

## Tender Details

**Tender No:** SCL/PS/2020E0172501

**Tender Date:** 05/03/2020

**Purchase Entity:** Purchase& Stores

## Tender Notice

E-Procurement Tender No. SCL/PS/2020E0172501 dated 05.03.2020 SEMI-CONDUCTOR LABORATORY [SCL] invites ONLINE offers in TWO part system through e-tender portal <https://eprocure.isro.gov.in> for Supply, Installation and Commissioning of Deep Reactive Ion Etching Tool ( DRIE Tool). Tender documents can be downloaded from 06.03.2020 - 1101 hrs. to 07.04.2020 upto 1430 hrs. The vendors need to get enrolled in the e-tender portal to access tender and submit their offer online. Vendors need to have Digital Signature Certificate as detailed on our e-portal and corporate e-mail ID to register on the above portal. Only online tenders will be accepted. No Manual/Postal/ courier/ e-mail/fax tender will be entertained. Please note Tender fee shall not be applicable for tenders submitted on-line through this portal. Vendors interested to participate in this e-Tender are required to register themselves as vendors, if not already registered, in our e-procurement portal <https://eprocure.isro.gov.in> by downloading plugins and help demos listed on the home page of the e-procurement link mentioned above to complete the vendor registration process. They can seek help from help desk 020 25315555 / 9167969601 (Email: [support.isro@nextenders.com](mailto:support.isro@nextenders.com)) also the home page of e-procurement portal may be accessed for any technical help for registration and subsequent process. Vendors may please note that without registering in our E-procurement portal they will not be able to quote for this tender.

## Tender Attachments

### Technical Write-up/Drawings

#### Attachment - I:

IDT002699000000000000isro05401.pdf

#### Attachment - II:

#### Attachment - III:

#### Attachment - IV:

#### Attachment - V:

### Instructions to Tenderers (PT)

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- 1.This being a two part tender i.e. Technical and Commercial part separate, the Technical part should not contain Pricing information of the Tendered stores. The tenders containing Price details of the Tendered stores in Technical part will be summarily rejected. Prices should be indicated in the Price Bid template only.
- 2.Interested tenderers may, at their option, login to <http://eprocure.isro.gov.in> and submit offers as per details in the tender notification.
3. Request for the extension of the due date will not be considered.
- 4.SCL reserves the right to accept or reject any / or all the tenders in part or full without assigning any reasons thereof. The bidder is at liberty to seek information related to bidding conditions, bidding process and/or rejection of its bid.
5. In this tender either the Indian Agent on behalf of the Principal/OEM or the Principal/OEM itself can bid, but both cannot bid simultaneously for the same item. Indian agents while quoting on behalf of

their principals shall provide necessary latest authorization letter obtained from their Principals/Manufacturers in their bid.

6. If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the tender for the same item. If submitted, all offers submitted by the said agent shall be excluded from the procurement process.

7. SCL reserves the right to exclude the bidder from procurement process who have not agreed to furnish Security Deposit and Performance Bank Guarantee as sought vide this tender.

8. In case the bidder gives shorter validity than the period specified in the tender enquiry. SCL reserves the right to exclude the bidder from procurement process.

9. Late tenders, delayed tenders, fax quotations and e-mail quotations are not considered. Only tender submitted through ISRO e-procurement portal shall be considered.

10. SCL reserves the right to verify all claims made by the bidder.

11. SCL reserves the right to change any milestone date of the tendering activity / tender schedule.

12. Tender which is not submitted as per the of instructions mentioned herein is liable to be rejected.

13. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portions of the quantity offered and the tenderer shall supply the same at the rates quoted.

14. It is expressly agreed that the acceptance of the Stores Contracted for is subject to final approval in writing by the Purchaser.

15. It is to be noted that the drawings, specifications, end-use, etc., given by the purchaser, are confidential and shall not be disclosed to any third party.

16. Prices are required to be quoted according to the units indicated in the tender. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.

17. The Prices are to be mentioned both in figures as well as in words. The taxes, duties etc. are to be calculated and indicated in the column provided in online forms explicitly.

18. Bidders are expected to comply with commercial and other terms and conditions given in vendor specified terms of this tender. In case of any deviation, the reasons thereof should be clearly specified in the vendor specified terms column.

19. All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.

20. Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of non-acceptance of tender, the tenderer will have to remove the samples at his own expense.

21. Approximate net and gross weight of the items offered wherever required shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.

22. Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his bid. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.

23. The tenderer should supply along with his tender, the name of his bankers as well as the latest Income-Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle concerned under the seal of his office, if required by the Purchaser.

24. The contractor shall also undertake the supply of additional number of items covered by the order as considered necessary by the purchaser at a later date, the actual price to be paid shall be mutually agreed to after negotiations.

25. Subletting and Assignment: The contractor/supplier cannot sublet, transfer or assign the order/Contract or any part thereof or interests therein or benefit or advantage thereof in any manner whatsoever, to any other party without written consent of the purchaser. Such consent by the purchaser, however, shall not relieve or discharge the contractor/supplier from any obligation, duty or responsibility under the Purchase Order/ Contract.

26. The contractor/supplier shall indemnify the purchaser against Workmen Compensation Act.

27. The authority of the person submitting the tender, if called for, should be produced.

28. In case of Public Tender, the bids shall be opened in the presence of the bidders/their authorized representatives who may like to attend the tender opening against presentation of Authorization letter. In case of any breakdown in Server/Link, bid opening will be continued on the following dates.

. The schedule of opening of Price bids shall be intimated separately to the technically qualified bidders only.

29. Definitions:

a) The term Purchaser shall mean the Director, Semi-Conductor Laboratory or his successors or assignees.

b) The term Contractor shall mean, the person, firm or company with whom or with which the order for the supply of stores is placed and shall be deemed to include the Contractors Successors, representatives, heirs, executors and administrators unless excluded by the Contract.

c) The term Purchase Order shall mean the communication signed on behalf of the Purchaser by an officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the Tender or offer of the Contractor for supply of stores of plant, machinery, Software or equipment or part thereof.

d) The term Stores shall mean all that the Contractor agrees to supply under the Contract as specified in the Purchase Order including its installation, testing and commissioning as per the specifications.

### 30. PROCEDURE FOR EVALUATION OF TENDERS:

#### Technical Evaluation Criteria:

Vendor meeting the eligibility criteria and basic technical specifications mentioned in SCL Tender are likely to be considered to be technically qualified.

#### Evaluation of Price Bids

The following elements shall be considered for evaluation of Price Bids:

- a. Price quoted by the bidder in the price bid template for meeting the functionalities given in the Tender and Technical Specifications sheet.
- b. Compliance with the Payment Terms prescribed in this tender document. In the event, the bidder offers Payment Terms stringent than SCL prescribed Payment Terms, the bid of the bidder shall be loaded based on prime lending rate of RBI prevailing on the date of opening of bids and as per Instructions of Government of India as applicable from time to time.
- c. Post warranty labour only AMC charge shall not be taken into account for evaluation of price bids.

### **DOS PM 20**

### **DOS PM 20:**

#### INSTRUCTIONS TO TENDERERS AND TERMS CONDITIONS OF TENDER

1. Bid / Open Authorization shall be submitted on-line only complying specified schedule.
2. Late tenders and delayed tenders will not be considered.

3. GST and/or other duties/levies legally leviable and intended to be claimed should be distinctly shown separately in the tender.

4. Prices are required to be quoted according to the units indicated in the annexed tender form. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.

5.(a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.

(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of non acceptance of tender, the tenderer will have to remove the samples at his own expense.

(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.

(d) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.

6. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portions of the quantity offered and the tenderers shall supply the same at the rates quoted.

7. The tenderer should supply along with his tender, the name of his bankers as well as the latest Income-Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle concerned under the seal of his office, if required by the Purchaser.

8. The authority of the person signing the tender, if called for, should be produced.

9. In case of any difference between General Terms & Conditions enclosed and Terms & Conditions specific to this tender i.e. technical specifications & Vendor Specified Terms, terms and conditions specific to this tender will prevail.

10. Vendors shall not be allowed to modify or alter or make changes to their bids after the closing date and time for Tender Download & bid submission.

