



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

Purchase Requisition Number: 1000018218

To,
ONETIME LOCAL
ONETIMEL

ONETIMEL
Maharashtra India

Sealed Tenders are invited from prospective bidders as per Section IV - Schedule of Requirements and compliance of Indian Institute of Technology Bombay.

Section - I : Invitation for Bid

Tender(RFQ) No.:	3000009815		
Tender Date:	05.03.2021		
Tender Category:	Goods		
Tender Type:	LIMITED		
Number of Covers:	TWO BID		
Cover Information / Submission of Bid			
Covers No	Cover Type	Description	Document Type
1.	Technical	Technical Specification, Tender Document, EMD , Schedule of Requirement and Compliance, Bidders Information/ Indian Agent Information.	.pdf
2.	Financial	Financial Bid	.pdf
Two Bid System : The Two bid system will be followed for this tender. In this system bidder must submit their offer in separate sealed envelopes as – Technical Bid and Commercial Bid. Separate technical bid and commercial bid envelopes should be clearly marked as "Envelope No. 1 - Technical Bid" and "Envelope No. 2 - Commercial Bid". Both these sealed covers are to be put in a bigger cover which should also be sealed and duly superscribed with our Tender No. & Due Date and to be submitted to the concern department/section mentioned in tender document. Note: The technical offer should not contain any price information. If the price quoted is submitted in technical bid the tender will be rejected at the sole discretion of IIT Bombay. Initially Technical Bids will be opened and evaluated by the purchase committee. Commercial bids of only Technically qualified bidders will be opened later. Contract/ Purchase Order will be awarded to the lowest bidder(L1) among them.			
Form of Contract:	BUY		
Tender Fee Details (INR): Payable to: Payable at:	0.00 The Registrar, IIT Bombay Mumbai		
EMD Fee Details (in the form of Bank Guarantee)			



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EMD Fee Details: Payable to: Payable at:	0.00 The Registrar, IIT Bombay Mumbai
Bid validity (Days):	180 days
Period of Work/ Delivery Period (Days):	30 days
Pre Bid Meeting Date & Time:	
Pre Bid Meeting Place & Address:	
Contract Type:	Tender
Delivery Location:	IIT BOMBAY,POWAI,MUMBAI-400076
Pin Code:	400076
Bid Submission End Date & Time of submission	20.03.2021 01:00:00 PM
Place of Submission of Bid	S32,MECHANICAL ENGINEERING BUILDING,IIT BOMBAY,MUMBAI.
Bid Opening Date & Time:	22.03.2021 03:00:00 PM
Bid Opening Place:	S32,MECHANICAL ENGINEERING BUILDING,IIT BOMBAY,MUMBAI.
Technical Clarification:	Name : ABHISHEK GUPTA Dept.: MECHANICAL ENGINEERING E-mail: I11080@IITB.AC.IN Contact Number: 9619797523
Tender Inviting Authority:	Name: PROF.ABHISHEK GUPTA Address: S32,MECHANICAL ENGINEERING BUILDING,IIT BOMBAY,MUMBAI.

Other Terms and Conditions (Pre-qualification, Warranty etc. if any):

* Only registered companies are allowed to bid. * The company must have a GSTIN number * Bidder should have demonstrated expertise in completed design, fabrica* Bidder(s) may be asked to prepare a technical presentation demonstrati* In the technical bid, the bidder must provide details of similar past

Signing Authority: PROF.ABHISHEK GUPTA



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Section II : Instructions to Bidder

