Ref. No.: IISc/CE/Tender/2024/Global/MEWS1 Date: 23rd September 2024

Tender Notice for Procurement of Multichannel Electrochemical Workstation for General Electrochemistry, Tribo-Corrosion, Battery, Supercapacitor, Electrocatalysis, Chemocatalysis, Energy Applications etc.

(Last Date for Submission: 5 pm on 15th October 2024)

(TENDER FROM GLOBAL VENDORS)

Date: 23rd September 2024

GTE Approval – F.No.51-03/2023-TS.VII Dated 09th September, 2024.

Dear Sir/Madam,

This is a Request for Quote (RFQ) for the procurement of a Multichannel Electrochemical Workstation for general electrochemistry, battery and supercapacitors, for the Department of Chemical Engineering at the Indian Institute of Science (IISc), Bangalore.

The tender should be submitted in two separate sealed envelopes: one containing the technical bid and the other containing the commercial bid, both of which should reach us, duly signed on or before 15th October 2024, 5 pm. The bids should be addressed to:

The Chairman,
Department of Chemical Engineering
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Dr Sanjeev Kumar Gupta, Chemical Engineering
Email: chair.ce@iisc.ac.in, sanjeev@iisc.ac.in

Tender Notice for Procurement of Multichannel Electrochemical Workstation for General Electrochemistry, tribo-corrosion, battery, and Supercapacitors, electrocatalysis, chemo-catalysis, energy-application, etc. from Global Manufacturers.

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Section 1: Bid Schedule

1	Tender No	IISc/CE/Tender/2024/Global/MEWS1
2	Tender Date	23/09/2024
3	Item Description	Bi-Potentiostat /Multichannel Electrochemical Workstation
4	Tender type	Two Bid System (i) Technical Bid (Part A) (ii) Commercial Bid (Part B)
5	Place of Tender submission	The Chair, Department of Chemical Engineering, Indian Institute of Science, Bangalore - 560012
6	Last Date & Time for Submission	15/10/2024, 5 pm
7	For future clarification	Prof. Sanjeev Kumar Gupta Department of Chemical Engineering, Indian Institute of Science, Bangalore – 560012 Email: Sanjeev@iisc.ac.in

Section 2: Eligibility Criteria

1. This is a global tender enquiry and any bidder with registered head offices within or outside India are eligible to bid. However, The Bidder's firm should have been in existence for a minimum of 5 years. (Enclose Company Registration Certificate)

2. A complete bid with the following must be submitted:

   a. Technical Bid with a technical compliance sheet, supporting documentation and masked commercial bid (a copy of the commercial bid, but 'without' any pricing information) in one sealed envelope. The envelope should be 'marked' as 'Technical Bid'.

   b. Commercial bid including CIP pricing and warranty information and other commercial terms and conditions in another sealed envelope. The envelope should be 'marked' as 'Commercial Bid'.

   c. Both the envelopes with technical and commercial bids should be placed in a single sealed envelope.

   d. All envelopes must be addressed to the tenderee as per information in Point 5 of Bid Schedule. Tender number and date must be inscribed on all the envelopes.

3. The Bidder should sign and submit the declaration of Acceptance of Terms and Conditions as per -Annexure 2.

4. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect must be given as per Annexure 3.

5. The quotations should be on CIP/CIF-IISc Bangalore basis in Foreign/Indian currency, OR All imported equipment should be quoted in the currency of the country of origin, and all locally sourced items should be quoted in Indian Rupees

6. Only the Original Equipment Manufacturer or their authorized representatives shall participate in the bid.

7. The order will be placed only on the bidder who participated in the bid.

Section 3: Terms and Conditions

1. All documentations in the tender should be in English.

2. Tender should be submitted in two envelops (two bid system).

   (a) The facility should meet (or exceed) the technical specifications provided in the 'Technical Specifications' section 4. Any add tional items that are required beyond the list for the successful performance of the High-Speed PIV should be mentioned and provided.