#### TERMS CONDITIONS OF TENDER

## 1. DEFINITIONS:

(a) The term PURCHASER shall mean the President of India or his successors or assigns.

(b) The term CONTRACTOR shall mean, the person, firm or company with whom or with which the order for the supply of stores is placed and shall be deemed to include the Contractor's successors, representative, heirs, executors and administrators unless excluded by the Contract.

(c) The term STORES shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order including erection of plants machinery and subsequent testing, should such a condition is included in the Purchase Order.

(d) The term PURCHASE ORDER shall mean the communication signed on behalf of the Purchaser by an Officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the tender or offer of the Contractor for supply of stores or plant, machinery or equipment or part thereof.

## 2. PRICES:

Tender offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotation with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variation/s.

## 3. SECURITY DEPOSIT:

On acceptance of the tender, the Contractor shall, at the option of the Purchaser and within the period specified by him, deposit with him, in cash or in any other form as the Purchaser may determine, security deposit not exceeding ten percent of the value of the Contract as the Purchaser shall specify. If the Contractor is called upon by the Purchaser to deposit, Security and the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores contracted at the risk of the Contractor in terms of Sub-Clause (ii) and (iii) of clause 9(b) hereof and/or to recover from the Contractor, damages arising from such cancellation.

## 4. PACKING FORWARDING INSURANCE:

The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packages shall be done by and at the expense of the Contractor. The purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the Contractor and the Purchaser shall pay only for such stores as are actually received in good condition in accordance with the Contract.

## 5. DESPATCH:

The Contractor is responsible for obtaining a clear receipt from the Transport Authorities specifying the goods dispatched. The consignment should be dispatched with clear Railway Receipt/Lorry Receipt. If sent in any other mode, it shall be at the risk of the Contractor. Purchaser will take no responsibility for short deliveries or wrong supply of goods when the same are booked on said to contain basis. Purchaser shall pay for only such stores as are actually received by them in accordance with the Contract.

#### 6. TEST CERTIFICATE :

Wherever required, test certificates should be sent along with the dispatch documents.

#### 7. ACCEPTANCE OF STORES:

(a) The stores shall be tendered by the Contractor for inspection at such places as may be specified by the purchaser at the Contractor's own risk, expense and cost.

(b) It is expressly agreed that the acceptance of the stores Contracted for, is subject to final approval by the purchaser, whose decision shall be final.

(c) If, in the opinion of the purchaser, all or any of the stores do not meet the performance or quality requirements specified in the Purchase Order, they may be either rejected or accepted at a price to be fixed by the purchaser and his decision as to rejection and the prices to be fixed shall be final and binding on the Contractor.

(d) If the whole or any part of the stores supplied are rejected in accordance with Clause No. 7 (c) above, the purchaser shall be at liberty, with or without notice to the Contractor, to purchase in the open market at the expense of the Contractor stores meeting the necessary performance and quality Contracted for in place of those rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.

#### 8. REJECTED STORES:

Rejected stores will remain at destination at the Contractor's risk and responsibility. If instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice of rejection, the purchaser or his representative has, at his discretion, the right to scrap or sell or consign the rejected stores to Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actuals.

#### 9. DELIVERY:

(a) The time for and the date of delivery of the stores stipulated in the Purchase Order shall be deemed to be the essence of the Contract and delivery must be completed on or before the specified dates.

(b) Should the Contractor fail to deliver the stores or any consignment thereof within the period prescribed for such delivery, the purchaser shall be entitled at his option either.



(i) to recover from the Contractor as agreed liquidated damages and not by way of penalty, a sum of 0.5% per week of the price of any stores which the Contractor has failed to deliver as aforesaid or during which the delivery of such store may be in arrears subject to a minimum of 10%, or

(ii) to purchase from elsewhere, without notice to the Contractor on the account and at the risk of the Contractor, the stores not delivered or others of a similar description (where others exactly complying with the particulars, are not, in the opinion of the purchaser, readily procurable, such opinion being final) without cancelling the Contract in respect of the consignment (s) not yet due for delivery, or

(iii) to cancel the Contract or a portion thereof and if so desired to purchase or authorise the purchase of stores not so delivered or others of a similar description (where others exactly if complying with the particulars are not, in the opinion of the purchaser, readily procurable, such opinion final) at the risk and cost of the Contractor. In the event of action being taken under sub-clause (ii) (iii) of clause 10 (b) above, the Contractor shall be liable for any loss which the purchaser may sustain on that account, provided that the re-purchase or if there is an agreement to repurchase then such agreement is made within six months from the date of such failure. But the Contractor shall not be entitled to any gain on such re-purchase made against default. The manner and method of such re purchase shall be at the discretion of the purchaser, whose decision shall be final. It shall not be necessary for the purchaser to serve a notice of such re purchase on the defaulting Contractor. This right shall be without prejudice to the right of the purchaser to recover damages for breach of Contract by the Contractor.

#### 10. EXTENSION OF TIME:

As soon as it is apparent that the Contract dates cannot be adhered to, an application shall be sent by the Contractor to the purchaser. If failure, on the part of the Contractor, to deliver the stores in proper time shall have arisen from any cause which the purchaser may admit as reasonable ground for an extension of the time (and his decision shall be final) he may allow such additional time as he considers it to be justified by circumstances, of the case without prejudice to the purchaser's right to recover liquidated damages under clause 10 thereof.

#### 11. ERECTION OF PLANT MACHINERY:

Wherever erection of a plant or machinery is the responsibility of the Contractor as per the terms of the Contract and in case the Contractor fails to carry out the erection as and when called upon to do so within the period specified by the purchaser, the purchaser shall have the right to get the erection done through any source of his choice. In such an event, the Contractor shall be liable to bear any additional expenditure that the purchaser is liable to incur towards erection. The Contractor shall, however, not be entitled to any gain due to such an action by the purchaser.

#### 12. PAYMENT:

Contractor's bill will be passed for payment only after the stores have been received, inspected and accepted by the Purchaser.

#### 13. MODE OF PAYMENT:

Normally payment will be made for the accepted stores within 30 days from the date of receipt of the materials.

#### 14. RECOVERY OF SUM DUE:

Whenever any claim for the payment of, whether liquidated or not, money arising out of or under this Contract against the Contractor, the purchaser shall be entitled to recover such sum by appropriating in part or whole, the security deposited by the Contractor, if a security is taken against the Contract. In the event of the security being insufficient or if no security has been taken from the Contractor, then the balance or the total sum recoverable as the case may be, shall be deducted from any sum then due or which at any time thereafter may become due to the Contractor under this or any other Contract with the purchaser. Should this sum be not sufficient to cover the full amount recoverable, the Contractor shall pay to the purchaser on demand the remaining balance due. Similarly, if the purchaser has or makes any claim, whether liquidated or not, against the Contractor under any other Contract with the purchaser, the payment of all moneys payable under the Contract to the Contractor including the security deposit shall be withheld till such claims of the purchaser are finally adjudicated upon and paid by the Contractor.

#### 15. INDEMNITY:

The Contractor shall warrant and be deemed to have warranted that all stores supplied against this Contract are free and clean of infringement of any Patent, Copyright or Trademark, and shall at all times indemnify the purchaser against all claims which may be made in respect of the stores for infringement of any right protected by Patent Registration of design or Trade mark and shall take all risk of accidents or damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for sufficiency of all means used by him for the fulfilment of the contract.

#### 16. ARBITRATION:

In the event of any dispute/s, difference/s or claim/s arising out of or relating to the interpretation and application of the Contract, such dispute/s or difference/s or claim/s shall be settled amicably by mutual consultations of the good Offices of the respective Parties and recognizing their mutual interests attempt to reach a solution satisfactory to both the parties. If such a resolution is not possible, within 30 days from the date of receipt of written notice of the existence of such dispute/s, then the unresolved dispute/s or difference/s or claim/s shall be referred to the Sole Arbitrator appointed by the Parties by mutual consent in accordance with the rules and procedures of Arbitration and Conciliation Act 1996 as amended from time to time. The arbitration shall be conducted in New Delhi in the Arbitration and Conciliation Centre New Delhi (Domestic and International) as per its rules and regulations. The expenses for the Arbitration shall be shared equally or as may be determined by the Arbitrator. The considered and written decision of the Arbitrator shall be final and binding between the Parties. The applicable language for Arbitration shall be English only.