1. Preparation and Submission of offers :

- i. The Quotation **MUST BE ENCLOSED IN A SEALED ENVELOPE** superscribing Tender number and due date & should reach the undersigned on or before the due date and time mentioned in the tender notice. If the quotation envelope is not sealed, it will be rejected.
- ii. Tender should be dropped in the tender box kept in the office of concerned Department / Section. Tender should not be handed over to our staff personally unless otherwise specified. All communications are to be addressed to the undersigned only. In case due date happens to be holiday the tender will be accepted and opened on the next working day.
- iii. The bid can be submitted in person or through post/ courier (IIT Bombay shall not be held responsible for any postal delays or any other reason for not submitting the bid in the specified time and resulting in disqualification / rejection of any bid) so as to reach on or before the due date and time specified in the tender document.
- iv. The leaflets catalogue, etc. should be sent invariably so that a proper evaluation of the equipment offered is possible.
- v. It is mandatory for bidders to have GSTN Registration No. and should submit duly filled Bidders Information along with the tender document.
- vi. It is mandatory for vendors to register applying for the tender.
For registration kindly visit Vendor registration portal link <https://portal.iitb.ac.in/vrp/index.jsp>

2. Cost of Bidding:

- i. The Bidder shall bear all costs associated with the preparation and submission of its Bid and the Purchaser shall not be held responsible or liable for those costs incurred regardless of the conduct or outcome of the bidding process.

3. Validity of the Bid:

- i. 180 Days from the last date of submission of bid.

4. Amendments to Tender Document :

- i. At any time prior to the deadline for submission of bids, IIT Bombay may, for any reason, whether on its own initiative or in response to the clarification sought by a prospective BIDDER may modify the bid document by issuing necessary corrigendum.
- ii. All prospective BIDDERS who have downloaded the tender document are requested to visit IIT Bombay website for any amendments / modifications and make a note of the same, which will be binding on them.

5. Deadline for Submission of Bids :

- i. Bids must be received by IIT Bombay before the due date and time at the address specified in the tender document. In the event of the specified date for the submission of bids being declared as a holiday for IIT Bombay the bid-closing deadline will stand extended to the next working day up to the same time without any further notice.

6. Bid Opening Process:

- i. In case of one bid system, technical & financial bid will be opened simultaneously in the presence of representatives of the bidders at IIT Bombay.
- ii. In case of two bid system, The Technical Bid will be opened in the first instance in the presence of Dept. Technical Evaluation Committee(TEC)/MMD, representatives of the bidders at IIT Bombay.
- iii. Financial bids of only those bidders, whose bids are found technically qualified, by the Technical Evaluation Committee, will be opened in the presence of the Dept. Technical Evaluation Committee(TEC)/MMD vendor's representatives subsequently at a later date for further evaluation. Date and Time of financial bid opening shall be intimated to technically qualified bidders only.
- iv. One authorized representative of each of the bidder would be permitted to be present at the time of opening of the bids.



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- v. The authorized representative of bidders, present at the time of opening of the bids shall be required to sign an attendance register as a proof of having attended the Technical/Commercial bid opening session.

7. Late Bids :

- i. IIT Bombay will not be responsible:
 - a) For delayed / late quotations submitted / sent by post / courier etc.
 - b) For submission / delivery of bids/quotations at the wrong places other than the mentioned in the tender.
 - c) Any bid inadvertently received by IIT Bombay after the deadline i.e. after due date & time for submission of bids, will not be accepted and returned unopened to the BIDDER, without any prejudice by hand/speed post/courier services.

8. Supplementary offer /Modification of Original Bid:

- i. BIDDER desirous to modify their offer/terms may submit their revised / supplementary offer (s) within the extended Tender Opening Date (TOD) by clearly stating to the extent of updation done to the original offer. The purchaser reserves the right to open the original offer along with the revised offer.

9. Confidentiality:

- i. Information relating to the evaluation of bids, and recommendation of Contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until information on Contract award is communicated to all Bidders. On completion of Technical Evaluation by the Committee, Vendors whose offer do not meet with the users Technical Specification will be restricted to participate in commercial bid opening process. Information regarding the criteria for disqualification of the tender would be communicated to the bidder in writing.
- ii. Any attempt by a Bidder to influence the Purchaser in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid.
- iii. Notwithstanding, from the time of Bid opening to the time of Contract award, if any Bidder wishes to contact the Purchaser on any matter related to the bidding process, it shall do so in writing.

