



Invitation to tender

No. CeNS/2026-27/Proc/Tender/XRD/363

Date: 26th August 2026

The Centre for Nano and Soft Matter Sciences (CeNS) invites bids under the Two-Bid System (Technical Bid and Financial Bid) from eligible Original Equipment Manufacturers (OEMs) or their authorised representatives for the supply, installation, commissioning and training of the following scientific equipment.

Supply, Installation and Commissioning of Multifunctional Floor Mounted X-ray Diffractometer

Bidders shall carefully read the complete tender document, technical specifications, eligibility conditions and commercial terms before submitting their bids.

1.	EMD (Earnest Money Deposit / Bid Security)	Rs. 4,50,000/-
2.	Tender Processing Fee	NA
3.	Tender document publication date	26 th August 2026
4.	Bid documents	https://www.cens.res.in/en/tenders
6.	Bid submission start date and time	27 th August 2026
7.	Bid submission end date and time	16 th September 2026 3:00 PM
8.	Technical bid opening date and time	16 th September 2026 4:00 PM

Instructions to Bidders – Submission of Bids

- Bidders shall submit the Technical Bid and Financial/Price Bid separately in hard copy, clearly marked as “**Technical Bid**” and “**Financial/Price Bid**”. The two sealed envelopes shall be placed in one Master Envelope, superscribed with the Tender No. and Due Date in bold letters.
- The Technical Bid shall contain the bidder’s eligibility documents, OEM authorisation, technical literature/brochures, item-wise Technical Compliance statement, warranty and after-sales service commitment, delivery schedule and all other documents specified in this tender.
- The Financial/Price Bid shall be submitted only in the prescribed format. Prices shall not be disclosed anywhere in the Technical Bid.
- Acceptance of Tender Document: The bidder shall sign and affix the seal on every page of the Tender Document, including all annexures and amendments/corrigenda, and submit the duly signed and stamped Tender Document along with the Technical Bid as confirmation of unconditional acceptance of all the terms and conditions.
- All updates, corrigenda/addenda and clarifications relating to the tender, as well as the details of bidders qualifying in the Technical Bid and further stages of the tender process, shall be published only on the CeNS website. Bidders are advised to regularly check the CeNS website for updates and are responsible for noting them.
- The bidder shall consider all corrigenda/addenda issued by CeNS before submission of the bid. The bidder is responsible for the timely and successful submission of the complete bid in hard copy to the Centre.



7. No bid submitted by email, fax or any other mode, or received after the prescribed closing date and time, shall be accepted.
8. The Bids should be addressed to the Administrative Officer, Centre for Nano and Soft Matter Sciences (CeNS), Arkavathi, Survey No.7, Shivanapura, Dasanapura Hobli, Bengaluru - 562162
9. Centre for Nano and Soft Matter Sciences reserves the right to accept/ reject any or all tenders either in part or in full without assigning any reasons.
10. The Tender Document may be accessed from the Centre's website. The bids may be submitted in hard copy as specified under Point 7 above or deposited in the designated tender boxes kept at the Centre for this purpose, on or before the prescribed date and time.

GENERAL TERMS AND CONDITIONS OF TENDER

1. Definitions:

- a. "Purchaser" shall mean the Centre for Nano and Soft Matter Sciences (CeNS), Arkavathi, Survey No. 7, Shivanapura, Dasanapura Hobli, Bengaluru North – 562162, represented by the authorised officer.
- b. "Supplier" / "Bidder" shall mean the OEM or authorised representative whose bid is accepted and with whom the Purchase Order/Contract is placed.
- c. "Purchase Order" shall mean the formal written order issued by CeNS for supply, installation, commissioning and related services in accordance with the accepted bid and the terms of this tender.

2. Receipt and submission of tender: Bids shall be submitted through hardcopy on or before the due date and time specified in the tender schedule. Late bids shall be summarily rejected. Bidders shall submit the Technical Bid and the Financial/Price Bid separately in hard copy, marked as the Technical Bid and the Financial/Price Bid. These two sealed envelopes should be placed in one Master Envelope, superscribed with the "Tender for Supply, Installation and Commissioning of Multifunctional Floor Mounted X-ray Diffractometer for CeNS", with the Due Date in Bold Letters.

3. Tender should be addressed to the Administrative Officer, Centre for Nano and Soft Matter Sciences, Arkavathi, Survey No.7, Shivanapura, Dasanapura Hobli, Bengaluru - 562162

4. Validity of the offer: (a) The bid should be valid for a minimum period of 180 days from the date of opening of tender. If the day by which the offer is to remain open falls on a closed holiday, the offer shall remain open for acceptance until the next working day.

Conditional or incomplete bids, bids without required EMD/proof of exemption, and bids submitted through email, fax or any mode other than the prescribed e-procurement portal shall be rejected.

5. The bidder shall be deemed to have examined and accepted all the terms, conditions, specifications, annexures and schedules of this Tender. The complete Tender Document shall form an integral part of the Contract/Purchase Order.
6. The Centre reserves the right to accept or reject any or all tenders either in part or in full, or to split the order without assigning any reasons therefor. It also reserves the right to cancel the bid without assigning any reasons.



