

**INVITATION OF TENDER  
(Through e-Procurement)**



**NATIONAL INSTITUTE OF TECHNOLOGY,  
ROURKELA-769008**



## NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA – 769008

Web.: [www.nitrkl.ac.in](http://www.nitrkl.ac.in)

Phone: 0661-2462021

### **e-Procurement Notice**

Ref: NITR/PW/2020/40

date: 04.03.2020

Online tenders are hereby invited **in two cover system (Cover-I: Techno-Commercial Bid; Cover-II: Price Bid in BOQ format)** from parties who have participated in Expression of Interest (EOI Ref. No. NITR/PW/2019/01 dated 08.11.2019) for establishing a Centre of Excellence for imparting high-end skill training, Industrial Consultancy and Research Work in the field of Industry 4.0 and Digital Manufacturing Technology at NIT Rourkela.

Bidders can download complete set of bidding documents from e- procurement Platform <https://mhrd.euniwizarde.com/HomePage/ebidSites?siteName=mhrd> from **04.03.2020** onwards. Bidders need to submit the bids online for the items included in the tender by uploading all the required documents through <https://mhrd.euniwizarde.com/HomePage/ebidSites?siteName=mhrd>

**Last Date/ Time for receipt of bids through e-procurement is: 25.03.2020(03:00PM)**

Late bids shall not be accepted.

For further details regarding Tender Notification & Specifications please visit website:

<https://mhrd.euniwizarde.com/HomePage/ebidSites?siteName=mhrd> app and [https://nitrkl.ac.in/OldWebsite/Jobs\\_Tenders/11Miscellaneous/Default.aspx](https://nitrkl.ac.in/OldWebsite/Jobs_Tenders/11Miscellaneous/Default.aspx)

**Note:** Bidder should submit the EMD & Tender Cost through online mode of e-Procurement portal of Ministry of HRD, Government of India (<https://mhrd.euniwizarde.com/HomePage/ebidSites?siteName=mhrd>). The Earnest Money Deposit of unsuccessful bidders would be returned after the award of contract. EMD Shall bear no interest. Any bid without EMD and Tender Cost will be treated as unresponsive and will not be considered.

**IMPORTANT DATES & INFORMATIONS:**

Sl. No.	Particulars	Timeline / Information
1	IOT Issuance Date	<b>04<sup>th</sup> March,2020</b>
2	IOT Coordinator Name, Contact details	Prof. K.K.Mahapatra, ECE Contact No. - 0661-2462454/ Mob. 9437246541 Email: <a href="mailto:kkm@nitrkl.ac.in">kkm@nitrkl.ac.in</a>
3	Last Date of Submission of IOT Response (Closing Date)	03:00 PM on 25 <sup>th</sup> March, 2020 Mode: Online URL: <a href="https://mhrd.euniwizarde.com/">https://mhrd.euniwizarde.com/</a>
4	Bid Opening Date (Techno-Commercial)	03:00 PM on 26 <sup>th</sup> March, 2020 Mode: Online URL: <a href="https://mhrd.euniwizarde.com/">https://mhrd.euniwizarde.com/</a>
5	Finance Bid	The Finance bids of only those vendors who qualify in technical evaluation will be opened.
6	Tender cost (Non-refundable)	Rs. 1,000/-
7	Earnest Money Deposit	Rs. 6,00,000/-
8	Mode of bid submission & online portal's URL	Mode: Online URL: <a href="https://mhrd.euniwizarde.com/">https://mhrd.euniwizarde.com/</a>
9.	Mode of submission of EMD & Tender cost	Need to be submitted through online mode of e-Procurement Portal of Ministry of HRD, Govt. of India ( <a href="https://mhrd.euniwizarde.com/">https://mhrd.euniwizarde.com/</a> ). The EMD (Earnest Money Deposit) of unsuccessful bidders would be returned to them on or before the 30 <sup>th</sup> days after the award of the contract. EMD shall bear no interest. Any bid without accompanying with EMD & Tender Cost will be treated as non-responsive and rejected.
10	Last date of submission of EMD & Tender cost	Within Last date and time for submission of bid.
11	Declaration of Final Shortlisted Agency	Will be notified to the selected party, No intimation will be made to the unsuccessful party.

**Checklist for Bid / Tender Submission**  
(The following check-list must be filled in and submitted with the bid documents)

SI.No	Particulars	Yes / No
1.	Have you attached the techno-commercial bid form duly filled in appropriately?	
2.	Have you attached a copy of the last three years audited balance sheet of your firm	
3.	Have you attached the copy of the GSTIN certificate	
4.	Have you attached the details of the income tax return certificate, proof?  of manufacturing unit/ dealership letter/ general order suppliers and copy of Central / State sales tax registration certificate?	
5.	Have you attached the copies of relevant work orders from Govt. Depts./ PSUs and Central Autonomous Bodies?	
6.	EMD: Have you submitted EMD & Tender Cost asked for (as specified in BDS).	
7.	Have you submitted the bids both techno commercial and priced bid separately for each tender?	
8.	Have you signed and attached the priced bid form?	
9.	Have you attached the schedule of requirements duly priced?	
10.	Introduction Letter -Annexure-I & I(A)	
11.	Letter Of Undertaking - Annexure-II	
12.	Domain Expertise Form -Annexure-III	
13.	General Condition of Contract-Annexure-IV	
14.	Scope of Work and Service- Annexure-V	
15.	Price Bid/BOQ Format-Annexure-VI	

Note: All documents submitted must be signed on each page.

# **THE PROJECT**

## **1. INTRODUCTION:**

National Institute of Technology, Rourkela having 22 departments in Engineering, Science, Management and Humanities with student strength of about 6500 and faculty of around 400 is an Institute of national importance and one of the leading NITs of India. To promote the Research and Development activity, the Institute is planning to setup a “Center of Excellence” for imparting high-end skill training, industrial consultancy & Research Works in the field of Industry 4.0 & Digital Manufacturing Technology. The center shall address industrial needs skill development and consultancy in areas of engineering, product design & development and advanced manufacturing technologies with emphasis on following:

- a) Automotive – Passenger & Commercial Vehicles
- b) Aerospace
- c) Industrial Machinery – off highway vehicles, firm equipment and implements, electrical and mechanical machineries
- d) Industry 4.0
- e) Digital factories
- f) Ship building
- g) Industrial Automation
- h) Mining
- i) Energy
- j) Process Engineering

## **2. CONCEPT OF CENTER OF EXCELLENCE (THE PROJECT) :**

- (a) The project is a turnkey project where the Technology Provider will be responsible for the supply of the technological product / lab Hardware and software, commissioning and should run the lab along with the institute faculty & students for a period of 3 Years. It must be state-of-the-art and industry relevant and should cater to the current and futuristic requirements of the industry / research.

NIT Rourkela will provide premises, not limiting to covered space, furniture, necessary interiors, computers and necessary networking, internet, electricity, water and air conditioning facility to setup the Center of Excellence (COE). About 12000 Square Feet of covered area has been identified for this purpose. The details of the area will be provided to the successful Technology Provider. The infrastructure for the COE will be made ready by NITR as per the specification. The TP should provide finance in the form of grant on total project value (The maximum value of project may be Rs 200 Crore) for minimum 85% and NIT Rourkela shall contribute financial assistance upto the extent of 15% of the project cost.

The Center of Excellence should be an interdisciplinary, industry backed center focused on developing skill excellence in the field of Design, Digitalization and Industry 4.0. Through the training and implementation of industry-relevant technology and processes, the center should facilitate a multi-disciplinary learning environment across Technology, Engineering, Science and Management faculties. It should meet the demands of the industries’ ever-changing processes and help build skills around collaboration and innovation. The center should leverage the Technology Provider’s capability to draw upon the expertise from various areas of automotive, automotive suppliers, Aerospace, Defense and their suppliers, Industrial

Engineering, Electrical and Process Industries such as Mining, Process Industries such as Iron and Steel, Energy, Cement, Pharmacy, Food and Beverage, Chemical etc. and provide its Partner with knowledge and tools.

The center should focus on Research and Development and bridge the skill gap of students vis-à-vis industry needs and impart state-of-the-art industry-oriented training.

Some of the main feature of the center shall be as follows:

- The center is aimed at Industry connected skill development programs and hence the proposal should also have a MOA with leading Technology Company.
  - This center shall run on Build, Operate and Transfer Mode (**BOT**).
  - All the Hardware shall be of industrial standards with state of the art technology.
  - The software should not be restricted to educational limits. It must be with industrial features so that Industrial consultancy and research also are carried out simultaneously.
- (b) As part of the project, the Technology Provider shall ensure an interrelated high technology, modular, skilling facility and offer demand driven courses.

