RFP REF. No.: OUTR/COE/AIR/2025-26/46 **DATE: 28/02/2026**

Request for Proposal

(e-Tender)

Two-Stage QCBS

For

For setting up a **"Centre of Excellence on AI and Robotics"** for Skill Development, Research & Consultancy at OUTR, Bhubaneswar.

Odisha University of Technology and Research

Techno Campus, Ghatikia, Bhubaneswar, Odisha

www.outr.ac.in

ODISHA UNIVERSITY OF TECHNOLOGY AND RESEARCH

Techno Campus, Ghatikia, P.O.: Mahalaxmi Vihar,
BHUBANESWAR-751029, ODISHA, INDIA
website ***www.outr.ac.in***

Tender Notice No. **OUTR/COE/AIR/2025-26/46** **Date: 28-02-2026**

NOTICE INVITING e-TENDER

Odisha University of Technology and Research, Bhubaneswar invites e-Tenders through e-procurement (Tenders Odisha) Portal https://tendersodisha.gov.in under two stage QCBS systems from the reputed registered agencies/ OEMs for selection of Technology Partner (TP) to setup a "Centre of Excellence on AI and Robotics" for Skill Development, Research & Consultancy at OUTR, Bhubaneswar. The detailed information, technical specification and scope of work has been given in the Tender Document, which may be downloaded from our website www.outr.ac.in and https://tendersodisha.gov.in. The bidders are required to submit their proposals in soft copies electronically on the e-tender Portal, using valid Digital Signature Certificates. The last date, time of Tender documents is **30/03/2026 up to 6.00 PM** and will be opened on the next day i.e. on **31/03/2026 at 11:00 AM**.

The authority reserves the right to accept / reject any or all tenders without assigning any reason thereof.

IMPORTANT: Prospective bidders are advised to regularly visit the University website and e-procurement (Tender Odisha) Portal https://tendersodisha.gov.in for any Updates/Corrigendum/ Amendment. Any subsequent updates will be announced on the University website and e-procurement Odisha portal.

REGISTRAR

NOTICE INVITNG TENDER DETAILS

Odisha University of Technology and Research (OUTR), Bhubaneswar invites on line RFP/Tender through e-procurement (Tenders Odisha) Portalhttps://tendersodisha.gov.in from reputed registered agencies/OEMs for forsetting up a "Centre of Excellence on AI and Robotics" for Skill Development, Research & Consultancy at OUTR, Bhubaneswar**.** Interested eligible Bidders may obtain detail information from **the website of the University www.outr.ac.in and** https://tendersodisha.gov.in

Critical Information

1. Submission of a proposal in response to this notice shall be deemed to have done after careful study and examination of this document with full understanding of its terms, conditions and implications.

Sl. No.	Information	Details
1	RFP/Tender Number and Date	OUTR/COE/AIR/2025-26/46 Date: 28-02-2026
2	Period during which tender document will be available on website **www.outr.ac.in** and https://tendersodisha.gov.in	03/03/2026 6PM to 30/03/2026 6 PM.
3	Tender Fee (Non- Refundable)	Rs. 2,000/- (Rupees Two thousand only) to be submitted in off-line mode in shape of DD/Bankers Cheque to be drawn in favour of "(Odisha University of Technology and Research, Bhubaneswar drawn on any Scheduled Bank and payable at Bhubaneswar)"
4	Bid security (EMD): (refundable but non-interest bearing); EMD Amount (Will be accepted only through D.D/ Banker's Cheque).	Rs. 10,00,000/- (Rupees Ten lakhs thousand) only to be submitted in off-line mode in shape of DD/ Bankers Cheque/ Bank Guarantee (BG) to be drawn in favour of "(Odisha University of Technology and Research, Bhubaneswar drawn on any Scheduled Bank and payable at Bhubaneswar)"
5	Type of Bid	Two Stage QCBS: (70% Weightage on Technical and 30% Weightage on Commercial Evaluation) Stage I - Technical Bid Stage II - Price Bid as per the format
6	Date of publishing and time	**03/03/2026, 6:00 PM**
7	Document download start date and time	**04/03/2026, 10:00 AM**
8	Last date & time for submission of tender	**30/03/2026 up to 6.00 PM.**
9	Date & time of opening of Technical Bid	**31/03/2026 at 11.00 AM.**
10	Date & time of opening of Financial Bid	To be intimated later by e-mail/e-tender portal to the technically qualified bidders.
11	Performance Guarantee	Bank Guarantee will 3% of the Contrct value to be submitted by the successful bidder.
12	Project Term	Five years from the date of contract.
13	Place of opening of online Technical Bid & Financial Bid	Through the e-tender portal at OUTR purchase section.

14	Pre bid query invitation	05/03/2026 11AM to 10/03/2026 till 5PM
15	Pre bid meeting	11/03/2026 from 11.30 AM. in the Conference Room 1st Floor, Main Admin. Building, OUTR, Bhubaneswar
16	Delivery	As per Tender document
17	Bid Validity Period	180 Days
18	For any query, please contact	Dr. Debasis Gountia Ph. No.9437229338 E-mail: dgountia@outr.ac.in
	DD towards EMD and Tender document fee should be sent within due date addressing to	**The Registrar, Odisha University of Technology and Research, Techno campus, Mahalaxmi Vihar, Bhubaneswar, PIN- 751 029**

1.2. Please refer e-Procurement Tenders Odisha system generated DATE SHEET for Tender ID and Critical Dates.

1.3 The RFP/ Tender document and details of terms and conditions can be downloaded from our website www.outr.ac.in & https://tendersodisha.gov.in

1.4 The bidders may submit their proposal/bid only though uploading the softcopy in the e-Procurement Tenders Odisha Portal https://tendersodisha.gov.in. No bids received by post or by hand or by FAX/E-mail would be considered for evaluation.

1.5 The Authority may, at its discretion, extend the deadline for submission of proposal/bids by amending the RFP/bid documents in accordance with Clause relating to Amendment of Bidding Documents in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

2. Instructions for Online Bid Submission

2.1 The bidders are required to submit soft copies of their bids electronically on the e-Procurement Tenders Odisha Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the eProcurement Tenders Odisha Portal, prepare their bids in accordance with the requirements and submitting their bids online on the eProcurement Tenders Odisha Portal.

2.2 More information useful for submitting online bids on the e-Procurement Tenders Odisha Portal may be obtained at: https://tendersodisha.gov.in

2.3 REGISTRATION

2.3.1) Bidders are required to enroll on the e-Procurement module of the Govt. of Odisha eProcurement Portal (URL: https://tendersodisha.gov.in) by clicking on the link "**Online Bidder enrolment**". At the e-Procurement Portal, which is free of charge.

2.3.2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.

2.3.3) 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-Procurement Portal.

2.3.4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class-III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
2.3.5) 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.
2.3.6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.
Already enrolled in e-procurement Odisha may ignore the above instructions.

2.4 SEARCHING FOR TENDER DOCUMENTS

2.4.1) There are various search options built in the eProcurement Odisha Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. 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 eProcurement Odisha Portal.
2.4.2) 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 eProcurement Odisha Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
2.4.3) 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.

2.5PREPARATION OF BIDS

2.5.1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
2.5.2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. 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.
2.5.3) 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 / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
2.5.4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or ''Other Important Documents'' area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

Note: My Documents space is only a repository given to the Bidders to ease the uploading process. If Bidder has uploaded his Documents in My Documents space, this does not automatically ensure these Documents being part of Technical Bid.

2.6 SUBMISSION OF BIDS

2.6.1) Bids/Proposals shall be submitted online only at e-Procurement portal: https://tendersodisha.gov.in

Bidder should log into the site well in advance for bid submission so that they can 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.

2.6.2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.

2.6.3) Bidder has to select the payment option as "offline" to pay the tender fee /EMD as applicable and enter details of the instrument.

2.6.4) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise, the uploaded bid will be rejected.

2.6.5) The bidders shall download the pre bid clarification if any for the service and upload the same (scanned copy) duly signed and sealed. The revised documents (if any) shall be uploaded in e tender portal.

2.6.6) Bidders are requested to note that they should necessarily submit their financial bids in the format provided 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.

2.6.7) 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.

2.6.8) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

2.6.8) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.

2.6.9) Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), 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.

2.6.10) Kindly add scanned PDF of all relevant documents in a single PDF file of compliance sheet.

2.6.11) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

2.**7 ASSISTANCE TO BIDDERS**

2.7.1) 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.

2.7.2) Any queries relating to the process of online bid submission or queries relating to e-Procurement module of the Govt. of Odisha e-Procurement Portal (URL:https://tendersodisha.gov.in) in general may be directed to the 24x7 eProcurement Portal Helpdesk.

2.7.3) Tenderer are advised to follow the instructions provided in the 'Instructions to the Tenderer for the submission of the bids online through the e-Procurement Portal (URL: https://tendersodisha.gov.in).

NOTE: At any time before the deadline for submission of proposals, the University reserve the right to add /modify /delete any portion of this document by the issuance of a Corrigendum, which will be published on the website and will also be made available to the all the Bidders. The corrigendum shall be binding on all the bidders and will form part of the bid documents.

CONTENTS OF TENDER DOCUMENTS

Section-I

A. TENDER REQUIREMENTS AND ELIGIBILITY

1.1 Request for proposal.

Proposals are invited through the eProcurement portal from eligible, reputed System Integrators cum implementing agencies as Technology Partners (TP) for setting up a Centre of Excellence on "**AI and Robotics**" for Skill Development, Research & Consultancy at OUTR. This invitation for bidding is open to all bidders meeting the minimum eligibility criteria as mentioned in this RFP Document. However, the bidders must register themselves at the eProcurement portal of Odisha before participating in the tender process.

1.2 About OUTR

Odisha University of Technology and Research (OUTR) Bhubaneswar has been playing a significant role in the development of the state of Odisha by producing skilled graduates, conducting cutting-edge research, fostering entrepreneurship and start-ups, engaging in community outreach, and collaborating with leading industries. The university has a bright future ahead as it continues to strive for excellence in education and research. In line with the vision of OUTR, it is proposed to open a Centre of Excellence (CoE) on AI and Robotics, with a motive to enhance the research facility, and train the students to up skills in the areas of AI and Robotics. The establishment of CoE is useful for the students of other Universities/Institutions and Odisha as a whole. Establishing a state-of-the-art skilling Centre of Excellence on the campus of OUTR would be a perfect & impactful step towards strengthening the vision of replicating the Odisha Government's skill development initiatives in the entire state and country.

1.3 Pre-Qualification Criteria (for the bidder)

The following shall be the minimum eligibility criteria for selection of bidders technically.

Sl No.	Basic Requirement	Specific Requirement	Required Documents to upload
(a)	Legal Entity	The responding bidder should be: • Registered as a Company / LLP under the Companies Act, 1956/2013 **OR** Partnerships Firm registered under LLP Act, 2008 OR Joint Venture under the Companies Act, 2013 or as per any Act as applicable. • Registered with Goods and Services Tax Network (GSTN). • Company in operation for last ten (10) years as on date of bid submission date or One of the Partner must have in opertaion for last ten (10) years as on date of bid submission date in case of JV/Partnerships. • Should have the experience of setting up of Centre of Excellence (CoE) in the areas of AI/ML, Robotics or CoE/High-End Labs on related areas.	• Copy of Certificate of Incorporation / Registration in India having office in India. • Copy of the work order • Completion certificate as documentary proof of 10 years in operation • Copy of GST Registration Certificate •

b)	Presence in India and abroad.	The Technology Partner (TP)/Bidder should be entities registered in India under the Companies Act/ LLP Act/ Societies Registration Act as mentioned above and must have presence in one of the developed Nations.	• The Certificate of Incorporation of the bidder should be submitted.
c)	Sales Turnover	Average Turnover of at least Rs. 20 Cr per/ annum in the last two years, out of which at least 10% must be the Turnover related to business in any of the developed Nations.	• Copy of audited Profit & Loss Statement OR • Certificate from the statutory auditor
d)	Net Worth	The bidder must be made a profit and positive net worth in the last three financial years ending on 31st March 2025.	Certificate from the statutory auditor
e)	Training Expertise	• The bidder should be a company working in the field of AI, Data sciences, IOT, Robotics, Hardware/Software implementation/automation software implementation for at least five(05) years or more. • Must have expertise in imparting training in the areas mentioned above for at least two(02 years or more.	PO, Sign off copy/Satisfactory working certificate/ Payment Invoice
f)	Certifications	The bidder should have the following certifications with validity: • ISO 9001:2015 • ISO 27001:2022 • ISO 45001 • And other Safety & Compliance Certificates for Robotics / Lab Equipment.	Copy of certificate issued by accredited organizations.
g)	Black listing	• The bidder must not be currently under declaration of ineligibility for corrupt and fraudulent practices or blacklisted/debarred by the Central Government or any State Government organization/department / PSU in India at the time of submission of the bid	Self-declaration in this regard by the authorized signatory of the bidder on the company letterhead (as per the template provided in this RFP document)
h)	International presence	As our faculty will be trained in international best practices of AI and we prefer TP who can give the exposure in advances countries like US, UK or Japan and also provide some internship opportunities to the students. Among all the advanced countries preference will be given to Japan as per the approval of the CoE.	Self-declaration to be provided by Technology partner (TP).
i)	Local Presence	The bidder should have been in existence for atleast 10 years in India	The Certificate of Incorporation of the bidder should be submitted and must

			have a registered office in India.
j)	Power of Attorney for Authorized Signatory	The bidder shall submit Power of Attorney, duly authorizing the person signing the documents to sign on behalf of the bidder and thereby binding the bidder.	Power of Attorney document
	Original Equipment Manufacturer Authorization Form	The bidder should submit an OEM MAF as part of the bid submission	Original Equipment Manufacturer (OEM)/ Authorization Form in OEM Letter Head as per the template in this tender.

B. INSTRUCTIONS TO BIDDING FIRMS

2.1 General Information

(a) While efforts have been made to provide comprehensive and accurate background information, requirements, and specifications, Bidders must form their conclusions about the solution needed to meet requirements.

(b) The bidding documents will be downloaded from the University website i.e.www.outr.ac.in or can be seen at the eProcurement portal https://tendersodisha.gov.in Documents available at OUTR website is for refernce only.

(c) All information supplied by bidders may be treated as contractually binding on the bidders, on the successful award of the assignment by OUTR based on this RFP.

(d) No commitment of any kind, contractual or otherwise shall exist unless and until a formal written contract has been executed by or on behalf of OUTR. Any notification of preferred bidder status by OUTR shall not give rise to any enforceable rights by the bidder.

(e) This RFP supersedes and replaces any previous public documentation and communications, and bidders should place no reliance and dependence on such communications.

(f) All amendments, time extensions, clarifications, etc. will be available at the eProcurement portal https://tendersodisha.gov.in as well as on the University website i.e.www.outr.ac.in and will not be published in newspapers. The bidders should regularly visit the above portal and website to keep themselves updated.

(g) **Right to Terminate the Process:** OUTR may terminate the RFP process at any time and without assigning any reason. OUTR makes no commitment, express or implied, that this process will result in a business transaction with anyone.

(h) This RFP does not constitute an offer by OUTR. The bidder's participation in this process may result in OUTR selecting the bidder to engage in the execution of the contract.

2.2 Compliant Proposals / Completeness of Response

(a) Bidders are advised to study all instructions, forms, terms, requirements and other information in the RFP documents carefully. Submission of the bid shall be deemed to have been done after careful study and examination of the RFP document with a full understanding of its implications.