Work under the Contract shall be continued by the CONTRACTOR during the pendency of arbitration proceedings, without prejudice to a final adjustment in accordance with the decision of the Arbitrator

unless otherwise directed in writing by the Purchaser or unless the matter is such that the works cannot be possibly continued until the decision (whether final or interim) of the Arbitrator is obtained.

#### 17.COUNTER TERMS AND CONDITION OF SUPPLIERS:

Where counter terms and conditions printed or cyclostyled conditions have been offered by the supplier, the same shall not be deemed to have been accepted by the Purchaser, unless specific written acceptance thereof is obtained.

#### 18.SECURITY FOR PURCHASE OF MATERIALS:

Successful tenderer will have to furnish in the form of a bank guarantee or any other form as called for by the purchaser towards adequate security for the materials and properties provided by the Purchaser for the due execution of the Contract.

19.In e-procurement system submission of bid is a two-step process. After submission of their bids, bidders have to wait for bid sealing by Purchaser. Subsequently, bidders have to complete open authorization in the e-procurement system to enable the Purchaser to open the bid. If open authorization is not completed by the bidder, then Purchaser will not be able to open the bid and the bid becomes invalid.

In case bidder encounters any technical snag pertaining to e-procurement system while acting on the tender, computer screen shot of the error message with date time stamp on the web-browser along with the query shall be e-mailed by the bidder to the help desk, for resolution of the problem, at least 2 working days before the due date and time of bid submission. The contact detail of the help desk is available on the home page of the e-procurement website.

Purchaser will make all efforts to resolve technical queries reported by the bidders but will not be bound to do so if the problems are reported beyond the time mentioned above. Purchaser will not be responsible for non-submission of bids for such cases.

#### **DOS PM 22**

#### **DOS PM 22:**

1.Bid /Open Authorization shall be submitted online only complying specified schedule and complete in all respects with technical specifications, including pamphlets and catalogues.

2.A Proforma Invoice may also be given which should contain the following information:

a) Agency Commission: The amount of commission included in the price and payable to the Indian Agent of the Contractor shall be paid directly to the Indian Agent by the Purchaser in equivalent Indian Rupees on the basis of an Invoice from him applying T.T. buying rate of exchange ruling on the date of

placement of the Purchase Order and which shall not be subject to any further exchange variations. This payment will be released to the Indian Agent immediately after Customs clearance of the goods in India.

b) The Contractor shall invoice only for the net amount payable to deducting the amount of Agency Commission included in the invoice which will be paid to the Indian Agent directly by the Purchaser. However, the Contractors invoice should separately reflect the amount of commission payable to his Indian Agent.

c) The earliest delivery period and country of origin of the Stores.

d) Bankers name, address, telephone/fax Nos. and eMail ID of the Contractor.

e) The approximate net and gross weight and dimensions of packages /cases.

f) Recommended spares for satisfactory operation for a minimum period of one year.

g) Details of any technical service, if required for erection, assembly, commissioning and demonstration.

3.The FOB/FCA and C and F prices quoted should be inclusive of all taxes, levies, duties arising in the tenderers country.

4.The offer should be valid for a minimum period of 90 days (single part tender) and 120 days (Two part tender) from the due date of opening of the tender.

5.Samples, if called for, should be sent free of all charges.

6.The authority of person signing the tender, if called for, shall be produced.

7.Instructions / Operation Manual containing all assembly details including wiring diagrams should be sent wherever necessary in duplicate. All documents / correspondence should be in English language only.

8.The Purchaser reserves the right to accept or reject the lowest or any offer in whole or part without assigning any reason.

9.It is expressly agreed that the acceptance of the Stores Contracted for is subject to final approval in writing by the Purchaser.

10.a) Part shipment is not allowed unless specifically agreed to by us.

b) As far as possible stores should be despatched by Indian Flag Vessels / Air India through any Agency nominated by us.

11.Inspection / Test Certificate should be provided for the goods after testing it thoroughly at the Contractors works. If any Inspection by Lloyds or any other testing agency is considered necessary, it shall be arranged by Contractors.

12. Where erection or assembly or commissioning is a part of the Contract, it should be done immediately on notification. The Contractor shall be responsible for any loss/damage sustained due to delay in fulfilling this responsibility.

13. In case of any difference between General Terms & Conditions enclosed and Terms & Conditions specific to this tender i.e. technical specifications & Vendor Specified Terms, terms and conditions specific to this tender will prevail.

14. Vendors shall not be allowed to modify or alter or make changes to their bids after the closing date and time for Tender Download & bid submission.

## TERMS AND CONDITIONS

### 1. DEFINITIONS:

(a) The term Purchaser shall mean the President of India or his successors or assignees.

(b) The term Contractor shall mean, the person, firm or company with whom or with which the order for the supply of stores is placed and shall be deemed to include the Contractor's Successors, representatives, heirs, executors and administrators unless excluded by the Contract.

(c) The term Purchase Order shall mean the communication signed on behalf of the Purchaser by an officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the Tender or offer of the Contractor for supply of stores of plant, machinery or equipment of part thereof.

(d) The term Stores shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order.

### 2. PRICES:

Tenders offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotations with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variations.

### 3. TERMS OF PAYMENT:

3.1 Being a Department of the Government of India, the normal terms of payment are by Sight Draft. However other terms of payment like establishment of Letter of Credit may be considered by the Purchaser on such terms and conditions as may be agreed upon.

3.2 The Sight Draft / Letter of Credit will be operative on presentation of the under mentioned documents:

- a) Original Bill of Lading / Airway Bill
- b) Commercially certified invoices describing the stores delivered, quantity, unit rate and their total value, in triplicate. The invoice should indicate the discounts, if any, and Agency Commission separately.
- c) Packing List showing individual dimensions and weight of packages.
- d) Country of Origin Certificate in duplicate.
- e) Test Certificate.
- f) Declaration by the Seller that the contents in each case are not less than those entered in the invoices and the quality of the Stores are guaranteed as per the specifications asked for by the Purchaser.
- g) Warrantee and guarantee Certificate/s.

#### 4. IMPORT LICENCE:

Reference to Import License No. and date and Contract number and date shall be prominently indicated in all the documents

#### 5. DEMURRAGE:

Supplier shall bear demurrage charges, if any, incurred by the purchaser due to delayed presentation of shipping documents as prescribed in the bankers within a reasonable time (say within 10 to 12 days) from the date of bill of lading for sea consignments and within 3 to 4 days from the date of Air Way Bill for air consignments.

#### 6. ADDRESS OF INDIAN AGENTS:

#### 7. GUARANTEED TIME DELIVERY:

The time for and the date of delivery stipulated in the Purchase Order shall be deemed to be the essence of the Contract. Delivery must be completed within the date specified therein.

#### 8. INSPECTION AND ACCEPTANCE TEST:

8.1 The Purchaser representatives shall also be entitled at all reasonable times during manufacture to inspect, examine and test on the Contractors premises the material and workmanship of all stores to be supplied under this Contract and if part of the said stores is being manufactured on other premises, the Contractor shall obtain for the purchasers representative permission to inspect, examine and test as if the equipment were being manufactured on the Contractors premises. Such inspection, examination and testing shall not release the Contractor from the obligations under this Contract.

8.2 For tests on the premises of the Contractor or of any of his subContractors, the Contractor shall provide free of cost assistance, labour, material, electricity, fuel and instruments as may be required or as may be reasonably needed by the purchasers representative to carry out the tests efficiently.

8.3 When the stores have passed the specified test, the purchasers representative shall furnish a certificate to the effect in writing to the Contractor. The Contractor shall provide copies of the test/s certificates to the purchaser as may be required.