   (b) Technical specifications are listed for two types of components, 'Essential component' and 'Optional components'. The bidder is required to bid for both Essential components and Optional components.

   (c) Technical Bid (Part-A)– Technical bid consisting of all technical details and check list for technical specifications. The technical proposal should contain a technical compliance table for all essential components and optional components.

   (d) The compliance table should have 5 columns.

      i. The first column must list the technical requirements, in the order that they are given in the Technical specifications (section 4).

      ii. The second column should provide specifications of the instrument against the requirement. Please provide quantitative responses wherever possible.

      iii. The third column should describe your compliance with a "YES" or "NO" only. Ensure that the entries in column 2 and column 3 are consistent.

      iv. The fourth column should state the reasons/explanations/context for deviations, if any.

      v. The fifth column can contain additional remarks from the Global Original Equipment Manufacturer (OEM) or from their distributors. You can use this opportunity to highlight technical features, qualify response of previous columns, or provide additional details, compare your solution with that of your competitors or provide details as requested in the technical requirements table below.

(e) Commercial Bid (Part-B)– Indicating price for all the items mentioned in the technical bid, as per the format of quotation provided in tender, and other commercial terms and conditions.
(f) The price should be quoted separately for the Essential components and separately for the Optional components. Itemised price quote for each individual component is preferred.

3. The technical bid and price bid should each be placed in separate sealed covers, superscripting on both the envelopes the Tender number and the due date. Both these sealed covers are to be placed in a bigger cover which should also be sealed and duly superscripted with the Tender number, Tender Description & Due Date.

4. The SEALED COVER superscripting tender number/due date should reach Chairperson Office, Department of Chemical Engineering, Indian Institute of Science, Bangalore 560012, India, on or before due date mentioned in the tender notice. In case due date happens to be holiday the tender will be accepted and opened on the next working day. If the quotation cover is not sealed, it will be rejected.

5. All queries are to be addressed to the person identified in 'Section 1 Bid Schedule' of the tender notice.

6. GST/other taxes, levies etc., are to be indicated separately. The BIDDER should mention GST Registration and PAN in the tender document (Indian Bidders only).

7. If price is not quoted in Commercial Bid as per the format provided in tender document the bid is liable to be rejected.

8. The Institute reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time prior to the award of contract, without there by incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders.

9. The technical proposal must include references of at least 3 previous installations done in India within last 5 years of similar Particle Image Velocimetry equipment from the equipment manufacturer. Please provide the names and contact addresses of the three independent referees, so that the committee can contact them independently to get reference. Also, kindly provide purchase orders and testimonials if available.

10. Cancellation: Notwithstanding anything specified in this tender document, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights,

(a) To accept OR reject lowest tender or any other tender or all the tenders.

(b) To accept any tender in full or in part.
(c) To reject the tender offer not conforming to the tender terms.

11. Validity: The offer shall be valid 90 days from the date of opening of the commercial bid.

12. Evaluation of offer:

(a) The technical bid (Part A) will be opened first and evaluated.

(b) Bidders meeting the required eligibility criteria as stated in Section 2 of this document shall only be considered for Commercial Bid (Part B) opening. Further, agencies not furnishing the documentary evidence as required will not be considered.

(c) Pre-qualification of the bidders shall not imply final acceptance of the Commercial Bid. The agency may be rejected at any point during technical evaluation or during commercial evaluation. The decision in regard to acceptance and/or rejection of any offer in part or full shall be the sole discretion of IISc Bangalore, and decision in this regard shall be binding on the bidders.

(d) The award of contract will be subject to acceptance of the terms and conditions stated in this tender.

(e) Any offer which deviates from the vital conditions (as illustrated below) of the tender is liable to be rejected:
   i. Non-submission of complete offers.
   ii. Receipt of bids after due date and time and or by email / fax (unless specified otherwise).
   iii. Receipt of bids in open conditions.