The CoE is envisioned to be setup as a State of the Art Centre of Excellence (CoE) in which the TP shall bring in their best in class equipment/ tools/ machines/ simulators (commonly referred to as equipment) to be used for training purposes. The CoE will be managed professionally by the TP.

The Technology Provider (TP) will be responsible for devising and implementing a three-year rolling plan and ensuring that the CoE is constantly upgraded with high technology ecosystem for skilling/ up- skilling/ re-skilling/ cross-skilling and multi-skilling. The TP shall assist NITR to mobilize students for training which will help generate revenues at the CoE which can help offset the overall costs of the CoE.

TP and NIT Rourkela shall be jointly responsible for administrative, quality and financial discipline including the management of the CoE, marketing, branding, placement, costing of courses, management of hostels, course content, pedagogy, funding etc. and continuously engage with the industries to ensure that the CoE remains relevant at all times.

### **3. RESPONSIBILITY OF THE TECHNOLOGY PROVIDER (TP):**

The following shall be the responsibility of TP in general:

1. To design the CoE (Center of Excellence) and to develop a three years strategic rolling plan for the CoE along with NITR and be responsible for implementing the plan.
2. Identify and formulate training programs to develop skills in futuristic/ disruptive technologies and associated skill sets required for industry ready.
3. To develop courses, course content, course work, manuals, standard operating procedures and standards, disseminate the same with the overall intent of improving the skill sets of individuals.
4. To impart high-end skills (and not generic skills) to Students, unemployed individuals and employed individuals (looking to up skill/ re-skill themselves).
5. To conduct trainer programs.
6. To conduct need based/ on-request training programs to cater to specialized requirements of corporate, and to generate revenue through these programs.

7. To carry out assessment, certification of trainees/Training.
8. (a) To ensure upgrading phase to Industry 4.0, which originates from the concept of Digital twin. Digital Twin is an accurate virtual representation of products, processes, operations, and performance.  
  
(b) To design and process design software that can connect to the hardware provided in the other labs to form Digital twin / Digital manufacturing. The proposed list of labs in this Center of Excellence should encompass upcoming manufacturing technologies related to industry 4.0(Digitalization).
9.
  - (a) The TP shall ensure that no other equipment / structure / setup get damaged or impact on existing live operations due to their activities. Any damages caused to NITR property / existing operation due to TP's negligence shall be passed on to the TP's account.
  - (b) TP shall complete the entire work (i.e., delivery& set-up of Laboratories) **within 6 months** from the date of award of contract.
  - (c) Receipt of a proposal neither binds NITR to award a contract to any bidder, nor limits NITR's rights to negotiate with any bidders. NITR reserves the right to contract with any bidder, supplier or contractor at its own discretion.
  - (d) NITR reserves the right to ask for additional information necessary and pertinent to the project so as to assure the bidder's ability and qualification to perform the contract.
  - (e) Failure to answer any questions within stipulated timeline at any stage of this IOT may be considered non-responsive and the proposal may be rejected.
  - (f) For any ambiguity, omissions or unclear content the bidders should request NITR to clarify within the timeline mentioned in the Important Dates.
  - (g) For all technical details and relevant standards and specifications of this IOT that may not be stated in detail; bidders should ensure and provide quality and industrial standard products to NITR.
  - (h) In case of any difference in the standards between the terms herein mentioned and the bidders' proposal, the higher standards shall be applicable.
  - (i) NITR reserves the right to accept or reject any and all IOT.

#### 4. ELIGIBILITY:

##### Eligibility Criteria of the Technology Provider (TP)

SL.No	Eligibility Criteria	Supporting Required
<b>A</b>	<b>General</b>	
1	TP must be a legal entity with ten years of existence.	Documentary Proof to be attached (Certificate of Incorporation / Registration)
2	TP was not blacklisted / debarred by any Statutory, Regulatory or Government Authorities or Public Sector Undertakings or Autonomous Bodies during last 3 years.	Letter of confirmation from TP through Affidavit.
3	Technology Provider should be recognized for providing technological products in the areas listed in the Section of Technical Scope.	Letter of confirmation from Bidder.
4	The TP has to provide an undertaking on his letter head that all the functional, technical & service requirements highlighted as part of Technical Scope are covered in totality if the tender submitted by the Bidder.	Letter of confirmation from Bidder.
5	The Technology Provider must have global presence.	Suitable evidence to be provided.
<b>B</b>	<b>Financial</b>	
1.	The Technology Provider must have a Turnover of at least Rs.100 cr (from Indian Operations only) in each year during the last three financial years 2016-17, 2017-18 and 2018-19 (Not inclusive of the turnover of associate / affiliate / subsidiary companies)	Audited Financial statements for the financial years 2016-17, 2017-18 and 2018-19 with a Certified letter from the Chartered Accountant.
2.	The Technology Provider must have a valid PAN and GST, License, Patent right, if any.	Copy of PAN & GST Registration etc. / relevant proof to be submitted.



C	Experience	
1	The Technology Provider must have similar experience of setting up COE's for at least 5 years. The Technology Provider should have executed minimum 10 such COE's within India.	A copy of agreements must be submitted. Please note that the Technology Provider must be the same as mentioned in the copies of agreement submitted.
2	Technology Provider must have R&D Facility in India and have their training centers. The Technology Provider must be globally implementing such CoEs through direct programs.	Suitable evidence to be provided
3	Domain Expertise: The Technology Provider should have at least 60% of the mentioned labs as per the technical scope. Minimum 7 out of the 11 labs should be offered directly by the Technology Provider (TP should offer proprietary items manufactured by them) barring utilities such as computer, compressor, stabilizer, the primary equipment / software in 60% of the labs must be a product owned by the Technology Provider. Out of the balance 4 labs the Technology Provider must offer key components that are used in the equipment. This is to ensure that they are part of all the labs and thus are defined truly as a Technology provider in the industry and thus a Technology Provider for the CoE.	Suitable evidence to be provided

## 5. INSTRUCTIONS FOR ONLINE BID SUBMISSION

The bidders are required to submit soft copies of their bid electronically on the e-Wizard Portal (<https://mhrd.euniwizarde.com>) using valid Digital Signature Certificates. Below mentioned instructions are meant to guide the bidders for registration on the e-Wizard Portal, prepare their bids in accordance with the requirements and submitting their bids online on the e-Wizard Portal. For more information, bidders may visit the e-Wizard Portal <https://mhrd.euniwizarde.com>

### (a) REGISTRATION PROCESS ON ONLINE PORTAL

1. Bidders to enroll on the e-Procurement module of the portal <https://mhrd.euniwizarde.com> by clicking on the link "Bidder Enrollment". Enrolment on the e-wizard Portal.
2. The bidders to choose a unique username and assign a password for their accounts. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the e-Wizard Portal. Bidders to register upon enrolment their valid Digital Signature Certificate (Only Class III Certificates with signing + encryption key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.), with their profile.
3. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse. Foreign bidders are advised to refer "DSC details for Foreign Bidders" for Digital Signature requirements on the portal.

4. Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / eToken.
5. Bidders must ensure that they have the latest version of Java installed in their local system.
6. The scanned copies of all original documents should be uploaded in pdf format on portal <https://mhrd.euniwizarde.com>
7. After completion of registration payment, you need to send your acknowledgement copy on our help desk mail id [ewizardhelpdesk@gmail.com](mailto:ewizardhelpdesk@gmail.com) for activation of your account.

### **(b) TENDER DOCUMENTS SEARCH**

1. Various built in options are available in the e-Wizard Portal to facilitate bidders to search active tenders by several parameters. These parameters include Tender ID, organization, location, date, value, etc.
2. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the Online Portal.
3. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the Online Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
4. The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

### **(c) BID PREPARATION**

1. Bidder should take into account any corrigendum (if any) published on the tender document before submitting their bids.
2. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid, and the concept/project.
3. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
4. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / PNG etc. formats. Bid documents may be scanned with 100 dpi with black and white option.

### **(d) BID SUBMISSION**

1. Bidder to log into the site well in advance for bid submission so that he/she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
2. The bidder to digitally sign and upload the required bid documents one by one as indicated in the tender document.
3. Bidder to select the payment option as Online" to pay the tender fee/ EMD wherever applicable and enter details of the instrument.

4. A standard BoQ format has been provided with the tender document to be filled by all the bidders. Bidders to note that they should necessarily submit their financial bids in the prescribed format and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the unprotected cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
5. The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
6. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data, which cannot be viewed by unauthorized persons until the time of bid opening.
7. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
8. Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
9. Kindly add scanned PDF of all relevant documents in a single PDF file of compliance sheet.