#### 9. CONSIGNEE:

Purchase and Stores Officer, Stores,

Semi Conductor Laboratory

Sector -72, S.A.S.Nagar, Punjab, India

#### 10. SHIPPING MARKS.

The mark on the shipping documents such as invoice, bill of lading and on the packages should be as follow:

PURCHASE ORDER NO.

DATED

GOVERNMENT OF INDIA

DEPARTMENT OF SPACE

(name of the Centre/Unit)

Destination: .

Port of Entry:

#### 11. INSURANCE OF THE STORES:

The necessity or otherwise of insurance will be as indicated in the Purchase Order.

#### 12. CONTRACTORS DEFAULT LIABILITY:

12.1 The purchaser may upon written notice of default to the Contractor terminate the Contract in whole or in part in circumstances detailed hereunder:

a) If in the judgement of the Purchaser the Contractor fails to make delivery of Stores within the time specified in the Contract/ agreement or within the period for which extension has been granted by the Purchaser to the Contractor.

b) If in the judgment of the Purchaser the Contractor fails to comply with any of the other provisions of this Contract.

13. In the event the Purchaser terminates the Contract in whole or in part as provided in Clause 12 the Purchaser reserves the right to Purchase, upon such terms and in such a manner as he may deem appropriate, stores similar to that terminated and the Contractor shall be liable to the Purchaser for any additional costs for such similar stores and/or for liquidated damages for delay as defined in LD clause until such reasonable time as may be required for the final supply of stores.

13.1 If this Contract is terminated as provided in Clause 12 the Purchaser in addition to any other rights provided in this Article, may require the Contractor to transfer title and deliver to the Purchaser under any of the following clauses in the manner and as directed by the Purchaser:

a) Any completed stores.

b) Such partially completed stores, drawing, information and Contract rights (hereinafter called manufacturing material) as the Contractor has specifically produced or acquired for the performance of the Contract as terminated. The Purchaser shall pay to the Contractor the Contract price for completed stores delivered to and accepted, by the purchaser and for manufacturing material delivered and accepted.

13.2 In the event the Purchaser does not terminate the Contract as provided in Clause 12, the Contractor shall continue the performance of the Contract in which case he shall be liable to the purchaser for liquidated damages for delay as set out in Clause for DELAY IN COMPLETION / LIQUIDATED DAMAGES until the stores are accepted.

#### 14. EXTENSION OF TIME:

If the completion of supply of stores is delayed due to reason of force majeure such as acts of god, acts of public enemy, acts of Government, fires, floods, epidemics, quarantine restriction, strikes, freight embargoes, etc., the Contractor shall give notice within 15 days to the purchaser in writing of his claim for an extension of time. The purchaser on receipt of such notice after verification, if necessary, may agree to extend the Contract delivery date as may be reasonable but without prejudice to other terms and conditions of the Contract.

#### 15. PACKING:

a) The Contractor wherever applicable shall pack and crate all stores for sea/air shipment as applicable in a manner suitable for export to a tropical humid climate, in accordance with internationally accepted export practices and in such a manner so as to protect it from damage and deterioration in transit by road, rail or sea for space qualified stores. The Contractors shall be held responsible for all damages due to improper packing.



b) The Contractor shall ensure that each box / unit of shipment is legible and properly marked for correct identification. The failure to comply with this requirement shall make the Contractor liable for additional expenses involved.

c) The Contractor shall notify the purchaser of the date of shipment from the port of embarkation as well as the expected date of arrival of such shipment at the designated port of arrival.

d) The Contractor shall give complete shipment information concerning the weight, size, content of each packages, etc.

e) Transshipment of equipment shall not be permitted except with the written permission of the purchaser.

f) Apart from the despatch documents negotiated through Bank, the following documents shall also be airmailed to the purchaser within 7 days from the date of shipment by sea and within 3 days in case of air consignments:

a) Commercial Bill of Lading / Air Way Bill / Post parcel Receipt. (Two nonnegotiable copies)

b) Invoice (3 copies)

c) Packing List (3 copies)

d) Test Certificate (3 copies)

e) Certificate of Origin.

The Contractor shall also ensure that one copy of the packing list is enclosed in each case.

#### 16. LANGUAGE AND MEASURES:

All documents pertaining to the Contract including specification, schedule, notice, correspondence, operating and maintenance instructions, drawings or any other writings shall be written in English language. The metric system of measurement shall be used exclusively in the Contract.

#### 17. INDEMNITY:

The Contractor shall warrant and be deemed to have warranted that all Stores supplied against this Contract are free and clean of infringement of any patent, copyright or trade mark and shall at all times indemnify the purchaser against all claims which may be made in respect of stores for infringement of any right protected by Patent, Registration of design or Trade Mark, and shall take all risk of accident or damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for the sufficiency of all the means used by him for the fulfillment of the Contract.

#### 18. COUNTER TERMS AND CONDITIONS OF SUPPLIERS:

Where counter terms and conditions/printed or cyclostyled conditions have been offered by the supplier, the same shall not be deemed to have been accepted by the purchaser unless specific written acceptance thereof is obtained.

#### 19. SECURITY INTEREST:

On each item to be delivered under this Contract, including an item of work in progress in respect of which payments have been made in accordance with the terms of the Contract, purchaser shall have a security interest in such items which shall be deemed to be released only at the time when the applicable deliverable item is finally accepted and delivered to the purchaser in accordance with the terms of the Contract. Such security interest of the purchaser shall constitute a prior charge as against any other charge or interest created in respect of such items by any entity.

#### 20. BANK CHARGES:

While the purchaser shall bear the bank charge payable to his Bankers (State Bank of India), the Contractor shall bear the Bank charges payable to his Bankers including the cheques towards advising amendment commissions.

#### 21. TRAINING:

The Contractor shall, if required by the purchaser, provide facilities for the practical training of Purchasers engineering / technical personnel from India and for their active association on the manufacturing processes throughout the manufacturing period of the Contract / stores, number of such personnel to be mutually agreed upon.

#### 22. APPLICABLE LAW:

The Contract shall be interpreted, construed and governed by the laws of India.

## Bid Templates

### Document Solicited from Vendor

Attachment 1:

Attachment 2:

### Item specifications

### Item Specifications

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Re
1	1.00.00SCOPE OF WORK  Vendor's scope of work shall cover supply, installation & commissioning of Deep Reactive Ion Etching (DRIE) Equipment required for dry etching of 150mm or 200mm Semi standard Silicon Wafers. The Tool shall have a centralized handler system of handling and Processing of SEMI standard 150mm & 200mm silicon wafers for MEMS and CMOS device manufacturing process (0.18µm technology node). The scope of work			

	<p>shall include the following:</p> <ul style="list-style-type: none"> <li>-Design, Detailed engineering, Fabrication and Supply of DRIE Etch tool, as per the required specifications.</li> <li>-Supply of all support tools including chamber vacuum pumps, Chillers, electric cables etc.</li> <li>-Installation of the tool and Support equipment, including all utility connections.</li> <li>-Commissioning of the Tool and demonstration of its functionality as per the required specifications.</li> <li>-On-site training to concerned SCL personnel on Operations, Maintenance &amp; Trouble shooting of the equipment.</li> </ul> <p>It is not the intent of this document to completely specify all details of design and construction. Nevertheless the systems shall confirm in all respects to high standards of engineering, design and workmanship and shall be capable of performing the operations in a safe and efficient manner as per industry codes. The</p>		
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	<p>equipment shall meet all SEMI regulations and must be SEMI complied.</p>			
2	<p>1.01.00ELIGIBILITY CRITERIA</p> <p>Parties fulfilling the following requirements are eligible to participate in the tender.</p> <p>1.Parties should be OEM (Original Equipment Manufacturer) having experience of minimum seven years in the manufacturing, installation and maintenance support of Deep Reactive Ion Etching (DRIE) Equipment.</p> <p>2.Should have supplied, installed and successfully commissioned at least one (1) similar DRIE equipment to Semi-Conductor establishment (s)/ reputed R &amp; D organization (s)/ reputed academic institute (s) during the last two (2) years.</p> <p>Parties (OEM) may submit the tender directly or through their duly authorized representative. Party (OEM) shall submit letter duly authorizing their representative to participate in the bid and</p>			