10. Deviation, Reservations and Omissions:

- i. During the evaluation of Bids, the following definitions apply:
 - (a) "Deviation" is a departure from the requirement specified in the Tender Documents;
 - (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Tender Documents; and
 - (c) "Omission" is the failure to submit part or all of the information or documentation required in the Tender Documents.

11. Correction of Arithmetical Errors:

- i. Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:
 - (a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
 - (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
 - (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
- ii. Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with the same, shall result in the rejection of the Bid.



12. Evaluation of Bid:

- i. IIT Bombay will evaluate technical and commercial acceptable offers on landed net Price basis.
- ii. In case any BIDDER is silent on any clauses mentioned in this tender documents, IIT Bombay shall construed that the BIDDER had accepted the clauses as per the invitation to tender no further claim will be entertained.
- iii. 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.

13. Price Bid:

- i. Quoting of Price (s) : **Price quoted should be in Indian Rupees, free delivery at IIT Bombay Campus at site.**
- ii. PRICE BID must be submitted in enclosed Price Bid Form only.
- iii. Prices should include all the taxes including GST and other duties/levies.
- iv. If the price is not quoted in Price Bid Form only provided in tender document then, IIT Bombay will reject bid. If bidder wish to give pricing details, may be attached in separate sheet.
- v. In case of Multiple options of same product, bidders are requested to quote only one best option and not multiple options.
- vi. Quantity : The quantity mentioned in the tender can be increased or decreased to any extent depending upon the actual requirement.
- vii. It is mandatory to quote optional items on a separate sheet otherwise your quote will be rejected.

14. Corrupt & Fraudulent Practices:

- i. IIT Bombay requires that bidders, suppliers, contractors and consultants, if any, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy,
 - (a) The terms set forth below are defined as follows:
 1. "Corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of in kind/value to influence the action of a public official in the procurement process or in contract execution;
 2. "Fraudulent practice" means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;
 3. "Collusive practice" means a scheme or arrangement between two or more bidders, designed to establish bid prices at artificial, non- competitive levels; and
 4. "Coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract;
 - (b) IIT Bombay will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question.

15. Communication for Non-participation of Tenders :

- i. For registered vendors with IIT Bombay, in case you choose not to participate in the tender process a regret letter by way of fax/letter/email may be submitted before the due date duly superscribing "Regret" and tender No.

16. Cancellation of Tender :

- i. Notwithstanding anything specified in this tender document, Purchaser / IIT Bombay in his sole discretion, unconditionally and without assigning any reasons, 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 confirming to the tenders terms.
- ii. IIT Bombay will give purchase preference to Public Sector undertakings when applicable as per Govt. Policy/ Guidelines.



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iii. Offer which deviates from the vital conditions (as illustrates below) of the tender shall be rejected:

- (a) Non-submission of complete offers as mentioned in the tender document,
- (b) Receipt of offers after due date and time and or by email / fax (unless specified otherwise).
- (c) Receipt of offers in open condition.
- (d) Conditional Tenders and Unsigned Tenders will also be rejected.

17. Delivery:

- i. The successful BIDDER should deliver the material as per the conditions of tender document/purchase order. The successful bidder should emboss stickers of purchase order number on the materials to be delivered.



Section III : Conditions of Contract

1. Award of Contract:

- i. IIT Bombay shall award the contract to the technically qualified eligible BIDDER whose bid has been determined as the lowest evaluated commercial bid.
- ii. If more than one BIDDER happens to quote the same lowest price, IIT Bombay reserves the right to award the contract to more than one BIDDER or any BIDDER.

2. Prices:

- i. The supplier shall pay and bear all other liabilities, taxes and duties not specifically agreed by the Purchaser in the contract.

3. Pre-installation:

- i. Please also mention the pre-installation requirements for the equipment like ambient temperature, humidity, civil work, weather specifications, power specifications, etc. When items are provided full performance satisfaction should be demonstrated.