(f) In case any BIDDER is silent on any clauses mentioned in these tender documents, IISc Bangalore shall construe that the BID DER had accepted the clauses as of the tender and no further claim will be entertained.

(g) No revision in the terms and conditions quoted in the offer will be
entertained after the last date and time fixed for receipt of tenders.

(h) Lowest bid will be calculated based on the total price of all items tendered for the equipment specified herein along with any re quired accessories, installation and warranty specified herein.

iv. The institute may, at its discretion, decide to purchase only the Essential Components in the Technical Specifications. In this case, the total price of Essential components will be considered.
v. The institute may, at its discretion, decide to purchase the Essential Components and some or all of the Optional Com ponents in the Technical Specifications. In this case, the total price of Essential components and the selected Optional Com ponents will be considered.

(i) The BIDDER submitting the lowest bid may be called for further negotiations.

13. Pre-requisites: The bidder will provide the prerequisite installation requirement of the equipment along with the technical bid.

14. In case of foreign bidders, the consignment must be airlifted/sea cargo shipped, insured and transported to the Bangalore International Airport/Sea Cargo (CIP/CIF). Necessary custom clearance will be done by IISc, Bangalore, from Bangalore International Airport/Sea Cargo.

15. The IISc, Bangalore will furnish the necessary papers for the import and customs clearance of items into India.

16. Warranty: The complete system is to be under warranty period of minimum 3 year including from the date of handing over. If the instrument is found to be defective, it must be replaced or rectified at the cost of the bidder within 30 days from the date of receipt of written communications from IISc, Bangalore. In case repair/replacement is required during the first three years, the duration for which the equipment is not operational should be added to the warranty period.

17. Purchase order:

(a) The order will be placed on the bidder whose bid is accepted by IISc after negotiations and based on the terms & conditions mentioned in the tender document.
(b) If the quality of the product and service provided is not found satisfactory, IISc, Bangalore reserves the right to cancel or amend the contract

18. Delivery, installation and training: The bidder shall provide the lead time to delivery, installation and made functional at IISc, Bangalore from the date of receipt of purchase order. The supply of the items will be considered as effected only on satisfactory installation and inspection of the system and inspection of all the items and features/capabilities tested by the IISc, Bangalore. After successful installation and inspection, the date of taking

over of entire system by the IISc, Bangalore shall be taken as the start of the warranty period. The bidder should also arrange for technical training to the local facility technologists and users.

19. Payment terms: The payment will be through a Letter of Credit after successful installation, and the payment schedule will be determined after the mutual discussions with the successful bidder.
20. Statutory variation: Any statutory increase in the taxes and duties subsequent to bidder's offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore subject to the claim being supported by documentary evidence. However, if any de crease takes place the advantage will have to be passed on to IISc, Bangalore.

21. Dispute and Jurisdiction: Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Bangalore, India.

22. General:

(a) All amendments, time extension, clarifications etc., within the period of submission of the tender will be communicated electronically. No extension in the bid due date/time shall be considered on account of delay in receipt of any document(s) by mail.

(b) The bidder may furnish any additional information, which is necessary to establish capabilities to successfully complete then visaged work. It is however, advised not to furnish superfluous information.

(c) The bidder may visit the installation site before submission of tender, with prior intimation.

(d) Any information furnished by the bidder found to be incorrect, either immediately or at a later date, would render the bidder liable to be debarred from tendering/taking up of work in IISc, Bangalore.

Section 4: Technical Specifications

The item-wise list of core components and their specifications are listed below, and bidders are expected to meet or exceed the specifications of each of these components.

The components are divided into two types—essential components and optional components. Bidders should quote separately for essential components and optional components.

The bidders are expected to quote for and supply any unlisted accessories for the proper functioning of the **Bi-Potentiostat /Multichannel Electrochemical Workstation**.

Multi-channel electrochemical workstation with minimum of 18 channels (Electrochemical cells, battery materials, electrochemical sensors, catalysts, other allied materials & systems)

Essential Components.