#### **(e) AMENDMENT OF BID DOCUMENT**

At any time prior to the deadline for submission of tender, NITR reserve the right to add/modify/delete any portion of this document by issuance of a Corrigendum, which would be published on the Institute website([www.nitrkl.ac.in](http://www.nitrkl.ac.in)) and e-wizard portal(<https://mhrd.euniwizarde.com/>). The Corrigendum shall be binding on all bidders and will form part of the bid documents.

#### **(f) ASSISTANCE TO BIDDERS**

1. Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
2. e-Procurement support any queries relating to the process of online bid submission or queries relating to e-Wizard Portal in general may be directed to the 24x7 e-Wizard Helpdesk. The contact number for the helpdesk is 011-49606060, 23710092, 23710091, Er Sanjeet Kumar Jha (+91-8882495599), 9355030626. Amit Kumar Jha 9355030627, 9205898226

#### **Email Support:**

For any eProcurement Application Service Requests and Technical issues related to Document Uploads, Tender Publishing, Issue of Corrigendum, Encryption/Decryption Key issues, Bid Evaluation, Bidder Login issues, New Registration issues, Key Uploads, DSC Key installation, Bid Submission, system users may please mail to Sanjeet Kumar Jha [ewizardsanjeet.kumar@gmail.com](mailto:ewizardsanjeet.kumar@gmail.com)

#### **6. General Instructions to the Bidders:**

- I) Duly filled in tenders are to be submitted electronically in the e-Procurement module of E-WIZARD portal within the date & time mentioned in the Notice Inviting Tender. No tender is acceptable through any other mode.

- II) The cover containing the fee for both EMD, Tender Cost shall be opened first at the time of opening of techno-commercial bid. The Part-I offer of those Tenderers, whose EMD and Tender Cost are found in order and submitted as prescribed, will be opened immediately thereafter. Otherwise the offer will be considered as invalid and other parts will not be opened.
  - III) The price discovery against this tender will be through e-Procurement.
  - IV) The tender shall be valid for **120 days** for acceptance from the date opening of the price bid and withdrawal in between shall entail the forfeiture of Earnest Money.
  - V) Tenders not received in the prescribed forms will be liable for rejection.
  - VI) The Tenderer(s) shall dully fill in all particulars in the format as at **Annexure- I(A)** and it shall form part of tender document under Technical (i.e Techno-commercial) bid. Non-submission of duly filled in & signed form of tender shall render the tender invalid.
  - VII) The invitation to Tender, Instructions to Tenderers, all annexure including Special Conditions (SCC) of Contract & General Conditions of Contract (GCC), form of tender along with the rates quoted against each item in the "Schedule of Rates" with the Letter of Acceptance and Work Order for awarding of the work and Contractor's Letter of acknowledgement shall form the contract. In case of any conflict between the terms mentioned in General Conditions of Contracts and Special Conditions of Contract, The Latter shall prevail.
7. The Tenderers shall furnish the following documents as part of **Technical Bid**:
- i. Category of Tenderer, whether Proprietary Firm, Registered Firm, Registered Partnership Firm, Private Limited Company, Public Limited Company, Co- Operative Society etc. along with following documents:
    - 1. In case of Proprietary Firm, attested copy of affidavit of Sole Proprietary.
    - 2. In case of Partnership Firm, attested copy of Partnership deed along with amendments if any and proof of registration if any.
    - 3. In case of Limited Companies, Memorandum & Articles of Association, Certificate Incorporation, Authorized, and Subscribed and paid up capital.
    - 4. In case of Co-Operative Society, attested copy of the certificate of registration from the Registrar of Co- Operative societies.

If required, the original documents will have to be produced for verification.

- ii. Tender by a partnership firm shall be signed in the firm's name by one of the partners duly authorized by other partners. Tender by "Company" shall be signed in the name of the company, by a person duly authorized on its behalf. A power of attorney or other satisfactory proof showing that the person signing the tender document on behalf of the company is duly authorized to do so, shall accompany the tender. Tender submitted without furnishing the full particulars or tender documents without strictly adhering to the directions given herein shall be rejected.
- iii. Information about officer of the firm/ Company being an employee, past or present or relationship of any employee of NIT, RKL with Proprietor, Partner – Director of the firm is to be furnished.
- iv. Whether the tenderer or any of the Proprietor, Partner, Director, Shareholders or their spouse working as contractors in NITR or any Government Department/Public Undertaking has been:
  - a. Black listed.
  - b. Removed from the approved list of Contractors.

- c. Demoted to lower class of job.
- d. Under Orders for banning of suspending business with him/ them. If yes, give the details indicating the period.

v. **Banning of Business Dealings:**

- a. If it is found during processing of the Tender or execution of contract, the Tenderer or his representative has resorted to corrupt, fraudulent practices including misrepresentation of facts and/or fudging/forging/tampering of documents, the bid submitted by the Tenderer shall be disqualified and a ban or any further business dealings shall be imposed for a specified period.
- b. If it is found during the validity of the Contract that the Contractor or his agent/representative or any other person claiming interest under him, indulges in any malpractice/activity prejudicial in the interest of the NIT or detrimental to the Plant/Unit, equipment and property, the said Contract may be terminated at once and a ban on any further business dealings shall be impose for a specified period under the laid down procedure of the Company.

**8. BID OPENING PROCEDURES**

- i. The Technical Bids may be opened at NIT Rourkela, on the specified date & time by the Committee authorized by the competent authority of NIT Rourkela.
- ii. The financial bids of those bidders whose Technical Bids are accepted, shall be opened by the Committee on the specified date and time.

**9. CLARIFICATION ON TECHNO-COMMERCIAL BID EVALUATION**

- i. The technical bids shall be evaluated based on the available documents submitted by the bidder in the e-Procurement module of E-WIZARD P. To assist in the examination, evaluation, and comparison of the bids, and qualification of the bidders, the Institute may, at its discretion, ask any bidder for a clarification of its bid. Any clarification submitted by a bidder that is not in response to a request by the Institute shall not be considered. The Institute's request for clarification and the response shall be in writing through e-Procurement site.
- ii. If a bidder does not provide clarifications by the date and time set in the Institute's request for clarification, the bid may be rejected.
- iii. Institute also reserves right to seek confirmation/clarification from the issuer agency, on the supporting documents submitted by the bidder.

**10. TECHNO-COMMERCIAL BID EVALUATION**

Techno-commercial bids will be evaluated based on the submitted documents information available in tender drafts. The decision of the committee will be final and binding on all bidders and can't be questioned at any stage of evaluation.

The bidders who qualify in the technical evaluation may be intimated through the e-Procurement site.

**11. FINANCIAL BID OPENING PROCEDURE**

The financial bid (BOQ) shall be in excel sheet form. The Financial Bids (BOQ) of all technically qualified Bidders may be opened on the scheduled date and time.

## **12. FINANCIAL BID EVALUATION**

Lowest price (in Rupees) of the tender quoted under point 1.04 (NIT Share) of BOQ shall be treated as successful bidder. Lowest quoted tender is not the sole condition for acceptance.

13. Tenders containing overwriting or erasing, without authentication & without full signature in the pages(s) of "Schedule of Rates" (Financial Bid) and amount / quantity not shown in figures and words will be liable for rejection.
14. The rates/price quoted in the tender by the tenderer shall be in figure as well as in words. In case of discrepancy in the rate(s) amount between figure and words, the value written in words shall be taken as finally quoted rate(s) / amount.
15. BOQ not received in the prescribed format shall be liable for rejection.
16. The rate in the tender shall cover/ include all statutory duties/taxes/levies, as on date of tender, including GST.
17. Conditional tenders either in Cover-I or Cover-II of the tender shall be liable for rejection.
18. Any request from the tenderer in respect of additions, alterations, modifications, corrections etc. of either terms and conditions or rates of his tenders after opening of the tenders, shall not be entertained under any circumstances. If the tenderer withdraws his tender after opening of the tender, but before the expiry of the validity period of the BOQ, the Earnest Money shall be forfeited.
19. The successful tenderer shall make his own arrangement for all materials, machines and man power with requisite accessories required for carrying out the job as specified, in the contract.
20. By submitting a tender, the tenderer will be deemed to have satisfied himself that the rates quoted by him in the tender will be adequate to complete such work according to the specifications and conditions attached and he has taken into account all conditions and difficulties that may be encountered during its progress /execution. Any complaint in this regard after submission of offer shall not be entertained.
21. Canvassing in any form is strictly prohibited and tenders submitted by the tender who resort to canvassing, will be liable for rejection.
22. Authority of NIT reserves the right to accept /reject any or all tenders without assigning any reason thereof.
23. Tender documents are not transferable.
24. Proprietary Firm, Registered Firm, Registered Partnership Firm, Private Limited Company, Public Limited Company, Co-Operative Society etc. formed after floating date of the tender are not eligible for participating in the tender.
25. It shall be the responsibility of the persons/firms submitting the tender to ensure that the tenders have been submitted in the formats and as per the terms and conditions prescribed in the NIT website and no change is made therein before submission of their tender. In the event of any doubt regarding the terms and conditions /formats, the person concerned may seek clarifications from the authorized officer NIT. In case any tampering/Unauthorized alteration is noticed in the tender submitted from the tender document available on the website, the said tender shall be summarily rejected.
26. (a) **For any clarification:** Please contact:

**Prof. K. K. Mohapatra (Project Leader-COE)**  
**Dept. of ECE,**  
**NIT Rourkela-769008**  
**Ph. No.: 0661-2462454/ 09437246541;**  
**Email: [kkm@nitrkl.ac.in](mailto:kkm@nitrkl.ac.in)**

- (b) Similarly, the authorized representative of the Technology Provider can participate in the tender process and no other person is allowed.
27. The EMD submitted by the successful bidder shall be converted in to security deposit and the same will be released after expiry of one month of completion of the contract subject to adjustment /deductions of NITR dues if any.
28. Before submitting the tender, the tenderer should ensure that the details/documents are submitted as per the check list.

Date:

Place

Signature of Tenderer

(On the Letter Head of TP)

**ANNEXURE-I**

## **Introduction Letter**

**[Location, Date]**

To,

The Director,  
National Institute of Technology,  
Rourkela – 769008 (Odisha)

Dear Sir,

We, the undersigned, intend to participate as a Technology Provider (TP) for setting up of Center of Excellence in accordance with your Request for Proposal dated [Insert date].

We have attached a copy [Insert: “Authorization Letter”] authorizing our Execution Partner (Name of execution partner) to execute the project.

We hereby declare that we have read all the instructions, terms and conditions mentioned in the IOT and abide by the same. The undertaking letter with that respect as per Annexure 02 is also enclosed for your reference. Further, we declare that all the information and statements made in this proposal are true and we accept that any misleading information contained in it may lead to our disqualification.

We enclose the following documents for consideration of our proposal.

1. Authorization Letter from the Technology Partner (TP) to the Execution Partner.
2. Certification of Registration / Incorporation of the Technology Partner and Execution Partner.
3. Self-Declaration against blacklisting of TP and Execution Partner.
4. Domain Expertise Form (As per Annexure-03).
5. Information in the Format as at annexure-1A.

We undertake, if our proposal is accepted, we will sign the MOA and initiate the project as per the timelines prescribed. Otherwise, the Bid Security submitted by us shall be forfeited.

Yours faithfully,  
[Authorised Signature]  
Name & Designation of Sognatory  
Name of the Firm:  
Address of the Firm.

**(All pages of the original Proposal shall be initialed by the same authorized representative of the interested party who signs the Proposal.)**



**ANNEXURE – I(A)**

**(ON LETTER HEAD OF THE FIRM)**

TENDER FOR SELECTION OF TECHNOLOGY PROVIDER (TP) TO SETUP A CENTRE OF EXCELLENCE FOR IMPARTING HIGH END SKILL TRAINING, INDUSTRIAL CONSULTANCY AND RESEARCH WORKS IN THE FIELD OF INDUSTRY 4.0 AND DIGITAL MANUFATURING TECHNOLOGY AT NATIONAL INSTITUTE OF TECHNOLOGY, ROURKELA

**Detailed Particulars of the Tenderer**

<b>Sl. No</b>	<b>Particulars</b>	
1.	Name of Agency/ Firm/Proprietor	
2.	Full Postal Address	
3.	Email ID	
4.	Mobile No.	
5.	Name, Telephone no. and e-Mail ID of the contact person	
6.	Other business of the firm	
7.	Office Ph.no	
8.	Fax no. (if any)	
9.	Name(s) of Proprietor / Partner / Director	
10.	PAN No.	
11.	GST Registration No.	
12.	Details of any other license or patent if any.	
13.	Turnover during the FY	2016-2017:
		2017-2018 :
		2018-2019 :
14.	Past experience in similar business (enclose relevant documents/order copies of other organizations)	
15.	Income Tax Return of last three financial year	

**Name and Signature of Tenderer**

(To be furnished on the Letter Head of the Bidding Firm)  
Undertaking

To,

The Director,  
NIT, Rourkela  
Rourkela – 769008

Sir,

**Sub: Request for Proposal for Selection of Technology Partner for Setting up Centre of Excellence**

1. Having examined the Tender Documents including all Annexures and Appendices, the receipt of which is hereby duly acknowledged, we, the undersigned offer to supply, deliver, implement and commission ALL the items mentioned in the 'Request for Proposal' and the other schedules of requirements and services for your Institute in conformity with the said Tender Documents in accordance with the schedule of Prices indicated in the Price Bid and made part of this Tender.
2. If our Bid is accepted, we undertake to comply with the delivery schedule as mentioned in the Tender Document.
3. We agree to abide by this Tender Offer for 180 days from date of bid opening and our Offer shall remain binding on us and may be accepted by the Institute any time before expiry of the offer.
4. This Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.
5. We undertake that in competing for and if the award is made to us, in executing the subject Contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".
6. We agree that NITR is not bound to accept the lowest or any Bid the Institute may receive.
7. We certify that we have provided all the information requested by the Institute in the format requested for. We also understand that the Institute has the exclusive right to reject this offer in case the Institute is of the opinion that the required information is not provided or is provided in a different format.

Dated this.....by .....20

Yours faithfully,

Authorized Signatory  
Name:  
Designation:  
Bidder's Corporate Name  
Address  
Email and Phone #

**Domain Expertise Form**

Sl. No.	Lab	Labs supplied by	Components Involved
1	Product Design Lab – Software Lab		
2	Mechatronics Lab		
3.	Power Lab		
4	Motors and Drive control Lab		
5	Computer-Aided Engineering (CAE) and analysis lab – Software & Hardware Lab		
6	IoT (Internet of Things)- Cloud-based IoT		
7	Manufacturing Process Lab – Software Lab		
8	Industry 4.0 – Smart Manufacturing Lab		
9	Automatic Welding Robot		
10	Sensors and Instrumentation Lab – DCS System with Sensors		
11	CNC Controller Lab		

**GENERAL CONDITIONS OF CONTRACT**

**A. DEFINITIONS**

- 1. Approved** means approved in writing, including subsequent written confirmation of previous verbal approval.
- 2. Company** means National Institute of Technology Rourkela. (in short-NITR) and shall also be referred to as employer.
- 3. Competent Authority** Means Head of the Institutions or any officer authorized by him/her.
- 4. Contract** means the Invitation to Tender, Instructions to Tenderers, General Conditions of Contract, Special Conditions of Contract, Scope of Work showing approximate quantities, tender submitted by the tenderer including his price offer, Performance Guarantee Bond and other bonds, Letter of Acceptance, Work Order and any communication having the effect of amendment of the contract, and the contract agreement, unless otherwise specified.
- 5. Contract/Price** means the sum named in the tender that has been accepted subject to such additions thereto or deductions there from as may be made in course of the tender evaluation or thereafter.
- 6. Contractor** means "the Tenderer" 'whose tender has been accepted and includes the Contractor's authorized representative, successors, permitted assignees, legal heirs.
- 7. Director** means and includes Director of NIT-Rourkela or his authorized representative.
- 8. Duration of contract** means the period stipulated in the contract or work order and includes any extended period thereof, if any made through by a written communication.
- 9. NIT** means National Institute of Technology, Rourkela represented through authorized officer for this contract or Director as the case may be.
- 10. Project Leader-COE** means officer authorized to perform certain duty under this contract.
- 11. Authorized officer/Representative** means and includes Asst. Registrar, Deputy Registrar, Registrar, Dean, Project Leader-COE, Warden and HOD of NIT authorized or designated for this contract.
- 12. Equipment** means all tools, instruments, appliances or things of whatsoever nature required in course of the execution of the contract.
- 13. Notice in writing** or written notice including notice in digital mode means a notice in written, typed or printed characters sent or emailed (unless delivered personally or otherwise proved to have been received) by registered post / courier (with POD) to the notified address or the Registered office of the addressee, or the contractor's site office and shall be deemed to be sufficient service if so sent or left at that address.
- 14. Terms and Conditions** means the special condition of the contract (SSC) and the General conditions of the contract (GCC) herein mentioned and other stipulations incorporated in any part of the tender document and / or agreement.
- 15. Tender** means offer against enquiry / advertisement / Notice Inviting Tender submitted by the tenderer in single part or in multiple part like Techno- commercial part, price bid part.

