Directorate of Technical Education and Training, Odisha, Cuttack

Invites

REQUEST FOR PROPOSAL (RFP)
TO

ESTABLISH CENTRE OF EXCELLENCE IN

HOME AUTOMATION

BUILDING AUTOMATION

INDUSTRIAL AUTOMATION

AT

GOVT. ITI ANANDAPUR

JES JHARSUGUDA

GOVT. ITI ROURKELA

UNDER OMBADC DISTRICTS OF ODISHA

CORRIGENDUM 3
With extension of last date for submission of bids till 17th September'24.

NIT NO: DTE&T/2024-25/10461

DATE: 25.07.2024

Directorate of Technical Education and Training, Odisha (DTE&T) invites RFP to setup Centre of Excellence in (i) Home Automation (ii) Building Automation (iii) Industrial Automation at Govt. ITI Anandapur, JES Jharsuguda and Govt. ITI Rourkela under OMBADC districts of Odisha

Directorate of Technical Education & Training, Odisha

NIT No: DTE&T/2024-25/10461

Cuttack, Dated: 25.07.2024

Directorate of Technical Education & Training, Odisha, invites Technical and Financial Proposals from the world's leading OEM companies of Home Automation, Building Automation and Industrial Automation equipment/machines to setup Centre of Excellence in Home Automation, Building Automation and Industrial Automation on **Turnkey Basis** and also provide technical training at Govt. ITI Anandapur, JES Jharsuguda and Govt. ITI Rourkela under OMBADC districts of Odisha.

Bidders may download the RFP document or addendum/corrigendum RFP document from DTE&t Odisha website i.e. www.dtetodisha.gov.in/en/tender or www.dtet.odisha.gov.in.

Bidders are requested to submit their proposals to the undersigned as per the schedule indicated in the Fact Sheet, by post (Registered/Speed) or by persons (in hand) at the office of the DTE&T, Odisha. Based on the evaluation method mentioned in the RFP, the bidder will be selected.

For any further clarifications, please contact Dr. P K Mohanty (Deputy Director_Procurement, DTE&T), on Mobile: (+91) 9437307190 or Email:dtetorrisa@gmail.com, director@dtet.odisha.gov.in, dtetodisha.procurement@gmail.com during official working hours only (10 am to 5 pm).

Sd/
DTE&T, Odisha

DISCLAIMER

The information contained in this Request for Proposal (herein after referred to either "TENDER") document or subsequently provided to the Bidders, whether verbally or in documentary or any other form by or on behalf of the Directorate of technical Education and Training herein after referred to as DTE&T, Odisha, or any of their employees or advisors, is provided to the Bidder(s)on the terms and conditions set out in this RFP document and all other terms and conditions subject to which such information is provided.

DTE&T, Odisha reserves the right to reject any or all of the proposals submitted in response to this RFP document at any stage without assigning any reasons whatsoever. DTE&T, Odisha also reserves the right to withhold or withdraw the process at any stage with intimation to all who submitted the RFP response. DTE&T, Odisha reserves the right to change/ modify/amend any or all of the provisions of this RFP Document. Such changes would be posted only in its website (www.dtetodisha.gov.in and www.dtet.odisha.gov.in). Prospective bidders are requested to visit the website frequently to keep them abreast with the latest developments on this RFP.

This is not an agreement and is not an offer or invitation to enter into an agreement of any kind with any party. The purpose of this RFP is to provide interested parties with information that may be useful to them in making their technical & financial offers (Bids) pursuant to this RFP. This RFP includes statements, which reflect various assumptions and assessments arrived at by the DTE&T, Odisha in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This RFP document may not be appropriate for all persons, and it is not possible for the DTE&T, Odisha, their employees or advisors to consider the business/investment objectives, financial situation and particular needs of each Bidder who reads or uses this RFP document.

Each Bidder should conduct its own investigations and analysis and should check the accuracy, reliability and completeness of the information in this RFP document and wherever necessary obtain independent advice from appropriate sources. DTE&T, Odisha, their employees and advisors make no representation nor warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of the RFP document.

