



**SPONSORED RESEARCH, INDUSTRIAL CONSULTANCY & CONTINUING
EDUCATION CELL
NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769 008, ORISSA**

Advertised Tender Enquiry

Department: Mechanical Engineering

Tender Notification No: NITR/PW/ME/2018/50

Date: 07/09/2018

**To,
CPP Portal
(eProcurement)**

Important Dates

Event	Date	Time
Pre-bid Conference	NA	NA
Last Date of submission of bid	05/10/2018	11:00 AM
Date of opening of technical bid	08/10/2018	11:00 AM

Dear Sir,

We intend to purchase the commodities specified below and invite quotations in accordance with the terms and conditions detailed in the bid document. If you are interested, kindly send your offer with prices and complete terms within the time mentioned above.

For any clarification:

ATTENTION:

Principal Investigator: **Prof. Tarapada Roy**
Department of Mechanical Engineering
NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769 008, ORISSA

Yours sincerely,

Name: Prof. Tarapada Roy
Principal Investigators
Project Code: NITR/SR/17/ME/002

Encl:

- (1) Schedule of requirement, specifications, dates etc.
- (2) Bid document containing detail terms and conditions.

1. Schedule of requirements

Item No	DESCRIPTION	Quantity
1	PCB prototyping machine and accessories	1 Unit

2. Specifications and allied Technical Details

* Attach User list along with the quotation

3. Format of Quotation (tick appropriate box)

It is a two part bid with separate techno-commercial and price bids.

4. The bid should be submitted through <https://eprocure.gov.in/eprocure/app>

5. Quotations should be valid for a period of **90 days** from the closing date of the bid.

6. Some important dates:

i. Pre-bid Conference	Date: NA	Time: NA
ii. Last date for submission of bid:	Date: 05/10/2018	Time: 11:00 AM
iii. Date of opening of technical bid:	Date: 08/10/2018	Time: 11:00 AM

7. **Warranty** of minimum **01** years must be provided.

8. **GST:** GST should be charge as per applicable rates.

9. **Tender Cost and Bid Security (EMD):** Bid Security in shape of Bank Guarantee/DD (Demand Draft) for **INR 34,000/-** (Rupees Thirty four Thousand Only) and Tender Cost (Non-refundable) in the form of DD for **INR 500/-** (Rupees Five Hundred Only) in favor of **Director, NIT Rourkela** Payable at Rourkela from any Scheduled Commercial Bank except Co-operative and Gramin bank. And Bank Guarantee/DD for the Bid-Security should remain valid for a period of **45 days** beyond the bid validity period from the date of opening of bids. Bid security of unsuccessful bidders should be return to them at the earliest and latest on or before the **30th days** after the award of the contract. **EMD (Earnest Money deposit)** and **Tender Cost** should reach physically through speed post/ register post/courier, containing in an envelope & superscripted with subject, tender reference number addressing to **Registrar, NIT Rourkela-769008, Odisha;** Attention: HOD(ME) **on or before 08/10/2018 at 11:00 AM**

10. **Performance Security: Not applicable**

11. Please go through the enclosed "bid document" carefully for other bidding instructions.

12. Please send your quotations through <https://eprocure.gov.in/eprocure/app>

13. For technical details, you may contact

Prof. Tarapada Roy

Principal Investigator:

Project Code: NITR/SR/17/ME/002

Department of Mechanical Engineering,

National Institute of Technology,

Rourkela - 769 008

Phone: 0661 - 2462507

Fax: +91 - 661 - 2462501

E-mail: tarapada@nitrkl.ac.in/tarapadaroy@gmail.com

NB: ***Please furnish your Dealership Certificate (must) and Proprietary Nature Certificate (If applicable)***