(b) Failure to comply with the requirements of this paragraph may render the proposal non-compliant and the proposal may be rejected. Bidders must:

- Include all documentation specified in this RFP.
- Follow the format of this RFP and respond to each element in the order as set out in this RFP.
- Comply with all requirements as set out within this RFP.

2.3 Pre-Bid Meeting and Clarifications

2.3.1 Pre-Bid conference

(a) OUTR shall hold a pre-bid meeting either online or offline with the prospective bidders on **11/03/2026 at 11.30 AM. in the Conference Room 1st Floor, Main Admin. Building, OUTR, Bhubaneswar**.

(b) The queries for the pre-bid meeting may be sent by email to dgountia@outr.ac.in between **05/03/2026 11AM to 10/03/2026 till 5PM**

(c) Any query after the due date and time specified above will not be entertained by OUTR.

(d) OUTR shall not be responsible for any bidders' queries received by it in any other format. Any requests for clarifications post the indicated date and time mentioned will not be entertained by OUTR.

(e) The Bidders should submit their queries in writing in the format specified below before attending the pre- bid meeting. OUTR shall not be responsible for queries received by it in any other format.

Sl No	RFP Document Reference(s) (Section & Page Number(s))	Content of RFP requiring Clarification(s)	Points of Clarification

2.3.2 Responses to Pre-Bid Queries and Issue of Corrigendum

a) The authorized person for OUTR will endeavor to provide timely responses to all queries. However, OUTR neither makes representation or warranty as to the completeness or accuracy of any response made in good faith nor does OUTR undertake to answer all the queries that have been posed by the bidders.

b) At any time before the last date for receipt of bids, OUTR may, for any reason, whether at its initiative or in response to a clarification requested by a prospective bidder, modify the RFP document by corrigenda and/or addenda.

c) The Corrigendum (if any) and clarifications to the queries from all Bidders will be posted on www.outr.ac.in,

d) Any such corrigenda and/or addenda shall be deemed to be incorporated into this RFP.

e) To provide prospective bidders reasonable time for taking the corrigenda and/or addenda into account, OUTR may, at its discretion, extend the last date for the receipt of proposals if required.

2.4 **Tender Cost & Earnest Money Deposit (EMD)/Bid Security**

2.4.1 Tender Cost (non-refundable) of Rs. 2,000/- (Rupees Two thousand only) and EMD / Bid Security (refundable) of Rs. 10,00,000/- (Rupees Ten Lakhs only) in the form of Demand Draft (DD)/ Bankers Cheque/ Bank Guarantee (BG) in favour of "Odisha University of Technology and Research" payable at Bhubaneswar drawn on any schedule commercial bank except Co-operative Bank and Gramin Bank.

2.4.2 EMD / Bid Security of unsuccessful bidder will be returned to them without any interest at the earliest and latest on or before the 30th day after the award of contract to successful bidder.

2.4.3 EMD and Tender Fee should reach physically through speed post/courier, in an envelope &

super-scripted with the subject, tender reference number addressing to **The Registrar**, **Odisha University of Technology and Research, Techno campus, Mahalaxmi Vihar, Bhubaneswar, PIN- 751 029**, Odisha on or before the last date of submission.

2.4.4 The scan copy of the DD towards tender cost and EMD should be uploaded in the Technical Bid Cover.

2.4.5 Any bid without accompanying with EMD and Tender Cost is liable to be treated as non-responsive and rejected.

2.4.6 The EMD / Bid Security of the bidder who withdraws its bid in breach of terms and conditions of contracts, withdraws at any stage after opening of technical bid and who evades or refuses to accept the Award of Contract after being L1 with the period of validity, shall be liable to forfeiture.

2.4.7 The EMD may be forfeited:

If a bidder withdraws the proposal or increases the quoted prices after the opening of the proposal and during the bid validity period or its extended period, if any.

- In case of a successful bidder, if the bidder fails to sign the agreement following the Terms & Conditions (including timelines for execution of the agreement) of this RFP or fails to furnish Performance Bank Guarantee following the Terms & Conditions (including timelines for furnishing Performance Bank Guarantee)
- If a bidder withdraws its bid during the period of bid validity.
- During the bid process, if a bidder indulges in any act that would jeopardize or unnecessarily delay the process of bid evaluation and finalization.
- If a bidder has been found to have indulged in any suppression of facts, furnishing of fraudulent statement, misconduct, or other dishonest or ethically improper activity, about this RFP.
- If a bidder's proposal contains deviations, conditional offers, and partial offers.

2.5 Amendment to bid documents: At any time, prior to the date of submission of Bid, authority may, for any reason whether at its own initiative or in response to a clarification required by a prospective bidder, modify the bid documents by the amendments/ by issuing corrigendum. The amendments will be updated on university website and e-tender Portal.

2.6 The bidder is expected to have examined all instructions, forms, terms and specification in the Bid Document. Failure to furnish the bid not substantially responsive to the Bid document in every respect will be at the bidders risk and may result in rejection of the Bid.

2.7 The prospective bidders should keep their offers valid for 180 days from the date of tender opening.

2.8 The Technical bids shall be opened on the scheduled date and time (as mentioned in tender eProcurement Portal https://tendersodisha.gov.in

3. Submission of Bidding documents

The tender is to be submitted electronically in two separate Cover **No.1 (Cover A)** and **Cover No. 2 (Cover B)** and contents as indicated below:

3.1 **Bidders must submit their digitally signed bids in first Cover contains the following documents:**

A. Cover 1 Shall contain the scan copy and uploaded of DD for EMD & Tender document fees, Qualification documents along with the tender document duly filled up and signed by the Bidding Firm on each page after affixing rubber stamp of the Firm/Agency**.** Qualification documents such as :

(a) The bidder must submit Copy of Permanent Account Number (PAN) and copy of acknowledgement of Income Tax return for the last three financial years (2022-23, 2023-24, 2024-25).

(b) GSTIN certificate along with upto-date return.
(c) Firm Registration
(d) Copy of (i) Audited Balance sheet, (ii) Profit & Loss Statement certified by CA.
(e) Latest Bank Solvency Certificate
(f) All pages of the tender documents should be signed and sealed by the bidder and should be numbers serially.
(g) Experience Certificate for conducting such type of event in the reputed organization
(h) Pre-Qualification Bid Formats (Annexure – I)
(i) (n) Particulars of Bidders (Annexure – II)
(j) Duly signed acceptance letter of terms and conditions (Annexure – III)
(k) Annual average turnover of last 3 financial year certified by CA (Annexure – IV)
(l) Bid Security Declaration Form (Annexure – V)
(m) Declaration for not blacklisted/ Criminal Liability form (Annexure – VI)
(n) Project Citation Format (Annexure – VII)
(o) Model Bank Guarantee Format for Performance Security (Annexure – VIII)
(p) Manufacturer's Authorization Form (MAF) (Annexure – IX)
(q) Description of Proposed Solution (Annexure – X)
(r) Detailed Work Plan (Annexure – XI)
(s) ISO Certifications
(t) All other documents as per Annexure (Except Price BoQ)

B. Cover 2 Price Bid. (Cover -2 in BoQ Ms-Excel format.)

(a) Schedule of price bid would appear in the form of BOQ_XXXX .xls

(b) The Financial Proposal/Commercial bid / BoQ format is provided as BoQ_XXXX.xls along with this tender document/RFP at the e-tender portal with the concerned tender. Bidders are advised to download this BoQ_XXXX.xls as it is and quote their offer/rates in the permitted column and upload the same in the commercial bid referring the detail technical specifications. Bidder shall not tamper/modify downloaded price bid template in any manner. In case if the same is found to be tempered/modified in any manner, tender will be completely rejected and EMD would be forfeited and tenderer is liable to be banned from doing business.

(c) Bidder must ensure to quote rate of each item. The column meant for quoting rate in figures appears in SKY BLUE colour. While selecting any of the cells a warning appears to mandatorily fill all such cells with any value, including "0" (ZERO) or specified values.

(d) The price should be quoted in INR only.

(e) The bidder shall give FOR (OUTR) destination price, inclusive of all Taxes, freight etc.

(f) The prices quoted by the bidder shall remain fixed during the entire period of contract and shall not be subject to variation of any account.

(g) Quantity: The quantity mentioned are indicative in the scope of work and may be altered at the time of placing work order on the basis of the requirement.

Note: Prospective agencies shall satisfy themselves of fulfilling all the NIT criteria before submission of tender. Authority of the University reserves the right of non-consideration of tender of the agencies not fulfilling the stipulated criteria.

4. **Clarification of Bids :** In case any bidder requires any clarification, bidder can feel free to raise their query on or before the last date of submission of tender document.

5. **Late and delayed tender** : The e-Procurement system would not allow any late submission of bids after due date and time as per server system. After electronic online proposal submission, the system generates a unique identification number which is time stamped. This shall be treated as acknowledgement of the proposal submission.

6. Performance Security Guarantee / Security Deposit

a) OUTR will require the selected bidder to provide a Performance Bank Guarantee (PBG), within 15 days from the date of notification of award.
b) PBG would be 3% of the cost of the annual payout and should be valid for 62 months. Each year the System Integrator should submit the fresh PBG accordingly or extend the PBG.
c) The selected bidder shall be responsible for extending the validity date and claim period of the Performance Guarantee as and when it is due on account of non-completion of the service during the work order period.
d) In case the selected bidder fails to submit a performance guarantee within the time stipulated, OUTR at its discretion may cancel the order placed on the selected bidder and/ or forfeit the EMD after giving prior written notice to rectify the same. OUTR shall invoke the performance guarantee in case the selected bidder fails to discharge their contractual con during the period or OUTR incurs any damages due to the bidder's negligence in carrying out the project implementation as per the agreed terms & conditions.

7. Language

The Proposal should be filled by the Bidder in English language only. If any supporting documents submitted are in any language other than English, translation of the same in the English language is to be duly attested by Bidders. For purposes of interpretation of the Proposal, English translation shall govern.

8. Acceptance and Rejection of Bids

OUTR reserves the right to reject in full or part, any or all bids without assigning any reason thereof. OUTR reserves the right to assess the Bidder's capability and capacity. The decision of OUTR shall be final and binding. The bid should be free of overwriting, and properly scanned. All measures, corrections, or additions must be written both in words and figures and attested. Offers not submitted in the prescribed manner or submitted after the due date and time are liable to rejection.

9. BID EVALUATION PROCEDURES

9.1 Technical bids will be opened and downloaded on the specified date & time by authorized officials.
9.2 The downloaded tender documents will be evaluated by the Tender Evaluation Committee duly constituted by the competent authority of OUTR Bhubaneswar. Short listing will be done on the basis of eligibility criteria mentioned in the tender document.
9.3 Inability to submit requisite supporting documents/documentary evidence may lead to rejection of the bid.
9.4 The decision of the Proposal Evaluation Committee in the evaluation of responses to the RFP/Tender shall be final. No correspondence will be entertained outside the process of negotiation/ discussion with the Committee.
9.5 The Proposal Evaluation Committee reserves the right to reject any or all proposals based on any deviations.
9.6 Initial bid scrutiny will be held, and incomplete details as given below will be treated as nonresponsive if proposals are:

- Not submitted as specified in the RFP document
- Received without the Letter of Authorization (Power of Attorney)
- Found with suppression of details
- Found with incomplete information, subjective, conditional offers and partial offers submitted
- Submitted without the documents requested in the checklist
- Submitted with a lesser validity period

9.7 All responsive Bids will be considered for further processing as below:

S.No.	Technical Parameters	Marks	Self Assessment Marks	Committee Evaluation Marks
1	Average Annual Turnover of the Bidder during the last three (3) financial years (FY 2022 - 23, 2023-24 & 2024-25) >= INR 30 Crores: 05 (marks) < INR 30 Crores and >= INR 25 Crores: 03(marks) < INR 25 Crores and >= INR 20 Crores: 01 (marks)	05		
2	The value of work done by the bidder in the implementation of COEs/ MOUs/MOAs/ similar kinds of solutions in different Countries/ States/ Central Education boards/ universities/ Autonomous Institutes, during the last 3 Financial Years (FY 22-23 onwards). >= INR 10 Crores: 10 (marks) >= INR 05 Crores and< INR 10 Crores: 07 (marks) >=INR 01 Crores and <INR 05 Crores: 05 marks	10		
3	A: (ISO 9001:2015, ISO 27001:2022, ISO 45001) B: ISO/IEC 42001:2023 Certified both A and B 10 (marks) Certified only A 07 (marks)	10		
4	Bidder's experience in the implementation of COEs/ ADVANCE Labs/MOUs/MOAs/ similar kinds of solutions in different countries/ States/ Central Education boards/ Universities/ Autonomous Institutes, during the last 3 Financial Years (FY 22-23 onwards). >= 10 nos. : 15 (marks) >= 5 and <10 nos. : 12 (marks) >=3 and <5 nos. : 10 (marks) <= 2 nos. : 05 (marks) ***With the experience of CoE/advance labs in abroad, 05 marks will be added, based on the profile of work executed as per the decision by the committee.**	20		

5	The total number of students/ trainees, in Universities/ Institutes (State/ Central Government Institutes/ abroad), where the proposed solution has been implemented, during the last three years (FY 22-23 on words) >= 3,000 student Users: 10 (marks) >= 2,000 student Users and <3000 student Users: 8 (marks) >= 1,000 student Users and < 2,000 student Users: 6 (marks) < 1,000 student Users: 05 (Marks)	10		
6	Worldwide course certification Expert Trainers of the Bidder in the respective domain as per the requirements in the RFP who may be deputed at OUTR More than 5 nos.: 10 (marks) >=3 and <=5: 07 (marks) Less than 3: 03 (marks) Nil: 00 (marks)	10		
7	Technical Specification as given in RFP, Technical Presentation on approach and methodology, Demonstration of firm's own developed solution (currently in use by some clients) having functions as per the requirements in the RFP.	35		
	Total	100		

(a) Bidders who secure a Technical Score of at least **70 Marks** or more will be declared as technically qualified.

(b) The bidder with the highest technical bid (H1) will be awarded a 100% score.

(c) Technical Scores for other than H1 bidders will be evaluated using the following formula:

Tn = {(Technical Bid score of the Bidder/ Highest technical evaluation marks) *100} % (Adjusted to two decimal places)

(d) The commercial bids of only the technically qualified bidders will be opened for further processing.

9.8 **Evaluation of Commercial Bids**

(a) The Commercial Bids of technically qualified bidders (i.e. Bidders with at least **70 Marks** or more in Technical Evaluation) will be opened on the prescribed date in the presence of bidder representatives.

(b) Only fixed-price financial bids indicating the total price for all the deliverables and services specified in this bid document will be considered.

(c) Any conditional bid would be rejected.

(d) Errors & Rectification: Arithmetical errors will be rectified on the following basis: "If there is a discrepancy between the unit price and total price that is obtained by multiplying the unit

price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the bidder does not accept the correction of an error, its bid will be rejected".

(e) If there is no price quoted for a certain material or service, the bid shall be declared as disqualified.

(f) If 2 or more bidders have the same value in the commercial bid, the bidder securing the highest technical score will be adjudicated as "Best responsive bid" for the award of the Project.

(g) The bidder with the lowest qualifying financial bid (L1) will be awarded a 100% score. Financial scores for other bidders will be evaluated using the following formula:

F_n= {(Financial Bid of L1 / Financial Bid of Bidder) * 100} %.