Area of Application	
1.	Two electrodes as well as Three Electrode Tests should be possible with provision to connect Independent Reference Electrodes for all Channels independently and simultaneously.
	Bi-potentiostat facility should be available for RRDE experiments.
	Provisions to connect 2 Working electrodes and provisions to measure EW1 and EW2 simultaneously in one Cell Setup with common Reference and common Counter Electrodes.
	General Electrochemistry, Tribo-Corrosion, Battery, Supercapacitor, Elecro catalysis, Chemo-catalysis, Energy Applications etc..,
General Description	
2.	Five channels Galvanostatic & Potentiostatic voltametric studies, EIS, Pulsed Techniques capability and Separate programming feature.
3.	Thirteen~~welve~~ or more channels with cell charge discharge cycling capability, programming, results summary and data analysis facility
4.	Provision for augmenting additional channels shall be available in the same chassis/enclosure to cater to future expansion need.
5.	**Specifications for Channel Numbers from 01 to 04**
	➢ Maximum Current: ± 1 A or more ➢ Expandable upto 750A with Booster ➢ Multichannel Chassis ➢ Channels required: 4 Channels ➢ Channels Required with EIS: 04 channels. ➢ Cell Cable 1.5 M long with Electrode Connection: 2, 3, 4 , 5 electrode leads + ground or more ➢ Electrode cables required: 04 ➢ Compliance voltage: **±**0-20 V or better ➢ Applied Voltage: **±**10 V or better. ➢ Maximum Output Current: ± 1000mA at ± 10 V or better ➢ Current Ranges: ± 10 µA to 1000mA or better ➢ Current resolution: 0.760 nA ➢ Stability control mode (7 bandwidths) ➢ Accuracy of applied and measured current: ± 0.1 % of Full-scale range or better for all available channels. ➢ Voltage accuracy applied and measured: 0.1% of Full scan range or better. ➢ Potentiostat Rise/fall Time: < 2µs or better ➢ Electrochemical Impedance Spectroscopy: 4 Nos. ➢ Frequency range: 10µHz to 1MHz or better

	➢ Impedance accuracy of 1%, 1° ➢ Input Impedance: 1TΩ or better ➢ Bandwidth of electrometer with Booster: >1 MHz or better ➢ Input bias current: <5pA or better ➢ Acquisition: 200,000 samples/second or better ➢ Min acquisition time should be around 20-30 µs or better for all channels, suitable fast acquisition modules can be quoted as standard. ➢ Interface for connection with PC: USB, Ethernet LAN
	➢ Local Area Network to remote access to the instrument ➢ Safety limits in software on the current and voltage Max and Min values to avoid hazards.
6.	**<u>Specifications for Channel Numbers from 05 to 16</u>**
	➢ Maximum Current: ± 1 A or more ➢ Expandable upto 750A with Booster ➢ Multichannel Chassis ➢ Channels required: 12 Channels ➢ Channels Required without EIS: 12 channels. ➢ Cell Cable 1.5 M long with Electrode Connection: 2, 3, 4 , 5 electrode leads + ground or more ➢ Electrode cables required: 04 ➢ Compliance voltage: **±**0-20 V or better ➢ Applied Voltage: **±**10 V or better. ➢ Maximum Output Current: ± 1000mA at ± 10 V or better ➢ Current Ranges: ± 10 µA to 1000mA or better ➢ Current resolution: 0.760 nA ➢ Stability control mode (7 bandwidths) ➢ Accuracy of applied and measured current: ± 0.1 % of Full-scale range or better for all available channels. ➢ Voltage accuracy applied and measured: 0.1% of Full scan range or better. ➢ Potentiostat Rise/fall Time: **<** 2µs or better ➢ Input Impedance: 1TΩ or better ➢ Bandwidth of electrometer with Booster: >1 MHz or better ➢ Input bias current: <5pA or better ➢ Acquisition: 200,000 samples/second or better ➢ Min acquisition time should be around 20-30 µs or better for all channels, suitable fast acquisition modules can be quoted as standard. ➢ Interface for connection with PC: USB, Ethernet LAN ➢ Local Area Network to remote access to the instrument ➢ Safety limits in software on the current and voltage Max and Min values to avoid hazards.
7.	**<u>Specifications for Channel Numbers 17</u>**
	➢ Cell Connection: 2, 3, 4, 5 electrodes (+ ground) or more and atleast1.5m Cell cable ➢ Capacity to hold up to 02 channels in a single chassis or more ➢ Required no Channel with EIS: 01 Nos