7. Opening of the tender: The Technical bid shall be opened on the date of the tender opening. Price bids of only those firms whose offers meet all tender requirements, including compliance with technical specifications, and have passed all tender conditions/technical evaluation, will be considered for opening.
After the opening of the price bids, the detailed comparative statement and the finalisation of the successful bidder will be carried out on an L-1 (lowest price) basis.
8. Award of Contract and delivery: The contract shall be awarded to the successful bidder. The bidder shall state a firm delivery and installation schedule from the date of issue of the Purchase Order. The quoted schedule shall include delivery, installation, commissioning, performance demonstration and training.
9. The supplier shall ensure efficient and prompt after-sales service and availability of spares for at least three years after expiry of the warranty period.
10. Software upgrades pertaining to the supplied unit shall be provided free of cost as and when released by the OEM during the warranty period, and thereafter as specifically committed in the bid.
11. Calibration certificates for relevant sensors, instruments, gauges and display units shall be supplied wherever applicable.
12. Operation and maintenance manuals, troubleshooting procedures, calibration methods, wiring/schematic diagrams, component and spare lists and safety instructions shall be provided in hard copy and soft copy.
13. The supplier shall provide hands-on training to CeNS personnel in operation, software, routine maintenance, troubleshooting and preventive maintenance.
14. Final acceptance shall be based on successful installation, commissioning, demonstration of specified performance and submission of required manuals/certificates.
15. Installation and commissioning shall be carried out at the CeNS campus by trained personnel of the OEM/supplier. The complete functionality of the equipment shall be demonstrated to the satisfaction of CeNS.
16. All consumables, accessories, utilities and manpower required for any pre-dispatch demonstration shall be arranged by the supplier.
17. If required by CeNS, the supplier/OEM shall demonstrate the quoted system at its works before dispatch to establish compliance with the specified technical requirements.
18. EMD shall be dealt with in accordance with the applicable procurement rules and the tender conditions. No interest shall be payable on the EMD.
19. The successful bidder shall furnish performance security, if required by CeNS, in the form and within the period specified in the Purchase Order/Contract.
20. EMD/Bid Security: Rs. 4,00,000/-. Any exemption shall be claimed only with documentary proof as permitted under the applicable GoI procurement provisions.
21. Failure to satisfy mandatory eligibility conditions may result in rejection at the technical evaluation stage.
22. The OEM shall submit a written commitment for the availability of spares and efficient after-sales service for at least three years after expiry of the warranty/guarantee period.



23. The bidder should have supplied at least three similar units or equivalent models. A list of users/installations with contact particulars shall be furnished.
24. The OEM should have proven expertise in the manufacture and supply of the quoted XRD system and shall provide evidence of installations/users as required in the tender.
25. Only the Original Equipment Manufacturer (OEM) or an authorised representative of the OEM shall quote. Authorisation valid as on the tender date shall be enclosed with the bid.

TECHNICAL BID - TERMS AND CONDITION

1. The bidder should attach the point-by-point technical specification provided in Annexure-I of the tender document (with additional remarks if any) along with the Technical Bid.
2. Vendor qualification criteria:
 - (a) Original Equipment Manufacturer (OEM) or authorised representatives of OEM only can quote for this tender. The vendor should submit an authorisation letter from the OEM, valid on the tender date, along with the quotation.
 - (b) The OEM should have proven expertise in the manufacture and supply of the item.
 - (c) The bidder should have supplied at least 03 or more similar units or equivalent models.
 - (d) It is essential that the manufacturer provide the list of users of the equipment with contact particulars.
 - (e) OEM is required to submit a letter of commitment at the time of quote for the supply of spares and also for efficient and prompt after-sales service of the equipment for a minimum period of 3 years after the guarantee/warranty period under mutually agreed terms and conditions.
 - (f) Failure to meet any of the above vendor qualification criteria may lead to the disqualification of the tender at the technical evaluation stage itself, and the vendor's quotation may not be considered for procurement.
3. CeNS shall constitute a Technical Evaluation Committee for the evaluation of the Technical Bids. Only bidders who meet all essential eligibility criteria and comply with the mandatory technical requirements specified in the Tender Document shall be considered technically qualified and eligible for the opening of their Financial Bids. The decision of the Technical Evaluation Committee in this regard shall be final.
4. The bidder shall sign and affix the seal on every page of the Tender Document, including all annexures and amendments/corrigenda, and submit the duly signed and stamped Tender Document along with the Technical Bid as confirmation of unconditional acceptance of all the terms and conditions.
5. Pre-dispatch inspection
 - (a) The manufacturer/supplier of the unit shall demonstrate, if required, at their works during pre-dispatch inspection by CeNS personnel and shall satisfy all the technical specifications as described in the tender document.
 - (b) The manufacturer /supplier of the unit shall demonstrate the features as provided in
 - (c) Annexure-I (Scope of supply work).

(d) All the consumables and raw materials required for the above demonstration should be arranged by the tenderer.

(e) All the utilities and manpower required for the demonstration shall be arranged by the supplier only.

6. Acceptance criteria:

(a) The manufacturer/supplier's trained engineer should carry out installation and commissioning of the unit at the CeNS Campus.

(b) The entire functionality of the equipment according to the specifications should be demonstrated at the CeNS campus

(c) The manufacturer/supplier of the unit shall demonstrate the features as specified in

(d) However, infrastructure for the demo will be arranged by CeNS.

7. PATENT RIGHTS: The Supplier shall indemnify CeNS against all third-party claims of infringement of patent, trademark or industrial design rights, copyright arising from use of the Goods or any part thereof in India.

8. Training: The manufacturer shall impart training in the complete unit's operation and preventive/breakdown maintenance, including sub-parts, during installation to CeNS personnel at CeNS.

9. Utilities/Infrastructure for installation:

(a) The supplier shall indicate all the required utilities/infrastructure such as power, water, gas, etc including power backup requirements.

(b) Supplier shall provide the overall dimensions of the Unit, including the floor area and height of the site or building, as well as any foundation details necessary to accommodate the Unit.

(c) The operating environment for the Unit, including temperature and humidity control, anti- vibration, EMI, EMC, etc., should be indicated.

(d) If any additional charges are payable for Installation and Commissioning, the same should be included in the total cost as per the price schedule (BOQ).

10. Manuals, software and other drawings, etc.: The following documents (in English) shall be provided along with the Unit in both hardcopy and softcopy forms:

(a) Operation and maintenance manuals, troubleshooting procedures, calibration methods, wiring and other schematic diagrams, a list of components, spares and accessories.

(b) If there are any bought-out systems and components, manuals should be provided in hardcopy and softcopy forms for the same.

(c) Calibration certificates for sensors, instruments, gauges, display units, etc. must be provided.

(d) Software upgrades pertaining to the supplied Unit should be provided free of cost as and when new versions are released by the OEM.

(e) A safety and security instruction manual should be provided.

11. After-sales service: The supplier shall guarantee efficient and prompt after-sales service, including the supply of the spares, for a minimum period of 3 years after the guarantee/warranty period under mutually agreed terms and conditions.