	<p>the same shall be submitted with the technical bid. The authorization letter shall be after the tender release date. Purchase Order shall however be placed on the OEM only.</p> <p>The vendor shall provide list of their installations of DRIE equipment along with the name of the clients and year of installation.</p>			
3	<p>1.02.00SCOPE OF SUPPLY</p> <p>1.02.01Vendor shall supply the equipment, including support tools viz. Chiller units, Vacuum pumps, RF carts, etc. as per the Technical Specifications (Refer clause 3.00.00).</p> <p>1.02.02 Vendor shall supply all the auxiliary items like interconnect matching cables for electrical connections; interconnect fittings, vacuum line etc. for support tool installations; Foundation Pads/bolts, Clamps, etc. as may be required to complete the installation and commissioning of the tool.</p> <p>Any items not specifically</p>			

	<p>mentioned in the specifications but required for safe and efficient operations of the system shall deemed to be included in the scope of supply of the vendor unless explicitly indicated in the bid by the vendor.</p>			
4	<p>1.03.00SCOPE OF INSTALLATION AND COMMISSIONING</p> <p>1.03.01It will be the responsibility of the vendor to ensure proper installation &amp; commissioning of the tool at SCL.</p> <p>1.03.02Vendor shall provide guidelines for preparation of installation site.</p> <p>1.03.03Vendor shall also supply the installation drawings giving detailed information regarding the port size &amp; type for the utility connections.</p> <p>1.03.04After installation all utilities hooked to the tool shall be provided by SCL.</p> <p>1.03.05Vendor shall Commission the systems with the required process gases (to be supplied by</p>			

	<p>SCL) and demonstrate the functionality of the tool supplied, at SCL site.</p> <p>1.03.06 Vendor shall bring all necessary tools/instruments etc. that may be required for successful commissioning/ installation/ verification of the system and sub systems of the equipment.</p>			
5	<p>1.04.00 TRAINING</p> <p>1.04.01 During commissioning of the equipment vendor shall provide on-site hands-on training to the concerned SCL personnel (including classroom training) on Operations/Process, application software, related applications, trouble-shooting and Preventive Maintenance of the tool supplied. The training shall be extensive (at least for five days) enough so that quick diagnostics of problems and remedial actions is possible at SCL.</p>			
6	<p>2.00.00 ACCEPTANCE PROCEDURE:</p> <p>2.01.00 Vendor shall demonstrate, at site, the</p>			



	<p>functionality as per the tool acceptance procedure specified at Annexure-A. Vendor shall provide best known baseline process recipes for validating the process parameters mentioned in Annexure-A. SCL shall have the option for Pre-shipment inspection at vendor's premises. Final acceptance, however, will be done after installation and demonstration of the functionality of the equipment, as per the acceptance procedure (Annexure-A), for at least three runs having 5 wafers each per process at SCL.</p> <p>2.02.00 During technical evaluation of the bids, SCL reserves the right to get the SCL supplied patterned sample wafers (4 or 5) etched through their offered model of the equipment at no extra cost, for establishing the technical capability of the offered system. The results so obtained should match with the final acceptance (Annexure-A), at SCL. The participating vendors must comply to this point.</p> <p>2.03.00 Gas Systems: Vendor shall submit</p>			
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	<p>records and test method for all the below-mentioned tests conducted at their works during fabrication of the gas handling/distribution system(s) housed in the integrated gas cabinet/box. Helium leak integrity test procedure shall comply with the Semi standard (F1-96):</p> <p>Helium Leak Test: In board He leak test shall be carried out for leak rate better than <math>2 \times 10^{-9}</math> atm cc/min.</p> <p>Pressure Test: System shall also be pressure tested (with Ar/N<sub>2</sub> grade 6) to 1.5 times of design pressure for a minimum of 12 hours with no pressure drop.</p> <p>All gas panels shall be pressurized with Ar/N<sub>2</sub> grade 6 before shipment and pressure valve shall be recorded and sent along with the system.</p>			
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**Technical Specifications**

**Item Specifications -I**

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Re
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1	<p>3.00.00TECHNICAL SPECIFICATIONS</p> <p>Following are the detailed technical specifications of the required system. Vendor has to provide complete information as required in various sections for proper evaluation of the system. Vendor has to provide clause by clause compliance. The statements in the compliance sheet shall be supported by relevant documents/brochures/published literatures, mere compliance without adequate supporting documents are liable to be rejected.</p>			
2	<p>3.01.00APPLICATION</p> <p>The Deep Reactive Ion Etching (DRIE) Equipment is required for High Aspect Ratio Micromachining (HARM) dry etching of 150mm and 200mm Semi standard Silicon Wafers for Micro Electro Mechanical Systems (MEMS) and Through Silicon Vias for CMOS application. The equipment shall be compatible to Class 10 clean room and shall be</p>			

	used for Silicon etching only.			
3	<p>3.02.00 SYSTEM REQUIREMENTS</p> <p>3.02.01 Make and Model</p> <p>Vendor shall give the details of the offered make and model of the tool along-with technical catalogue/brochures.</p>			
4	<p>3.02.02 Process requirements</p> <p>The offered system shall meet following process requirements:</p> <p>Target Aspect Ratio: 50 or better</p> <p>Selectivity: Silicon to Photo Resist: 175 or better</p> <p>Silicon to Silicon dioxide: 200 or better</p> <p>Profile angle: 90±1°</p> <p>Wafer edge protection should be included</p> <p>Apart from this system shall be capable of demonstrating the process</p>			

	features as described in Annexure: A Table 1: Process Requirements/Guarantees			
5	<p>3.02.03 Process Chamber</p> <p>Chamber shall be manufactured from a single metal block for better vacuum integrity and it should be compatible with the process chemistries and Gas precursors to be used. The Chamber shall be designed to have higher Mean Time Between Cleaning (MTBC). Chamber shall have provision of a viewport for viewing plasma</p>			
6	<p>3.02.04 Plasma Source for Remote Plasma</p> <p>System shall have Magnetic Enhanced Inductively coupled Plasma Source (ME- ICP) or Inductively coupled Plasma Source (ICP) capable of Generating for high density plasma for meeting process features as stated at Clauses no. 3.02.02. the Plasma Source shall have Power 2500 watt or more.</p>			

	<p>However, other options suitable for meeting the process requirements as stated in clause no. 3.02.02 shall be offered with all details. The RF package shall have RF Generators and Automatic Matching units suitably designed to deliver stable source of RF energy needed to power the ICP source. The RF Power Generator shall be preferably from Advance Energy/ENI.</p>			
7	<p>3.02.05Platen Plasma Source (Working electrode)</p> <p>The Equipment Shall have Suitable RF Generator and Automatic matching unit for lower electrode to meet the process requirements as stated in clause no. 3.02.02. (Vendor to specify power and frequency range of the offered equipment). The system shall have capability of controlling the ion trajectory for avoiding the Notching and footing effects at buried oxide Layers in case of SOI wafers. Vendor shall provide demonstrated process data along with</p>			

	the bid.			
8	<p>3.02.06 Lower Electrode</p> <p>Lower Electrode shall have following features:</p> <ul style="list-style-type: none"> <li>• Fluid heated or cooled fixed height of Aluminum/ceramic/suitable material for lower electrode capable of handling substrates of 6" and 8". With suitable Mechanical Clamping Mechanism.</li> <li>• Helium assisted heat transfer (Helium Back-side Cooling) for uniform temperature on substrate.</li> <li>• Temperature range -10°C to +70°C (with ±1 °C temperature stability). (other options as applicable for the processes can be offered)</li> <li>• The full range of temperature control shall be automatically controlled from the recipe without user intervention between the cooling and heating ranges.</li> <li>• The re-circulating heater/chiller unit shall be remotely controlled (i.e. shall be controlled from System main Console and</li> </ul>			