	➢ Compliance voltage: +/-12 V or better ➢ Applied Voltage: ±10 V or better ➢ Maximum Output Current: ± 500 mA or better at ± 10 V ➢ Current Ranges: ± 10 nA to ± 500 mA or better ➢ Accuracy of applied and measured current: ± 0.1 % Full scale range or better ➢ Resolution of applied potential: 1µV or better ➢ Voltage accuracy: 0.1 % of Full scale range or better ➢ Measured current resolution: 800 fA on lowest current range ➢ Potentiostat Rise/fall Time: <500nS or better ➢ Impedance Frequency range: 10µHz to 6 MHz or better ➢ Impedance accuracy of 1% & 1° at 1Hz ➢ Input Impedance: 1TΩ or better

	➢ Gain bandwidth range of amplifier: 1 MHz or better ➢ Bandwidth of electrometer: 1 MHz or better ➢ Input bias current: 20pA or better ➢ Cyclic Voltammetry with scan rates 10 mV/Sec to 100V/Sec or better ➢ Ac Amplitude: 0.5mV – 2.5 V ➢ Floating mode Floating mode should be available ➢ Interface for connection with PC: Ethernet LAN ➢ Local Area Network to access Multiple Computers
8.	**<u>Specifications for Channel Numbers 18</u>**
	➢ Cell Connection: 2, 3, 4, 5 electrodes (+ ground) or more and at least 1.5m Cell cable ➢ No EIS measurement ➢ Compliance voltage: +/-12 V or better ➢ Applied Voltage: ±10 V or better ➢ Maximum Output Current: ± 500 mA or better at ± 10 V ➢ Current Ranges: ± 10 nA to ± 500 mA or better ➢ Accuracy of applied and measured current: ± 0.1 % Full scale range or better ➢ Resolution of applied potential: 1µV or better ➢ Voltage accuracy: 0.1 % of Full scale range or better ➢ Measured current resolution: 800 fA on lowest current range ➢ Potentiostat Rise/fall Time: <500nS or better Input Impedance: 1TΩ or better
	➢ Gain bandwidth range of amplifier: 1 MHz or better ➢ Bandwidth of electrometer: 1 MHz or better ➢ Input bias current: 20pA or better ➢ Cyclic Voltammetry with scan rates 10 mV/Sec to 100V/Sec or better ➢ Ac Amplitude: 0.5mV – 2.5 V ➢ Floating mode Floating mode should be available ➢ Interface for connection with PC: Ethernet LAN ➢ Local Area Network to access Multiple Computers
9.	**Quoted Instrument should be ready for Further upgradation to the following,** • Spectro Electrochemistry setup • Photo Electrochemistry setup • RDE & RRDE • OER & HER