12. Optional items: All bought-out sub-systems and components (optional items), if any, should be of reputed make conforming to international standards. Make and details of all bought-out sub-systems and components shall be specified
13. Test certificate: Wherever required, the Test Certificate should be sent along with the relevant dispatch documents.
14. Delivery/ time schedule: The offer shall be accompanied by a detailed delivery time schedule showing the individual time schedule required for submission of initial equipment layout drawings, foundation drawings, along with load data, main equipment and sub-assembly drawing, shipment schedule of the equipment as well as the time for installation, commissioning and performance tests.
15. Packing: The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit. To maintain the safety of the equipment, we prefer wooden crating with adequate cushioning inside for the transport of any goods. The material has to be dispatched with International standard packing to withstand rigours and to avoid any transit damage.
16. Packing Instructions: Each package will be marked on three sides with proper paint/indelible ink, the following:
 - Purchaser Name & Address
 - Item Nomenclature
 - Order/Contract No.
 - Country of Origin of Goods
 - Packing list reference number
17. Insurance: The Goods supplied under the Contract shall be fully insured in Indian Rupees against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery.

For delivery of goods at the purchaser's premises, the insurance shall be obtained by the Supplier in an amount equal to 110% of the value of the goods from "Warehouse to warehouse" (final destinations) on "All Risks" basis, including War Risks and Strikes. The insurance shall be valid for a period of not less than 1 year after dispatch or until installation and commissioning of the stores, whichever is later.
18. Liquidated damages (LD): As time is the essence of the contract, the work period mentioned in the Service Order should be strictly adhered to. Otherwise, the LD clause will be applicable /enforced. If the supplier fails to provide the services mentioned in the order within the stipulated period, CeNS shall, without prejudice to any other right or remedy available in law, levy a penalty for such delay by way of liquidated damages, at 0.5% per week of delay or part thereof, subject to a maximum of 10% of the contract value. Such LD will be deducted from any amount due or which may become due to the supplier.
19. Order acceptance: The successful bidder, on award of the contract/order, must send the contract/order acceptance in writing, within 15 days of the award of the contract.



20. Incoterms: DDP Centre for Nano and Soft Matter Sciences, Bangalore.

Note: The responsibility for paying customs duties and insurance, and for ensuring its delivery and successful installation to the Centre, would rest with the supplier.

21. Award of contract: CeNS reserves the right at the time of award of Contract to increase or decrease the quantity of items specified in the Schedule of Requirements without any change in price or other terms and conditions.

22. Corrupt or Fraudulent Practices: CeNS requires that the bidders who wish to bid for this project have highest standards of ethics. CeNS will reject a bid if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices while competing for this contract. CeNS may declare a vendor ineligible, either indefinitely or for a stated duration, to be awarded a contract if it is determined at any time that the vendor has engaged in corrupt and fraudulent practices during the execution of the contract.

23. Interpretation of the clauses in the Tender Document/Contract Document: In case of any ambiguity/dispute in the interpretation of any of the clauses in this Tender Document, CeNS's and its authorised legal counsel's interpretation of the clauses shall be final and binding on all parties.

24. All disputes are subject to "Bangalore Jurisdiction" only. The decisions of the Centre in all respects shall be final and binding on all.

25. Arbitration: In case of a dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or differences shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules thereunder and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to arbitrator appointed by the CeNS. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.

The venue of the arbitration shall be the place from which the purchase order/contract is issued. Notwithstanding any reference to arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree.

COMMERCIAL BID/PRICE BID

1. Price must be quoted strictly in the Price Bid Format attached herewith as "Annexure XIII" (Financial Bid)
2. Prices may be quoted according to the units indicated in the annexed tender form as the total of all essential items, while all optional items may be quoted separately (each optional item's price must be indicated).
3. The price should be indicated on unit basis only. No unilateral price revision will be admissible.
4. Terms of payment: The payment in INR shall be made through NEFT/RTGS after delivery and successful installation of the item
5. For Imported Items: 80% of the payment shall be made through an irrevocable Letter of Credit against submission of complete and acceptable shipping documents. The remaining 20% shall be released after successful installation and acceptance of the equipment by CeNS and submission of Performance Security equivalent to 3% of the Purchase Order value.
6. For Indigenous/Local Supply: 100% payment shall be released after complete supply, successful installation, commissioning and acceptance of the equipment by CeNS, subject to submission of Performance Security equivalent to 3% of the Purchase Order value.



7. Partial shipment / Partial delivery of material will not be accepted in any case. Requests for payment for such partial shipments or staggered payments will also not be entertained.
8. Duties, Taxes where legally leviable and intended to be claimed should be distinctly shown in the Tender.
9. Duty Exemption: Please note that the Purchaser is eligible for concessional Customs Duty under the Govt. of India Notification No. 11/280/1993-TU-V dated 28 April 2022
10. In case any of the subheads are included in the total cost, the same should be specified.
11. Any optional item indicated in techno-commercial bids must be priced separately.
12. Currency in which the price is quoted must clearly be mentioned.
13. Applicable PAN, GST, and MSME certificates, etc., should be enclosed.
14. Annual Maintenance Contract (AMC)
 - a. The bidder shall quote the annual AMC charges for three (3) years after expiry of the warranty period for the complete system supplied under the Purchase Order.
 - b. The details of AMC service should be given in the technical bid
 - c. The AMC charges per year should be quoted separately in the Financial Bid.
 - d. For the purpose of financial evaluation and determination of the L1 bidder, the total AMC charges for three years shall be added to the final price of the XRD system and other mandatory components/services quoted by the bidder.
15. The evaluated bid price for determining L1 shall therefore be calculated as:
Evaluated Bid Price = Final Price of Complete XRD System + Total AMC Charges for 3 Years
16. The AMC shall commence immediately after expiry of the warranty period and shall be for a period of three years, subject to the requirements and satisfactory performance of the equipment.
17. The AMC charges shall be paid annually or half-yearly, as decided by CeNS, from the date of commencement of the AMC, against satisfactory provision of services and submission of the invoice.
18. The AMC shall cover preventive maintenance, breakdown maintenance, service visits, labour and technical support as specified in the AMC scope. The bidder shall clearly indicate any exclusions, if applicable
19. Discount: Special discount for educational institutions (if any) shall be mentioned in the price bid.