16. **Tenderer** means and includes the person or firm or company who have submitted valid tender and also includes its authorized representatives, heirs, executors, administrators, successors and assignees as approved by the employer.
17. **Work** means all work given in the Scope of Work in the tender documents and includes any associated work required for fulfillment of the Scope of Work and as set forth and required by the specifications and also such additional instructions issued from time to time during the progress of the work.
18. **Words** importing the singular only shall include the plural and vice versa. Where the context requires words importing person shall include firms and companies and vice versa.
19. **Cartel:** If it is found that the tender price is rigged by cartel formation, the tender process/tender of the cartel group shall be cancelled. (Cartel means quoting price in connivance so as to influence the bid).
20. **Termination of Contract:** During the contract period if found any unsatisfactory performance or without any reason, NIT Rourkela will have a right to terminate the contract immediately without any prior notice to the contractor/Service Provider.
21. **Experts:** means collectively key Experts, Non-key Experts or any other personal of the TP, Sector Partner, Execution Partner or Consortium Member(s).

**B. RESPONSIBILITIES OF NIT OFFICIALS**

22. The duty of NIT's representative is to watch and oversee the work. He / She shall have no authority to relive the contractor of any of his duties or obligations under the contract except as expressly provided hereunder or elsewhere under the contract or to order any work involving any delay or extra payment by NIT not to make any variations in the works.

**C. ASSIGNMENT AND SUB-CONTRACTING**

23. The contractor shall not assign the contract, or any part thereof, or any benefit or interest therein without prior written consent of Project Leader-COE.
24. The contractor shall not sub-contract the works without written consent of NIT and such consent if given shall not absolve the Contractor from responsibility, liability or obligation under the contract and he shall be responsible for the acts defaults or neglects of any sub-contractor, his agents, servants, or workman as fully as if they were the acts defaults, neglects of the contractor, his agent, servants or workman.

**D. CONTRACT DOCUMENTS**

25. **Documents mutually explanatory:** The several documents forming the contract are to be taken as mutually obligatory of one another, and interpreted harmoniously, and in case of ambiguities or discrepancies, the same shall be clarified by NIT who shall thereupon issue to the contractor instructions / directions indicating the manner in which the work is to be carried out.
26. **Further instructions:** The representative of NIT shall have full power and authority as delegated to him to issue to the contractor, from time to time during the progress of the work, such further instructions as shall be necessary for the purpose of proper and adequate execution of the work and the Contractor(s) shall carry out and be bound by such further instructions.

E. **GENERAL OBLIGATIONS OF THE CONTRACTOR**

- a) **Sufficiency of tender:** The contractor shall be deemed to have satisfied himself before submitting tender as to the correctness and sufficiency of his tender for the works and of the rates stated in the tender schedule which shall cover all his obligations under the contract and all matters things necessary for the proper completion and maintenance of the work.
- b) **Bankruptcy, breach & Termination:** if the contractor shall become bankrupt or have an order for appointment of any receiver made against him or shall present any petition for bankruptcy or shall make an arrangement with / or assignment in favor of his creditors or shall agree to carry out the contract under committee of inspection of his creditors or being a company shall go into liquidation (other than voluntary liquidation, for the purpose of amalgamation , absorption or reconstruction) or if the contractor shall assign the contract without the prior consent of NIT Rourkela or it is found that the contractor-
- I. has abandoned the contract or
  - II. Without reasonable excuse has failed to commence the work or has suspended the progress of the works for 7 days after receiving written notice to proceed or,
  - III. is not executing the works in accordance with the contract or is persistently neglecting to carry out his obligations under the contract or,
  - IV. has to the detriment of good workmanship or in defiance of NIT instructions to the contrary sublet any part of the contract or,
  - V. Otherwise neglected or failed to perform his part of the contract.

Then NIT may after giving 7 days' notice in writing to Contractor, enter upon the site/ COE and expel the Contractor therefrom, without thereby avoiding the Contractor or releasing the Contractor from any of his obligations or liabilities under the contract or affecting the rights and powers conferred on NIT or otherwise available under the law, may appoint any other Contractor to complete the work at the cost and risk of the Contractor. However, on happening of any eventualities as per above sub clause (I) to (V) NIT shall be at liberty to terminate the contract by giving 7 days' notice and the contract shall stand/ terminated w.e.f. the 8<sup>th</sup> day from the date of issue of notice. In any of laboratory the eventualities mentioned above in a) to e), NIT shall have the right to take possession of the plants and machineries of the contractor and realize the dues by sale of the said plants and machineries, equipment or otherwise.

- c) **Illegal gratification, breach of contract:** The contract may also terminated and the Contractor shall be liable to make good any loss or damage resulting from such cancellation (specified under clause D of Annexure-8), if any bribe gratuity, gift, loan reward or advantage pecuniary or otherwise shall either directly or indirectly be given, promised or offered by the contractor or any of his servants or agents to any person employed by NIT in any way directly or indirectly interested in the contract or if the Contractor has committed a breach of any of the terms of the contract.
- d) **Cartel:** If it is found that the tender price is rigged by cartel formation, the tender process/tender of the cartel group shall be cancelled. (Cartel means quoting/ rigging price in connivance so as to influence the bid)

- e) **Final Certificate**: The contract shall not be considered as completed until a Final Certificate have been signed and issued to the contractor stating that the execution have been completed in accordance with the terms of the contract & contractor has submitted a no dues certificate evidencing closure of contract.
- f) **NOTICE**:
- i. **Service of notice on contractor**: Any notice given to the Contractor under the terms of the contract shall be served or the Project Leader-COE or his representative by registered post / courier to or by hand or it's registered office or at the Contractor's site office.
  - ii. **Service of notice on NIT**: Any Notice to be given to NIT under the terms of contract shall be served by sending the same by Registered Post /courier at the office of registrar NIT Rourkela-769008.
  - iii. **Change of address**: Any change of address of the contractor shall immediately be notified to the Project Leader-COE /Rep. of NIT.
- g) **Safety**:
- i. The contractor will be responsible to ensure safety of the people working under them.
  - ii. Except in special circumstances (to be recorded in writing and with due approval) the contractor will not be allowed to employ subcontractor / petty contractors.
  - iii. If required contractors will employ a supervisor with specifically assigned duties for ensuring safe working and will inform in writing.
  - h) For violation of safety norms, penalty may be imposed on the contractor. The penalty shall be decided after investigation and obtaining the report from the committee constituted for the purpose.
  - i) **Policing of the work**: Should the general conduct of the works including the Premises of NIT under occupation of the Contractor lead to violation of any of the provisions of the Indian penal code either in consequence of riotous or illegal proceedings of the contractor's labor or supervising staff or others to such an extent as to necessitate the deployment of Special Police or Magistrate the cost of such extra forces is to be defrayed by the Contractor and not by the employer.
  - j) **1. Law in Force in Relation to Contract**: The contract or amendments thereof entered into between the Employer and the contractor under the contract shall be governed and regulated by the relevant laws for the time being in force in the territory of India relating to contracts.
    - 2. Legal compliance**: the contractor shall comply with all statutes, rules, regulations, by law, orders of statutory authority including but not limited to compliance of:
      - a. Payment of wages Act. (Linked to Govt. of India)
      - b. Minimum wages Act. (Linked to Govt. of India)
      - c. Maternity benefit Act. (Linked to Govt. of India)
      - d. Shops & commercial establishment Act. (Linked to Govt. of India)
      - e. EPF Act. (Linked to Govt. of India)
      - f. ESI Act. (Linked to Govt. of India)
      - g. Contract labour (R&A) ACT & such other laws if applicable to execution of the contract in question.

- k) The contractor shall not allow any visitor / stranger on the work sites, without the prior permission of NIT.
- l) If a tenderer quotes unworkable rates and becoming lowest party is considered for placement of order, the party will be asked to justify the rate quoted and will have to give a performance Guarantee (in addition to the Security Deposit) in the form of bank draft/ bank guarantee. The amount of performance guarantee bond Will be decided by NIT at the time of placement of order. Earnest money of the tenderers who refuse to give performance guarantee will be forfeited and they will not be considered in re-tendering process.

m) **ARBITRATION:**

- a.) **Reference of Disputes to Conciliation / Arbitration:** All disputes or differences arising out of the contract, except disputes or differences for which separate provisions for their resolution have been made in the contract ('excepted matters'), shall be settled by Conciliation or Arbitration in accordance with the Arbitration and Conciliation act, 1996, and the provisions made hereinafter in this article. Such dispute shall first be referred to Conciliation by a Conciliator selected mutually by the parties, who shall also decide the fees / remuneration and the rules of procedure, which shall be flexible.
- b) **Appointment of Arbitrator:** In the event of failure of conciliation, dispute will be referred to an arbitral tribunal comprising a sole arbitrator to be appointed by the parties. Upon receipt of notice for arbitration, Director NIT shall suggest three names to the Contractor to select one of them to act as sole Arbitrator.