	<p>process recipes).</p> <p>Suitable Therm-oil/ Chiller fluid shall be Per-fluorocarbon/Glycol.</p>			
9	<p>3.02.07 Vacuum Pumps</p> <p>The system shall have the following Vacuum systems/type:</p> <ul style="list-style-type: none"> <li>• Turbo-Molecular Pump (TMP; make Edwards/Leybold/Varian/Pfeiffer) for process chamber shall be corrosion resistant (with heated backing valve) Suitable anti-corrosive dry (roughing, Edwards make preferably) pumps for process chamber as well as load-lock.</li> <li>• Ultimate vacuum in Process Chamber should be better than <math>5 \times 10^{-6}</math> Torr.</li> <li>• Fast acting automatic pendulum throttle Valve with <math>\leq 1.0</math> sec open/close time.</li> <li>• Fore-line Heating Kit should be provided (Wherever required).</li> <li>• Vacuum pump shall have in-built safety inter-locks for fail safe operations/shutdown in</li> </ul>			



	<p>case of utility failure.</p> <p>Note: The Roughing and Backing Pumps will be installed in sub-fab (Approximately 10 meter away from the Equipment). Vendor shall provide suitable length of Vacuum Pipe fittings and cables required to hook the vacuum pumps with the main system.</p>			
10	<p>3.02.08 Load Lock Chamber and Robotic Handler</p> <p>The process chambers shall remain isolated from the atmosphere therefore; equipment shall have a Load Lock Chamber with suitable Robotic Handler capable of handling and processing Semi Standard 150mm or 200mm Silicon Wafers for processing one wafer at a time in process chamber. The load lock shall have the following features:</p> <ul style="list-style-type: none"> <li>• A fully automated, vacuum based, Robotic substrate handling systems for handling and process Semi standard 150mm or 200mm Silicon Wafers.</li> </ul>			

	<ul style="list-style-type: none"> <li>•Manual loading of the wafers in Load Lock.</li> <li>•Suitable isolation valve between robotic handler chamber and process chamber/module (Include Vacuum Gauges)</li> <li>•Vendor to supply all necessary Dry pump accessories for load-lock and the load-lock pump (preferably Edwards make).</li> <li>•Integration kit for use on robotic handler for 150mm and 200mm wafers.</li> <li>•All Necessary dry Vacuum pump and interconnection assembly shall be optimally designed to evacuate the substrate handler’s transport chamber and load port from atmosphere to a configurable crossover pressure.</li> </ul>			
11	<p>3.02.09 Gas Box/ Integrated Distribution Panel</p> <p>The system shall comply with the following:</p> <ul style="list-style-type: none"> <li>• Chamber shall have Gas box fitted with gas distribution &amp; handling</li> </ul>			

	<p>components of reputed makes.</p> <ul style="list-style-type: none"> <li>• System shall have suitable standard gas line and ultrafast high flow MFC (with fast switching time of &amp;#8804; 0.1secs) for Bosch process and suitable MFC for non-Bosch processes.</li> <li>• 8 gas-lines SF6 (2 nos.), C4F8, O2, Ar, CF4, CHF3, and N2</li> <li>• Helium gas lines should be supplied with digital MFC's</li> <li>• The gas line shall be orbital welded SS 316L EP (&lt; 10 Ra). All mechanical joints shall be stainless steel VCR type fittings. The gas supply line shall include suitable Ceramic gas nozzle, electro-pneumatic isolation valve(s), Pressure regulator, Pressure gauge/transducer, suitable MFC with fast stabilization for short cycles, and in-line point of use filter (2 &amp;#956;m rating)</li> </ul>			
12	<p>3.02.10 End Point Detection</p> <p>The chamber shall be integrated with Suitable</p>			

	<p>End Point Detection (EPD) system. The EPD system shall be controlled and monitored via recipe control. Soft landing on oxide in SOI wafer as well as notch control at bottom of trench.</p>			
13	<p>3.02.11 Operator Interface:</p> <p>The system shall be provided preferably with windows OS, multiple core processors with minimum 4 GB RAM or more, LAN Port, USB ports, LED/LCD preferably 19" Display unit, user friendly interface. Ethernet port and DeviceNet™ interface cards as needed.</p> <p>System Console: The system console module shall have:</p> <ul style="list-style-type: none"> <li>•All the electronicsub systems attached to the tool control units and pneumatics, Water, gas services and the turbo molecular pump controller shall be on System Console Module.</li> <li>•The system shall be powered from a single supply and all other ancillary units shall be powered from the</li> </ul>			

	<p>System console module.</p> <ul style="list-style-type: none"> <li>•The main System Console shall have a Single point Safety Interlock. The system shall be fully interlocked to protect the system hardware from any service failure and to protect the operator from electrical shock during maintenance procedures.</li> </ul> <p>Software: The System shall have</p> <ul style="list-style-type: none"> <li>•Recipe programming for all major process parameters</li> <li>•Includes data logging of user-selectable run-time process parameters.</li> <li>•Graphic diagram shall show system status.</li> <li>•Process recipe steps defined.</li> <li>•The full range of temperature control shall be automatically controlled from the recipe.</li> <li>•Each gas line is defined, with input of mass flow settings directly in sccm</li> <li>•Real time display of present and actual values of gas flows, pressure, RF power (forward and</li> </ul>			
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	reflected)  •Supported by SECS/GEM (HSMS Compliant) Interface.			
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**Item specifications 2**

**Item Specifications -II**

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Re
1	4.00.00WARRANTY  Vendor to provide a comprehensive part and labor warranty for a period of 24 months after acceptance of the system at SCL. Vendor to guarantee 90 % production uptime for the equipment based on 24 hours working, 7 days a week. Vendor to give two Preventive Maintenance Visits in the Warranty Period of the tool. Vendor to provide all consumables and spares which will be required during preventive maintenance during the period of warranty.			

2	<p>5.00.00POST WARRANTY SYSTEM SUPPORT:</p> <p>Spares and maintenance support required for 10 years after the expiry of warranty period. Vendor to quote for Post-warranty 'labor-only' AMC charges per year for a period of 5 years.</p>			
3	<p>6.00.00RECOMMENDED SPARES AND CONSUMABLES</p> <p>Vendor to provide itemized Quote (for reference Only) for recommended essential spares and consumables which may be required for meeting the essential above stated tool uptime</p>			
4	<p>7.00.00SAFETY</p> <ul style="list-style-type: none"> <li>•Appropriate safety mechanism in terms of alarms and EMO shall be provided for operator safety. Vendor to provide the details.</li> <li>•The system shall be design to be complaint with CE standards or other Industrial safety standard.</li> <li>•Fitted with all necessary</li> </ul>			

	<p>safety interlocks (Hardware and software) for safe operation.</p>			
<p>8.00.00TECHNICAL DOCUMENTATION</p> <p>Vendor to supply two sets of technical documentation (in English language) containing, but not limited to, the following:</p> <ul style="list-style-type: none"> <li>•System user manuals (two sets of clean room and two sets for grey rooms).</li> <li>•System Hardware / Software manuals</li> <li>•Maintenance /Diagnostic / Trouble shooting manuals including schematics, Circuit diagram (Electrical &amp; Plumbing) along with Parts for all spares.</li> <li>•OEM system/subsystem/accessories manuals</li> <li>•Vendor shall supply all additional information such as application development notes, paper published/process information etc. related to</li> </ul>				



the system.				
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**150mm wafer Acceptance procedure**

**Item Specifications -III**

Sl. No	Specifications	Compliance (Yes /No)	Offered Specifications	Re
1	<p>Annexure -A</p> <p>Table 1: Acceptance Procedure</p> <p>During acceptance of the DRIE tool at SCL, following will be verified:</p> <p>1.FAT (Factory Acceptance Test) certificate.</p> <p>2. Tool will be accepted on the basis of following process parameters / test procedures to be carried out at SCL.</p>			
2	<p>Process Requirements/ Guarantees with 10% expose area</p> <p>1. Aspect ratio: 50 or better</p>			

3	2. Side wall angle: 90±1°			
4	3. Selectivity with PR: 175 or better			
5	4. Selectivity with SiO2: 200 or better			
6	5. Uniformity across wafer: ±3% or better			
7	6. Scallops: <50nm			
<p>NOTE:</p> <p>1. Vendor to provide information on the number of wafers required for setting up the tool as per above acceptance procedure.</p> <p>2. Process recipes should be demonstrated with proper end point detection.</p> <p>3. Vendor has to demonstrate the post process particle count on the processed wafers for all Best Known Recipe.</p> <p>4. Vendor shall demonstrate the handler capabilities by continuously running 300 wafers (To be provided by SCL) under no process conditions (Without any alarm or warning).</p>				