Fact Sheet

Sl. No.	Milestone	Date
1	Request for Proposal (RFP) document made available to the bidders	26th July'2024
2	Last date for receiving queries through email (ifany)	06th August'2024 by 2 PM
3	Pre-Bid Meeting/Response to queries	07th August'2024 at 3:30PM (through virtual meeting)
4	Issue of Corrigendum RFP	13th August'2024 by 5 PM
5	Issue of Corrigendum 2 RFP	29th August'2024 by 5 PM
6	Last date for receipt of Technical and Financial proposals (Sealed Envelope)	17th September'2024 by 5 PM
7	Opening of Technical Proposals& Presentation and evaluation	To be communicated
8	Opening of Financial proposals of Bidders whoqualify pre-qualification (technical) criteria	To be communicated
8	Bid Processing Fee (Non-refundable) (DemandDraft)	INR 10,000/- (Rupees Ten Thousand Only)
9	Earnest Money Deposit (EMD) (Bank Guarantee)	INR 10,00,000/- (Rupees Ten Lakhs Only)
10	Performance Bank Guarantee	10% of Bid Value
11	Method of Selection	Quality and Cost-Based Selection (QCBS)
12	Contact Details	Directorate of Technical Education & Training, Odisha Killa Maidan, Buxi Bazar,Cuttack-753001 Phone No- (+91) 9437307190 **Email:**-dtetorissa@gmail.com, director@dtet.odisha.gov.in dtetodisha.procurement@gmail.com **Website:** www.dtetodisha.gov.in/en/tender/ www.dtet.odisha.gov.in

Note:

1. DTE&T, ODISHA reserves the right to change any schedule. Please visit the website mentioned in the RFP document regularly for the same.

2. Proposals must be submitted before the date, time and venue mentioned in the Fact Sheet. Proposals that are received after the deadline will not be considered.

Table of Contents

1.   Introduction:

The Directorate of Technical Education and Training (DTE&T), Odisha, Cuttack looks after education at Technical Institutes/Colleges, Diploma and ITI level. It also provides Vocational Education in order to prepare the Youth for self-employment. The Department also promotes professional courses in Government and Private Sector.

DTE&T invites proposals from world leading OEM of Home Automation, Building Automation and Industrial Automation equipment/machines or their authorized partner to setup Centre of Excellence in Home Automation, Building Automation and Industrial Automation on Turnkey Basis and also provide technical training at **Govt. ITI Anandapur**, **JES Jharsuguda** and **Govt. ITI Rourkela** under OMBADC districts of Odisha.

It is a turnkey project where the Technology Provider will be responsible for the design, execute the required Civil, Electrical, Plumbing, PH and other works to make the CoEs functional (complete setup of the labs), supply of the technological product or equipment/machines (both Hardware and Software), commissioning of it and should provide hand-holding training for 02 (two) years along with run the CoEs initially for a period of 02 Years, which may be extended for another 01 Year (as per the requirement of DTE&T Odisha) after mutual agreement. It must be state-of-the-art and industry relevant and should cater to the current and futuristic requirements of the industry.

DTE&T Odisha will provide enclosed rooms to setup the Center of Excellence. Technology Partner shall provide the Design of the labs and execute the required Civil, Electrical, Plumbing, PH and other works to make the CoEs functional but the specifications for Civil, Electrical and other works will be provided by DTE&T Odisha and Technology Partner shall setup the Centre of Excellence accordingly. Complete infrastructure setup will be the responsibility of the Technology Partner. These Center of Excellences should focus on developing skill excellence in the field of Automation. Through the training and implementation of industry-relevant technology and processes, the center should meet the demands of the industries.

2.   Project overview and objectives:

This CoE should bridge the skill gap of students vis-à-vis industry needs and impart state-of-the-art industry-oriented training to help foster significant innovation and learning in technical education. The center is aimed at Industry connected skill development programs and hence the hand-holding training by the Technology Partner for minimum 02 years, will be the part of the Memorandum of Agreement (MoA).