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BID DOCUMENT

1. Instructions to the bidders

- 1.1 Bids are invited on behalf of the Director, National Institute of Technology (NIT), Rourkela – 769 008, Orissa, from the intending bidders for supply of the goods/stores/ equipment for the Institute as detailed in the enquiry letter.
- 1.2 The bidders should quote their offer/rates in **BOQ** in clear terms without ambiguity.
- 1.3 In case of any discrepancy between the rates in figures and that in words, the rate in words will be accepted as correct.
- 1.4 The last date for receipt of the bid is marked in the enquiry.
- 1.5 The bids should be uploaded in <https://eprocure.gov.in/eprocure/app> Please follow the guidelines of the site.
- 1.6 If a prospective bidder requires any clarification in regard to the bidding documents, he may make a request the concerned officer or faculty member at least 15 days before the deadline for receipt of bids.
- 1.7 Bids received after the deadline of receipt indicated in para 1.4 above, shall not be taken in to consideration.
- 1.8 Each bidder shall submit only one bid. A bidder, who submits more than one bid, shall be disqualified and considered non-responsive.
- 1.9 (In respect of high value plant, machinery etc. of a complex and technical nature). The bids may be submitted in two parts, viz., technical bid and financial bid.
- 1.10 The bidder has to sign in full at all pages of the scanned part of the bidding document. No over-writing in those pages is acceptable.
- 1.11 If any bidder does not fulfill technical specification, his/her eligibility will be cancelled even if his/her price got L1 status.

2. Conditions of the bid

- 2.1 The rates quoted should preferably be net, inclusive of packing, forwarding, freight, Insurance and all other incidental charges excluding taxes. In case these charges are quoted extra in addition to the quoted rates, the amount thereof or Ad Valorem rate must be specified. Packing, forwarding, freight, entry tax etc., when quotes separately are reimbursable at actual. If external agencies are employed, their receipts must be enclosed with the invoice.
- 2.2 Duties and Taxes are to be quoted separately. Ad Valorem rates thereof should be clearly indicated with reference to the relevant Acts and Rules.

It may be noted that the Institute is exempt from paying Excise Duty vide Government Notification No. 10/97 dated 01.03.1997 [Registration No.: TU/V/RG-CD (227)/2011, dated 10.10.2011.

- 2.3 The goods are required to be delivered at the indenting Department of NIT, Rourkela, and must be reached within **60 days** from the date of placement of the supply of order under the risk and arrangement of the bidder and offers with delivery beyond the above period shall be treated as unresponsive. In case the delivery time is higher, the same must be mentioned clearly in the quotation.
- 2.4 The bid should remain valid for a period of **90 days** from the date of opening. In case your offer has a different validity period that should be clearly mentioned in the quotation.
- 2.5 Conditional discount, if any, offered by the bidder shall not be considered at the time of evaluation.
- 2.6 The goods offered should strictly conform to the specification and technical details mentioned in **Annexure-I**.
- 2.7 The Institute may like to conduct pre-dispatch inspection of goods, where applicable.
- 2.8 Period of guarantee/warranty, where applicable, should be specified in the bid.
- 2.9 If the successful bidder, on receipt of the supply order, fails to execute the order within the stipulated period, in full or part, it will be open to the Director, NIT, Rourkela to recover liquidated damage from the firm at the rate of 1 percent of the value of undelivered goods per month or part thereof, subject to a maximum of 5 percent of the value of undelivered goods. Alternatively, it will also be opened to the Director, to arrange procurement of the required goods from any other source at the risk and expenses of the bidder.
- 2.10 The successful bidder may be required to execute a contract, where applicable.
- 2.11 The bidder has to furnish up to date GST and Income Tax Clearance Certificate along with the bid.
- 2.12 Payment (100 percent) will be made by Account Payee Cheque /Bank Draft, within 30 days from the date of receipt of the goods in good condition or receipt of the bill, commissioning of the equipment, and after successful installation and demonstration where ever applicable, whichever is later/latest.
- 2.13 In case of Advance payment, the payment will be made on either in Foreign Demand Draft or Wire Transfer only. The proforma invoice copy need to be sent for advance payment.
- 2.14 In the event of any dispute arising out of the bid or from the resultant contract, the decision of the Director, NIT, Rourkela shall be final.
- 2.15 The bid document/resultant contract will be interpreted under Indian Laws.