9.9 **Final Evaluation of Bids**

a) The technical and financial evaluation scores secured by each bidder will be added using weights of 70% and 30% respectively to compute the composite score. The composite score will be computed as under:

Bn = 70%*Tn + 30%*Fn

b) The bidder securing the highest composite score will be adjudicated as the most responsive bidder for the award of the project.

c) The composite score of the Bidders for the bid shall be worked out as under:

Bidder Name	Technical Score	Financial Score	Weighted Technical Score (70% of B)	Weighted Financial Score (30% of C)	Composite Score (F=D+E)

10. CLARIFICATION ON TECHNICAL BID EVALUATION

10.1 Technical bids shall be evaluated based on the available documents submitted by the bidder and the methodology adopted by the committee. To assist in the examination, evaluation and comparison of the bids and qualification of bidders, the committee may, at its discretion ask any bidder for a clarification of its bid.

10.2 If a bidder does not provide clarification on its bid asked for in the University's request for clarification, the bid may be treated as not valid and liable for rejection.

10.3 University also reserves the right to seek confirmation / clarification from the issuing agency for the supporting documents submitted by the bidder.

11. Award Criteria

OUTR will award the Contract to the successful bidder **(Technology Partner)** whose proposal has scored the highest composite score and would consider it as substantially responsive as per the process outlined above.

11.1 Right to Accept Any Proposal and To Reject Any or All Proposal(s)

OUTR reserves the right to accept or reject any proposal, and to annul the tendering process/ public procurement process and reject all proposals at any time before the award of the contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for OUTR action.

11.2 Purchaser's Procurement Rights

Without incurring any liability, whatsoever to the affected bidder or bidders, the Purchaser reserves the right to:

(a) Amend, modify, or cancel this tender and reject any or all proposals without assigning any reason.
(b) Change any of the scheduled dates stated in this tender.
(c) Reject proposals that fail to meet the tender requirements.
(d) Exclude any of the module(s)
(e) Remove any of the items at the time of placement of the order.
(f) Increase or decrease no. of resources supplied under this project. Should the Purchaser be unsuccessful in negotiating a contract with the selected bidder, the Purchaser will begin contract negotiations with the next best-value bidder to serve the best interest.
(g) Make typographical corrections or correct computational errors in proposals
(h) Request bidders to clarify their proposal.

11.3 Notification of Award

(a) Before the expiration of the proposal validity period, OUTR will notify the successful bidder in writing or email or through the eProcurement portal, that its proposal has been accepted. In case the tendering process/public procurement process has not been completed within the stipulated period, OUTR may like to request the bidders to extend the validity period of the bid.
(b) The notification of the award will constitute the formation of the Contract. Upon the successful bidder's furnishing of the Performance Bank Guarantee (PBG), OUTR will notify each unsuccessful bidder and return their EMD.

11.4 Contract Finalization and Award

OUTR may also like to reduce or increase the quantity of any item in the Scope of Work defined in the RFP. Accordingly, the total contract value may change based on rates defined in the financial proposal.

11.5 Signing of Contract

After OUTR notifies the successful bidder that its proposal has been accepted, OUTR shall enter into a contract with the successful bidder (prime bidder in case of a consortium), incorporating all clauses, pre-bid clarifications and proposal of the bidder.

11.6 Failure to Agree with the Terms and Conditions of the RFP

Failure of the successful bidder to agree with the draft legal agreement and Terms & Conditions of the RFP shall constitute sufficient grounds for the annulment of the award, in which event

OUTR may call for new proposals from the interested bidders. In such a case, OUTR shall invoke the PBG of the successful bidder.

11.7 **Warranty & Maintenance**

The selected bidder shall carry out warranty & maintenance of all the new hardware & software listed in the RFP for 3years from the date of go-live of the CoE. During this phase, the selected bidder shall be responsible for the following;

a) Replace/repair the defective hardware items.

b) Provide necessary support for software maintenance

11.8 **Expected Project Timeline & Payment Terms**

Payment will be released to the successfully shortlisted bidder (TP) in a phased manner as stated below:

Deliverables/ Milestones	**Timelines**	**Payment**	**Remarks**
Tender Award	T0	i) 50% payment will be released against materials (hardware & software) delivered at the Site and installation. ii) Another 30% will be released on commissioning, integration and demonstration of the delivered items. iii) The last 20 % of the payment will be released after the completion of the setting up the whole COE, manpower deployment and training, etc..	Award of Tender to the selected bidder and issuance of LOI.
Agreement	T0 + 01 Month		Completion of Agreement signing and award of Purchase Order
Inception Report / Resource Mobilization	T0 + 01 Month		Submission of complete BOM with unit number and cost along with vendor name, model, AMC details & others
Completion of Procurement	T0 + 04 Months		Completion of procurement of all HW & SW for the operations of the Center and submission of invoice with the BOM.
Completion of System Integration	T0 + 05 Months		Completion of System integration and submission of System integration report.
Final Acceptance Test & Go- Live. Engagement of the Operation & Maintenance team	T0 + 06 Months		Final Testing and commissioning of individual systems and components, Integrated testing, Uptime certification testing, - Live certification, and Engagement of Operation and maintenance team.
Warranty, manpower and Maintenance Management for 03 -year payable quarterly		100% (per quarter)	Payment terms would be quarterly post-submission of all relevant bills.

Note: - All the payments will be made to the successful bidder in Indian Rupees only. Payments will be made after at least thirty (30) days of receiving the invoice subject to approval from competent authority. The Invoice has to be raised in the name of **ODISHA UNIVERSITY OF TECHNOLOGY AND RESEARCH, Techno-Campus, Ghatikia, Bhubaneswar-751029, Odisha, India**.

11.9 **Penalties for the delay in Implementation**

Sl No	Activity	Timeline	Penalty
1.	Delay in Procurement of Hardware/Equipment	As per the Delivery / Project Implementation schedule mentioned in this Document	✓0.25% of Contract value of delayed item per week or part thereof for delay in delivery (max up to 2 % of Contract value) ✓If the successful bidder delays the delivery/supply beyond 60 days from the scheduled date of delivery as per the project implementation timeline then the contract may be terminated and forfeit the PBG.
	Delay in Completion of System Integration (resulting in a delay in commencement of services like skill development training programs, and support to startups & entrepreneurs)	-Do-	✓0.25% of the Contract value of the delayed item per week or part thereof for delay in Implementation (max up to 2 % of Contract value) ✓If the successful bidder delays the installation and commissioning beyond 120 days from the scheduled date of installation and commissioning as per the project implementation timeline then the contract may be terminated and Forfeit the PBG.

11.10 The tax shall be shown extra by the Selected Bidder in their invoices for the items applicable. The same shall be paid by OUTR as per actual after verification. Similarly, if there is any tax savings, the same shall be reduced from the payable amount.

11.11 In case of any new incidence of tax or any change in existing tax rates taking place during the Agreement Period, that shall be borne and payable by OUTR over and above the agreed price for each item as may be applicable as per the Invoice raised by either Party/Member of the on OUTR. Similarly, any reduction in taxes shall be to the benefit of OUTR. All invoices produced to OUTR for payment should be with the TAX invoice.

11.12 **ADVANCE PAYMENT:** OUTR, Bhubaneswar, will not pay any advance payment for the event against Proforma invoice to vendor.

12. Regarding the advanced country related faculty industrial visit/Industry Advanced country AI/Robotics knowhow/Industry collaboration related payment terms will be decided during the agreement between the selected TP and the University. This will be based on the proposal submitted by TP regarding the mode and the details related to the faculty visit program to the industry facility in the Advanced Country related to AI /Robotics know how Industry collaboration program. However, the training cost will be on a quarterly basis for the 1-year term.

13. Applicable Law:

(a) The contract shall be governed by the laws and procedures established by Govt. of India/Govt. of Odisha within the framework of applicable legislation and enactment made from time to time concerning such Commercial dealings/processing and subject to exclusive jurisdiction of Competent Court and Forum in Odisha only.

(b) Any dispute arising out of this contract shall be referred to the decision of Vice Chancellor, OUTR. The decision of Vice Chancellor shall be final and binding.

SECTION-II

1.1 Objectives

The CoE should bridge the skill gap between the academia and industries and help in fulfilling the needs and impart state-of-the-art industry-oriented training to help foster significant innovation and learning in Technical Education and Industrial segment. It should also give exposure to the state-of-the-art technologies prevailing in Industry to the students, faculty members & Professionals. It should also assist the university (Academic/Industrial) to bridge the Industry Institute connect. The mission of the Centre of Excellence is to promote implementation and advancement of knowledge in the domains of Artificial Intelligence and IoT/ Robotics Lab (AI), development of infrastructure as a differentiator for the Institute and plans to upscale the AI Research & startup ecosystem within the deep-tech space with a focus on next-generation tech companies in IoT, Robotics, Quantum and Artificial Intelligence (AI) through research and education partnership with the Industry. The following key points must be addressed in the proposed CoE:

a. The Centre is being set up with the aim of conducting Industry connected skill development programs, Industrial Consultancy and Industry focused Research and Development projects. It would be necessary to sign a MoA with the Technology Partner (TP) which will be selected after completion of the bidding process.
b. This Centre should be on Build, Operate and Transfer (BOT) Mode.
c. All the Hardware should be of Industrial standards.
d. The software should not be restricted to educational limits. It should be equipped with industrial features allowing the Institute to offer Industrial consultancy and research as well, apart from the skill development.
e. The Technology partner (TP) for executing the CoE terms of installation of hardware/ software and running the Centre on a day to day basis. However, the identities of the Technology Partner should be clearly specified.

In this Bid, OUTR, Bhubaneswar invites a potential Technology Partner (TP) to set up a Centre of Excellence in AI and Robotics to address industrial needs of Skill Development, Consultancy and Industry focused Research in the areas listed below:

- IoT
- Artificial Neural Networks
- Evolutionary and Genetic Computing
- Computer Vision & Pattern Recognition
- Speech processing/recognition/ Natural Language Processing
- Industrial Automation and Control
- Human-machine interface
- Expert Systems

The above list must not be limited, the Technology Partner (TP) is free to explore more applications.

1.2 Scope of Work

OUTR Bhubaneswar is inviting Bids for "Selection of Technology Partner (TP)" to setup a Centre of Excellence in AI and Robotics Centre at OUTR.

This would be a turnkey project including site preparation, where the Technology Partner (TP) will be responsible for the supply of the technological product/ lab Hardware and software as well as commissioning of entire hardware/ software set up as per the focused research area mentioned. The Technology Partner (TP) should run the laboratories set up under this turnkey project along with the institute faculty for a period of three (3) Years. This may be extended for another two (2) years if both the parties agree. The equipment and software installed under this project must be state-of-the-art and industry relevant and should cater to the current and futuristic requirements of the industry. The CoE will be under the overall administration of OUTR, Bhubaneswar.

OUTR, Bhubaneswar will provide building space to setup the Centre of Excellence. The Technology Partner (TP), once selected shall sign a Memorandum of Agreement (MoA) with the University. The services proposed in the CoE should be provided directly by the Technology Partner (TP).

The Centre of Excellence should be an interdisciplinary, industry backed Centre focused on developing skill and excellence in the fields of Artificial Intelligence, IoT and Robotics Lab with in the deep-tech space with a focus on next-generation tech companies in IoT, Robotics, Quantum and Artificial Intelligence (AI) through research and education partnership with the Industry.

Through training and implementation of industry-relevant technology and processes, the Centre should facilitate the creation of a multi-disciplinary learning environment across Technology and Engineering. The Centre should possess the necessary infrastructure and expertise to train students to adapt to the need of industries to be ever-evolving and help build skills around collaboration and innovation.

The Technology Partner should also work to connect the university to organizations operating in the fields of AI, IoT, Robotics with the aim strengthening the industry-Institute connect. The Industry-Institute connect must not be limited to Indian Industries only.

1.3 Instruction to the Technology Partner (TP)

1.3.1 Introduction	a. The Client OUTR, Bhubaneswar intends to select a Technology Partner (TP). b. The TPs should familiarize themselves with the local conditions and take them into account in preparing their Proposal.
1.3.2 Conflict of Interest	a. The TP is required to provide services, at all times holding the Client's interest paramount, strictly avoiding conflicts with other assignments or its own corporate interests and acting without any consideration for future work. b. The TP has an obligation to disclose to the Client any situation of actual or potential conflict that impacts its capacity to serve the best interest of its client. Failure to disclose such situations may lead to the disqualification of the TP or the termination of its Contract and/ or sanctions by the Client. c. Conflicting Relationship: Relationship with the Client's staff: a TP (including its Experts) that has a close business or family relationship with

	a professional staff of the Client, who are directly or indirectly involved in any part of I. the preparation of the Terms of Reference for the assignment II. the selection process for the Contract, or III. the supervision of the Contract, may not be awarded a Contract, unless the conflict stemming from this relationship has been resolved in a manner acceptable to the Client throughout the selection process and the execution of the Contract.
1.3.3 Corrupt and Fraudulent practices.	a. Client requires compliance with its policy with regard to corrupt fraudulent practices. b. In further pursuance of this policy, TPs shall permit and shall cause their Experts, Partners, services providers or suppliers to permit the Client to inspect all accounts, records, and other documents relating to the submission of the Proposal and contract performance (in case of an award), and to have them audited by auditors appointed by the Client.
1.3.4 Cost of Preparation of Proposal.	The TP shall bear all costs associated with the preparation and submission of its Proposal, and the Client shall not be responsible or liable for those costs, regardless of the conduct or outcome of the selection process. The Client is not bound to accept any proposal, and reserves the right to annul the selection process at any time prior to Contract award, without there by incurring any liability to the TP.
1.3.5 Language	The Proposal, as well as all correspondence and documents relating to the Proposal exchanged between the TP and the Client, shall be written in English.
1.3.6 Proposal Validity	a. The period during which the TP's proposal must remain valid after the proposal submission deadline. b. During this period, the TP shall maintain its original proposal without any change. c. If it is established that any Key Expert nominated in the TP's Proposal was not available at the time of Proposal submission or was included in the Proposal without his/her confirmation, such Proposal shall be disqualified and rejected for further evaluation.
1.3.7 Extension of Validity Period	a. The Client will make its best effort to complete the negotiations within the proposal's validity period. However, should the need arise, the Client may request, in writing, all TPs who submitted Proposal prior to the submission deadline to extend their Proposal's validity. b. If the TP agrees to extend the validity of its Proposal, it shall be done without any change in the original Proposal.

	c. The TP has the right to refuse to extend the validity of its Proposal in which case such Proposal will not be further evaluated
1.3.8 Revenue Sharing	CoE will be used to conduct different training programs, Industrial Consultancy and research work, etc,. The Institute will have full share/ rights on the revenue generated and IPR out of such activities. There shall not be any revenue sharing with the TP.
1.3.9 Availability Key Experts	a. The short-listed TP shall confirm the availability of all Key Experts included in the Proposal as a pre-requisite to the negotiations. Failure to confirm the Key Experts' availability may result in the rejection of the TPs Proposal and the Client proceeding to negotiate the Contract with the next-ranked TP. b. Notwithstanding the above, the substitution of Key Experts at the negotiations may be considered if due solely to circumstances outside the reasonable control of and not foreseeable by the TP, including but not limited to death or medical incapacity. In such case, the TP shall offer a substitute Key Expert within the period of time specified in the letter of invitation to negotiate the Contract, who shall have equivalent or better qualifications and experience than the original candidate

SECTION-III

3.1 Scope of Services

The CoE will promote inter-disciplinary research involving An IoT Robotics and advanced computation technologies to enhance new generation of through 3D printer and novel Tools. The center will facilitate engagement and cooperation between academia, start-ups and industry ecosystem partners to research and develop these use cases.