Annexure I

Technical Specification for Multifunctional Floor-Mounted X-ray Diffractometer	
Objective: Supply, installation and performance demonstration of floor mounted, fully automated X-Ray Diffraction (XRD) System along with all necessary hardware and software for analysis of Powder, solid, thin film (GIXRD), In situ Nonambient X-ray diffraction, in operando Battery measurement	
1	Essential Analytical Capability:
	System must be capable of sensing and recognize all the components in the beam path including X-Ray tube, optics in both primary and secondary side, all types of sample stage and detector to avoid any mistake while configuring the system for different types of analytical experiments. For fast change over of modes of operation XRD system must have auto-alignment facility for entire optical path and stages.
2	X-Ray Generator
	i) Output power: 3 kW or more solid-state type with auto ramp facility. Voltage: Maximum up to 50 kV or higher with increment of 1 kV ii) Anode Current: Maximum up to 50 mA or higher with increment of 1 mA iii) Control: Fully automated through software iv) Stability: $\leq 0.01\%$ per 10% variation of main voltage or better
3	Goniometer
	i) Type: Higher resolution Theta/Theta, Vertical ii) The Goniometer should be with independent θ and 2θ drives for accurate positioning and with design to have zero backlash. iii) Two theta range: from $(-10^\circ$ to $160^\circ)$ or higher with capability of foil transmission mode keeping the sample stage in horizontal position in both reflection and transmission geometries. iv) Minimum step size: 0.0001° or better v) Goniometer radius: 240 mm or more. Suitable hardware and software to be included for goniometer radius change facility. vi) Goniometer Design should be with the latest technology like Harmonic drive function to avoid the back slash and should not required any counterbalance
4	X-Ray Tube
	i) Target: Copper (Cu) & Silver (Ag) ii) Focus: Long fine focus (LFF) iii) Insulation: Ceramic Insulation. iv) Max. output power: Cu: 2KW & Ag: 1.9KW. v) iv) X-ray source Line focal spot: $0.04 \times 12\text{mm}$ or better vi) Suitable Beta filter for X-ray tubes to be included and its changeover must be through computer control. vii) During anode target change, X-ray tube must have facility to indicate its operation time and its exchange from one source type to another type and changeover from line to point focus type should be easy and optical alignment should be with auto alignment facility. viii) Tube height and tube focus for different types of optics must be auto alignment facility.
5	Sample stage and Sample holder
	i) Circular sample stage for powder sample suitable for both reflection and transmission geometries with facility to keep powder sample always in horizontal position with a set of reflection and transmission holders. ii) For mapping of solid and thin film sample (GIXRD) a computer controlled motorized XYZ stage to be included with $(100 \times 70 \times 25)$ mm translation and capable to mount samples up to 3 Kg weight to be offered. iii) Zero Background Holder to be offered iv) Coin cell Holder - 1No v) Pouch cell Holder- 1No vi) Electrochemical cell - 2 No (Measurement Mode: Reflection, Maximum Electrode Diameter - Up to 10 mm, Optical Inspection Area - Up to 18 mm, Window Material - Sapphire Glass,

	vii) Typical Electrolyte Volume-30–50 μL, Operating Temperature Range- -20°C to +70°C, Electrode Arrangement- Side-by-Side and Face-to-Face). Potentiostat – 1 No (Voltage - Control voltage: ± 10 V - Voltage resolution: 5 μV on 200 mV range - Compliance: ± 10 V Current - Current ranges: 1 A to 10 μA (standard) - Maximum current: ± 1 A - Current resolution: 0.760 nA). 1)A Non-ambient sample stage for in-situ analysis, Temperature chamber for XRD studies from - 190 °C to 600 °C and including High-power module and connection cables for CCU temperature control unit stage should be capable of having coin cell holder in reflection mode, where both in situ and in operando should be possible, Suitable Vacuum pump and dewar flask to be offered
6	Optics
	All optical components and its settings must be automatically recognized, changed and aligned by XRD control software for error free analysis with the latest technologies like Multicore (iCore & dCore) / CBO-Auto / TWIN-TWIN / TruBeam. i) Primary Beam Optics for Cu & Ag source: Computer controlled motorized Divergence slits, Two numbers of suitable soller slits (motorized changeover) having two different slit spacing 0.05 Rad and 0.025 Rad or better motorized mask and motorized exchangeable beta filters to be offered. Multilayer monochromatic X-ray optics for Cu & Ag X-ray source to be offered for thin film (GIXRD), transmission geometry and SAXS experiments. Changeover from Bragg Brentano geometry to monochromatic geometry must be computer controlled (with minimal manual intervention). However, it will be preferred not to require any manual intervention like change of any slit (complete auto operation). ii) Secondary Beam: Computer controlled motorized Anti-scatter slits, Two numbers of suitable soller slits (motorized changeover) having two different slit spacing soller slit / parallel plate collimator to be offered . iii) Focusing beam mirror: suitable focusing beam to be offered for Ag
7	Detector
	Advanced Solid-state Hybrid Photon counting detector with >99% quantum efficiency for all types of radiations including Cu and Ag to be offered with following specifications: i) Dynamic range $3X \geq 10^{10}$ CPS and very less background noise or better ii) Spatial resolution should be 75 micron or less. iii) Number of pixels / sensors 256 or better iv) The best achievable resolution (FWHM) for first peak of LaB6 sample must be <0.025-degree two theta. v) Detector should work in continuous, fast scan, slow scan, static modes.
8	Standards
	i) Necessary standard sample for checking the accuracy of the peak position within +0.01 linearity range over the entire goniometer angular range. ii) It is preferred to have fluorescent disc for positioning the X-ray beam to be supplied with the system.
9	Software
	i) Data collection - Licensed version of the software to control the complete XRD instrument, auto component recognition of all the components, system diagnosis and programming for data collection to be offered. ii) Data analysis - Licensed version (for atleast 3 users XRD Analysis) of data evaluation software for background correction, profile fitting, search match, qualitative analysis, lattice parameter refinement, crystallite size determination, Rietveld based standard less quantitative analysis to be offered with Suitable Database iii) Software for data collection and data analysis of thin film GIXRD analysis to be offered. iv) Data analysis software should be offered v) ICDD PDF5+ Data base to be offered along with five years licence vi) The COD database should also be part of the package