	• Electrolysers • In situ Applications like Raman, XRD • Etc..,
Complete software with following specification	
10.	➢ Should have possibility to resume an experiment after a power cut and to merge the files before and after the power cut. ➢ Possibility to Record/Measure and control Ewe (potential difference between Working and reference) and Ece (potential difference between Counter and Reference) simultaneously in one experiment and in real time ➢ On site calibration of the channel should be available ➢ Complete battery and supercapacitor cycling software facility with following options: ➢ Galvanostatic Charge / Discharge (Including C rate control) with voltage vs. time ➢ Graph plots ➢ Multigraph window capable of displaying up to 50 graphs within a single window ➢ Customize variables graph plot for each axis ➢ Voltage vs. Capacity plot during Charge/Discharge Cycles ➢ Atleast 3 limits and 3 recording conditions per sequence/cycle (ability to limit a cycle or changeover to next sequence with Time, Voltage/Current, Charge/Power all simultaneously) ➢ Multiple recording conditions with “OR” commands ➢ Industrial CC-CV Method (Constant Current – Constant Voltage) ➢ Cyclic Voltammetry, Current Scan (Current/Galvano Dynamic), Voltage Scan (Potentio Dynamic) ➢ Constant Power / Constant Resistance ➢ GITT and PITT Techniques Battery Characterization -Polarization Curve measurement/IV Testing/ Linear ➢ Sweep Voltammetry should be available down to 0 Volt.OCV/OCP, Cyclic Voltammetry, Chrono Amperometry, Chrono Potentiometry, ➢ Staircase Voltammetry, Corrosion – Linear and Cyclic Polarization, Pitting ➢ Corrosion, ZRA ➢ Columbic Efficiency Determination with fitting tool ➢ Current Interrupt ➢ Rest Time ➢ Multiple loops ➢ Provision to connect and control External devices like Furnace, Thermal chambers ➢ Monitoring status of each Channel using Global Table/Summary Table ➢ Option to update the experimental setting parameters on current running experiment without pausing /stopping the channel/experiment

	➢ Profile Importation to study Urban Life Cycle Tests

	➢ Analysis tools like Integral, Circular or linear fit and Electro chemical EIS -Z fit should be available ➢ **Experimental Techniques** like All Voltamperometric techniques including Levich Plot:Levitch ➢ **All Voltamperometric techniques Like:** OCV, CV, CVA, LSV, CA/CC, CP, SV, ACV, Levitch. ➢ **Impedance Spectroscopy:** GEIS, PEIS, SGEIS, SPEIS ➢ **Pulsed techniques:** DPV, SWV, NPV, RNPV, DNPV, DPA ➢ **Manual Control:** Current Manual Control, Potential Manual Control ➢ **Ohmic Drop determination:** Manual IR compensation, IR Compensation (PEIS), Current Interrupt ➢ **Batteries testing:** BCD, CCCV, GCPL, GCPL1 to 7, MB, CED, CLD, CPW, APGC, PPI, GPI, RPI, PWPI, CV ➢ **Bipotentiostat techniques:** CV-CA, CP-CA, CA-CA ➢ **Corrosion:** Ecorr versus Time, Linear Polarization Resistance – LPR, Tafel Plot, Cyclic Polarization, Cyclic, Potentiodynamic Polarization – Critical Pitting Temperature-CPT, Depassivation Potential, Potentiodynamic Pitting, Potentiostatic Pitting, Electrochemical Noise, Biased Electrochemical Noise ➢ **Photovoltaics/Fuel cells:** I-VC, CLD, CPW, CstC, CstV ➢ **Supercapacitors:** CV, CstV, CstC, CS ➢ **Other Applications:** Polarization Resistance, Stepwise Potential Fast Chronoamperometry, Anodic Stripping Voltammetry, RRDE ➢ **User Building Techniques:** Modular Potentio, Modular Galvano, Trigger In/ Out, Temperature Control, RRDE Control, External Device Control, Loop, Pause ➢ Reverse Normal Pulse Voltammetry: RNPV ➢ Differential Normal Pulse Voltammetry: DNPV ➢ Differential Pulse Amperometry: DPA ➢ Ohmic Drop determination ➢ Potentiodynamic Cycling with Galvanostatic Acceleration: PCGA, Modulo Bat: MB ➢ Polarization Resistance: PR ➢ Stepwise Potential Fast Chronoamperometry: SPFC
Electrochemical Impedance Spectroscopy (EIS)	
11.	➢ Real-time fit and simulation analysis as well as live data plotting option for simulation plot must be available as default software protocol. Real time needed for Lissajous curve, Nyquist, Bode, Admittance and Dielectric & Mott-Schottky. The fit and simulation software should include basic options such as find circle, element subtraction and an equivalent circuit library with all the modern EIS equivalent circuit models. Minimum visible plots in real time should be 8 or more. EIS Modelling with Equivalent Circuit Fits. Simultaneous impedance measurement at counter electrode and working electrode. ➢ EIS Quality Indicators should be provided ➢ EIS measurements simultaneously on the working and on the counter electrodes ➢ Graphic Representation of Equivalent Circuit with user selectable circuit elements and their values in the circuit ➢ Impedance fitting tool with battery diffusion elements available (restricted diffusion, restricted modified diffusion, restricted linear diffusion) ➢ The impedance fitting tool should have at least 3 different fitting algorithms ➢ Modify on Fly should be available to update experimental setting parameters on