All the Hardware should be of industrial standards. The software should not be restricted to educational limits. Should be provided with industrial features allowing DTE&T to offer Industrial consultancy apart from the skill development. DTE&T will provide the space and workshop at identified institution for the setup of CoEs. The role of the company/firm will be to setup the complete infrastructure of the labs, supply of equipment, installation (including minor civil works for installation), commissioning and complete setup of CoEs, provide advanced skill training with international quality standard which will uplift the skill of state youth and assist them in finding sustainable placements in different industries by Industry connect programs. The company/firm will professionally operate and manage the CoE with institute faculties for the agreed period under supervision of DTE&T.

3.   Scope of the Project:

The mission of establishing Centre of Excellences are to promote advancement and implementation of automation concepts through Skill Development of students in state of Odisha along with self sustainability of the institute through technology support services to the industries.

These CoEs, to be designed by the Technology Partner (TP), is envisioned to be setup as a State of the Art Centre of Excellences (CoEs) in which the TP brings in their best in class equipment/ tools/ machines/ software (commonly referred to as equipment) to be used for training purposes. These CoEs will be located in an appropriate space offered by the DTE&T. These CoEs will be managed professionally by the Technology

Partner. The infrastructure (including Civil, Electrical and other required works) for these CoEs will be made ready by Technology partner as per the proposed design by them and the specifications finalized and provided by DTE&T Odisha.

These CoEs will run under the overall operational management of the CoE Management Committee. The CoE Management Committee, under the Guidance of the DTE&T Odisha, will be responsible for devising and implementing a three-year rolling plan and ensuring that these CoEs are constantly upgraded and provides a high technology ecosystem for skilling/ up- skilling/ re-skilling/ cross-skilling and multi-skilling. The Technology Partner, under the Guidance of the CoE Management Committee, will be expected to assist the DTE&T Odisha to mobilize students from other Private Technical Training Institutes/employees from the relevant industries for skilling, upskilling or re-skilling training, which will help to generate internal revenues (IRG) at these CoEs, and can help in the sustainability of these CoEs.

Overall administrative, quality and financial responsibilities including the management of these CoEs, marketing, branding, management of hostels etc. will be the responsibility of the DTE&T. But, development of training course content, training plan, deployment of technical experts to provide training, assessments, award certificates to the successful trainees/trainers, provide placement support etc. will be the responsibility of the Technology Partner.

3.1. SCOPE OF THE TECHNOLY PARTNER (TP)

1. These CoEs, to be designed by the Technology Partner, is envisioned to be setup as a State of the Art Centre of Excellences (CoEs) in which the selected company brings in their best in class equipment/ tools/ machines/software (commonly referred to as equipment) to be used for training purpose.

2. Supply, Installation & Commissioning of all the equipment. The TP must supply all new equipment/machineries at CoEs.

3. Supply of necessary safety certificates from either national or international (for imported equipment) standard accreditation agency. Fire safety certificates for each supplied equipment and firefighting equipment should be supplied.

4. The company shall provide warranty of supplied machineries/equipment for 36 months from the date of commissioning. The warranty does not include safety equipment, tools & tackles, consumables, PPE etc.

DTE&T Odisha may ask for AMC for another 03 years at mutually agreed price.

5. Complete lab infrastructure readiness including necessary civil, electrical, plumbing and other works to setup the CoEs and installation of the equipment/machines at these CoEs, falls within the ambit of scope of work of selected bidder.

6. Arrangement of Fire safety equipment like Carbon Dioxide or Dry Chemical Fire Extinguishers or any superior fire safety equipment with sensors.

7. Provide necessary safety & training posters for the CoEs. Branding of these CoEs, along with the Digital Hoarding Board and banner at each CoE.

8. Handholding for 24 months from the date of commissioning. Handholding should include the following but not limited to

  I. The TP shall identify and formulate training programs to develop skills in futuristic/ disruptive technologies and associated skill sets required for industry ready.

 II. To develop courses, course content, course work, manuals, standard operating procedures and standards, disseminate the same with the overall intent of improving the skill sets of individuals.

III. To impart high-end skills (and not generic skills) to Students, unemployed individuals and employed individuals (looking to up skill/ re-skill themselves).

IV. To conduct train the trainer and train the trainees' programs for 03(three) months of each batch with a batch

size of 20 students/trainees.

V. To conduct need based/ on-request training programs to cater to specialized requirements of corporate, and to generate revenues through these programs.