In the event the party fails to intimate within fifteen days from the date of intimation of the three names then Director NIT will be at liberty to request any one out of the said three persons to act as the sole arbitrator.

The Arbitrator(s) shall hear the matter independently and impartially and shall not represent the interest of any party. The Arbitrator shall, before commencement of the arbitral proceedings, disclose to the parties in writing that he is independent and impartial.

- c.) The arbitral tribunal shall be free to determine its own procedure, which it shall state at the beginning of the arbitral proceedings, and shall follow such procedure thereafter the Arbitration & Conciliation Act, 1996 shall apply to the proceeding.

Arbitrators may, in consultation with the parties, also determine the manner of taking evidence, the summoning of expert evidence, and all such matters for the expeditious disposal of the arbitration proceedings. The arbitrator shall be entitled to fees as per Arbitration & Conciliation Act and also the expenses as per actual. The seat of Arbitrator the tribunal shall be at Rourkela, but if necessary, the tribunal can hold the proceedings at other places, for convenience in recording evidence.

- d.) **Work to continue during Conciliation / Arbitration:** Work under the contract shall continue by the Contractor during the arbitration proceedings and recourse to arbitration shall not be a bar for continuance for the work.

n) **AMENDMENT:**

Except to the extent expressly set forth in the Contract, no change/modification, in any form, shall be valid or enforceable unless it is in writing and signed by the party/ authorized representative.

- o) **JURISDICTION:** the competent court at Rourkela shall have exclusive jurisdiction upon any matter arising out of this contract.

- p) **CONTRACT PERIOD:** Period of contract will be three years from the date of issuance of work order, unless extended otherwise.



**F. OTHER TERMS & CONDITIONS:**

1. The contractor after award of contract shall mobilize its resources for execution of the work as per terms of contract.
2. The contractor shall discharge its responsibility strictly adhering to this scope and shall ensure cleanliness as per frequency indicated in the contract.
3. The contractor while discharging, its responsibility shall carry out the instructions of Officer In-charge/ Project Leader-COE from time to time, if need be.
4. The waste materials if any, collected during the cleaning shall be disposed off at the designated place.
5. The agency/firm/contractor shall obtain written permission in respects of all its staff and officials for entry and working inside the premises and shall maintain record in this regard. Unauthorized entry and deployment of persons without prior permissions of NIT is prohibited.
6. The agency/firm/contractor shall ensure that proper discipline is to be maintained by the staff and officials engaged by the agency/firm/contractor, and they shall have to behave soberly at all times while functioning inside academic and administrative buildings. The conduct safety and security of the staff and officials shall be the sole responsibility of the agency/firm/contractor.
7. The assets and equipments provided by the Institute shall be property of the Institute and agency/firm/contractor shall be merely the custodians of such assets and equipment. On termination/ expiry of contract, only any such property shall be transferred to the NIT in proper RISK & COST condition.

**G) LIQUIDATED DAMAGES**

- (a) The agency/firm/contractor shall ensure execution as per the time schedule indicated in the scope of work. For any deviation there from or for any job not performed or left out or for any delayed performance, the agency/firm/contractor shall be liable for liquidated damages subject to a maximum of 5% of the contract value.
- (b) Neglect or failure on the part of the contractor to execute the work inspite of reminder & notice, if will be carried out by alternate source at the risk and cost of the contractor and to the extent of alternate execution, the contract will be deemed that it has been terminated either in part or full.

**H) PAYMENT TERMS:**

- i. Payment shall be regulated as per terms of contract and as per General Finance Rule-2017, Ministry of Finance, Govt. of India(URL: [https://doe.gov.in/sites/default/files/GFR2017\\_0.pdf](https://doe.gov.in/sites/default/files/GFR2017_0.pdf)).
- ii. Deduction of applicable taxes will be made including TDS & Certificate will be issued by finance & accounts department of NIT for such deductions.

**I) SECURITY DEPOSIT:** The EMD submitted by the successful bidder shall be converted in to security deposit and the same will be released after expiry of one month of completion of the contract subject to adjustment /deductions of NITR dues besides resorting to other mode of recovery as per law.

**J) INDEMNITY-** The contractor shall indemnify NITR against any claim, order, and demand, made by competent authority & in case NIT was asked to comply such order / direction, NIT shall be entitled to recover/ adjust the said amount from the dues of the contractors.

**K) TERMINATION:** Breach of violation of any of the term & condition here in prescribed shall entail termination of the contract & in such case NIT Rourkela shall be at liberty to take remedial action deemed proper as per law & procedure.

**SCOPE OF WORKS AND SERVICE**

**A. SCOPE OF WORK:**

**I) Supply of labs/Items:**

<b>S.No</b>	<b>Labs</b>	<b>Quantities</b>
<p>Note: All products supplied must be of industrial grade. Educational / training setup will not be accepted, unless mentioned otherwise. In each lab, any additional utilities and accessories can be offered by the Participating Party as per their RFQ. Consumables as required must be provided to run the setup for duration of 6 months.</p>		
1	Product Design lab - Software lab	30 Licenses
2	Mechatronics lab	2 Quantities - 1 for teaching and 1 for student practice
3	Power Lab	1 set consisting of the following <ul style="list-style-type: none"> <li>- Solar System</li> <li>- Power Distribution &amp; Transmission System</li> <li>- Substation Automation System Panel</li> </ul>
4	Motors and drive control lab	<ul style="list-style-type: none"> <li>- 1 set: AC/DC Drive system integrated with PLC</li> <li>- 1 set: Industrial grade Switch gear setup</li> </ul>
5	Computer Aided Engineering (CAE) and analysis lab - Software and hardware lab	<ul style="list-style-type: none"> <li>- 20 Licenses</li> <li>- 1 test bed for automobile model and 1 test bed for plane model.</li> </ul>
6	IoT (Internet of Things) – Cloud based IoT	<ul style="list-style-type: none"> <li>- 30 user access with 30 - 50GB Data storage</li> <li>- Prebuilt IoT apps connecting to the labs like Smart Manufacturing, Mechatronics, &amp; CAD/CAM Manufacturing Lab.</li> <li>- Gateway for connecting the hardware</li> </ul>
7	Manufacturing process lab - Software lab	30 Licenses
8	Industry 4.0 – Smart Manufacturing Lab	One completely integrated setup with all the necessary equipment as mentioned in the technical scope.
9	Automatic Welding robot	<ul style="list-style-type: none"> <li>- One Spot Welding cell</li> <li>- One MIG Welding cell with Laser Seam Tracking system</li> </ul>
10	Sensors and instrumentation lab DCS system with Sensors	<ul style="list-style-type: none"> <li>- 1 set: DCS System with set of Sensors for different technologies.</li> </ul>
11	CNC Controller lab	<ul style="list-style-type: none"> <li>- Advanced level controller for training on advanced applications necessary in aerospace and medical components – 1 Qty</li> <li>- Basic level controller as used in industries today – 4 Qty</li> </ul>

S. No	List of labs
1	<p><b>Product Design lab</b></p> <p>The Design Lab should consist of advanced Computer Aided Design (CAD), Computer Aided Engineering (CAE) and Computer Aided Manufacturing (CAM) software. These Solutions assist the students to understand engineering design and analysis. The Product Design Lab would cater to the following areas</p> <ul style="list-style-type: none"> <li>• Industrial Design &amp; Styling</li> <li>• Package Design</li> <li>• Mechanical Design</li> <li>• Electromechanical Design</li> <li>• Mechatronics concept Designer</li> <li>• Mechanical Simulation</li> <li>• Electromechanical Simulation</li> <li>• Tooling, Die &amp; Fixture Design</li> <li>• Machining</li> <li>• Quality Inspection</li> <li>• Design for Additive Manufacturing</li> <li>• Human Simulation</li> </ul>
2	<p><b>Mechatronics lab</b></p> <p>The Mechatronic lab should have equipment that will bring together different technologies and departments of engineering like Mechanical, Electrical, Electronics &amp; Communication and Computer Science. The equipment should allow students to work on a mini factory setup that consist of various items working on areas such as Pneumatics &amp; Hydraulics, Sensors, Communication Protocol, PLC programming, PLC Networking using profibus and profinet.</p> <p>The mechatronics kit should be able to interface with the software in the Product design lab for digital twin. It should be possible for the digital twin to be scaled up and shown as a complete factory in the Manufacturing Process Lab. The Product should be IoT Ready and able to communicate to IoT system to collect data and monitor performance, in the future.</p>
3	<p><b>Power Lab</b></p> <p>A Medium Voltage POWER LAB to study about Solar Power Generation, Automation Based Distribution &amp; LV – Utilization. The Power lab should consist of the below things:</p> <ol style="list-style-type: none"> <li>1. Solar Power generation system</li> <li>2. Power distribution and transmission system</li> <li>3. Substation Automation System panel.</li> </ol> <p>MV-Power (Energy) Trainings should be based on following concept:</p> <ul style="list-style-type: none"> <li>- <b>Power Generation</b> with SOLAR Energy Panel/Inverters.</li> <li>- MV - <b>Power Distribution</b> (Step-up transformer, VCB &amp; Substation Automation)</li> <li>- LV – <b>Power Utilization</b> (Step-down transformer MV/LV, LV-Isolator &amp; LV-Load)</li> </ul>