	current running experiment without pausing/stopping.
Accessories	
12.	➢ Glass Cell 50-60ml: 04 Nos ➢ Cell Cap: 02 Nos ➢ Purge Tube ➢ Ag/AgCl Reference Electrode: 01 No ➢ Platinum counter electrode (5 cm - wire diameter 0.5 mm):01 No ➢ GCE Glassy carbon electrode (OD: 6 mm – ID: 3.0 mm):01 No
RRDE Setup	
13.	➢ RRDE kit: controller and Rotating Ring Disk Electrode (motor + shaft), comes with shipping ➢ RRDE enclosure and cell stand ➢ 1 mm Pt Ring 3 mm GC disk electrode (M6 thread) with PEEK body ➢ 3 mm diameter Glassy Carbon disk electrode (M6 thread) with PEEK body
Installation & Commissioning	
14.	➢ Installation and commissioning of the equipment has to be carried out by supplier at our laboratory in IISc and the performance has to be demonstrated. ➢ 2. Onsite training must be provided to our personnel on the installed equipment for operation and data processing
Instrument Control	
15.	A Desktop Computer i7 with 500 SSD, 20/21” Color monitor, Windows OS, Wired Keyboard and Mouse shall be provided or with better Configuration.
Warranty	
16.	System shall be warranted for a minimum period of 2 year from the date of installation of the equipment at site
Maintenance	
17.	The channels Should be plug & play type and easy to install or to be removed.

Optional components

- 10A Booster: 01 Nos
- Booster Chassis: 01

AMC

Separate quote for AMC for Three years after the warranty period shall be submitted with offer. AMC cost will be considered for grading the vendor, along with equipment cost. Quote for both comprehensive and non-comprehensive AMC shall be submitted. Number of visits per year: One preventive & One breakout visit.

Instrument Control

A Desktop Computer i7 with 500 SSD, 20/21" Color monitor, Windows OS, Wired Keyboard and Mouse shall be provided or with better Configuration.

Annexure 1

Details of the Bidder

The bidder must provide the following mandatory information & attach sup porting documents wherever mentioned:

Details of the Bidder

Sl. No	Items Details	
1.	Name of the Bidder	
2.	Nature of Bidder (Attach attested copy of Certificate of Incorporation/ Partnership Deed)	
3.	Registration No/ Trade License, (attach attested copy)	
4.	Registered Office Address	
5.	Address for communication	
6.	Contact person- Name and Designation	
7.	Telephone No	
8.	Email ID	
9.	Website	
10.	PAN No. (attach copy)	
11.	GST No. (attach copy)	

Signature of the Bidder

Name:
Designation:
Seal Date:

Annexure 2

Declaration regarding experience

To,
The Chairperson,
Department of Chemical Engineering,
Indian Institute of Science,
Bangalore– 560012, India
Ref: Tender No: XXXXXXXXX Dated: XXXXX

Sub: Supply and installation of Bi-Potentiostat /Multichannel Electrochemical Workstation at the Department of Chemical Engineering, IISc Bangalore.

Sir,

I've carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company / firm has ____ years of experience in supplying and installing **Bi-Potentiostats /Multichannel Electrochemical Workstations**.