10	Computer and printer: Dell / Lenevo / HP make suitable Computer with 1TB HDD, 16 GM RAM, with 32" LED monitor and color laser jet printer to be supplied with XRD.
11	Safety: Provision for detection of abnormal cooling water flow, pressure and temperature, abnormal generator overload and shutter malfunction detection. The XRD instrument should be compliant as per International Safety Standards and Regulation norms like Eurotom, pertaining mechanical, electrical and X-ray Radiation safety and other hazards. The supplier must have necessary TYPE approval from AERB for supply of XRD and necessary approval document to be submitted along with offer.
12	Water Chiller for X-ray source: Suitable external water chiller compatible with the main XRD instrument with dust filter/traps.
13	UPS: UPS: Minimum 20 KVA or more UPS with built-in isolation transformer. UPS must be able to handle XRD system, computer, Printer and external water chiller pump for minimum 30 minutes uninterrupted XRD data collection during main power failure.
14	Other mandatory requirements Pre-installation requirements must be provided upon as and when required and supplier to arrange site inspection for installation planning. The vendor should provide all required accessories like tools and tackles for complete installation and commissioning of instrument. Buyer to arrange necessary power connection, wiring, earthing, air conditioning, flooring and other furniture in the lab for smooth installation of equipment.
15	Application and Operation Training: Supplier must provide complete operation, does/don'ts and application training for all aforesaid applications for minimum 5 days. All costs towards training including lodging, boarding and travel have to be borne by the XRD supplier.
16	Warranty: The quoted XRD System with all accessories must be provided with complete & comprehensive warranty for 3 years including X-Ray Generator, X-ray tube, electronics, motors, detector. During warranty period if any part is required for replacement, then same to be arranged on DDP basis without any cost to buyer. All Third-party indigenous items like chiller, ups, computer, Printer should be with standard one year warranty



Annexure-II

Declaration by the Vendor

(To be provided in the following format in their letterhead)

I/We, the undersigned, declare that we have read and reviewed all the terms and conditions of the tender document to which we have affixed our signatures and submitted under proper authorisation.

We certify that all terms and conditions of the tender document are fully acceptable to us, and we will adhere to them.

We agree that the Tender Document shall form an integral part of the Contract/Purchase Order.

We have not included any printed conditions that go beyond the scope of this tender.

Furthermore, we certify that neither I/we nor our firm has any objections to signing the contract if we are awarded the opportunity to carry out the work associated with this tender.

Place: _____

Signature of the Bidder

Date: _____

Name & Address of the Bidder with Office Seal

COMPLIANCE SHEET

Annexure-III

Technical Specification for Multifunctional Floor-Mounted X-ray Diffractometer

Note: The bidder shall indicate Compliance as Yes / No and provide the corresponding reference to the submitted technical data sheet/catalogue/brochure with page number.

SI No.	Specifications	Compliance Yes/No	Reference data sheet with page no.
1	Essential Analytical Capability: System must sense and recognize all components in the beam path, including X-ray tube, primary/secondary optics, sample stages and detector; auto-alignment of the complete optical path and stages for fast mode changeover.		
2(i)	X-Ray Generator – Output power: 3 kW or more, solid-state type, with auto ramp facility.		
2(ii)	X-Ray Generator – Voltage: maximum up to 50 kV or higher, with 1 kV increment.		
2(iii)	X-Ray Generator – Anode current: maximum up to 50 mA or higher, with 1 mA increment.		
2(iv)	X-Ray Generator – Fully automated software control.		
2(v)	X-Ray Generator – Stability: $\leq 0.01\%$ per 10% variation of main voltage or better.		
3(i)	Goniometer – Higher-resolution Theta/Theta, vertical type.		
3(ii)	Goniometer – Independent θ and 2θ drives for accurate positioning; zero-backlash design.		
3(iii)	Goniometer – 2θ range from -100° to 1600° or higher; foil transmission mode with sample stage horizontal in reflection and transmission geometries.		
3(iv)	Goniometer – Minimum step size: 0.0001° or better.		
3(v)	Goniometer – Radius: 240 mm or more; hardware and software for goniometer-radius change facility.		
3(vi)	Goniometer – Latest technology such as harmonic drive to avoid backlash; no counterbalance required.		
4(i)	X-Ray Tube – Target: Copper (Cu) and Silver (Ag).		
4(ii)	X-Ray Tube – Focus: Long Fine Focus (LFF).		
4(iii)	X-Ray Tube – Ceramic insulation.		
4(iv)	X-Ray Tube – Maximum output power: Cu 2 kW and Ag 1.9 kW.		
4(v)	X-Ray Tube – Line focal spot: 0.04×12 mm or better.		
4(vi)	X-Ray Tube – Suitable beta filter for X-ray tubes; changeover through computer control.		
4(vii)	X-Ray Tube – Anode target change facility indicating operation time and source exchange; easy changeover between source types and line/point focus, with automatic optical alignment.		
4(viii)	X-Ray Tube – Automatic alignment of tube height and tube focus for different optics.		