4	<p><b>Motors and drive control lab</b></p> <p>The Lab should consist of equipment focusing on the following areas;</p> <ul style="list-style-type: none"> <li>● AC/ DC Drives: Should be able to teach students on the usage of drives from the industries where they are used to how to vary the speed as per process/application requirement and how it controls the various motor parameters. Drives PLC Networking using Profibus or Profinet.</li> <li>● Switchgears: Students should be introduced to how in power system switchgears are used to control, protect and isolate electrical equipment. Low voltages switchgears also used in residential, industrial and commercial segments.</li> </ul>
5	<p><b>Computer Aided Engineering (CAE) and analysis lab</b></p> <p>The CAE Lab should allow testing and mechanical simulation to model-based systems engineering. It should enable engineers to understand the functional performance engineering of mechatronic systems to solve noise, vibration and harshness (NVH), acoustics, durability, dynamics, performance, fuel economy and controls development issues.</p> <p>The 3D CAE should help students and industry predict performance across all critical attributes earlier and throughout the entire product lifecycle. The computational fluid dynamics solution should allow students &amp; industry to simulate almost any engineering problem that involves the flow of liquids, gases (or a combination of both), together with all of the associated physics.</p> <p>It should also consist of a Physical Test Bed for carrying out analysis such as NVH, Acoustics, etc. on products such as a scaled down plane model and a two-wheeler (2/4 Stroke IC Engine and Electric), along with appropriate sensors and SCADA Systems.</p>
6	<p><b>Internet of things:</b></p> <p>The Internet of Things, or IoT should cover the following topics for the students in the Internet of Things (IoT) Lab:</p> <ul style="list-style-type: none"> <li>● Connecting Things–Appropriate Gateway should be provided to connect different sensors and collect Data.</li> <li>● Data Analytics – Students should be able to write their own algorithm to analyze the kind of data needs to be filtered.</li> <li>● Application Development – Students should be able to develop their own application to display the right Data.</li> <li>● Enterprise Deployment – Application deployment in the cloud</li> </ul> <p>The IoT lab should be able to connect to the Smart Factory Lab, mechatronics lab, for Data collection and analysis. Provision should be made to connect others labs in the Institute.</p>

7	<p><b>Manufacturing Process lab</b></p> <p>The Manufacturing Process Lab should consist of Digital Manufacturing Solutions which assist the students to understand manufacturing planning and validation. The lab should also consist of the Product Lifecycle Management Solution which allows students to learn the enterprise solutions of product development from end to end. It should cater to the following areas:</p> <ul style="list-style-type: none"> <li>• Process Planning, Electronic Work Instructions and BOM Management</li> <li>• Dimensional Quality</li> <li>• Layout and Plant Simulation with integration to Design of Experiments</li> <li>• Design for Assembly, Design for Manufacturing, Design for Maintenance</li> <li>• Ergonomic Analysis</li> <li>• Robotic Simulation, Offline Programming and Realistic Robot Simulation (RRS)</li> <li>• Virtual Commissioning</li> <li>• Build Quality Tracking &amp; Shop Floor Integration</li> </ul>
8	<p><b>Industry 4.0 - Smart Manufacturing lab</b></p> <p>Industry4.0/Smartmanufacturingshouldhaveequipmentwithfullyautomatedwayofcontrolling andmanagingthemanufacturingprocessinafactory.Itshouldconsistofmanyprocessesinvolved in manufacturing such as:</p> <ul style="list-style-type: none"> <li>• Manufacturing</li> <li>• Inspection &amp; Quality Control</li> <li>• Assembly station</li> <li>• Automatic Raw Material &amp; Finished Goods Storage</li> <li>• Material handling &amp; Transfer Systems</li> <li>• Digitalization of manufacturing</li> <li>• Data Management and RFID communication system</li> </ul> <p>The concept should bring together manufacturing, automation and data management leading to intelligent collaboration, monitoring and process management in real-time. It should be a modular setup enabling the training to be conducted in increasing order of complexity: modules, stations and complete system.</p> <p>The Industry 4.0 setup and the software provided in the Manufacturing process lab should be able to interface for the Digital Twin, which should emulate and simulate the physical system with identical properties and possible to transfer the program from the manufacturing Process lab to the Industry 4.0 lab – for control and operation of the hardware.</p> <p>It should be possible for the digital twin to be scaled up and shown as a complete factory in the Manufacturing Process Lab. The Product should be IOT ready and possible for an IOT system to be connected to the hardware and collect data and monitor performance, in the future.</p>

9	<p><b>Automatic welding Robots</b></p> <p>In this lab there should be different types of welding which is controlled and programmed by robotics. We would be teaching the students to understand the working principals of a Robot, how to program it and apply it to an application. There would be two (2) robotics cells catering different applications, they are:</p> <ol style="list-style-type: none"> <li>1. Spot Welding</li> <li>2. MIG Welding with laser Seam tracking.</li> </ol> <p>The robot should be provided with the complete cell consisting of the below items.</p> <ul style="list-style-type: none"> <li>- Articulated robot</li> <li>- Welding system, Welding fixtures &amp; accessories</li> <li>- Robotic Welding Torch/Gun</li> <li>- 2D Laser Seam tracking system for MIG Welding robot</li> <li>- Electrical panel and accessories</li> <li>- Safety equipment like glass partition or Curtain</li> <li>- Welding machine consumables</li> <li>- Raw materials for testing.</li> </ul> <p>The robots should be able to interface with the software provided in the Manufacturing process lab for Offline programming &amp; Digital Twin. It should be possible for the digital twin to be scaled up and shown as a complete factory in the Manufacturing Process Lab. The Product should be IoT Ready and able to communicate to IoT system to collect data and monitor performance, in the future.</p>
10	<p><b>Sensors and Instrumentation lab</b></p> <p>The Process Instrumentation Lab should enable students and industries to work on Advance Automation using Distributed Control Systems (DCS) and understanding the working of the following equipment's in a plant. The types of sensors offered should include Temperature, Flow, Level, Pressure, Sensors/Measurements &amp; Communications</p>
11	<p><b>CNC Controller lab</b></p> <p>This Lab should have equipment that can enable students to understand the concept of CNC Programming and work real time different controllers for Turning and Milling applications. The students should be able to work on advanced controls that can support programming upto 31 Axis. This would enable students to program complex jobs.</p> <p>The CNC controller should be able to interface with the product design lab to learn &amp; create CNC Programs and validate the Machine operations and parameters. The students can learn how to program and test the CNC Program. The Lab should also focus on the usage and functionality of HMI for diagnostics and troubleshooting. Should have a rack to explain how CNC Programs control the Drives and Motors.</p>