4. Installation:

- i. BIDDER shall be responsible for installation / demonstration wherever applicable and for after sales service during the warranty period and thereafter as mentioned in the contract.
- ii. Installation demonstration to be arranged by the supplier free of cost and the same is to be done within 15 days of the arrival of the equipment at site.

5. Training:

- i. The BIDDER shall submit training proposal for the operation and maintenance to the personnel of IIT Bombay on the offered equipment/machinery.
- ii. Wherever needed, our technical persons should be trained by the supplier at the project site free of cost. In case the person is to be trained at supplier's site abroad or in India it should be mentioned in the quotation clearly. The supplier should bear all the expenses for such training including 'to & fro' fares and lodging & boarding charges.

6. Terms of Payment:

- i. Payment within 30 days from the date of delivery, installation and Acceptance Certificate of concerned Department / Section / Materials Management Division, IIT Bombay.
- ii. Payment shall be made by Cheque or such other mode / electronic fund transfer offered by the Bank.
- iii. IIT Bombay do not pay advance payment to party. Any request of Advance payment will be summarily rejected.

7. Legal Matter:

- i. All Domestic and International disputes are subject to Mumbai jurisdiction only.

8. Transfer and Subletting :

- i. The seller shall not sublet, transfer, assign or otherwise part with the acceptance to the tender or any part thereof, either directly or indirectly, without the prior written permission of the Purchaser.

9. Force Majeure :

- i. Force Majeure will be accepted on adequate proof thereof.



10. Penalty/ Liquidated Damages :

- i. Timely delivery is essence of the contract and hence if any consignment be delayed, liquidated damages at the rate 0.5% of the price of the delayed consignment, for each week or part whereof shall be levied and recovered subject to maximum of 10% of total purchase order value.
- ii. IIT Bombay reserves the right to cancel the order in case the delay is more than 10 weeks. Penalties if any will be recovered by forfeiting PBG at vendor's cost and risks.

11. Specification and Samples :

- i. The suppliers shall supply the stores in accordance with the specifications/ descriptions of stores given in the acceptance of tender. The Purchaser reserved the rights to alter the description of stores including drawings given in the acceptance of tender. In the event any such alteration result in any implication to the deliver and price, such implication shall be mutually agreed between the Purchaser and supplier. In case certified sample has been issued by the Purchaser and the Specifications / Drawings also exist in the acceptance of tender then the certified sample will govern the supply to the extent of material, workmanship and finished product.

12. Supervision of Erection and Commissioning :

- i. Successful BIDDER shall depute concerned specialist, for supervision of erection & commissioning of the machine to be carried out. The successful BIDDER shall make necessary arrangement at their own expenses for stay, transport and other expenses of their specialist during their stay in Mumbai which also includes imparting free of cost training to IIT Bombay personnel.

13. EARNEST MONEY DEPOSIT (GFR 2017 Rule 170):

- i. Earnest Money Deposit is mandatory to be enclosed in the tender.
- ii. While submitting bid, the BIDDER shall deposit an amount mentioned in tender document as Earnest Money, with the IIT Bombay through the following instruments:
- iii. A confirmed Bank Guarantee by an Indian Nationalized Bank promising payment of the guaranteed sum to the BUYER without any demur whatsoever and without seeking any reasons whatsoever.
- iv. The Earnest Money shall be valid upto a period of 180 days or the complete conclusion of the contractual obligations to the complete satisfaction of both the BIDDER and the BUYER whichever is later.
- v. No interest shall be payable by the BUYER to the BIDDER on Earnest Money for the period of its currency.
- vi. If successful bidder fails to submit the Performance Guarantee Bond within 15 days from the date of placing of Purchase Order then purchase order will be canceled and EMD will be forfeited.
- vii. If there is any difficulty in submitting Bank Guarantee then Demand draft can be submitted in the favour of 'The Registrar, IIT Bombay' payable at Mumbai.
- viii. Return of EMD: In case of successful BIDDER, EMD in the form of Bank guarantee will be returned within 30 days from the date of submission of Performance Guarantee Bond.
- ix. For unsuccessful bidder, Bank Guarantee will be returned within 30 days from the date of placing the Purchase Order.
- x. In case of Demand Draft, amount of EMD will be returned within 60 days from the date of placing the purchase order.
- xi. EMD exemption against NSIC/MSME and KVIC certificate is applicable only for indigenous supplies