The CoE, to be designed by the Technology Partner (TP), is envisioned to be a state-of-the-art-advance-laboratories will be available to the students, faculty members and Industry and its ecosystem partners for advanced research projects involving designing next-generation applications of Artificial Intelligence for solving pertinent social problems. It will share its expertise in next-generation computing innovations and leverage Labs' technical expertise in different fields to aid the research and development of the end-to-end use case technology solutions. OUTR will engage its cross-disciplinary faculty and researchers, and provide its in-house expertise in different domain.

The CoE will run under the overall operational management of the TP and the university. The Technology Partner will be responsible for devising and implementing a three-year rolling plan and ensuring that the CoE is constantly upgraded and provides a high technology ecosystem for skilling/up-skilling and multi skilling.

The collaboration will help OUTR, Bhubaneswar **in** capacity building and human resources development in cutting-edge technology of AI, IoT and robotics, etc.

The CoE will facilitate close interaction with all the stake holders of the ecosystem for the exchange of ideas and symbiotic development of end-to-end use cases. It will also host symposia for academia and industry and organize hackathons for startups.

3.2 Major Areas to be covered under CoE

- ❖ AI Enhanced Smart Internet of Things (AIoT)
- ❖ FPGA Based Industrial IoT (IIoT)
- ❖ AI Machine Learning & Deep Learning (advanced GPU Based)
- ❖ FPGA Based Robotics
- ❖ Industry 4.0 AI Based Robotics System
- ❖ Drone

3.3 Brief Scope of Work

COE breakup as per the scope of work		
Sl no	**Items**	**Remark**
1	Hardware and Software including training from OEM.	
2	A-Training on Industry application,3 years Training to Faculty and the students. B-Build, Operate for 3 years. (2 resource persons to be deployed by OUTR and 2 resource persons to be deployed by the TP)	1. Quarterly one batch of Faculty Training (2weeks 10 hours) 2. Quarterly 2 batches for students (max 15 per batch) 40 hours each batch focus on Sl no 1-3 Training/AI Courses 3-Industry specific Trg 10 hours one batch per quarter.
3	Necessary site preparation of the CoE (Furnishing, smartboard, latest VC facility, Chairs/ Tables etc) following the present trend of architecture and furnishing.	2 smart boards, 1 VC system, 15 chairs, 1 Table. (As specified in the details of technical specifications)
4	Industry collaboration, Software partner collaboration, Industrial visit support in India and in advanced countries like Japan/US/UK etc for a period of 3 years. Knowledge upgradation of the faculty team and Industrial visits.	Software partner support for like AWS, SAP Joule Manufacturing industry collaboration in Japan and India. Support for joint development of PoC and potential products. Faculty members Industrial visit to advanced countries like Japan/US/UK etc for at least 2 weeks.

3.4 Indicative training/certificate programs the TP has to offer

	Course Summary	Course Details	
sl no	**Course title**	**Module break downs**	**Minimum Duration (Hrs)**
1	**Certificate in Deep learning**	Introduction to Deep Learning Image Classification Object Detection Neural Network Deployment and TensorRT Image Segmentation with TensorFlow Natural Language Processing Introducing RNNs Combining CNNs and RNNs for Image Captioning Video Captioning Capstone Project	**40**
2	**Certificate in Machine Learning**	Supervised & Unsupervised algorithms Classification and feature selection Predictive modelling Model Validation and deployment Natural Language Processing Optimization for Prescriptive Analytics Analytics Applications in Business Verticals Capstone project	**40**
3	**Certificate in Python for AI**	Advanced Python Programming Python for NLP, IoT & AI Python for Machine Learning Python for Deep Learning Capstone project	**30**
4	**Data Analysis with SQL**	• Install and run the My SQL DB • Create and execute SQL Queries • Understand the importance of data storage and management • Be able to do basic data analysis with SQL statements • Build Analytical pipeline with MySQL	30

5	**Fundamentals of Computer Vision**	Significant technologies and libraries, Computer vision application development workflow, Learn more about edge detection by using Canny edge detectors, The methods to perform object detection and object recognition	40
6	**Fundamentals of Natural Language Processing**	• How to handle text Data • Learn to process text by scraping data. • Learn NLP concepts of Tokenization, Word of Bag, Rex Expression, Stemming, Lamentation, N-grams. • Understand the latest NLP packages in python. • Build an NLP application on real-time data.	40
7	**Fundamental of AI**	• Introduction to AI • Evolution of Deep Learning • Python for AI • Machine Learning Algorithms, Classification imbalance handling feature selection, Hyper parameter optimization and • 2 Mini Project	40
8	**Certificate of AI**	Introduction to Computer Vision Concepts Introduction to Deep Neural Networks Predictive Analysis Introduction to CNN Convolutional Neural Network Introduction to TensorFlow GPU Introduction to Pre trained models: Alexnet, VGG, Resnet & Inception net Dog Breed Identification - Resnet & Inception net Introduction to NLP Sentiment analysis with VADER Model & Deep Learning Mini Project: Industry Dataset Introduction to RNN & GRU 2 Mini Projects	40

9	**Advance certificate in AI**	Introduction to Advance NLP: Entity Identification, POS Topic Modelling Emotion Identification with Deep Learning Introduction to Advance Computer Vision Concepts Geo Spatial Data Classification Models Introduction to Object Detection models Introduction to Image Segmentations Task Introduction to Autoencoders Anomaly Detection Project: Industry related problem Smart Internship	40
11	Certificate in IoT	A typical IoT System • Characteristics of IoT Data & Machine Learning techniques • Intel IoTDevkit Overview • A Complete end-to-end IoT Solution	8

3.5 Indicative Technical Specifications for Advance Deep Learning Lab Setup:

Sr. No.	Deliverables	Description
1	**AI/DL Machine: (Qty.: 01)**	• **Hardware:** - **Processor: 2x 5th Gen Intel Xeon Scalable Silver 4516Y, 24 Core, 48 Thread**, 2.2GHz Base freq, 3.7GHz Max Turbo Freq, 45MB Cache, 185W TDP - **Mother Board:** Having **2x** CPU socket, 32*DIMM, - **RAM: 8x 64GB** DDR5 RDIMM ECC (**Total 512GB** DDR5) - **Storage for OS: 1x 960GB** SSD NVMe - **Storage for Data: 2x 8TB** 7200 RPM SATA Enterprise HDD - **SMPS:** 3000W SMPS Power supply - **LAN: 2x** 10G Gigabit Ethernet - **Ports:** Front 1*PCIe x8 slot, rear 1*PCIe x16 slot, w/8 x 3.5" bays (8 SATA/2 NVME) - **Management Port: 1x** MGMT on back side - **Form factor**: 4U Rack Type Server Chasis supporting up to 8 GPU Card - HDMI Display compatible for AI-DL Machine, with USB Mouse-Keyboard - **Operating System:** Latest Ubuntu Linux - **GPU: 8**x **RTX Pro 5000 Blackwell** - 48GB: Total GPU Memory = **384GB**) • **Included Software Libraries & OS:** The setup contains Ubuntu OS (16.04/ 18.04) with the following pre- installed libraries, utilities, tools and SDKs. **Essentials Utilities:** CUDA, cuDNN, TensorRT **Machine Learning:** vowpal wabbit, XGBoost,Numpy, Scikit, Pandas, other relevant Py libs **Deep Learning:** NVidia DIGITS**,** Tensor Flow**,** Caffe, Caffe2**,** PyTorch, Torch**,** Theano **Dataset:** Image Net, CIFAR-10, KITTI pre-loaded for out-of-box Development
2	**AI/DL Machine: (Qty.:02)**	• **Hardware:** - **Processor: 2x 5th Gen Intel Xeon Scalable Silver 4516Y, 24 Core, 48 Thread**, 2.2GHz Base freq, 3.7GHz Max Turbo Freq, 45MB Cache, 185W TDP - **Mother Board:** Having **2x** CPU socket, 32*DIMM, - **RAM: 8x 64GB** DDR5 RDIMM ECC (**Total 512GB** DDR5) - **Storage for OS: 1x 960GB** SSD NVMe - **Storage for Data: 2x 8TB** 7200 RPM SATA Enterprise HDD - **SMPS:** 3000W SMPS Power supply

		- **LAN: 2x** 10G Gigabit Ethernet - **Ports:** Front 1*PCIe x8 slot, rear 1*PCIe x16 slot, w/8 x 3.5" bays (8 SATA/2 NVME) - **Management Port: 1x** MGMT on back side - **Form factor**: 4U Rack Type Server Chasis supporting up to 8 GPU Card - HDMI Display compatible for AI-DL Machine, with USB Mouse-Keyboard - **Operating System:** Latest Ubuntu Linux - **GPU:** • **4x Nvidia RTX Pro 4000 Blackwell - 24GB (Total GPU Memory= 96GB)** • **Included Software Libraries & OS:** The setup contains Ubuntu OS (16.04/ 18.04) with the following pre- installed libraries, utilities, tools and SDKs. **Essentials Utilities:** CUDA, cuDNN, TensorRT **Machine Learning:** vowpal wabbit, XGBoost, Numpy, Scikit, Pandas, other relevant Py libs **Deep Learning:** NVidia DIGITS**,** Tensor Flow**,** Caffe, Caffe2**,** PyTorch, Torch**,** Theano • **Dataset:** Image Net, CIFAR-10, KITTI pre-loaded for out-of-box development
3	**Edge Computing Embedded Hardware for Deep Learning Inference – 1** **(Qty = 1)**	• Edge Computing Embedded Hardware for Deep Learning Inference Platform comprises of 6-core Carmel ARMv8 CPU, 384-core Volta GPU, 8GB LPDDR4, 16GB eMMC(optional), 2x 4kp30 H.264/H.265 encoder & 2x 4kp60 H.264/H.265 decoder, MIPI CSI-2 lanes,2x PCIe controllers, • Ports and Peripherals include: 4x USB 3.1 A, USB 2.0 Micro B, 2x MIPI CSI-2, HDMI 2.0, Display Port 1.4, Gigabit Ethernet, M.2 Key-E with PCIe, M.2 Key-M NVMe with PCIe, MicroSD card slot, 2x I2C, 2x SPI, UART, I2S, GPIOs etc., • 128GB SSD along with pre-loaded Linux OS having tools like OpenCV, Open GL, Vulkan, Tensor Flow, Tensor RT, CUDA, VisonWorks etc… • 18" HDMI Display and USB mouse-Keyboard • Software Eco System configured to work with GPU Board for Edge Computing & Deep Learning Inference, • Software Eco System also configured to work with Advance Image/Video Processing & Advance vision applications with

		camera setup along with examples on OpenCV, OpenGL, Vulkan, VisionWorks and CUDA and its documentation • Relevant / compatible software for interfacing of Thermal Camera and 3D/Stereo Camera needs to be installed along with resources for high-end camera applications • Demonstration of the implementation of remote inference of a trained deep learning model on embedded board along with examples and its documentation • Demonstration of Advance Image/Video Processing & Advance vision applications with various camera setups along with examples on OpenCV, OpenGL, Vulkan, VisionWorks and CUDA and its docs.
4	**Edge Computing Embedded Hardware for Deep Learning Inference – 2** **(Qty = 1)**	918 MHz, 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU @ 2 GHz, RAM: 16GB 128-bit LPDDR5 @ 102.4GB/s, • Video Encode: 1x 4K60 (H.265)|3x 4K30 (H.265)|6x 1080p60 (H.265)|12x 1080p30 (H.265) • Video Decode: 1x 8K30 (H.265)|2x 4K60 (H.265)|4x 4K30 (H.265)|9x 1080p60 (H.265)|18x 1080p30 (H.265) • Camera connectors: 2xCSI Camera connector • Ports and Peripherals includes: Gigabit Ethernet, M.2 Key E; 1xDisplay port; USB : 4x USB 3.2|USBC- Supports Recovery Mode; 20x2 GPIO Interface : GPIO, I2C, I2S, SPI, UART, PWM Storage: 128GB nVME SSD with pre-loaded Linux OS having tools like OpenCV, Tensor RT, CUDA etc… • 18" HDMI Display and USB mouse-Keyboard • Software Eco System configured to work with GPU Board for Edge Computing & Deep Learning Inference, • Software Eco System also configured to work with Advance Image/Video Processing & Advance vision applications with camera setup along with examples on OpenCV, OpenGL, Vulkan, VisionWorks and CUDA and its documentation • Relevant / compatible software for interfacing of Thermal Camera and 3D/Stereo Camera need to be installed along with resources for high-end camera applications • Demonstration of the implementation of remote inference of a trained deep learning model on embedded board along with examples and its documentation • Demonstration of Advance Image/Video Processing & Advance vision applications with various camera setup along with

		examples on OpenCV, OpenGL, Vulkan, VisionWorks and CUDA and its documentation.
5	**Edge Computing Embedded Hardware for Deep Learning Inference – 3 (Qty = 1)**	• Edge Computing Embedded Hardware for Deep Learning Inference Platform comprises of 12-core Arm® Cortex®-A78AE v8.2 64-bit CPU, 2048-core Ampere architecture GPU @ with 64 Tensor Cores, Dual Deep Learning Accelerator (DLA) Engines, 64GB LPDDR5x, 64 GB eMMC, Vision Accelerator engine, MIPI CSI-16 lanes,SLVS-EC lanes, 2x 4Kp60 H.264/H.265 video encoder, 8Kp30 / (6x) 4Kp60 H.265 video decoder, • Ports and Peripherals includes: 16 lane MIPI CSI-2 connector, PCIe x16 PCIe slot supporting x8 PCIe Gen4, RJ45 Up to 10 GbE, M.2 Key M x4 - PCIe Gen 4, M.2 Key E - x1 PCIe Gen 4, USB 2.0, UART, I2S, USB Type-C - 2x USB 3.2 Gen2 witd USB-PD support, USB Type-A- 2x USB 3.2 Gen2, 2x USB 3.2 Gen1, USB Micro-B - USB 2.0, Display Port 1.4a (+MST), microSD slot - UHS-1 cards up to SDR104 mode with 18” HDMI Display and USB mouse-Keyboard • Other Header: 40-pin header (I2C, GPIO, SPI, CAN, I2S, UART, DMIC) , 12-pin automation header , 10-pin audio panel header , 10-pin JTAG header , 4-pin fan header , 2-pin RTC battery backup connector , DC power jack , Power, Force Recovery and Reset buttons • eMMC configured with pre-loaded Linux OS having tools like OpenCV, Open GL, Vulkan, Tensor Flow, Tensor RT, Cuda, NVidia Vison Works • Software Eco System configured to work with GPU Board for Edge Computing & Deep Learning Inference, • Software Eco System also configured to work with Advance Image/Video Processing & Advance vision applications with camera setup along with examples on OpenCV, OpenGL, Vulkan, VisionWorks and CUDA and its documentation • Relevant / compatible software for interfacing of Thermal Camera and 3D/Stereo Camera need to be installed along with resources for high-end camera applications. • Demonstration of the implementation of remote inference of a trained deep learning model on embedded board along with examples and its documentation • Demonstration of Advance Image/Video Processing & Advance vision applications with various camera setup along with examples on OpenCV, OpenGL, Vulkan, VisionWorks and CUDA and its documentation