Specifications of PCB prototyping machine and accessories

Item No	DESCRIPTION
1.	<p data-bbox="229 315 1396 387"><u>A. Circuit Board Plotter for making PCBs by dry process for making standard/ analogue/ digital/RF circuits:</u></p> <p data-bbox="229 421 1396 492">Machine in Acoustic cabinet required for drilling, milling and routing of Bare PCBs with following minimum features:</p> <ul style="list-style-type: none"> <li data-bbox="229 504 1396 575">- Machine should have automatic tools changer min 15 tools position at a time to feed and spindle rpm upto 60000. <li data-bbox="229 586 1396 658">- System should have camera for fiducial recognition, alignment, Automatic offset correction as well as measurement function . <li data-bbox="229 669 1396 786">- Should be capable to make single side/ double side and multilayer circuits on materials like cem, FR4, FR3 etc and polyamide , special films, aluminium panel engraving of sizes atleast 228x304x34mm. <li data-bbox="229 797 1396 824">- Machine should be capable of cutting SMD stencil on polyamide films. <li data-bbox="229 835 1396 907">- Machine should be capable to do 2.5 dimensional operation like front panel/ sign engraving and housing on plastic and aluminium substrates upto atleast 8mm. <li data-bbox="229 918 1396 990">- Machine should have in -built dispenser to apply glue/epoxy onto the substrates fully automatically with minimum data preparation. <li data-bbox="229 1001 1396 1028">- Machine should be capable of making tracks and isolation upto 0.1mm (4mil) <li data-bbox="229 1039 1396 1111">-Machine should be capable of drilling min hole dia 0.15mm and above with drilling speed upto 119 strokes/minute. Travel speed should be upto 149mm/second or more. <li data-bbox="229 1122 1396 1238">- <u>Machine should be supplied with necessary CAM software to accept import format Gerber Standard (RS-274-D), Extended Gerber (RS-274-X), Excellon NC Drill (Version 1 and 2), Sieb & Meier NC Drill, HP-GL™, DPF, Auto-CAD™ , DXF, ODB ++R etc.</u> <p data-bbox="229 1249 1396 1433">The software should have the Editing functions for Original modification, relocating, duplicating, rotating, mirroring, erasing, extending/ severing lines, line/path extension/ shortening, line path/segment parallel shifting, line path/ object polygon conversion (Fill), curve linking/closing capabilities to check the Design Rule Check which can checks conductor path spacing.</p> <ul style="list-style-type: none"> <li data-bbox="229 1444 1396 1597">- The software should have some Special functions for Routing path generator with breakout tabs, joining/separating objects, step & repeat (multiple PCB), polygon cut-out, ground plane generation with defined clearance. The measuring function should be for measuring & design rule check. <ul style="list-style-type: none"> <li data-bbox="229 1608 1396 1635">• Hardware/software requirements to be specified by vendor. <p data-bbox="229 1646 1396 1673"><u>Atleast below listed Consumables to be supplied with machine.</u></p> <ul style="list-style-type: none"> <li data-bbox="229 1684 1396 1711">• 10 qty Base plate FR4, 229 mm x 305 mm (9"x12"), 0/35 µm (predrilled) <li data-bbox="229 1722 1396 1749">• 5 qty Base plate FR4, 229 mm x 305 mm (9"x12"), 18/18 µm (predrilled) <li data-bbox="229 1760 1396 1787">• 5 qty Micro Cutter with distance ring 1/8", 36 mm, 0.1 - 0.15 mm (4 - 6 mil) <li data-bbox="229 1798 1396 1825">• 5 qty End Mills (RF) with distance ring 1/8", 36 mm, d = 0.25 mm (10 mil) <li data-bbox="229 1836 1396 1863">• 5 qty Base plate FR4, 229 mm x 305 mm (9"x12"), 35/35 µm (predrilled) <li data-bbox="229 1874 1396 1901">• 2 pcs Drill backing plate white, 315 mm X 239 mm X 5 mm <li data-bbox="229 1912 1396 1939">• 1 pc Special-Tape <li data-bbox="229 1951 1396 1977">• 3 qty PCB cleaner <li data-bbox="229 1989 1396 2016">• and following tools <ul style="list-style-type: none"> <li data-bbox="277 2027 1396 2078">- 10 pcs milling tool 1/8", 36 mm, 0.2 – 0.5 mm (8 - 20 mil)