14. Performance Guarantee (GFR 2017 Rule 171):

- i. Performance Guarantee Bond is mandatory.
- ii. Successful tenderer/ bidder should submit performance guarantee as prescribed above to be sent to Joint Registrar, Materials Management Division, IIT Bombay on or before 15 days from the due date of issue of order acknowledgment. The PGB to be furnished in the form of bank guarantee as per proforma or annexure of the tender documents, for an amount covering 5 % of the purchase order value.
- iii. The Performance Guarantee should be established in favour of "The Registrar, IIT Bombay".
- iv. PBG to be established through any of the National Banks (whether situated at Mumbai or outstation) with a clause to enforced the same on their local branch of Mumbai or any scheduled bank (other than national bank) situated at Mumbai. Bonds issued by co-operative banks will not be accepted.



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- v. Performance Guarantee Bond shall be for the due and faithfully performance of the contract and shall remain binding, notwithstanding such variations, alterations for extensions of time as may be made, given, conceded or agreed to between the successful tenderer and the purchaser under the terms & conditions of acceptance to the tender.
- vi. The successful tenderer is entirely responsible for due performance of the contract in letter and spirit and all other documents referred to in the acceptance of tenders.
- vii. The PBG shall be kept valid during the period of contract and shall continue to be enforceable for a period of one year/two years (as mentioned in the tender document) or upto warranty period whichever is later from the date of order acknowledge. In case PBG needs extensions upto warranty period then supplier shall initiate extensions to PBG one month prior to expiry of PBG.
- viii. For successful suppliers, if PBG is not submitted within 15 days from the date of Order Acknowledgement, then the Purchase Order will be cancelled with forfeiting of EMD.
- ix. **No interest shall be payable by the buyer to the Bidder on PBG.**



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FORMAT FOR PERFORMANCE GUARANTEE BOND

(To be typed on Non-judicial stamp paper of the value of Indian Rupees of One Hundred) (TO BE ESTABLISHED THROUGH ANY OF THE NATIONAL BANKS (WHETHER SITUATED AT MUMBAI OR OUTSTATION) WITH A CLAUSE TO ENFORCE THE SAME ON THEIR LOCAL BRANCH AT MUMBAI OR ANY SCHEDULED BANK SITUATED AT MUMBAI.).

To,
Registrar,
Indian Institute of Technology Bombay
Powai, Mumbai - 400 076.

LETTER OF GUARANTEE

WHEREAS Indian Institute of Technology Bombay (Buyer) have invited Tenders vide Tender No..... Dt. for purchase of AND WHEREAS the said tender document requires that any eligible successful tenderer (seller) wishing to supply the equipment / machinery, etc. in response thereto shall establish an irrevocable Performance Guarantee Bond in favour of "Registrar, Indian Institute of Technology Bombay" in the form of Bank Guarantee for Rs (5% (five percent) of the purchase value) and valid till one year or upto warranty period whichever is later from the date of issue of Performance Guarantee Bond may be submitted within (Fifteen)15 days from the date of Order Acknowledgment as a successful bidder.

NOW THIS BANK HEREBY GUARANTEES that in the event of the said tenderer (seller) failing to abide by any of the conditions referred in tender document / purchase order / performance of the equipment / machinery, etc. this Bank shall pay to Indian Institute of Technology Bombay on demand and without protest or demur Rs (Rupees.....).