Sl No.	Specifications	Compliance Yes/No	Reference data sheet with page no.
5(i)	Sample Stage – Circular powder sample stage for reflection and transmission geometries, keeping powder sample horizontal, with reflection and transmission holders.		
5(ii)	Sample Stage – Computer-controlled motorized XYZ stage for solid/thin-film mapping (GIXRD), 100 × 70 × 25 mm translation, samples up to 3 kg.		
5(iii)	Sample Stage – Zero Background Holder.		
5(iv)	Sample Stage – Coin cell holder, 1 No.		
5(v)	Sample Stage – Pouch cell holder, 1 No.		
5(vi)	Sample Stage – Electrochemical cell, 2 Nos.; reflection mode; electrode diameter up to 10 mm; optical inspection area up to 18 mm; sapphire glass window; electrolyte volume 30–50 μ L; operating temperature -20°C to +70°C; side-by-side and face-to-face electrode arrangement.		
5(vii)	Potentiostat, 1 No.: ± 10 V control voltage; 5 μ V resolution on 200 mV range; ± 10 V compliance; current ranges 1 A to 10 μ A; maximum current ± 1 A; current resolution 0.760 nA.		
5(1)	Non-ambient sample stage for in-situ analysis; temperature chamber -190°C to 600°C; high-power module and cables for CCU temperature control; coin-cell holder in reflection mode; in-situ and in-operando capability; suitable vacuum pump and dewar flask.		
6	Optics – Automatic recognition, change and alignment of all optical components/settings by XRD control software; latest technologies such as Multicore (iCore & dCore) / CBO-Auto / TWIN-TWIN / TruBeam.		
6(i)	Primary Beam Optics for Cu & Ag – Computer-controlled motorized divergence slits; two motorized-changeover sollar slits with 0.05 Rad and 0.025 Rad or better spacing; motorized mask; motorized exchangeable beta filters; multilayer monochromatic optics for Cu/Ag for GIXRD, transmission and SAXS; computer-controlled Bragg-Brentano to monochromatic geometry changeover with minimal/no manual intervention.		
6(ii)	Secondary Beam – Computer-controlled motorized anti-scatter slits; two motorized-changeover sollar slits with different spacing and/or parallel-plate collimator.		
6(iii)	Focusing beam mirror – Suitable focusing beam for Ag.		
7	Detector – Advanced solid-state hybrid photon-counting detector with >99% quantum efficiency for all radiations including Cu and Ag.		
7(i)	Detector – Dynamic range 3×10^{10} CPS or better and very low background noise.		
7(ii)	Detector – Spatial resolution 75 micron or less.		
7(iii)	Detector – 256 pixels/sensors or better.		
7(iv)	Detector – Best achievable resolution (FWHM) for first LaB6 peak <0.025° two-theta.		
7(v)	Detector – Continuous, fast scan, slow scan and static modes.		
8(i)	Standards – Necessary standard sample for checking peak-position accuracy within ± 0.01 linearity range over the complete goniometer angular range.		
8(ii)	Standards – Fluorescent disc for positioning the X-ray beam is preferred.		



SI No.	Specifications	Compliance Yes/No	Reference data sheet with page no.
9(i)	Software – Licensed data-collection/control software for complete XRD instrument, automatic component recognition, system diagnosis and data-collection programming.		
9(ii)	Software – Licensed data-analysis software for at least 3 users for background correction, profile fitting, search match, qualitative analysis, lattice-parameter refinement, crystallite-size determination and Rietveld standard-less quantitative analysis, with suitable database.		
9(iii)	Software – Data collection and analysis software for thin-film GIXRD analysis.		
9(iv)	Software – Data-analysis software to be offered.		
9(v)	Software – ICDD PDF-5+ database with five-year licence.		
9(vi)	Software – COD database included in the package.		
10	Computer and Printer – Dell / Lenovo / HP computer with 1 TB HDD, 16 GB RAM, 32-inch LED monitor and colour laser-jet printer.		
11	Safety – Detection of abnormal cooling-water flow, pressure and temperature; abnormal generator overload; shutter malfunction.		
11	Safety – Compliance with international safety standards/regulations such as Euroatom for mechanical, electrical, X-ray radiation and other hazards.		
11	Safety – Necessary AERB type approval for supply of XRD; approval document to be submitted with offer.		
12	Water Chiller – Suitable external water chiller compatible with the main XRD instrument, with dust filters/traps.		
13	UPS – Minimum 20 kVA or more, with built-in isolation transformer; capable of supporting XRD, computer, printer and external water-chiller pump for at least 30 minutes of uninterrupted XRD data collection during mains failure.		
14	Other Mandatory Requirements – Pre-installation requirements to be provided as and when required; supplier to arrange site inspection for installation planning.		
14	Other Mandatory Requirements – Vendor to provide all accessories, tools and tackles required for complete installation and commissioning. Buyer will arrange power connection, wiring, earthing, air conditioning, flooring and other laboratory furniture.		
15	Application and Operation Training – Complete operation, do's/don'ts and application training for all stated applications for minimum 5 days; supplier to bear lodging, boarding and travel costs.		
16	Warranty – Complete and comprehensive warranty for 3 years covering X-ray generator, X-ray tube, electronics, motors and detector; replacement parts during warranty to be supplied on DDP basis at no cost to buyer.		
16	Warranty – All third-party indigenous items such as chiller, UPS, computer and printer shall have standard one-year warranty.		

Additional Modules / Optional Features – To Be Offered and Quoted Separately

SI No.	Specifications	Compliance Yes/No	Reference data sheet with page no.
Optional 1	Optional Item – X-ray tube with Molybdenum (Mo) target with maximum output power more than 2.6 kW.		



Details of AMc services to be offered for 3 years

Sl. No.	AMC Service	Details offered by Bidder
1	Preventive maintenance Number of visits/years	(Nos)
2	Breakdown maintenance	
4	Breakdown response time	
5	Resolution time	
6	Service engineer availability	
7	Software support/upgrades	
8	Calibration	
9	Replacement of defective parts	
10	Exclusions/other conditions	

NOTE ON STATEMENT OF DEVIATIONS: The bidder shall clearly highlight and indicate any deviation from the specified technical requirements in the "Deviation/Remarks" column. In the absence of any deviation, "NIL" shall be indicated.



ANNEXURE – V

DECLARATION REGARDING RESTRICTIONS ON PROCUREMENT

(To be submitted on the letterhead of the bidder)

Date: _____

I/We, _____, authorised representative of M/s _____, have read and understood the provisions relating to restrictions on procurement from bidders of countries sharing a land border with India.

I/We hereby certify that:

(a) I/We are not from a country sharing a land border with India;

OR

(b) I/We are from _____ (name of country), have been duly registered with the Competent Authority, fulfil all prescribed requirements, and am eligible to be considered.