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**200mm wafer Acceptance procedure**

**Item Specifications -IV**

Sl. No	Specifications	Compliance (Yes/No)	Offered Specifications	Re
1	<p>Annexure -A</p> <p>Table 1: Acceptance Procedure</p> <p>During acceptance of the DRIE tool at SCL, following will be verified:</p> <ol style="list-style-type: none"> <li>1. FAT (Factory Acceptance Test) certificate.</li> <li>2. Tool will be accepted on the basis of following process parameters / test procedures to be carried out at SCL.</li> </ol>			
2	<p>Process Requirements/ Guarantees with 10% expose area</p> <ol style="list-style-type: none"> <li>1. Aspect ratio: 50 or better</li> </ol>			
3	<ol style="list-style-type: none"> <li>2. Side wall angle: <math>90\pm 1^\circ</math></li> </ol>			
4	<ol style="list-style-type: none"> <li>3. Selectivity with PR: 175 or better</li> </ol>			

5	4. Selectivity with SiO2: 200 or better			
6	5. Uniformity across wafer: ±3% or better			
7	6. Scallops: <50nm			
<p>NOTE:</p> <ol style="list-style-type: none"> <li>1. Vendor to provide information on the number of wafers required for setting up the tool as per above acceptance procedure.</li> <li>2. Process recipes should be demonstrated with proper end point detection.</li> <li>3. Vendor has to demonstrate the post process particle count on the processed wafers for all Best Known Recipe.</li> <li>4. Vendor shall demonstrate the handler capabilities by continuously running 300 wafers (To be provided by SCL) under no process conditions (Without any alarm or warning).</li> </ol>				

**Vendor Specified Terms**

Description	Vendor Terms
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1. This being a two part tender -Technical and Commercial part separate, the Technical part should not contain Pricing information. The tenders containing Price details in Technical part will be summarily rejected.

The prices should be quoted in Price-Bid Template only.

2. ELIGIBILITY CRITERIA :

Parties fulfilling the following requirements are eligible to participate in the tender.

1. Parties should be OEM (Original Equipment Manufacturer) having experience of minimum seven years in the manufacturing, installation and maintenance support of Deep Reactive Ion Etching (DRIE) Equipment.
2. Should have supplied, installed and successfully commissioned at least one (1) similar DRIE equipment to Semi-Conductor establishment (s)/ reputed R & D organization (s)/ reputed academic institute (s) during the last two (2) years.

Parties (OEM) may submit the tender directly or through their duly authorized representative. Party (OEM) shall submit letter duly authorizing their representative to participate in the bid and the same shall be submitted with the technical bid. The authorization letter shall be after the tender release date. Purchase Order shall however be placed on the OEM only.

The vendor shall provide list of their installations of DRIE equipment along with the name of the clients and year of installation.

3. Delivery Terms:

For imported stores, prices shall be quoted on FCA nearest International/Gateway airport basis inclusive of all taxes, levies, duties arising in the tenderer country.

For Indigenous stores, prices shall be quoted on F.O.R. destination basis i.e. SCL, S.A.S. Nagar, Mohali, Punjab exclusive of GST as may be applicable.

<p>4.GST:</p> <p>Purchaser is eligible to issue concessional GST exemption certificate to avail concessional GST of 5% for supply portion as per Ministry of Finance, Department of Revenue, Notification Nos. 45/ 2017 Central Tax (Rate) and 47/2017 Integrated Tax (Rate) both dated 14th November, 2017 respectively and would accordingly issue Exemption Certificate in favour of the vendor quoting in Indian Rupees. The bidder should take note of the same while quoting the prices in Indian Rupees.</p>	
<p>5.For imported materials, Purchaser is entitled to issue Customs duty exemption certificate (CDEC) to the vendor to avail 5.5% of custom duty under customs notification no.51/96 dated 23.07.1996 and subsequent amendments to enable the vendor to avail off the benefit of concessional rate of customs duty under this notification. CVD under this notification is nil. In addition to the above CDEC, any documentary support requested by the vendor from the purchaser for customs clearance of goods against the above CDEC shall be provided by the purchaser. The concessional customs duty shall be applicable as per Govt. Of India Notification as applicable from time to time.</p> <p>(Purchaser will provide Customs Duty Exemption Certificate in case of Import Orders/ imported supplies/ High Sea Sales).</p>	
<p>6.Security Deposit (SD):</p> <p>On acceptance of the tender, the Vendor shall submit security deposit for ten percent (10 percent) value of the Purchase Order (PO) within 15 days from the date of PO towards successful execution of the PO. Security Deposit shall be submitted through Demand Draft / Bankers Cheque/ fixed deposit receipt or Bank Guarantee from any of the Scheduled Banks executed on non-judicial stamp paper of appropriate value, and shall be valid for a period of sixty (60) days beyond the date for completion of the Purchase Order.</p> <p>(This will be returned by SCL immediately on execution of the PO</p>	

satisfactorily as per order terms. If not, the amount will be forfeited).

#### 7. Delivery Period:

The vendor shall specify their best delivery period inclusive of all Govt. formalities of the exporting country.

The said delivery period shall include the installation and commissioning of equipment after receipt of the same at SCL. The vendor shall also provide break-up of the delivery period for (i) Supply (ii) Installation & commissioning from the date of receipt of intimation on readiness of site.

#### 8. Liquidated Damages (LD):

If the Vendor fails to deliver the stores within the time specified in the contract or any extension thereof, the purchaser shall recover from the Vendor as liquidated damages a sum of one-half of one percent (0.5 percent) of the Contract price for each calendar week of delay. The total liquidated damages shall not exceed ten percent (10 percent) of the Contract price.

Delivery of stores means supply, Installation, commissioning and acceptance as applicable.

#### 9. Terms of Payment in case of overseas supplier(s):

Being a Department of the Government of India, the normal terms of payment are by Sight Draft. The payment shall be remitted as Under:

90% of the PO value shall be paid through sight draft within 30 days of receipt of material at Purchaser site against presentation of shipping documents to SCL banker routed through vendor bank and balance 10% amount shall be payable on successful installation, commissioning and acceptance of the entire project at Purchasers site against a

Performance Bank Guarantee. The balance 10% shall be paid through wire transfer.

All bank charges outside India related to the payment shall be borne by the Vendor and all bank charges in India shall be borne by the purchaser .

10. Terms of payment in case of indigenous supplier(S):

The payment shall be remitted as under:

90% of the PO value shall be paid within 30 days of the receipt of the materials at purchaser site and the balance 10% amount shall be payable on successful installation, commissioning and acceptance of the equipment Purchasers site against a Performance Bank Guarantee.

11. Warranty:

The Vendor shall provide for the tendered equipment comprehensive warranty for parts as well as labour for a period of 24 months from the date of successful installation, commissioning and acceptance of the equipment at Purchaser site at no extra charges to Purchaser. In case any defect/faulty workmanship arises during warranty period, the Vendor should replace/rectify the same at its own cost at site/works of the Purchaser.

All expenses on the visit(s) of the vendor engineer such as To and Fro travel costs, local transportation, boarding and lodging etc. during warranty shall be borne by the contractor.

Vendor to guarantee 90% production uptime for the equipment based on 24 hours working, 7 days a week.

Vendor shall provide two preventative visits during warranty period of the tool.