This Bank further agrees that the decision of Indian Institute of Technology Bombay (Buyer) as to whether the said Tenderer (Seller) has committed a breach of any of the conditions referred in tender document / purchase order shall be final and binding.

We, (name of the Bank & branch) hereby further agree that the Guarantee herein contained shall not be affected by any change in the constitution of the Tenderer (Seller) and/ or Indian Institute of Technology Bombay(Buyer).

Notwithstanding anything contained herein:

1. Our liability under this Bank Guarantee shall not exceed Rs. (Indian Rupees only).
2. This Bank Guarantee shall be valid up to(date) and
3. We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only and only if IIT Bombay serve upon us a written claim or demand on or before(date).

This Bank further agrees that the claims if any, against this Bank Guarantee shall be enforceable at our branch office at situated at (Address of local branch).

Yours truly,

Signature and seal of the guarantor:

Name of Bank:

Address:

Date:

Instruction to Bank: Bank should note that on expiry of Bond Period, the Original Bond will not be returned to the Bank. Bank is requested to take appropriate necessary action on or after expiry of bond period.



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Section IV - Schedule of Requirements and Compliance

Sr. No.	Item Description	Compliance (Yes/No)
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10	Field trial solar panel Cleaning Robot System integration, installation, testing, design modifications, site preparation and field trials 1.Introduction The Solar Photovoltaic (SPV) Panel Cleaning Robot (PCR) provides in-situ and automatic cleaning of SPV Panels installed at Solar Energy generating sites. These SPV panels are subject to dust / bird dropping and other debris falling and accumulating on their surface thereby significantly reducing the power generating efficiency of the panel. The Robot uses a combination of rotating brushes and water to wash, rinse and clean the dust and debris accumulated on the SPV panels to restore the power generating efficiency of the panels. The PCR is designed to be autonomous and integrated with the installed SPV arrays. It is powered by its own SPV panel / Lithium Battery to power the drive motors and control Robot. The scope of work involves“System integration, installation, testing, design modifications, site preparation and conduct of field trials” of the PCR. The mechanical prototype of the PCR will be provided. Following activities need to be completed: a.System integration: Procurement of electrical and electronic components and their integration with the mechanical system (to be pr ovided) along with PLC programming to implement the cleaning cycle. b.Integration of a WiFi control station to allow operation of the PCR through an Android based application, and development of such an application. The application should also provide feedback of system status including the battery charging state and fault indicators.This system should be easily scalable to operate multiple robots in the field .c.Setup of two groupsof SPV (24 panels) along with the support structure (as per drawings provided) at a site identified in Greater Noida. Appropriate support structure and rails for PCR movementand docking/charging stationshould also be installed. d.2 week trial and demonstration at the Greater Noida site.Following thistrial at Greater Noida site, modifications may be done to the device to improve reliability and reduce weight. This may involve switching from the PLC to a microcontroller. e.Site preparation for field trials: Preparation for field trials at the plant site identified for the purpose. Rails should be installed for PCR movement and appropriate arrangement should be made for water delivery to the PCR. Water supply will be available at ground level .f.Preparation of PCR for field trials: The final PCR should be fabricated following incorporation of design modifications and installed for field trials,following successful demonstration of the functioning. g.Conduct of field trials: On-site personnel should be available for field trials and any issues arising during the trials should be addressedat location .h.The EDP for the final system should be submitted along with a report on the field trials. Provisions can be made for survey of both the Greater Noida site as well as field trial site prior to setup and installation. Expected date of completion: May 31st2021No unsolicited bids will be entertained. For further details aboutthePCR,contact abhi.gupta@iitb.ac.in 2.General Description The Panel Cleaning Robot (PCR) uses the mounting frames of the panels for support.The PCR moves from one end of the solar panel array to the other end in a systematic and cyclical manner and returns back to its docking position during the night time. The cleaned solar panels can generate power at their maximum efficiency during day time. The PCR is fully programmable to suit unique site conditions in terms of • Number of cleaning cycles • Period between two cleaning runs • Time at which the PCR will clean the panels during the day or night. The PCR has its own power system that use separate solar panels to	
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	Whether all the above items specified have been quoted in the PRICE BID.	
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Bidders Information

1.	Name of the Bidder	
2.	Address of the Bidder	
3.	PAN No.	
4.	GSTIN No.	
5.	State of GST Registration	
6.	E-mail	
7.	Contact Person's Name & Designation	
8.	Mobile No.	