Yours faithfully

Signature of the Bidder

Name:
Designation:
Seal Date:

Annexure 3

Declaration regarding clean track record

To,
The Chairperson,
Department of Chemical Engineering,
Indian Institute of Science,
Bangalore– 560012, India
Ref: Tender No: XXXXXXXXX Dated: XXXXX

Sub: Supply and installation of Bi-Potentiostat /Multichannel Electrochemical Workstation at the Department of Chemical Engineering, IISc Bangalore.

Sir,
I've carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company/ firm is not currently debarred / blacklisted by any Government / Semi Government organizations / institutions in India or abroad.

I further certify that I'm competent officer in my company / firm to make this declaration.

Or

I declare the following

S. No.	Country in which the company is Debarred/blacklisted/case is pending	Blacklisted / debarred by Government / Semi Government/Organizations /Institutions	Reason	Since when and for how long

(NOTE: In case the company / firm was blacklisted previously, please provide the details regarding period for which the company / firm was blacklisted and the reason/s for the same).

Yours faithfully

Signature of the Bidder

Name:
Designation:
Seal Date:

Annexure 4

Declaration regarding acceptance of terms and conditions

To,
The Chairperson,
Department of Chemical Engineering,
Indian Institute of Science,
Bangalore– 560012, India
Ref: Tender No: XXXXXXXXX Dated: XXXXX

Sub: Supply and installation of Bi-Potentiostat /Multichannel Electrochemical Workstation at the Department of Chemical Engineering, IISc Bangalore.

Sir,
I've carefully gone through the Terms & Conditions as mentioned in the above referred tender document. I declare that all the provisions of this tender document are acceptable to my company.

I further certify that I'm an authorized signatory of my company and am, therefore, competent to make this declaration.

Yours faithfully

Signature of the Bidder

Name:
Designation:
Seal Date:

Annexure 5

Details of items quoted

1. Detailed technical specifications
2. Company Name
3. Product Name
4. Part/Catalogue number
5. Product description/main features
6. Remarks

Instructions to bidders:

1. Bidder should provide technical specifications of the quoted product/s in detail.
2. Bidder should attach product brochures along with technical bid.
3. Bidders should clearly indicate compliance or non-compliance of the technical specifications provided in the tender document.

Section 6: Commercial Bid

The commercial bid should be furnished with all requirements of the tender with supporting documents as mentioned under:

Sl.No	Description	Cat. Number	Quantity	Unit Price	Sub total
1.	Essential items noted in the technical specification				
1.a	. . . (details of essential items)				
1.b	. . .				
2.	Optional items noted in the technical specification				
2.a	. . . (details of essential items)				
2.b	. . .				
3.	Accessories for operation and installation				
4.	All Consumables, spares and software to be supplied locally				
5.	Warranty (3 years)				

Any additional items

Sl.No	Description	Cat. Number	Quantity	Unit Price	Sub total

Section 7: Checklist

(This should be enclosed with technical bid- Part A)

The following items must be checked before the Bid is submitted:

1. Sealed Envelope “A”: Technical Bid:

   (a) Section 5- Technical Bid (each page signed by the authorized signatory and sealed) with the below annexures:

   i. Annexure 1: Bidders details
   ii. Annexure 2: Declaration regarding experience
   iii. Annexure 3: Declaration regarding clean track record
   iv. Annexure 4: Declaration for acceptance of terms and conditions
   v. Annexure 5: Details of items quoted

   (b) Copy of this tender document duly signed by the authorized signatory on every page and sealed.

2. Sealed Envelope “B”: Commercial Bid
   Section 6: Commercial Bid

Your quotation must be submitted in two envelopes: Technical Bid (Envelope A) and Commercial Bid (Envelope B) super scribing on both the envelopes with Tender No. and due date and both of these in sealed covers and put in a bigger cover which should also be sealed and duly super scribed with Tender number, Tender description & Due Date.