<p>Vendor to provide all consumables and spares which will be required during preventive maintenance during the period of warranty.</p>	
<p>12. Performance Bank Guarantee (PBG):</p> <p>The Vendor shall furnish a Bank Guarantee (as per format given by purchaser) from any nationalized/scheduled bank for an amount equivalent to 10% of the value of the Contract and shall be valid for a period of 60 days beyond the expiry date of warranty period. On the performance and completion of the Contract in all respects, the Bank Guarantee will be returned to the Vendor without any interest.</p>	
<p>13. Warranty Replacements:</p> <p>If in the opinion of the purchaser it becomes necessary to replace or repair defective equipment during the warranty period, such replacement or repair shall be made by the Vendor free of all costs to the Purchaser provided the notice informing the Vendor of the defect is given by the Purchaser in this regard, within period of 26 months from the date of acceptance thereof.</p> <p>All replacement parts during the warranty period shall be supplied by the Contractor, free-of-cost on DDP (Delivery Duty Paid) basis with freight and insurance upto Purchaser site at S.A.S. Nagar, Punjab and customs duty applicable in India to the Vendor account including compliance with the customs procedure in India as applicable from time to time. The indigenous replacement parts, if any, shall be supplied by the Vendor free of cost on F.O.R. Purchaser site at SAS Nagar, Punjab basis.</p> <p>All defective parts including the imported parts shall be returned by Purchaser to the Contractor, if requested, on Freight to pay basis after receipt of replacement parts.</p>	

<p><b>14.POST WARRANTY SERVICE/SUPPORT:</b></p> <p>The Vendor shall provide spare and maintenance support for 10 years after expiry of warranty period.</p> <p>Vendor to quote separately for post warranty labour only AMC charges per year for a period of 05 years.</p> <p>The quote for post warranty AMC shall be uploaded as a separate pdf file under tab supporting documents from vendor (Commercial).</p> <p>(This would be for reference only and same shall not be considered during commercial evaluation of the tendered item.)</p>	
<p><b>15.a. Name and address of Indian agent, if any.</b></p> <p><b>b. Percentage of Indian agent commission, if any: Indian agent remuneration/service charge shall be payable by the Purchaser directly to the Indian agent in Indian Rupees based on T.T buying rate of exchange prevailing on the date of placement of purchase order within 30 days of acceptance of material at purchaser site.</b></p>	
<p><b>16.SUPPLY OF SPARES AND CONSUMABLES:</b> The Vendor to provide separately the itemized price list of recommended essential spares and consumables which will be required to maintain above stated tool uptime.</p> <p>The price list shall be uploaded as a separate pdf file under tab supporting documents from vendor (Commercial).</p> <p>This would be for reference only and same shall not be considered during commercial /orice bid evaluation of the tendered item.</p>	
<p><b>17.New Machine Certificate:</b></p>	

<p>The vendor shall submit a certificate alongwith the equipment as well as with the documents for claiming payment indicating the date of manufacture and certifying that the equipment supplied is brand new equipment and not used/refurbished/remanufactured/reconditioned equipment.</p>	
<p><b>18.Replacement:</b></p> <p>If the stores or any portion thereof is damaged or lost during transit, the Purchaser shall give notice to the Vendor setting forth particulars of such stores damaged or lost during transit. The replacement of such stores shall be effected by the vendor within a reasonable time to avoid unnecessary delay in the intended usage of the Stores. In case the purchaser agrees, the price towards replacement items shall be paid by the purchaser on the basis of original price quoted in the tender or as reasonably worked out from the tender.</p>	
<p><b>19.REJECTION :</b></p> <p>In the event that any of the stores supplied by the Vendor is found defective in material or workmanship or otherwise not in conformity with the requirements of the Contract specifications, the purchaser shall either reject the stores or request the Contractor, in writing, to rectify the same. The Contractor, on receipt of such notification, shall either rectify or replace the defective stores free of cost to the purchaser. If the Vendor fails to do so, the purchaser may at his option either :</p> <p>a)replace or rectify such defective stores and recover the extra cost so involved from the Contractor, or</p> <p>b) terminate the Contract for default or</p> <p>c) acquire the defective stores at a reduced price considered equitable under the circumstances.</p>	

<p>The provision of this article shall not prejudice the Purchasers rights under LD clause.</p>	
<p>20.Validity:</p> <p>The offer should be valid for a minimum period of 120 from the date of opening of Tehno-Commercial bid and 90 days after opening of Price Bid.</p>	
<p>21.Installation and Commissioning:</p> <p>Installation, commissioning, and demonstration of performance of the tendered stores as per Purchaser tendered specifications shall be carried out by the Vendor at Purchaser s site at S.A.S. Nagar, Punjab, India.</p> <p>The vendor shall provide in advance guidelines for preparation of installation site and list of items to be supplied by Purchaser during installation.</p> <p>On receipt of intimation from the Purchaser, the Vendor shall depute its engineer to the Purchaser site within two weeks to carry out installation and commissioning and will demonstrate the functionality of the tendered equipment to Purchaser specifications as per mutually agreed acceptance procedure. The Vendor shall be responsible for any loss/damages sustained due to delay on the part of the Contactor to send its engineer for installation and commissioning.</p> <p>Failure to commission the tendered equipment successfully shall entitle Purchaser to get full refund of the payment made and the interest thereon. Decision regarding successful installation and commissioning shall rest solely with the Purchaser.</p>	
<p>22.Mode of Despatch:</p>	

<p>In case of foreign orders, stores should be dispatched by Air India or through any Agency nominated by the purchaser whose contact details shall be indicated in the purchase order.</p>	
<p>23. Insurance of Stores:</p> <p>Insurance wherever necessary, will be arranged by the Purchaser. The necessity or otherwise of insurance will be as indicated in the Purchase Order/Contract.</p>	
<p>24. Technical Documentation:</p> <p>The vendor shall provide technical documentation covering operation, maintenance and schematic as specified in the technical specifications.</p> <p>All documentation shall be in English language only.</p>	
<p>25. Packing &amp; Forwarding:</p> <p>The Vendor shall pack and crate all stores for air/sea/road shipment as applicable in a manner suitable for export to a tropical humid climate, in accordance with internationally accepted export practices and in such a manner so as to protect it from damage and deterioration in transit by road, rail, air or sea. The Contractors shall be responsible for all damages due to improper packing.</p>	
<p>26. Arbitration:</p> <p>In the event of any dispute/s, difference/s or claim/s arising out of or relating to the interpretation and application of the Contract, such dispute/s or difference/s or claim/s shall be settled amicably by mutual consultations of the good Offices of the respective Parties and recognizing their mutual interests attempt to reach a solution satisfactory to both the parties. If such a resolution is not possible, within 30 days from the date of receipt of written notice of the existence of such dispute/s, then the unresolved dispute/s or difference/s or claim/s shall be referred to the Sole Arbitrator appointed by the Parties by mutual consent in accordance with the</p>	

<p>rules and procedures of Arbitration and Conciliation Act 1996 as amended from time to time. The arbitration shall be conducted in New Delhi in the Arbitration and Conciliation Centre New Delhi (Domestic and International) as per its rules and regulations. The expenses for the Arbitration shall be shared equally or as may be determined by the Arbitrator. The considered and written decision of the Arbitrator shall be final and binding between the Parties. The applicable language for Arbitration shall be English only.</p> <p>Work under the Contract shall be continued by the VENDOR during the pendency of arbitration proceedings, without prejudice to a final adjustment in accordance with the decision of the Arbitrator unless otherwise directed in writing by the Purchaser or unless the matter is such that the works cannot be possibly continued until the decision (whether final or interim) of the Arbitrator is obtained.</p>	
<p>27.Applicable Law:</p> <p>The Contract shall be interpreted, construed and governed by the laws of India.</p>	
<p>28.Indicate the Name &amp; address of the vendor for placing purchase order along with their e-mail id , contact person name &amp; designation , Telephone no. and fax no.</p>	
<p>29.Any Other Term:</p>	

**Supporting Documents from Vendor**

**Attachment - I:**

**Attachment - II:**

**Price Bid Form**

<b>Item Description</b>	<b>Slab Range</b>	<b>Qty</b>	<b>UOM</b>	<b>Currency</b>	<b>Unit Price</b>
Supply ,Installation and commissioning of Deep Reactive Ion Etching Tool Supply, Installation and Commisioning of DRIE tool, Material code- 210517532	-	1	No.	-	-

Break-up of other taxes and other costs should be specified in respective narration columns.

Sum of these Break-up values should be specified in respective value columns.

**Supporting Documents from Vendor (Commercial)**

**Document attachment with price bid**

**Attachment - I:**

**Attachment - II:**