Employer by reason of any breach by the said Contractor of any of the terms and conditions contained in the said tender.

We, Bank of further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the finalization of the said tender and that it shall continue to be enforceable till the tender is finally decided and order placed on the successful tenderer or till whichever is earlier (to be valid for minimum 180 days).

We, Bank of lastly undertake not to revoke the guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything stated above, our liability under this guarantee is restricted to Rs Our guarantee shall remain in force until Unless a demand in writing to enforce a claim under this guarantee is filed against us before that date, all your rights under the said guarantee shall be released and discharged from all liability thereunder.