6	**Camera Setup (1 Set)**	Thermal camera (Qty = 1) • Frame Rate: 8.6 Hz, Pixel Size: 17 µm • Radiometric Accuracy: High gain: Greater of +/- 5°C or 5% (typical) Low gain: Greater of +/- 10°C or 10% (typical) • Scene Dynamic Range: -10-140 °C (high gain); up to 450°C (low gain) • Spectral Range: 8 µm to 14 µm; Thermal Sensitivity: 0.050° C • Non-Operating Temperature Range: -40 °C to +80 °C • Optimum Temperature Range: -10°C to +80°C • Array format: 80 × 60, progressive scan • FOV - Diagonal: 63.5° & Horizontal: 50° (nominal) • Thermal video over USB & Powered via USB • GPIO and peripheral breakouts to easily attach other devices • UART, I2C, and GPIO Expansion 3D- Stereo camera (Qty = 1) • Infrared (IR) camera resolution 512 × 424 pixels • RGB camera resolution 1920 × 1080 pixels • Field of view 70 × 60 degrees, 7x7 depth pixels per degree • Frame rate: 30 FPS • Operative measuring range: from 0.5 to 4.5 m • Recommended min. distance: 1.4m & max. distance: 4m • Microphone array 4 microphones, 48KHz • Object pixel size (GSD) between 1.4 mm (@ 0.5m range) and 12 mm (@ 4.5m range) Night vision camera (Qty = 1) • Interface USB • Image sensor CMOS • Lens 5P High quality lens • Video resolution 1920x1080 – 30 FPS IP camera – wireless (Qty = 1) • Resolution 1920 x1080 • Video Compression H.264 • FPS 15 • Wireless 802.11 b/g/n • Night Vision yes up to 30ft. USB camera (Qty = 1) • Resolution 720p/30FPS • Focus type fixed focus • Interface USB • Lens 5P High quality lens • Built-in mic Mono

7	**AI Vision Robotic Arm with ROS with JETSON NANO (Qty = 2)**	Reasonable and convenient first trial • Assembled before shipping, users didn't need to assemble. • TF card with factory image file, plug and play without complex operation. • Scanning the QR code on the mobile APP through the camera to quickly configure the network and start up. • Each function possesses tutorials and codes in detail. Excellent structural design • All aluminum alloy bracket with 2mm thickness. • The chassis with suction cups is more stable and can be stably placed in any experimental environment at any time. • Camera and robot arm 2 in 1. • Flexible 6 DOF vision robotic arm. Top hardware Configuration • Multifunctional expansion board, compatible with Jetson NANO • 5*15KG bus servo+1*6KG bus servo. • PS2 handle receiver, WiFi/Bluetooth module interface, I2C port are reserved for users. Fantastic AI function • Support Android/iOS APP, PC computer, Game handle, Jupyter Lab webpage online programming remote control. • Can study and storage custom fixed action groups. • Simultaneous movement of dual robotic arms. • Gesture recognition, color interaction, visual positioning, garbage sorting, catch game, face tracking, and blocks stack and others AI vision game play.
8	**Autonomous ROS AI Robotic Car Powered with JETSON NANO (Qty = 2)**	- Integrates OpenCV vision library, with extensive algorithm demos - Supports remote Speech intercom, Speech synthesis, Speech detection, Speech recognition, human-computer Speech interaction - Real-time speech transmission between the computer and the robot, enables two-way remote communication

		- 360 Degree Laser Ranging Lidar: 360-degree scanning and ranging of the surrounding environment to obtain a contour map around robot - Adopts Ackerman-like Steering Structure: This ROS AI kit adopts an Ackerman-like steering structure with front wheels servo steering combined with rear wheels differential steering. Provides detailed kinematics model analysis, uses polynomial fitting to output steering angle, makes the steering angle more accurate. - 8MP 160 FOV Camera: IMX219 Sensor, 3280×2464 Resolution Suitable for OpenCV vision development, object recognition, target tracking, automatic driving and other AI functions - High-power Encoder DC Gear Motor: High-quality carbon brushes, all- metal gear structure, high precision, low running noise, 11-wire AB-phase Hall speed encoder, support PID closed-loop speed control to calculate wheel odometer information; SERVO : 9kg/cm torque - Using USB Audio Chip: Onboard two high-quality MEMS silicon microphones and speaker for stereo recording and playback. So the robot also has "ears" and "mouths" that can "listen" and "talk". Easily realize intelligent speech interaction - Safe & Stable Circuit Design: :Onboard battery protection circuit for preventing overcharge, over-discharge, over-current, short circuit proof, with reverse proof, and equalizing charge. Makes your operation more stable and safer. Built-in battery detection circuit, onboard OLED to real- time display the battery voltage, current, and remaining battery capacity. - AC8265 wireless NIC, 2.4G/5G dual-band WiFi, Bluetooth 4.2 - POWER SUPPLY :12.6V, 18650 battery × 3 (connected in series) - CHASSIS: Aluminium alloy chassis - CRASHPROOF: Front sponge - PROGRAM LIBRARY: JetRacer, DonkeyCar, ROS
9	**Server Rack (Qty=2)**	- 27U Server Rack having fan assembly for AI-DL Machine assembly
10	**Training:**	3 Days Exclusive Training on Advance Deep Learning Lab • Training on AI-DL Machine hardware setup • Training on Docker & Container based environment installed

		• Operation of software tools/utilities & environments enabling multiuser usage environment
		• Admin Training
		  o Login to AI-DL Machine as Administrator
		  o Managing User accounts
		  ▪ User Creation/Delete
		  ▪ Hardware parameter visualization
		  ▪ Managing Hardware resources
		  o Training on Docker/container
		  ▪ Checking available Docker Images
		  ▪ Adding/managing various Libraries/Software versions in specific docker Images
		  o Backup/Restore Docker Images
		  o Backup/Restore user DATA to/from user space to/from server database
		  o Script based management for ease of operation
		• User Training
		  o Login to AI-DL Machine
		  o Training on Docker/container
		  o Checking available Docker Images
		  o How to User Docker Images
		  o Check available libraries/ software
		  o Running simple example using Digits
		  o Running simple example using Jupyter-notebook
		  o How to run your own example on AI-DL Machine
		• Data Management
		  o Transferring DATA to/from AI-DL computing Machine to/from user node machine.
		  o Manage storage space
		• Demonstration of the implementation of remote inference of a trained deep learning model on embedded board along with examples and its documentation
		• Demonstration of the implementation of Machine Learning on embedded board along with examples and its documentation
		• Demonstration of Advance Image/Video Processing & Advance vision applications with various camera setup along with examples on OpenCV, OpenGL, Vulkan, VisionWorks & CUDA and its documentation

11	**Experiments**	• Various experimentations to be included for machine learning, Deep Learning and Deep Learning inference/ edge computing. • Specific experiments for computer vision lab focusing on OpenCV, OpenGL, Vulkan, VisionWorks and CUDA. • The experimentations to be supported with proper documentations and executable code for easy quick experimentation thus reducing learning time/curve.

12	**Bionic Dog Robot (Qty.1)**	The Bionic Dog Robot that features 12 x 2.3kg.cm large torque servos, reliable structure, and flexible motion, incorporating devices like front camera, 9-axes motion tracker, RGB indicator, etc., together with open-source multi-platform Web application. It uses the ESP32 as a sub-controller for connecting rod inverse solving and gait generation, sharing calculating tasks for the host controller, an additional Raspberry Pi can be attached as the host controller for high-level decision operating.
13	**Humanoid ROS Robot (Qty.1)**	Humanoid ROS Robot is built upon ROS, encompassing motion control, AI vision, sensor control, and more. It enables versatile deployment and extensive development, offering a comprehensive source code package, removal of ROS underlying interfaces, and ROS simulation models. This simplifies user development and facilitates ROS algorithm research, as well as practical applications in robot teaching and practice.

3.6 Scope for Implementation of Industry 4.0 and Quality Assurance 4.0 (I4.0 / QA 4.0) Framework Using Robotics System

The Scope of work under this is to develop a state-of-the-art lab-based testing and training facility to empower next-generation students, faculty, and industry personnel with the latest technologies in smart manufacturing and digital quality assurance.

The lab must encompass the design, development, customization, digitization, and deployment of a fully integrated Industry 4.0 framework using advanced robotics systems for:

- AI-based vision inspection
- Automated sorting
- Precision assembly
- Real-time performance monitoring
- Digital twins for process validation

Sl.	Item Description	Specification
1.	Pick-and-Place Robot Cell – 5-Axis Robot with Mechanical, Civil, Electrical Integration, Welding & Gripper Accessories Make: Kawasaki/Epson/Equivalent (Qty.: 01)	The proposed robotic cell shall include a 5-Axis industrial pick-and-place robot with a payload capacity of less than 5 kg, integrated with a modular end-effector base plate, pneumatic accessories, and interchangeable gripping and welding-tool interface modules, supplied with a teach pendant and controller. The robot shall offer a reach between 500–700 mm, repeatability of ±0.02 mm or better, and shall be equipped with an electric or pneumatic gripper having a minimum 20 mm stroke with soft-grip pads and an integrated 2D/3D scanning sensor for part localization, height profiling, and orientation detection. Full Digital Servo System and support multiple operation modes including Teach Mode and Repeat Mode (PTP/CP control) with Joint, Linear, and Circular interpolation. The controller shall provide 32 input and 32 output general-purpose I/O channels (expandable to 64/96/128

		channels). Memory capacity shall be minimum 8 MB, with teaching available through a Teach Pendant using AS language programming. External signals shall include Motor Power Off, External Hold, and safety inputs. Standard cable lengths shall include 3 m power/signal cables and 10 m teach pendant cable. The controller shall operate on AC 440–480 V, 3-phase, with a maximum power rating of 5.1 kVA (E37) / 7.3 kVA (E35). Operating conditions shall support a temperature range of 0–45°C and a non-condensing humidity range of 35–85%. The unit shall include emergency stop, safety circuits, and a color 7.2-inch LCD teach pendant with intrinsically safe construction. Optional expansions include additional I/O channels, extended cable lengths up to 40–50 m, error/reset operation panel signals, and motor ON/Cycle Start/Hold functions. The controller shall comply with industrial robot safety and EMI/EMC standards. The robot cell shall include complete mechanical structures such as welded steel base frames, robot pedestals, safety fencing, light curtains, E-Stop circuits, vibration-isolated foundation, cable trays, and pneumatic/utility routing. Electrical integration shall include power distribution panels, servo drive wiring, I/O interfacing, grounding, communication cabling (EtherCAT/ Ethernet-IP/ Modbus-TCP), and compliant safety systems as per ISO 10218 and CE standards. The robot controller shall support real-time motion planning, collision detection, multi-robot coordination, and diagnostics. All inspection-related accessories, gripper modules, controller cabinets, pneumatic regulators, documentation, calibration equipment, installation, commissioning, and operator training shall be provided as part of the complete turnkey robot cell.
2.	SCARA Robot – Vision Inspection & Precision Assembly Unit	Industrial-grade SCARA Robot equipped with an integrated machine-vision inspection system for precision assembly, sorting, alignment, and component verification. The SCARA robot shall be a minimum 4-axis configuration with a reach of at least 300 mm, repeatability of ±0.02 mm or better, payload capacity of 1 kg or higher, and a standard cycle time not exceeding 0.50 seconds. The system shall include a calibrated industrial vision package with a 2–5 MP camera, high-resolution lenses, LED illumination, and software enabling pattern matching, blob analysis, dimensional measurement, barcode/QR decoding, and AI-assisted defect detection. The SCARA assembly unit shall include a dedicated robot controller supporting high-speed servo control, vision-synchronized motion, real-time path planning, EtherCAT/Ethernet-IP/Modbus-TCP communication, and safety diagnostics. All required accessories including mounting plates, controller cabinets, pathways for wiring/pneumatics, calibration tools, documentation, commissioning, and training shall be supplied as part of the complete SCARA vision-assembly package.

3.	Robot cell Development, Mechanical, Electrical integration components including welding and gripper accessories. (Qty.: 01)	The proposed robotic cell shall include complete mechanical, civil, and electrical integration required for the deployment of industrial robots, along with compatible welding interfaces and gripper accessory modules. The mechanical scope shall comprise a fully engineered steel support structure including robot mounting pedestals, precision-machined base plates, process fixtures, tool nests, cable trays, armoured conduits, safety fencing, light curtains, polycarbonate guarding, E-Stop stations, pneumatic manifolds, and vibration-isolated foundation plates designed to withstand dynamic robot loads and maintain positional repeatability. Electrical integration shall include design and installation of power distribution panels, MCC/SMDB-level isolation, servo drive wiring, controller power cabling, grounding and earthing networks, shielded signal wiring, safety-rated relays, interlocks, PLC/robot I/O mapping, and communication networks via EtherCAT, Ethernet-IP, or Modbus TCP, ensuring compatibility with ISO 10218, CE, and industrial safety standards. The welding interface portion of the cell shall include welding torch brackets, cable support booms, arm-side routing channels, shielding provisions, grounding clamps, and fixture mounting interfaces suitable for welding attachments, ensuring safe integration with robot end-effectors. The system shall also include full gripper accessory support through modular end-effector plates, pneumatic or electric grippers, soft-touch pads, force-adjustable gripping fingers, solenoid valves, air regulators, FRL units, tubing, quick couplers, and tool-change compatible mechanical adapters. All components shall be delivered as a complete turnkey robot cell, including engineering design, fabrication, on-site assembly, electrical termination, pneumatic integration, safety validation, testing, commissioning, and documentation with as-built drawings.
4.	Robotic Unit Power Supply, Pneumatic Pipeline and Grippers Robotic Unit Power Supply Qty.: 01	Industrial three-phase and single-phase regulated power supply using FRLS copper cables, surge protection, isolation breakers, and shielded control wiring to feed the robot controller, drives, and peripheral devices. Complete routing and termination included. Pneumatic Pipeline: Compressed-air pipeline with FRL unit, pressure regulator, solenoid valves, manifolds, PU/PVC tubing, clamps, and quick couplers, supplying clean and stable air pressure for robotic gripper actuation and auxiliary mechanisms. Grippers: Industrial electric or pneumatic parallel grippers with a minimum 20 mm stroke, adjustable gripping force, soft-touch pads, and sensor feedback, compatible with modular end-effector plates and the robot's I/O and pneumatic interfaces.