Where applicable, documentary evidence of valid registration with the Competent Authority is enclosed.

Place: _____

Signature of the Bidder

Date: _____

Name & Address of the Bidder with Office Seal



ANNEXURE – IV

DELIVERY, WARRANTY AND SERVICE COMMITMENT

Particulars	Requirement / Bidder Commitment	Remarks
Delivery period from the Purchase Order	To be stated by bidder	
Installation and commissioning period	To be stated by bidder	
Training	To be provided at CeNS	
Warranty period	To be stated by the bidder	
Response time for service complaints	To be stated by the bidder	
Availability of local service support	Details to be furnished	
Annual maintenance contract	Minimum 3 years	
Response time for service complaints during AMC and supply of spares (if necessary)	To be stated by the bidder	
Frequency of Preventive Maintenance	To be stated by the bidder	

Place: _____

Signature of the Bidder

Date: _____

Name & Address of the Bidder with Office Seal



ANNEXURE - VI

SELF-CERTIFICATION UNDER PUBLIC PROCUREMENT POLICY – MAKE IN INDIA

(To be submitted on the letterhead of the bidder)

I/We, M/s _____, hereby affirm that we shall abide by the applicable Government of India Public Procurement (Preference to Make in India) Policy, as amended from time to time.

That I will agree to abide by the terms and conditions of the Public Procurement (Preference to Make in India) Policy vide GoI Order no. P-45021/2/2017-PP (B.E.-II) dated 15.06.2017 (subsequently revised vide orders dated 28.05.2018, 29.05.2019, and 04.06.2020) MOCI order No. 45021/2/2017-PP (BE II) Dt.16th September 2020 & P45021/102/2019-BE-II-Part (1) (E-50310) Dt. 4th March 2021 and any subsequent modifications/Amendments, if any

I/We confirm that the local content of the quoted has been verified by us and that we are responsible for the correctness of the claim.

Category	Tick (✓)	Declaration
Class-I Local Supplier	☐	Local content meets the applicable Class-I threshold.
Class-II Local Supplier	☐	Local content meets the applicable Class-II threshold but is below the Class-I threshold.
Non-Local Supplier	☐	Local content is below the applicable Class-II threshold.

Percentage of local content: _____ %

Location(s) at which local value addition is carried out: _____

I/We certify that the above declaration is true and correct and may be verified by CeNS/competent authority.

Place: _____ Date: _____

For and on behalf of: _____

Name/Designation of Authorised Signatory: _____

Signature: _____ Seal: _____

Note: The bidder shall comply with the latest applicable Government of India provisions regarding local content, purchase preference and certification.

Place: _____

Signature of the Bidder

Date: _____

Name & Address of the Bidder with Office Seal



ANNEXURE – VII

SELF-DECLARATION REGARDING NON-DEBARMENT / NON-CONVICTION

(To be submitted on the letterhead of the bidder)

I, _____, being the authorised representative / Director / Partner / Proprietor of M/s _____, hereby declare:

1. The Firm/Company has not been debarred, blacklisted or declared insolvent by any Union/State Government Department, Government Organisation, Autonomous Body, PSU or Statutory Body as on the date of submission of this bid.
2. Neither the Firm/Company nor its proprietor/partners/directors has any subsisting disqualification arising from debarment/blacklisting that makes the Firm/Company ineligible to participate in this tender.
3. Neither the Firm/Company nor its proprietor/partners/directors has been convicted in a criminal case or economic offence, and no relevant criminal case/economic offence is pending before any Court of Law or competent authority, except as specifically disclosed below.
4. No material information relating to debarment, blacklisting, insolvency or conviction has been suppressed.
5. The information furnished above is true and correct. If found to be false or misleading, CeNS may reject the bid/cancel the contract and take action under applicable rules.

If any matter is required to be disclosed, details: _____

Place: _____

Signature of the Bidder

Date: _____

Name & Address of the Bidder with Office Seal



INTEGRITY PACT DECLARATION

I/We acknowledge that the **Centre for Nano and Soft Matter Sciences (CeNS)** is committed to following the principles and provisions contained in the Integrity Pact forming part of the tender documents.

I/We agree that the Tender is an invitation to offer made on the condition that I/We shall comply with the **Integrity Pact**, which forms an integral part of the tender documents. I/We understand that failure to comply with the provisions of the Integrity Pact may result in disqualification from the tendering process and/or such other action as may be provided under the tender conditions.

I/We acknowledge that the **making of the bid shall be regarded as an unconditional and absolute acceptance** of the conditions of the Integrity Pact forming part of the tender documents. I/We confirm our acceptance and compliance with the Integrity Pact in letter and spirit and further agree that, upon award of the contract, the Integrity Pact shall remain binding on us in accordance with its terms and conditions.

I/We acknowledge and accept the **duration of the Integrity Pact** as specified in the Integrity Pact forming part of the tender documents.

I/We further acknowledge and agree that, in the event of my/our failure or refusal to sign and accept the Integrity Pact, **CeNS shall have the right to disqualify my/our bid and reject the bid in accordance with the terms and conditions of the Tender.**

I/We hereby confirm that we have read, understood and accepted the provisions of the Integrity Pact and agree to abide by the same throughout the tendering process and, where applicable, during the execution of the contract.

(Duly authorised signatory of the Bidder with Seal)



NEAR-RELATIONSHIP CERTIFICATE

Definition of Near Relative

For the purpose of this certificate, near relatives shall include:

Members of a Hindu Undivided Family;

- 1) Husband and wife;
- 2) A person related to another in the following manner: Father, Mother, Son, Son's wife (daughter-in-law), Daughter, Daughter's husband (son-in-law), Brother, Brother's wife (sister-in-law); Sister; Sister's husband (brother-in-law)

Certificate

I/We hereby certify that none of my/our near relatives, as defined above, is presently working in the Centre for Nano and Soft Matter Sciences (CeNS).

I/We further certify that the information furnished above is true and correct to the best of my/our knowledge and belief.