## II) Services to be provided

S. No	Description
1	<p><b>Project Management</b></p> <p>Once when the MoA is signed and PO is released, the TP should work closely with NIT Rourkela in planning and execution of the COE.</p> <ul style="list-style-type: none"> <li>- Should define the delivery timelines.</li> <li>- Should work closely with the NIT Rourkela for the site readiness</li> <li>- Responsible for commissioning of all the items and ensure the entire lab is up and running.</li> <li>- Conduct Train the Trainer</li> <li>- Conduct One Industry Seminar every Semester</li> <li>- MoA should allow NITR to use the TP's Logo to award training certificate to the trainees.</li> </ul>
2	<p><b>E-learning courseware</b></p> <p>A complete list of interactive E-Learning covering the below topics should be also provided along with the entire setup. The courses should be clearly broken down into Number of hours, design edit in a structural way allowing the trainees to pick courses at different levels. These courses should be compatible to the NSDC aligned programs as well. All the courses should be online version. An evaluation log in or access should be submitted for evaluation for CNC and Robotics Technology.</p> <p>The Digital library should be a collection of Reference, Learning and Training material in Advanced Manufacturing Technology. The technologies covered are CNC, Robotics, Automaton and Mechatronics. This library should be applicable to all engineering levels – Universities, Institutions, Polytechnics, Training Centers and Corporate learning centers. Many institutions have already begun the task of converting their traditional collections of books and educational materials to electronic format: HTML, PDF formats or eBooks. Features of the Digital Library should be:</p> <p><b>Comprehensive Coverage</b></p> <p>The Digital Library should offer a wide range of content in Advanced Manufacturing Technology. The content should align with current industry demands and oriented to build skills while enhancing learning. Students can access the content across different branches of engineering and application.</p> <p><b>Access at Your Fingertips</b></p> <p>It should give access to multiple contents accessible from any computer in our NIT Rourkela and access must be though the internet. Students should be able to learn at their pace. Multiple students should be able access the same content from a Digital Library unlike a book which will have limited number of copies.</p> <p><b>Interactive Content</b></p> <p>The content should be highly interactive and interesting. Using this Multimedia Digital Library students should be able to understand various concepts with the help of rich Graphics, Animations, Videos and Voice over. The courses should be to be managed by a Learning Management System (LMS).</p> <p><b>Learning Management System – Features required are</b></p> <ul style="list-style-type: none"> <li>● Friendly and attractive user interface with a 3-tier architecture for managing clients.</li> </ul>



	<ul style="list-style-type: none"> <li>● Dashboard for viewing all relevant information on the platform in one glance (for each tier above)</li> <li>● Comprehensive reports, based on users, courses, and enrolments</li> <li>● Ability to add varied types of content, including PPT, PDF, videos, assignments, etc.</li> <li>● Availability on mobile and tablet devices</li> <li>● Batch user import (for adding a large number of users to the LMS in one go)</li> <li>● Support for learning best practices such as spaced retrieval</li> <li>● Learning management system should be suitable for conducting training programs engineering institute.</li> </ul> <p>It should be possible to generate the following reports from the MIS:</p> <ul style="list-style-type: none"> <li>● MIS on number of courses conducted.</li> <li>● Course wise enrolment.</li> <li>● Preferred Courses</li> <li>● Enrollment Vs Successful Completion</li> <li>● Categorization of trainees – students/ faculty / industry /specialization</li> </ul> <p>eLearning Content to be offered for the following technologies:</p> <ul style="list-style-type: none"> <li>● Industry 4.0 – Smart Manufacturing</li> <li>● PLC, Automation</li> <li>● CNC</li> <li>● Robotics</li> <li>● Mechatronics</li> <li>● Sensors and instrumentation</li> <li>● CAD, CAM</li> </ul>
3	<p><b>Lab Management</b></p> <ul style="list-style-type: none"> <li>● The COE should work in the BOT Model (Build, Operate and Transfer Mode) for a period of 3 years.</li> <li>● Atleast 12 Engineers with mix of experience must be deputed for this period for individual labs who will be the technical resource for the respective labs.</li> <li>● The Engineer’s activities are to conduct training activities, support our faculties technically in the research and industrial consultancy.</li> <li>● The engineers should have good written &amp; oral communication, domain expertise, flair for teaching &amp; conversant with engineering software.</li> <li>● Senior Trainers should have minimum graduate or post graduate qualification in engineering and minimum 3-4 years of experience.</li> <li>● Trainers should have minimum Diploma or Graduate qualification in engineering and 2-3 years of experience.</li> <li>● There should also be a center manager deputed by the Technology Provider who would be supervising the activities like enrollment of students, certification for students, Seminars and conferences being conducted, Maintenance of reports of the center Activity.</li> <li>● The center Manager should have minimum a graduate or Postgraduate qualification in Engineering with minimum 6-8 years of experience and 2-3years of experience in Project management.</li> </ul> <p><b>SCOPE OF WORK –</b>  TP (if any) should provide the following –</p> <ul style="list-style-type: none"> <li>● Managing the equipment in the lab and conducting the skill training programs</li> <li>● Ensuring trainer availability for the training programs</li> <li>● Provide update course material.</li> <li>● Maintain the equipment for the duration of the BOT period</li> </ul>

TP will manage the labs assigned by performing the following activities -

### **COURSES SCHEDULING AND IMPLEMENTATION OF TRAINING PLAN**

The TP shall be responsible for scheduling, conducting Training. TP will present the schedule to the Project Manager of the institute and get it approved and declare it.

The Technology Provider, with the assistance of NIT Rourkela, will market the course and enroll the participants and schedule participants and other activities essential to training. Training plan, including procedures for course enrolment, reporting of course progress, course completion and certification, monitoring of the training program, training records.

### **TRAINING METHODOLOGY**

TP should use digital material to teach theory, to make the understanding easy. TP will follow theory in learning and simulation for practical and usage of equipment to complete the effective learning and completion of the course. Knowledge checks will be used effectively to monitor the process during the training.

### **EVALUATION PROCESS & CERTIFICATION**

There should be pre and post course test will be conducted for the participant to monitor the learning and understand the knowledge level prior to the course. The eligible participant should be given certificates. The evaluation process can be determined by the TP and process it accordingly. The certification should be a tripartite agreement between NIT Rourkela, the Technology Provider.

### **AUDITING**

NIT Rourkela may conduct periodical audit of the center. The audit includes both academic, and general, one senior executive (from the Institute) will be visiting the center and go through the activities carried out in terms of courses conducted, performance of the students and feedback given by the participants. The process also involves collecting the feedback on faculty, course, course ware and suggestions separately, so that clear complete relevant data is collected to work towards improvement. This information will be analyzed, and suggestions will be given to the tenderer to work towards improvement of the center. The suggestion should be documented and implemented within a mutually agreed timeframe. This will not include replacement of any hardware/software/content. The senior executive will also involve a team from NIT Rourkela to market the courses in the region to enable the successful functioning of the center.

### **REPORTS**

Supplier will provide the following reports every quarter. The below reports are not exhaustive.

MIS on number of courses conducted. Course wise students' enrolment.  
Course wise skills gained List of successful students.  
Footfall to the Centre.

**Note:** Utilities like Stabilizer, compressor required to run the labs will also be in the scope of the Technology Provider.

**PRICE BID FORMAT**

(Need to submit in provided BOQ in MS Excel Sheet Format only)

1	<b>National Institute of Technology Rourkela- 769008, Odisha</b>			
2	<b>Tender Inviting Authority: REGISTRAR NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA-769008</b>			
3	<b>IoT Notice No.: NITR/PW/2020/40 DATED: 04/03/2020</b>			
4	Name of Work: Tender for selection of Technology Provider(TP) to setup a Centre of Excellence for imparting High-end Skill Training , Industrial Consultancy & Research Works in the Field of Industry 4.0 & Digital Manufacturing Technology.			
5	<b>PRICE SCHEDULE (BOQ)</b> (RATES ARE TO GIVEN IN RUPEES (INR) ONLY) (This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only )			
6	<b>Note :</b> 1. Out of Total Cost Quoted under Point 1.04 in BOQ, the Technology Provider(TP) should spent and account for minimum 85% of total project cost (Project cost should not exceed Rs. 200 Crores - As per MHRD guidelines) & the balance of total cost upto 15% may be provided by NIT Rourkela. 2. The bidder has to quote mandatorily for all the items in BOQ. 3. Price Quoted for AMC Charges under point 1.03 shall not be considered for financial bid evaluation.			
7	Name of the Bidder/ Bidding Firm / Company :			
8	<b>NUMBER</b>	<b>TEXT</b>	<b>NUMBER</b>	<b>NUMBER</b>
9	<b>Sl. No.</b>	<b>Item Description</b>	<b>Total Cost for the Execution of Project (inclusive of Taxes, duties &amp; other financial implication) in (Rs/-)</b>	<b>TOTAL AMOUNT (including all charges) in Rs. P</b>
10	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
11	1.01	Total cost (including supply, installation, commissioning, training, maintenance , serves as mentioned in the Scope of Work under Special Condition of Contract, taxes & duties )		₹ 0.00
12	1.02	Technology Provider (TP) shall invest/ Spend		₹ 0.00
13	1.03	AMC Charges after completion of contract for three years (Exploratory in nature)		₹ 0.00
14	1.04	NIT Share/ Finacial Implication	100.00%	₹ 0.00
15		<b>Total in Figures</b>		₹ 0.00
16	<b>Quoted Rate in Words</b>			

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