5.	AGV Automatic, including charging/docking station and accessories. Qty.: 01	AGV shall be an industrial-grade, fully automatic guided vehicle designed for autonomous material transport inside the Smart Factory, equipped with onboard safety sensors, navigation system, and automated docking/charging capability. The AGV shall support autonomous navigation using LiDAR/QR/SLAM-based guidance with obstacle detection, auto-rerouting, and precision stopping accuracy of ±10 mm. The vehicle shall have a minimum payload capacity of 60–100 kg, an onboard motor drive system, a battery management system, and industrial safety features including bumper sensors, anti-collision sensors, an emergency stop, and audible/visual indicators. Power shall be supplied through a high-efficiency battery pack (Lithium-ion preferred) supporting 3–5 hours of operation per charge. The charging system shall include an automatic docking station enabling hands-free connection, fast charging capability, and smart energy monitoring with protection circuits. Accessories shall include Wi-Fi/Ethernet connectivity, fleet management interface, status indicators, QR/marker scanners (if required), and integration modules for MES/SCADA. The AGV unit, docking station, and accessories shall comply with industrial safety standards and support 24/7 continuous operation.
6.	Conveyor Modules for Component Transmission (Mini Demo & Training Line) Qty.: 01	The system shall include compact industrial conveyor modules designed for component transfer, training, and mini-demo assembly workflows within a smart factory or robotics lab. The conveyor shall be a modular belt/roller-type unit with a length of 0.8–1.5 meters, variable speed drive (AC or DC motor), adjustable speed range from 5–25 m/min, and smooth start/stop motion control for safe handling of small components. The frame shall be made of aluminium extrusion or powder-coated steel with adjustable height stands, side guides, and component-safe transport surfaces. The conveyor shall include integrated sensors such as photoelectric / diffuse sensors for part detection, start/stop logic, and interface-ready signals for robot pick-and-place synchronization. Motor control and power supply shall be compatible with the robot cell's main panel, using 230V single-phase or 415V three-phase depending on model. The module shall support PLC/robot I/O integration via 24V DC signals and provide emergency stop interfacing. The mini training line shall include demonstration fixtures, component carriers, sensor mounts, and sample part kits for practical training activities. All accessories including wiring, mounting brackets, controller box, safety guards, and documentation shall be provided as part of the turnkey conveyor training module.
7.	System Integration Platform and Pads with Mechanical accessories (Qty.: 01)	

8.	Capacitive, Inductive, Proximity Sensors, Protocol Converters, Smart Switches and Electrical Panel boxes (Qty.: 01)	Capacitive Sensors: Industrial-grade capacitive proximity sensors suitable for detecting non-metallic and metallic objects with adjustable sensitivity, sensing range 5–15 mm, 10–30 V DC power supply, PNP/NPN output, short-circuit and reverse polarity protection, IP67 enclosure. Inductive Sensors: High-reliability inductive proximity sensors for metallic object detection with sensing distance 2–10 mm, 10–30 V DC operation, PNP/ NPN output configuration, fast response time, overload protection, and IP67 industrial sealing. Proximity Sensors (General): Factory-automation grade proximity switches supporting metallic/non-metallic detection with configurable NO/NC outputs, robust housing, EMI-shielded electronics, and compatibility with PLC/robot I/O (24V DC). Protocol Converters: Industrial protocol converters supporting RS-232/RS-485/Ethernet conversion and fieldbus interfaces including Modbus RTU/TCP, EtherNet/IP, Profinet (optional), with DIN-rail mount, 24V DC supply, LED diagnostics, and remote configuration capability. Smart Switches: Industrial smart managed/unmanaged Ethernet switches with 4–8 ports, supporting 10/100/1000 Mbps links, VLAN, port monitoring, IGMP snooping, surge protection, redundant 24V DC power input, DIN-rail mounting, and integration with SCADA/MES/Robot networks. Electrical Panel Boxes: Powder-coated MS/SS electrical panel enclosures with IP54–IP65 protection, internal mounting plate, cable glands, earthing studs, lockable door, ventilation provisions, and space for breakers, contactors, power supplies, and communication modules as per system integration requirements.
9.	Vision Sorting ivision/ Cognex or equvalent industrial camera and Controllers with auto sorting and transfer bin (Qty.: 01)	The system shall include an industrial-grade machine-vision sorting unit equipped with a high-resolution iVision / Cognex smart camera with minimum 2–5 MP sensor, high-speed global shutter, industrial lensing, and LED illumination for accurate part detection, inspection, and sorting. The vision controller shall support onboard processing with tools for pattern matching, blob analysis, measurement, feature detection, OCR/OCV, barcode/QR reading, and pass/fail classification. The system shall include a real-time vision controller or embedded image processor with

		Ethernet/IP, Modbus TCP, or digital I/O outputs for triggering sorting mechanisms. The sorting module shall include an automated actuation mechanism (pneumatic/electric diverter, pusher, flap, or gate) for classifying items into predefined categories based on vision results (OK/NG or multi-bin sorting). A transfer bin system shall be provided with multiple collection bins or trays, designed for safe component handling, removable storage, and clear sorting segregation. The entire system shall support high-speed part detection, configurable inspection zones, PLC/robot communication, adjustable conveyor mounting brackets, and easy calibration tools. The package shall include camera, controller, cables, illumination, lens, sorting actuator, bin modules, mounting hardware, and setup software for a fully functional auto-sorting demo/training line.
10.	Tool Set and Trolley with fitments and accessories (Qty.: 01 Set)	Tool Set and Trolley with fitments and accessories
11.	RFID Asset Lifecycle Reader with (100 Passive & Active Tags) (Qty.: 01)	The system shall include an industrial-grade RFID Asset Lifecycle Reader capable of reading both passive (UHF EPC Gen2) and active RFID tags, supporting a read range of 3–10 meters for passive tags and 20–100 meters for active tags depending on antenna configuration. The reader shall support multi-antenna operation (2–4 ports), anti-collision capability, high-speed tag capture, and real-time asset tracking via Ethernet/IP, Wi-Fi, or Modbus TCP communication. The package shall include 100 RFID tags (mixed passive and active type) suitable for equipment, tools, component trays, and asset lifecycle tracking applications. Passive tags shall be industry-standard UHF durable labels or rugged plastic-encased tags; active tags shall include onboard battery, beaconing, and configurable transmit intervals. The reader shall include an integrated or external antenna module, mounting kit, power adapter, and configuration software for tag enrollment, asset mapping, and lifecycle monitoring. The system shall support dashboard integration via API/MQTT and provide event logs for movement, presence, and usage tracking in smart factory environments.
12.	Handheld bar code reader Zebra wifi Make: Zebra DS3600 Series Qty.: 01	The handheld barcode reader shall be an industrial-grade Zebra wireless scanner with Wi-Fi (802.11 a/b/g/n/ac) connectivity for real-time data transmission within smart factory and warehouse environments. The scanner shall support 1D and 2D barcodes, including QR, DataMatrix, PDF417, and Code128, with omni-directional fast scanning, high-motion tolerance, and long-range decode capability. The device shall include a rugged housing with IP54 or higher protection and withstand drops of 1.5–2.0 meters onto concrete. The unit shall feature a high-capacity rechargeable battery supporting 8–12 hours of continuous operation, an ergonomic trigger design, and LED/buzzer/vibration feedback for

		scan confirmation. It shall integrate with factory systems via Wi-Fi Direct or enterprise WLAN, supporting protocols such as WPA2/WPA3, plus Bluetooth optional. The scanner shall include a charging cradle, USB/Network configuration utilities, remote device management support, and seamless compatibility with MES/ERP/SCADA and inventory applications.
13.	Bar Code Printer with Labels different size for industrial usage 300 Labels *5 Sets Zebra ZT230 /Equivalent Qty.: 01	The system shall include an industrial-grade thermal transfer / direct thermal barcode printer, equivalent to Zebra ZT230, suitable for continuous factory-floor usage. The printer shall support 1D and 2D barcode formats, variable label sizes, and high-quality printing with a minimum 300 dpi resolution. It shall feature a rugged metal frame, LCD control panel, USB/Ethernet connectivity, optional Wi-Fi, and fast print speeds of 6–8 inches per second. The printer must support multiple label dimensions for industrial applications and shall be supplied with 300 labels × 5 sets in assorted sizes as required for asset tracking, component identification, and process labeling. The unit shall support roll-fed media, ribbon-based printing, and integration with MES/ERP/warehouse systems. The package shall include power cables, USB/Ethernet interface cables, driver/software CD, label rolls, ribbon consumables, and standard mounting/handling accessories.
14.	Centralized 10Bar Air Compressor, coolant motors, suction subsystem, Oil/ coolant monitoring sensors and coupling accessories Make: Like Elgi /Kirloskar or Equivalent Qty.: 01	The system shall include a centralized industrial air compressor delivering a continuous output pressure of 10 Bar, suitable for powering pneumatic grippers, actuators, valves, cleaning guns, and auxiliary equipment in a smart factory or robotic cell. The compressor shall include a high-efficiency motor, integrated cooling system, aftercooler, air dryer (optional), and storage tank sized as per load requirement, with automatic pressure regulation and overload protection.
15.	Electrical Sub Panel Assembly set with terminals Qty.: 02	Electrical Sub Panel Assembly set with terminals for Robots
16.	Safety Set for the lab Make: 3M/Equivalent Qty.: 02	Safety Set for the lab (Safety shoes, Hearing protection, Safety gloves, Face shield, Safety helmets)
17.	Networking & Connectivity Framework including Switches and Fluke Test Network Test report	Networking & Connectivity Framework including Switches and Fluke Test Network Test report
18.	Monitors touch enabled for SML	Touch-Enabled Monitors for Process and Simulation Display The system shall include industrial-grade touch-enabled monitors designed for Smart Manufacturing Lab (SML) applications, featuring a minimum 21inch Full HD display (1920×1080) with

		projected capacitive (PCAP) multi-touch for smooth and accurate interaction with SCADA, MES, dashboards, and robotics interfaces. The monitor shall provide 10-point touch, anti-glare coating, scratch-resistant surface, and a minimum brightness of 250 nits suitable for lab and training environments. The unit shall support HDMI / DisplayPort / VGA video inputs and USB touch interface, with optional embedded speakers. The enclosure shall be industrial metal or commercial-grade hardened ABS, supporting VESA mounting, tilt-adjustable stand, and cable-management features. Connectivity shall support plug-and-play operation with Windows/Linux systems and compatibility with industrial HMIs. The monitor shall include an external power adapter, durable cables, and must operate reliably in 24/7 SML usage with EMI/EMC compliance and low-power consumption.
19.	EDGE Computing Device (Make: Intel/Equivalent) Qty.: 01	EDGE Computing Device Quad-Core / Octa-Core Industrial CPU or NVIDIA Jetson-class GPU (optional) with 8GB–16GB RAM and 128GB–256GB industrial SSD for high-speed local computation. The device shall include multiple Ethernet ports (Gigabit), Wi-Fi, Bluetooth, and RS-485/RS-232 interfaces for integration with robots, PLCs, sensors, conveyors, and vision systems. It shall support industrial protocols including EtherNet/IP, Modbus TCP, OPC-UA, MQTT, and provide edge-level AI inference acceleration where required. The enclosure shall be a rugged fan less industrial metal chassis, supporting DIN-rail or panel mounting, with wide temperature operation (-10°C to 60°C) and IP50–IP65 protection based on model. The device shall support Linux/Ubuntu/Windows IoT operating systems, container frameworks like Docker, and edge-to-cloud connectivity for SCADA/MES/ IIoT dashboards. The system shall include power input 12–24V DC, surge protection, and provisions for 24/7 continuous operation.
20.	Robotic Software Bundle - 05 User	Robotic Software Bundle -05 User for programming and accessing the following data sets for IIoT analysis: Robots & Additional Sensors / PLC: Robot Axis Speed (per joint) Robot Axis Load (%) End-Effector Load / Payload (%) Joint Motor Temperature (per axis) Robot Controller Temperature Joint Motor Voltage (per axis) Joint Motor Current / Power Consumption Robot Arm Power Consumption (kW / Energy Meter Data) Robot Mode (Auto, Manual, Teach, Jog, Home, Error) Robot State (Start, Stop, Hold, Pause, Cycle-Run) Alarm / Fault Status Real-Time Alarm / Fault Code Emergency Stop Status Warning / Message Status

		Program Name / Program Number in Execution Sub-Program / Routine Number Robot Uptime / Power-On Time Cycle Time (per part or per cycle) Parts Count (Completed Units) Alarm History Log Total Energy Consumption (Robot + Controller) Active Tool / Gripper ID End-Effector Usage Hours Pneumatic Pressure (for gripper/cell) Vacuum Level (if vacuum gripper used) Lubrication Status / Oil Level for Robot Joints (if applicable) Hydraulic or Pneumatic Unit Status (if part of robot cell) Electrical Panel Temperature Conveyor Speed (if connected) Conveyor Motor Load (%) Safety Sensor Status (Light Curtain / Area Scanner / Door Switch) Robot Position Coordinates (X, Y, Z, Rx, Ry, Rz – optional based on interface)
21.	Shipment, Packing and Safety including loading /unloading	
22.	Course ware 1,2,3,4	**Courseware 1 — Industrial Robotics & Programming (SCARA + 4-Axis/6-Axis)** What learners master: Robot fundamentals, joint/Cartesian control, programming, pick-and-place logic, gripper operation, safety, and cycle-time optimization. Modules: Basics of Industrial Robots SCARA & 4-Axis Architecture Teach Pendant Operation Robot Coordinate Systems & Interpolation Robot Programming (PTP, CP, Loops, Conditions) Gripper Control (Electric/Pneumatic) Vision-Guided Robotics (2D/3D) Safety Systems (E-stop, zones, interlocks) Hands-on Pick & Place Tasks Robot Maintenance & Diagnostics Outcome: Students gain full robot handling, programming, and task-building skills. **Courseware 2 — Robot Cell Development: Mechanical, Civil & Electrical Integration** What learners master: End-to-end robot workcell design, wiring, power distribution, foundations, safety fencing, pneumatics, and commissioning. Modules:

		Introduction to Robot Cells Mechanical Structure (Frames, Pedestals, Mounting Plates) Civil Layout & Foundations (Anchors, Bolts, Trenches) Electrical Integration (150A panel, cables, raceways) Pneumatic Integration (FRL, tubing, regulators) IO Mapping to Robots/PLC Safety Systems & Lock-Out Procedures Commissioning Methodology Troubleshooting & Testing Documentation & Industrial Standards Outcome: Learners can design and deploy a complete industrial robot cell. **Courseware 3 — Industrial Sensors, PLC & Smart Connectivity** What learners master: Capacitive, inductive, proximity sensors, protocol converters, PLC signals, and communication for robotic integration. Modules: Types of Industrial Sensors Capacitive vs Inductive vs Proximity Wiring & IO Mapping (24V DC) Advanced Sensors (Vision, pressure, temperature) PLC Basics & Ladder Logic Protocol Converters (Modbus, OPC-UA, Ethernet/IP) Smart Switches & Industrial Networking Conveyor + Robot Synchronization Tag Mapping (Axis speed, load, alarms, cycle time, gripper feedback) Building a Smart, Networked Mini-Line Outcome: Learners can implement complete sensor-to-PLC-to-robot communication. **Courseware 4 — Smart Factory IIoT Analytics (RTA Analytics for Robots & Machines)** What learners master: Robot data extraction, ML/AI analytics, predictive maintenance, KPI dashboards, and prescriptive recommendations. Modules: Introduction to Smart Factory Analytics Data Standards (OPC-UA, MQTT, Ethernet/IP) Robot Tag Acquisition (speeds, loads, alarms, cycle time) Realtime State Tracking KPI Monitoring (OEE, Cycle Time, Utilization) Predictive Maintenance for Robots ML for Robot Path Optimization Vision Analytics (OK/NG, patterns) Prescriptive Insights (Parameter tuning, energy optimization) Building Smart Dashboards (MES/SCADA/Cloud)

		Outcome: Students understand how robots feed data into Smart Factory systems and how to convert that into intelligence.