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Sr. No.	Description of Item & Specification	HSN/SAC Code	Quantity in Units	Unit Price ₹	Discount %	IGST %	CGST %	SGST%	Total Bid Price ₹
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Sr. No.	Description of Item & Specification	HSN/SAC Code	Quantity in Units	Unit Price ₹	Discount %	IGST %	CGST %	SGST%	Total Bid Price ₹
10	Field trial solar panel Cleaning Robot System integration, installation, testing, design modifications, site preparation and field trials 1.Introduction The Solar Photovoltaic (SPV) Panel Cleaning Robot (PCR) provides in-situ and automatic cleaning of SPV Panels installed at Solar Energy generating sites. These SPV panels are subject to dust / bird dropping and other debris falling and accumulating on their surface thereby significantly reducing the power generating efficiency of the panel. The Robot uses a combination of rotating brushes and water to wash, rinse and clean the dust and debris accumulated on the SPV panels to restore the power generating efficiency of the panels. The PCR is designed to be autonomous and integrated with the installed SPV arrays. It is powered by its own SPV panel / Lithium Battery to power the drive motors and control Robot. The scope of work involves“System integration, installation, testing, design modifications, site preparation and conduct of field trials” of the PCR. The mechanical prototype of the PCR will be provided. Following activities need to be completed: a.System integration: Procurement of electrical and electronic components and their integration with the mechanical system (to be provided) along with PLC programming to implement the cleaning cycle. b.Integration of a WiFi control station to allow operation of the PCR through an Android based application, and development of such an application. The application should also provide feedback of system status including the battery charging state and fault indicators.This system should be easily scalable to operate multiple robots in the field .c.Setup of two groupsof SPV (24 panels) along with the support structure (as per drawings provided) at a site identified in Greater Noida. Appropriate support structure and rails for PCR movementand docking/charging stationsshould also be installed. d.2 week trial and demonstration at the Greater Noida site.Following thistrial at Greater Noida site, modifications may be done to the device to improve reliability and reduce weight. This may involve switching from the PLC to a microcontroller. e.Site preparation for field trial.		1 each						



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Section V - PRICE BID for Indigenous Supplies, Quotes in INR only

Tender(RFQ) No.: 3000009815

Due Date & Time: 20.03.2021 01:00:00 PM

Sr. No.	Description of Item & Specification	HSN/SAC Code	Quantity in Units	Unit Price ₹	Discount %	IGST %	CGST %	SGST%	Total Bid Price ₹
	Installation and Commissioning Charges								
	Other Charges Please Specify Details								
Grand Total									

HSN Code: "Harmonized System of Nomenclature Code No." and SAC Code:" Service Accounting Codes Code No."

1. Delivery Mode : Delivery at IIT Bombay, at site only.
2. Total Bid Price in the above column should be inclusive of all taxes and levies transport, loading, unloading etc.
3. Delivery Period :..... days.
4. Validity Date: Minimum 180 days from the date of submission of quotation/tender.
5. Payment Term: Payment within 30 days from the date of submission of bill Acceptance Certificate to concerned Dept./ Sect. / MMD.
6. Prices quoted in other currencies will be summarily rejected.

PAN No. :

GST Registration No. :

Signature :

Name :

Company Name & Address :

Affix Rubber Stamp :

Place:
Date:

Note: Price Bid should be submitted in given format only. For additional information/extra items above format may be typed and used.