- 2 pcs Micro Cutter 1/8", 36mm, 0.10 – 0.15 mm (4 – 6 mil)
- 1 pc End mill 1/8", 36mm, d = 0.8mm
- 2 pcs End mill 1/8", 36mm, d = 1.00mm (39 mil)
- 2 pcs End mill 1/8", 36mm, d = 2.00mm (79 mil)
- 1 pc End mill long, 1/8", 38mm, d = 1.00mm (39 mil)
- 1 pc End mill long, 1/8", 38mm, d = 2.00 mm (79 mil)
- 2 pcs Counter Router, 1/8, 38mm, d = 1.00mm (39 mil)
- 2 pcs Counter Router, 1/8", 38mm, d = 2.00 (79 mil)
- 2 pcs Spiral Drill, 1/8", 38mm, d= 0.40 (16 mil)
- 2 pcs Spiral Drill, 1/8", 38mm, d= 0.50 (20 mil)
- 2 pcs Spiral Drill, 1/8", 38mm, d= 0.60 (24 mil)
- 2 pcs Spiral Drill, 1/8", 38mm, d= 0.70 (28 mil)
- 2 pcs Spiral Drill, 1/8", 38mm, d= 0.80 (31 mil)
- 2 pcs Spiral Drill, 1/8", 38mm, d= 0.90 (35 mil)
- 2 pcs Spiral Drill, 1/8", 38mm, d= 1.00 (39 mil)
- 1 pcs Spiral Drill, 1/8", 38mm, d= 1.20 (47 mil)
- 1 pcs Spiral Drill, 1/8", 38mm, d= 1.40 (55 mil)
- 2 pcs Spiral Drill, 1/8", 38mm, d= 1.50 (59 mil)
- 1 pcs Spiral Drill, 1/8", 38mm, d= 1.60 (63 mil)
- 1 pcs Spiral Drill, 1/8", 38mm, d= 1.80 (71 mil)
- 2 pcs Spiral Drill, 1/8", 38mm, d= 2.00 (79 mil)
- 2 pcs Spiral Drill, 1/8", 38mm, d= 3.00 (118 mil)

Details of the configuration and deviation must be provided along with technical bid.

B. Through-Hole connection by copper rivets with following items should be quoted:

- 1000 pcs throughplating rivets, diameter inside: 0.6 mm, outside: 0.8 mm
- 1000 pcs throughplating rivets, diameter inside: 0.8 mm, outside: 1.0 mm
- 1000 pcs throughplating rivets, diameter inside: 1.0 mm, outside: 1.2 mm
- 1000 pcs throughplating rivets, diameter inside: 1.2 mm, outside: 1.4 mm
- Also to be quoted Tool tip A, Tool tip B, Punching tool, Anvil and Assembling Tweezer for the process using above rivets.

Details of the configuration and deviation must be provided along with technical bid.

C. Suitable dust exaction system with automatic switching, software controlled complete with filters having power supply 230V, 50Hz, 800W should be supplied with the machine.

Details of the configuration and deviation must be provided along with technical bid.

D. Vendor should quote Complete kit set to apply solder resist and legend print on prototype Printed Circuit Boards. Set should be sufficient for 10 double sided boards in the dimension of A4 and should consist of: solder resist; identification resist; developers; Foils for laser print; conditioner; Cribbing and foam roller etc.

The UV- Exposure unit for exposing solder resist/ Mask or Legend printing, should also be quoted. Hot Air oven for the above process should also be quoted.

Details of the configuration and deviation must be provided along with technical bid.
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Other Qualification Criteria:

1. At least five user names and contacts from NIT/IIT/reputed Indian institute/Govt. R&D organizations must be provided where the above equipment and accessories (**Annexure-I**) have been supplied in last five years. Scan copies of the minimum five purchase orders of the above equipment and accessories (**Annexure-I**) must be enclosed along with the technical bid.
2. There must be a local calibration and maintenance center with availability of the spares in India.
3. Scanned copies of the technical brochure of the above equipment and accessories (**Annexure-I**) given in the quotation must be included in the technical bid.
4. Web references must be provided along with the technical bid.
5. Pointwise technical compliance along with any deviation of the mentioned specifications (**Annexure-I**) must be indicated along with technical documents.
6. Income tax return (ITR) of the assessment year 2017-2018 must be provided along with the technical bid.
7. Customized equipment and accessories (as per **Annexure-I**) will not be accepted. The standard equipment and accessories (as per **Annexure-I**) will only be accepted.
8. Dealership Certificate and Proprietary Nature Certificate (If applicable) must be provided along with technical bid.
9. Quoted systems should be complete from single manufacturer only.
10. Prerequisites for Installation should be mentioned along with technical quotation
11. Credentials of the manufacturer to be provided with the technical quotation.

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