3.7 Detail Indicative List of Items to be included by the TP for the AI IoT Lab:

Sr. No.	Item Description	Qty.
AI Enhanced Smart Internet of Things (AIoT) Lab consists of		
1.1	IOT Trainer Kit - Arduino Uno Node with ESP8266 and cables	**5**
1.2	IOT Trainer Kit - Cortex-M4 Node with power supply and cables	**5**
1.3	IOT Trainer Kit - Cortex-M0+ Node with power supply and cables	**5**
1.4	Preconfigured AI-Node with power supply	**1**
1.5	All in One General Purpose Board	**10**
1.6	IOT Gateway	**1**
1.7	Bluetooth Module	**2**
1.8	Router along with 8 Port Switch	**1**
1.9	IOT sensor kit - IMU10DOF Sensor, - Temperature & Humidity Sensor, - Ultrasonic Sensor, - Vibration Sensor, - Water Sensor, - Sunlight Sensor, - PIR Motion Sensor - Soil Moisture sensor - PM/ Dust Sensor - REED Sensor	**1**
1.10	RFID Module	**1**
1.11	Finger Print Module	**1**
1.12	Stepper Motor	**2**
1.13	DC Motor	**2**
1.14	Amazon Echo device with AWS configuration	**1**
1.15	WSN/Zigbee Trainer Kit	**1**
1.16	LoRa IoT Trainer Kit	**1**
1.17	IDE Configured for Cortex Platform	**1**
1.18	IDE Configured for Arduino Platform	**1**
1.19	Example Workbook Manual (Softcopy)	**1**
FPGA Based Industrial IoT (IIoT) Setup Consist of		
2.1	cRIO-9054 1.33 GHz Dual-Core CPU, 2 GB DRAM, 4 GB Storage, -20 °C to 55 °C, Artix 7 100T FPGA, 4-Slot Compact RIO Controller	**1**
2.2	±10 V, 250 kS/s, 16-Bit, 32-Channel C Series Voltage Input Module	**1**

2.3	100 kS/s/ch Simultaneous, ±10 V, 4-Channel C Series Voltage Output Module	**1**
2.4	5 V/TTL, 8 Bidirectional Channels, 100 ns C Series Digital Module	**1**
2.5	Graphical System Design Console: LabVIEW for Academic Use 05 Non-concurrent license for 03 year subscription	**1**
2.6	Things Spot IIoT Toolkit The Things Spot IIoT Toolkit provides a gateway for Linux Real-Time controllers.	**1**
2.7	Basic Temperature, humidity, load cell etc. sensors	**1**
AI Machine Learning & Deep Learning (advanced GPU Based) Consists of		
3.1	AI/DL Machine with AI-DL software and libraries with **8**x **RTX Pro 5000 Blackwell** - 48GB: Total GPU Memory = 384GB)	**1**
3.2	AI/DL Machine with AI-DL software and libraries with **4**x **RTX Pro 4000 Blackwell -** 24GB (Total GPU Memory =96GB)	**2**
3.3	Edge Computing Embedded Hardware – 1:	**1**
3.4	Edge Computing Embedded Hardware – 2:	**1**
3.5	Edge Computing Embedded Hardware – 3:	**1**
3.6	Camera Setup	**1**
3.7	Autonomous ROS AI Robotic Car Powered by Jetson Nano	**2**
3.8	AI Vision Robotic Arm with ROS with Jetson Nano	**2**
3.9	Bionic Dog Robot	**1**
3.10	Humanoid ROS Bot	**1**
3.11	Server Rack for AI-DL Machine	**2**
3.12	Training on Deep Learning Lab to Faculties and RA	**1**
3.13	Experiments	**1**
Pitsco TETRIX PRIME Robot for FPGA Based Reconfigurable I/O (RIO) Consists of		
4.1	PITSCO Tetrix Prime for myRIO	**3**
4.2	myRIO-1950	**3**
Industry 4.0 AI Based Robotics System		
5.1	Scara Robot Using Vision inspection and Assembly	**1**
5.2	Pick and place Robot payload <5KG, 6-Axis with End effector base module including scanning and gripping	**1**
5.3	Robot cell Development, Mechanical, Civil and electrical integration components including welding and gripper accessories	**1**
5.4	Robotic Unit Power Supply, Pneumatic Pipeline and Grippers	**1**
5.5	AGV Automatic including charging/docking station and accessories	**1**
5.6	Conveyor Modules for component Transmission line	**1**
5.7	System Integration Platform and Pads with Mechanical accessories	**1**

5.8	Capacitive, Inductive, Proximity Sensors, Protocol Converters, Smart Switches and Electrical Panel boxes	**1**
5.9	Vision Sorting ivision/ Cognex or equvalent industrial camera and Controllers with auto sorting and transfer bin	**1**
5.10	Tool Set and Trolley with fitments and accessories	**1**
5.11	RFID Asset Lifecycle Reader with (100 Passive & Active Tags)	
5.12	Handheld bar code reader Zebra wi-fi	**1**
5.13	Bar Code Printer with Labels different size for industrial usage 300 Labels *5 Sets Zebra ZT230 /Equivalent	**1**
5.14	Centralized 10Bar Air Compressor, coolant motors, suction Sub-system, Oil/coolant monitoring sensors and coupling accessories	**1**
5.15	Electrical Main Panel 150A Bus Bar and smart meter for energy monitoring	**1**
5.16	Three phase /Single Phase Core Cables, Conduit and electrical raceway set including couplers including integration for 6 Equipment	**1**
5.17	Electrical Sub Panel Assembly set with terminals	**1**
5.18	Safety Set for the lab (Safety shoes, Hearing protection, Safety gloves, Face shield, Safety helmets,	**1**
5.19	Digital Kiosk 14Inch and Display for Smart Factory Layout	**1**
5.20	Networking & Connectivity Framework including Switches and Fluke Test Network Test report	**1**
5.21	Robotic Software Bundle -05 User	**1**
Drone		
6.1	Agricultural Drone Kit (Industrial-Grade)	**1**
6.2	Firefighting Drone kit	**1**
6.3	Surveillance Drone Kit	**1**
Computing System with Display Unit		
7.1	Intel Core i7 or i9 Processor 14th Gen with 32GB RAM, 2TB Hard Disk, 4 GB NVIDIA Graphics card, Windows 11 Operating System, 10/100GB Ethernet Port, Thunderbolt Type3 Port, at least 2 USB 3.0 Port, 32inches Full HD LED (1920 × 1080) or higher resolution monitor	**15**

3.8 Minimum Specification Requirements:

Sl. No.	Specification Requirement
1	**Robotic Application & IIoT Connectivity**
	IIoT connectivity for Robot & PLC is required should have the following features:
	a. Real-time Health Monitoring System, Predictive maintenance, Asset performance monitoring of PLC Machines to capture critical parameters and KPIs like Machine OEE, MTBF, MTTR, etc., for effective utilization of the machines and reduce the maintenance costs.
	b. Real-time monitoring of Production data like the number of parts produced, the number of Parts accepted, the number of parts rejected, Operator efficiency, etc., for optimizing the performance of the manufacturing process.
	c. Capturing of the digital Inspection data of stage inspection and final inspection for various parts.
	d. Real-time Tracking and Tracing production work orders.
2	**Pre-qualification Criteria**
	a. Vendor should have carried out at least 3 enterprise-level implementations encompassing all the features as specified in this RFQ in a single installation or in combination.
	b. The vendor should have experience in the implementation of the above IIoT solutions in a large-scale enterprise with a minimum of 300 users and 100 assets.
	c. Any version of IIoT software should be in use in any leading manufacturing company. If the Customer so desires, the supplier should organize the demonstration during the technical evaluation stage.
3	**Vendor Scope**
	a. Supply, Installation, Commissioning, Training, and Proof of Industrial Internet of Things (IIoT) / Industry 4.0 connectivity with various dashboards for Machines in the Machine shop.
	b. Enabling license/communication protocol for establishing machine connectivity and data extraction from the machines.
4	**CUSTOMER Scope**
	a. Network cabling up to each machine will be arranged by the CUSTOMER. The vendor has to provide any additional communication ports or adapters required to connect legacy machines to the network.
	b. Necessary server hardware will be provided. However, the vendor shall provide the server sizing details.
	c. Electrical power access for IPC / engineering station.
	e. Civil work required for laying cables and mounting of engineering stations (eg, for groove cutting for cable ducts).
5	**General requirements**
	a. An industrial PC with an engineering station shall be provided for each Machine. Schematic drawing and its details to be provided along with the offer. Installation of the engineering station and supply of required accessories are under the vendor's scope.
	b. User / Role-based privilege levels to be provided for operator, supervisor, maintenance and quality, etc.
	c. All the parameters as mentioned in "Annexure - Parameter / Tag list" have to be captured and visualised as per the requirement in the system.
	d. The IIoT solution Platform shall give access to KPIs, Production parameters, machine health parameters, downtime analysis, quality, digital checklist, and machine operator efficiency to the respective stakeholders.
	e. The IIoT solution shall provide various customised dashboards & reports with alarms & events.

	f. On the event of Machine stoppages because of faults, alarms or manual stoppages, the maintenance team should be informed via an intranet mail automatically.
6	**Security Features**
	a. The platform should be developed based on industry-standard, secure software development practices.
	b. The platform should provide secure connections and encrypt data transferred to and from devices.
	c. The platform should provide full authentication, authorisation and group / role-based access control on both reading and writing permissions.
	d. The platform should provide audit trails and logs to track all actions and events performed.
	e. The platform should provide backup and restore capabilities for all stored data.
	f. IIoT Solution platform should incorporate robust security features to protect IoT deployments. It should include authentication, authorisation, data encryption, and secure communication protocols to ensure data privacy and integrity.
	g. Audit Logging: Comprehensive logging of user actions and system events for compliance and security monitoring.
	h. The platform should also support compliance with industry-specific regulations and standards, such as ISO 27001.
7	**Software Features**
7.1	**General Features**
	a. Courseware & Training Modules for Robotics & IIoT integration system
	b. Data acquisition, KPIs and data analytics should be the core functionality of IIoT solution.
	c. IIoT Solution platform should have extendable solutions that allow customisation and extension.
	d. IIoT Solution platform should have Asset Monitoring & Utilization, Machine Operator Efficiency, Real Time Production Performance Monitoring and Plant Performance Management.
	e. IIoT Solution platform should have UI capability to render on multiple screens – desktop, tablet, mobile phone, etc.
	f. IIoT Solution platform should be a web-based application which can be accessed from anywhere on intranet via any desktop/workstation / IPC / HMI.
	g. IIoT Solution platform should be able to extract data from each field / Machine:
	i. All available data points from PLC Machine
	ii. Downtime reason for each machine
	iii. Work order, process & job ID running on the machine.
	iv. Rejection data for each machine
	v. Energy data
	vi. Operator details for machine operator efficiency
	vii. Level sensor data for Coolant oil, Glycol at chiller, Pneumatic pressure & panel temperature.
	h. IIoT Solution platform should have connectivity to send and receive data from external systems.
	i. IIoT Solution platform should have dashboards with charts like waterfall chart, pie chart, line chart, bar chart & widgets with analog dial, digital display, mimic view of the parameters, etc.
	j. The platform should be a leading Industrial Internet of Things (IIoT) platform that provides tools for developing and deploying applications that connect, monitor, and analyze IoT devices and systems and enable data-driven decision-making.
	k. The platform should connects the people, systems, things, connection operations, connected products, connected applications, etc.

	l. The IIoT platform should have capability for enterprise manufacturing environment that have machine shop, process shops, heat treatment shops, assembly and subassembly shops.
	m. The platform should offer tools for building and managing smart, connected products and systems. It should designed for enterprise organizations to leverage data from connected devices to improve operational efficiency, enhance customer experiences, and drive innovation.
	n. The IIoT platform should connect disparate devices, applications and data sources across enterprise, providing a single source to collect, aggregate and enable secure access to industrial operations data.
	o. The IIoT platform should allow to connect, manage, monitor and control diverse automation devices and software applications through one native user interface.
	p. The IIoT platform should have multi plant capability.
	q. Analytics: Tools should have capability for building predictive models and analyzing data trends.
	r. Real-time Analytics: In-built capability for real-time data processing and visualization.
	s. Predictive Analytics: Predictive maintenance and anomaly detection based on the health parameters collected from machines.
7.1a	**Advanced Features**
	a. IIoT Solution should provide features such as:
	i. OEE with Machine, Part and Operator data and benchmarking
	ii. Multi-Days summary report
	iii. Shift Comparison reports for machine, operator, part and productivity
	iv. Historical Part analysis
	v. Pre-defined comments in operator panel to avoid operators from typing comments
	vi. Tool usage and parameter analysis
	vii. Machine CapEx justification reports
7.1b	**Advanced Analytics**
	a. IIoT Solution platform should support Advanced Analytics capabilities with built-in ready-to-deploy analytics and AI capabilities related to manufacturing metrics
	b. IIoT Solution should provide Advanced Analytics reports like:
	i. Startup and Shutdown loss
	ii. Override analysis
	iii. Lights out report
	iv. In Cut Time Analysis
	v. Digital Thread
	vi. Ideal Cycle Time Analysis
	vii. Process Traceability Analysis
	viii. Component Life and Usage Detection
	ix. Predictive Component Failure Detection
	x. Fault Severity Inference
	xi. Process Deviation Analysis
	xii. Predictive Quality from Process Models
	xiii. Automatic Classification of Indeterminate Downtimes (ACID)
	xiv. Downtime Duration Predictor (DDP)
7.1c	**Flexible UI and Reports**
	a. IIoT Solution platform should support flexible UI components built-in that can be used to configure dashboards, reports, etc.

	b. IIoT Solution should have a UI Component library that comes with rich set of visualizations based on fundamental Data Fabric abstractions (device data, asset models, timelines, alerts, metrics, etc.) to allow for rapid application development for different verticals
	c. IIoT Solution should support out-of-box applications supporting common tasks for visualizing and interacting with Data Fabric output: Dashboards, Reports, etc.
	d. IIoT Solution platform UI components should easily integrate with enterprise apps using APIs, SDKs, Connectors
7.1d	**Predictive Maintenance and Integration with Maintenance Systems**
	a. IIoT Solution platform should have Predictive & Preventive Maintenance classifications, anomaly detection and notifications
	b. IIoT Solution platform should use-based maintenance with event detection, classification and triggers
	c. IIoT Solution platform should support customizable dashboards and drill down insights into manufacturing assets, to enable visibility on asset health and rapid response in case of disruptions and breakdowns, with insight into root causes
	d. IIoT Solution platform should support anomaly detection, usage analytics, and failure models to predict downtimes and other interruptions before they occur, and intelligence to plan proactive service
	e. IIoT Solution platform should manage and prioritize maintenance activities generated by multiple strategies, including schedule-based, use-based, predictive, and prescriptive
7.1e	**Knowledge Base**
	a. IIoT Solution platform should support an in-built knowledge base system
	b. Knowledge Base to show details of machines, parts, operations, etc.
7.1f	**Configuration Capabilities**
	a. IIoT Solution platform should support ability to create dashboards and reports, and also to configure them easily, including for the following:
	i. Historical process parameter trend charts
	ii. Configure downtime activities by the machine
	iii. Configure custom dashboards by the size of the monitor
	iv. Configure Alerts notifications for specific day or time
	v. Configure rules for a machine / cell / assembly line
	vi. View metrics for a machine / line or group of machines
	vii. Audit log to view and monitor the changes by every user
7.2	**Bottleneck management**
	IIoT Solution platform should have an analysis tool to automatically identify and track where the biggest bottlenecks are in the factory / Machine shop.
7.3	**Scalability**
	a. The platform should provide a scalable architecture to support growing business needs, for extension to other manufacturing shops, plants, utilities and to implement data analytics.
	b. IIoT Solution platform should be designed to scale from small pilot projects to enterprise-wide implementations.
	c. It shall handle large volumes of data, devices, and users, ensuring seamless scalability as the IoT deployments grow.
	d. The platform shall also offer flexibility to accommodate diverse use cases and industry-specific requirements.
	e. Further the proposed IIoT solution platform should be capable of monitoring multiple plants at multiple locations with unlimited assets and tags.
	f. High Scalability: Capable of handling large volumes of data and numerous connected devices.