I/We understand that any incorrect declaration or suppression of material information may result in rejection of the bid and/or such other action as may be taken by CeNS in accordance with the applicable rules and tender conditions.

(Duly authorised signatory of the Bidder with Seal)

In the case of a proprietorship firm, a certificate will be issued by the proprietor; in the case of a partnership firm, a certificate will be issued by all the partners; and in the case of an Ltd. Company, a certificate will be issued by all the Directors of the company or by the company secretary on behalf of all the Directors. If the company, firm, or any other person breaches these conditions, the tender/work will be cancelled, and the earnest money/security deposit will be forfeited at any stage whenever such breach is noticed. The department will not pay any damages to the company, firm, or the concerned person. The company, firm, or the persons will also be debarred from further participation in the concerned unit.



ANNEXURE – X

OEM AUTHORISATION / CERTIFICATION FORM

(To be issued on the Original Equipment Manufacturer's letterhead)

We, M/s _____, are the Original Equipment Manufacturer (OEM) of the Multifunctional Floor Mounted X-ray Diffractometer offered in the above tender.

We hereby confirm that M/s _____ (name of bidder) is our:

Status	Tick (✓)
Authorised Distributor	☐
Authorised Dealer	☐
Authorised Reseller	☐
Authorised Partner	☐
Other (specify): _____	☐

The bidder is authorised to participate in this tender, quote, supply, install, commission and provide warranty/after-sales support for:

Product/System: _____

Model No.: _____

Country of Origin: _____

We undertake to provide necessary OEM technical, warranty and after-sales support for the offered system in accordance with the tender requirements.

Name and Signature

of the authorized signatory of OEM along with

seal of the company with Date



ANNEXURE - XI

DETAILS OF EXPERIENCE / SIMILAR XRD INSTALLATIONS

(To be submitted on the letterhead of the bidder)

The bidder shall furnish details of the supply, installation, and commissioning of similar **Multifunctional Floor Mounted X-ray Diffractometer** supplied by the bidder/OEM to reputed institutions, universities, research laboratories, R&D organisations, or industries.

Sl. No.	Client / Organisation	XRD Make & Model	Qty.	PO No. & Date	Supply Period	Order Value	Client Officer & Contact
1							
2							
3							

The bidder shall furnish details of the AMC services provided, if any, by the bidder to reputed institutions, universities, research laboratories, R&D organisations, or industries.

Sl. No.	Client / Organisation	XRD Make & Model	Qty.	PO No. & Date	Supply Period	Order Value	Client Officer & Contact
1							
2							
3							

Copies of relevant purchase orders/work orders and supporting documents must be enclosed.

I/We certify that the above information is true and correct. CeNS is authorised to verify the details furnished above with the respective client organisations.

Place: _____

Signature of the Bidder

Date: _____

Name & Address of the Bidder with Office Seal



ANNEXURE – XII

PRICE BID / COMMERCIAL OFFER – SCHEDULE

The bidder shall submit the financial bid only through the prescribed BOQ/Financial Bid format. The following schedule outlines the components included in the quoted price. Prices shall not be entered in the Technical Bid.

Sl. No.	Description	Qty.	Unit	Unit Price	Total Price
A	Supply, Installation and commissioning of Multifunctional Floor Mounted X-ray Diffractometer – complete system as per technical specifications mentioned in Annexure I with DDP in CeNS Bengaluru	1	Set		
B	AMC (for item Description as per Tender) after Warranty Period				/ Year In INR
C	Total price including AMC for 3 years				
	C = [A+ B × (3)] – Final price				

The quoted price shall clearly indicate applicable taxes, duties, freight, insurance, installation, commissioning and all other charges. Any optional item shall be priced separately. No unilateral price revision shall be admissible during the bid validity period.

Signature of the Bidder

Name & Address of the Bidder with Office Seal

COMMERCIAL TERMS

- All columns should be appropriately filled and not left blank.
- Payment shall be made through NEFT/RTGS in accordance with the Purchase Order/Contract after delivery, successful installation, commissioning and acceptance of the equipment, subject to submission of complete documents.
- For imported equipment, the bidder shall clearly state the applicable Incoterms, currency, freight, insurance, customs-related charges and delivery point. Any exemption/concession available to CeNS shall be dealt with as applicable.
- The supplier shall provide full insurance cover against loss or damage during transit until installation and commissioning, as applicable to the quoted terms.
- The supplier shall indicate the warranty period and detailed warranty coverage. The warranty shall commence from the date of successful installation and commissioning.
- Do not include any other charges, taxes, duties, etc. in the Unit Cost of the item.
- The option item should be bid separately
 - Any accessories or optional items should be shown separately using the above format, using relevant portions of Annexure III in the format as given below. Use a separate sheet for a detailed description, specifications, and price breakdown of the item(s) mentioned in the technical specification, but prices should be quoted in the same format.

Sl. No	Description of optional item (with technical description):	Unit Cost	Total cost



8. Prices quoted in Indian Currency should be on F.O.R. basis and mention separately using a different table format showing all the applicable taxes/Duties like GST, Freight & Transportation charges and installation charges, etc.



BIDDER DOCUMENT CHECKLIST

Sl. No.	Document	Submitted (Yes/No)
1.	EMD proof / valid exemption document, as applicable	Technical bid
2.	OEM authorisation letter	Technical bid
3.	OEM/bidder profile and proof of relevant experience	Technical bid
4.	List of at least three similar installations/users with contact particulars	Technical bid
5.	Technical compliance statement	Technical bid
6.	Technical brochures/datasheets/catalogues supporting each claimed specification	Technical bid
7.	Delivery and installation schedule	Technical bid
8.	Warranty and after-sales service commitment	Technical bid
9.	PAN / GST / MSME or other applicable statutory documents	Technical bid
10.	Tender Document duly signed and stamped on each page	Technical bid
11.	Integrity Pact	Technical bid
12.	No near relative certificate	Technical bid
13.	Price bid duly filled and certified	Financial bid
14.	Price bid for optional accessories	Financial bid
15.	Any other details in respect of the Principal, details of the Customs clearance agent, bank details, etc	Financial bid