	g. Performance Optimization: Built-in capabilities to optimize data processing and storage for performance.
	h. Data Storage: Support for time-series data and relational data storage.
	i. The software should have capability to support multi-variety assets such as PLC machines, Heat treatment furnaces, surface treatment lines, assembly test rigs, quality equipment such as Coordinate Measuring Machine, Contour measuring machines, roughness testers, roundness tester, measuring instruments, NDT equipment, etc.
7.4	**Asset Hierarchy**
	a. IIoT solution platform should have dashboards and reports having hierarchy like plant, shops, lines & station.
	b. User should be able to see cumulative KPI as per the hierarchy and should be able to drill down up to asset level for further understanding.
	c. Data Modelling: Ability to create models for assets (things) and their properties, relationships, and services.
7.5	**User Dashboards for Courseware and Training**
	a. IIoT solution should have pre-built dashboards to support the following type of users, along with the relevant content for each, as they pertain to an industrial system:
	i. Administrator ii. Process Author iii. Line Manager iv. Operator v. Plant Manager vi. Methods Department vii. Reviewer viii. Approver ix. Scheduler x. Maintenance Manager
7.6	**Hardware Integration**
	IIoT Solution platform should support a wide range of connectivity protocols, standards & should be compatible with a variety of devices, sensors, and systems.
	a. Edge application should be a single source of industrial data to all automation devices, machines, and software applications.
	b. Edge application should provide the global connectivity, usability, and performance required by the enterprise—enabling improved decision making from the plant floor, to IT, to the boardroom.
	c. Scalable unified architecture, providing the flexibility to combine drivers and consume multiple protocols in a single server.
	d. Edge application should have Industry-leading reliability, tested by independent organizations.
	e. Multiple redundancy options to ensure resiliency, high reliability, and uptime in critical applications.
	f. Enhanced messaging security via TLS 1.2 or higher version for secure, authenticated, and encrypted communications across various network topologies.
	g. Simulation options for testing, event logging and diagnostics for easy troubleshooting.
	h. Single point of access for data, streamlining maintenance, configuration, and troubleshooting.
	i. Automatic tag generation and device discovery for rapid project deployment.
	j. Integrates with IT applications for visibility into operational assets at any time from any location.
	k. IoT-ready, interfacing with on-premises web servers for real-time insight into industrial operations.

	l. Device Connectivity – Edge application should support hardware vendors like Allen-Bradley, Siemens, Fanuc, Heidenhain, Omron, Schneider, Mitsubishi, GE, Sodick, Mazak, Haas, Brother, Okuma, PC-DMIS, SLM, EOS, and many others.
	m. Edge application should have built-in security, scalability, and a library of drivers and advanced plug-ins, with the flexibility to overcome any data connectivity challenge.
	n. Edge application should support industry standard protocols such as MTConnect, OPA-UA legacy and modern sensors through MQTT, Ethernet, Modbus, etc.
	o. Edge application should be a single source of industrial data to all automation devices, machines, and software applications.
7.7	**System Architecture**
	a. Cloud-based system: To be deployed on a Multi-tenant Secure Cloud
	b. Micro services Architecture: Modular design allowing for scalability and integration with third-party services.
	c. API Access: Extensive REST APIs for integration with other systems and applications.
	d. Sample system Architecture for the proposed IIoT Connectivity is mentioned below for ready reference.
	e. Vendor has to provide the solution document covering IT-OT integration and system architecture along with offer.

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, accessories and appropriate quantities can be offered by the Participating Party as per their EOI. Consumables as required must be provided to run the setup for duration of 6 month.

3.9 Role of the Technology Partner

The role of the Technology Partner shall include the following:

1. Setting up of the CoE including planning, installation of Equipment such: Hardware, Software etc.
2. Providing Operation team to manage the Center for Three Years.
3. Identify and formulate training programs to develop skills in futuristic technologies and associated skill sets for industry ready.
4. To develop courses, course content, course work, manuals, standard operating procedures and standards disseminate the same.
5. To conduct train and trainer programs.
6. To conduct need based/ on-request training programs to cater a specialized requirements of corporate.
7. To carry out assessment, certification of trainees in guidance of the university.

ANNEXURE - I

Pre-Qualification Bid Formats

Cover Letter (To be submitted on the Letterhead of Bidder)

To
The Registrar
ODISHA UNIVERSITY OF TECHNOLOGY AND RESEARCH
Ghatikia, Kalinga Nagar Bhubaneswar- 751029 Odisha, India

Sub: Invitation of Bids for setting up a Centre of Excellence on skill development/research / Consultancy

Ref: RFP No. OUTR-…….. Madam/Sir,
I, the undersigned, offer to provide the services for the proposed assignment concerning your RFP No… We hereby submit our proposal which includes the pre-qualification proposal, technical proposal and commercial proposal, sealed under separate envelopes. Our proposal will be valid for acceptance up to 180 Days and I confirm that this proposal will remain binding upon us and may be accepted by you at any time before this expiry date.

All the information and statements made in our proposal are true and correct and I accept that any misinterpretation contained in it may lead to disqualification of our proposal. If negotiations are held during the period of validity of the proposal, I undertake to negotiate based on a proposal submitted by us. Our proposal is binding upon us and subject to the modifications resulting from contract negotiations.
I have examined all the information provided in your Request for Proposal (RFP) and offer to undertake the service described following the conditions and requirements of the selection process. I agree to bear all costs incurred by us in connection with the preparation and submission of this proposal and to bear any further pre- contract costs. In case, any provisions of this RFP/ ToR/Scope including our technical and financial proposal are found to be deviated, then you shall have the right to reject our proposal. I confirm that I have the authority to submit the proposal and to clarify any details on its behalf.
I understand you are not bound to accept any proposal you receive.

Yours faithfully, (Authorized Signatory)
Name, Designation & Contact No. and Seal

ANNEXURE - II

Bidder's Organization (General Details)

(To be submitted on the Letterhead of Bidder)

Sl. No.	Information	Details
a	Name of Bidder	
b	Registered Address of Bidder	
c	Address for Communication	
d	Address of local office in Odisha. If the bidder has no local office at the time of bid submission, an undertaking has to be furnished on the bidder's letterhead on setting up an office within 3 months from issuance of the work order.	
e	Name, Designation and Address of the contact person to whom all references shall be made regarding this RFP	
f	Mobile no. of contact person:	
g	E-mail address of contact person:	
h	GST Number of the Firm	
i	PAN No. of the firm	

Yours faithfully,

(Authorized Signatory)

Name, Designation & Contact No.

Seal

ANNEXURE – III

LETTER OF UNDERTAKING AND ACCEPTANCE OF TERMS & CONDITIONS OF BID

To
The Registrar,
Odisha University of Technology & Research,
Ghatikia, P.O.: Mahalaxmi Vihar,
Bhubaneswar-751 029

Ref : Invitation of Tender Notice No. Dated.

I/We, the undersigned declare that :

1. I/ We have downloaded / obtained the Bid document(s) and uploaded in the e-procurement (Tenders Odisha) Portal https://tendersodisha.gov.in for the above mentioned 'Bid' as per your advertisement, given in the above mentioned website(s).
2. I/ We hereby certify that I / we have read the entire terms and conditions of the Bid documents from Page No. _____ to _____ (including all documents like annexure(s) etc.), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.
3. The corrigendum(s) issued from time to time by your university too have also been taken into consideration, while submitting this acceptance letter.
4. I/We are ready to execute the contract in conformity with the tender document, in case we are found successful as a tenderer.
5. Our bid shall be valid for a period of _____ days from the date of Opening of price bid and shall not revoke the same.
6. If our bid is accepted, I/We undertake to comply all other formalities as per the tender document and purchase order.
7. I/we also declare that neither our firm/company/Proprietorship concerned was blacklisted in past nor any of our office bearer was convicted in any court of law.
8. The detailed particulars of the tenderer is mentioned and attached separately.
9. I / We certify that all information furnished by the our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your university shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours sincerely,

Authorized signatory of the Bidder
(Authorised person shall attach a copy of the authorization for signing on behalf of the Bidding Company)
Full name and designation

ANNEXURE – IV

FORM FOR FINANCIALA CAPACITY

Sl. No.	Financial Year	Annual Turn over in lakh (INR)
1	2022-23	
2	2023-24	
3	2024-25	
4	Average Annual Turn over	

CERTIFICATE BY CHARTERED ACCOUNTANT

I / We, _____, Chartered Accountants, certify that the figures regarding overall Annual Turnover for the financial years mentioned above in respect of M/s._____ are checked and found correct and true as per their Books of Accounts and other related records.

SIGNATURE & SEAL OF THE CHARTERED ACCOUNTANT
NAME , ADDRESS AND CONTACT DETAILS :
UDIN :

Signature of Bidder (with date and seal)
_____
Name _____

ANNEXURE – V

BID SECURITY SELF DECLARATION FORM

Date: _____

Bid No. _____

To (insert complete name and address of the purchaser)

I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Security Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with Odisha University of Technology and Research, Bhubaneswar for a period of Two years from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

(a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or

(b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity
   (i) fail or refuse to execute the contract, if required, or
   (ii) (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (*insert signature of person whose name and capacity are shown) in the capacity of insert legal capacity of person signing the Bid Securing Declaration*).

Name: (*insert complete name of person signing he Bid Securing Declaration*)

Duly authorized to sign the bid for an on behalf of : (*insert complete name of Bidder*)

Dated on _____ day of _____(insert date of signing)

Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)

ANNEXURE –VI

CRIMINAL LIABILITY UNDERTAKING
(To be given on Company Letter Head)

Date:_____

To
The Registrar,
Odisha University of Technology & Research,
Ghatikia, P.O.: Mahalaxmi Vihar,
Bhubaneswar-751 029

The bidder has to furnish a certificate as per the format specified below along with the bid for not committed any offence.

I ……..…… aged about …….. S/o…….. Proprietor/ Partner/ Director of M/s._____ At:_____ Po: _____, P.S:_____, Dist:_____ do solemnly pledge and affirm that I/my firm/company have not committed any offence.

(a) Under the Prevention of Corruption Act 1988; or

(b) The Indian Penal Code or any other law for the time being in force, for causing any loss of life or property or causing a threat to public health as part of execution of a public procurement contract.

(c) That neither any criminal case nor any vigilance case is pending against me/my firm/company before any forum.

(d) I/my firm/company have not been blacklisted/debarred by any Central/State Government Organisation/Bodies for the last 3 years.

Signature with Designation of bidder

ANNEXURE –VII

Project Citation Format
(To be given on Company Letter Head)

a)	Project Name:	
b)	Value of Contract/ Work Order (In INR):	
c)	Name of the Client:	
d)	Project Location:	
e)	Contact person of the client with address, phone and e-mail:	
f)	Project Duration:	
g)	Start Date (month/year): Completion Date (month/year):	
h)	Status of assignment: Completed / Ongoing (if it is ongoing, level of completion)	
i)	Narrative description of the project with scope:	
j)	List of Services provided by your firm/company:	

Place:
Date: Name, Signature & Seal of Bidder

ANNEXURE-VIII

Model Bank Guarantee Format for Performance Security

To
The Registrar
ODISHA UNIVERSITY OF TECHNOLOGY AND RESEARCH
Ghatikia, Kalinga Nagar Bhubaneswar- 751029 Odisha, India

WHEREAS…… (name and address of the supplier) (hereinafter called "the supplier") has undertaken, in pursuance of contract no. dated to supply …… (description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHERE AS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of …… ……. (amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification. This guarantee shall be valid until the ….. day of ……, 20……

Our..... branch at .....* (Name & Address of the .....* branch) is liable to pay the guaranteed amount depending on the filing of claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our .....* branch a written claim or demand and received by us at our .....* branch on or before Dt.....otherwise bank shall be discharged of all liabilities under this guarantee thereafter.

……..
(Signature of the authorized officer of the Bank)

……
Name and designation of the officer
……
……
Seal, name & address of the Bank and address of the Branch

ANNEXURE - IX

Manufacturer's Authorization Form (MAF)

(To be submitted on the Letterhead of Bidder)

To
The Registrar
ODISHA UNIVERSITY OF TECHNOLOGY AND RESEARCH
Ghatikia, Kalinga Nagar Bhubaneswar- 751029 Odisha, India

Sub: Issue of the Manufacturer's Authorization Form (MAF) for setting up a Centre of Excellence on skill development /Research / Consultancy

Ref: RFP No: …….

Madam/Sir,

We {name and address of the OEM} who are established and reputed original equipment manufacturers (OEMs) having offices at {addresses of office location} do hereby authorize <<Name of the Firm/Company/Organization>> who is our{Distributor/ Channel Partner/ Retailer/ Others <please specify>} to bid, negotiate and conclude the contract with you against the aforementioned reference for the following Software manufactured by us:

{OEM will mention the details of all the proposed product(s) with their make/ model.}

We undertake to provide OEM Support / Warranty for the offered Software, as mentioned above, for
<please specify as per Tender requirements> Years.

We hereby confirm that the offered Software is not declared as End-of-Service/ Support on the date of bid submission and complies with the technical specifications mentioned in this Tender.

Yours faithfully, (Authorized Signatory)
Name, Designation & Contact No.
Seal

ANNEXURE - X

Description of Proposed Solution

[Along with Technology, Scalability, Completeness, Simplicity and Interoperability]

Bidder has to provide details of the entire solution proposed, along with its key differentiators, covering all requirements as listed in Volume II of this RFP.

Bidder has to specifically include (but not be limited to) a diagram and detailed description of the following:

a) Complete Scope of Work
b) Functional Architecture
c) Technical Architecture
d) Deployment Architecture
e) Training Methodology
f) Proposed Support plan
g) Students Consultancy & Branding / Placement Assistance Plan
h) Industry Connect Support
i) Risk management and mitigation plan
j) Any other relevant parameters to make the CoE Efficient & Effective

Bidder must cover all aspects of the solution while showcasing its scalability, completeness, simplicity, and interoperability.

ANNEXURE - XI

Detailed Work Plan

[with Activities, Duration, Sequencing, Interrelations, Milestones and Dependencies]

Sl. No.	Deliverable/ Activity*	Months									
		1	2	3	4	5	6	7	8	9	10
1											
2											
3											
4											
5											
6											
7											
8											
9											

ANNEXURE –XII

MODEL FORMAT CERTIFICATE FOR COMPLIANCE TO RESTRICTIONS ON COUNTRIES SHARING LAND BORDER WITH INDIA

[The Bidder shall fill and provide the certificate for compliance to restrictions on countries sharing land border with India in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted. This should
be done of the letter head of the firm]

Date: [insert date (as day, month and year) of Bid Submission]
Tender No.: [insert number from Invitation for Bids]
To
[insert complete name and address of Purchaser]

"We [insert complete name of Bidder] have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India;

We [Insert complete name of Bidder] certify that we are not from such a country or; if from such a country, has been registered with the Competent Authority/ Department for Promotion of Industry and Internal Trade(DPIIT). We [Insert complete name of Bidder] hereby certify that we fulfil all requirements in this regard and is eligible to be considered.

[Wherever applicable , evidence of valid registration by the Competent Authority shall be attached.]"

Signature of Bidder (with date and seal) _____
Name _____
(Business Address with e-mail and Contact No.)

ANNEXURE – XIII

To be submitted in COVER B (Financial Bid)
BILL OF QUANTITY
FINANCIAL BID
(To be submitted in Cover-2)

In Cover 2 : As per BoQ in Ms-Excel Format :

Sl. No.	Item Description	"B" Unit Price	"C" Unit price GST %	"D =B+C" Unit Amount with GST	"E= B X A" Total amount with out GST	"F= D X A" Total Amount with GST
1	Hardware and Software including training from OEM related S/W					
2	A-Training on Industry application,3 years Training to Faculty and the students B- Build, Operate for 3 years 2 resources OUTR to deploy and 2 resources NITKAL to deploy					
3	Architecting, Setting up non computing Infrastrcure of the CoE(Furnishing, smartboard, latest VC facility, Chairs/Tables etc)					
4	Industry collaboration, Software partner collaboration, Industrial visit support in India and Japan for 3 years Knowledge upgradation of the Faculty team and Industrial visits					

Signature:
For and on behalf of the Bidder
Name :
Seal: Date: Place :

Note : The above column should not be filled here. To uploaded in Ms Excel. Format in financial bid in the form of BOQ.