VI. To carry out assessment, certification of trainees as per the NSQF/NCVT prescribed guidelines.

VII. Preparation of Training Modules for Train the Trainers and Trainees. Advanced skill training curriculum with equivalent to NSQF level 5 or 6, in addition as per the demand of the industries should be included.

VIII. Select appropriate courses; design the course structure, curriculum and pedagogy based on industry demand. Selected bidder shall identify and formulate training programs to develop skills in futuristic/ disruptive technologies and associated skill sets required for industry ready.

IX. The TP shall design courses, curriculum, and pedagogy based on industry demand for placing before the CoE Management Committee constituted by DTE&T. Selected bidder shall comply with the recommendations of CoE Management Committee and the same should be incorporated in the curriculum prior to the course commencement.

X. Conduct training that meets industry standards by engaging appropriate faculties(qualified & experienced), facilities and technology like virtual classroom. Provide at least two (02) Qualified and Experienced Faculties for each CoE with minimum Graduate or Diploma Engineer and minimum 3 years of industry experience in relevant field. Hand-holding training (Skilling/Up-Skilling/Re-Skilling) to be given for minimum 02 (two) years to the Trainers and Trainees from Govt. & Private ITIs/Polytechnics or Employees from nearby industries etc.

XI. Providing Soft Copies or Hard Copies of Training materials for at least 01 (one) batch with minimum 20 trainees during hand-holding training of the Trainers and Trainees.

XII. The company has to ensure that the assessment is completed as per the standards in a fixed time frame and shall issue joint certificate to the passed out students with the help from Principal of designated institute or any valid certificate from international bodies.

9. The company shall furnish the proposal with details of courses, course content, course, work, manuals, pedagogy, standard operating procedures and standards, disseminate the same with the overall intent of improving the skill sets of individuals.

10. Selected Technology Partner shall provide Placement Support to the successfully trained and certified students. Placement opportunities to be given at least 50% of the successfully trained/certified trainees within maximum 01 (one) Year from their successfully certification. Overall Placement Assistance to be given for 03 (three) Years from the start date of hand-holding training.

11. Provide necessary Raw Materials & Consumables (if any) during hand-holding period.

12. Bidders are requested to visit Govt. ITI Anandapur, JES Jharsuguda and Govt. ITI Rourkela and they need to project thru 3D view, how they are planning to setup the labs and place all equipment at CoE.

13. Selected Technology Partner shall provide support to create a network with nearby Private Institutes or industries to generate internal revenue (IRG) by providing training to the trainers and trainees from Private Technical Institutes, providing the upskill training to the employees from the industries etc. Bidders must submit proposal with action plan to generate revenue from these CoEs, which will help to make the CoEs self-sustainable.

14. The bidders are expected to provide following details along with their technical bids.

 Detailed 3D design (in CAD format) of the CoEs along with 3D view of the labs and specifications of proposed Civil, Electrical, Plumbing works, Furniture & Fittings etc.

 Detailed Execution Plan

 Human Resource Deployment Plan/ CV of proposed trainers.

- Project Delivery Plan
- Plan for Industry-Academia GAP analysis and preparation of industry relevant Course Curriculum.
- Assessment and Certification Plan
- Placement Plan
- any suggestions (if any)
- Other Requirements (if any)

3.2. Specifications of Civil & Electrical Works:

Design of CoEs including interior design with fire retardant, plastic coating painting, design of shop floor/labs with anti-skid, electrical insulating, fire retardant with epoxy flooring (with minimum 3mm thickness), required electrical, civil and plumbing works and furnishing of the labs etc. Selected Bidder shall mutually finalize the design and drawing of the labs and specifications of the Civil and other works with DTE&T Odisha. DTE&T Odisha will monitor the entire CoE setup centrally.

3.3. SCOPE OF DTE&T ODISHA

1. Provide space and room for setting up of the Centre of Excellences. Selected Technology Partner and DTE&T Odisha will mutually finalize the design of the proposed labs and the specifications of Civil and other works to complete setup of the infrastructure of the Centre of Excellences.

2. Conduct a pre-delivery inspection of sample equipment by its own technical experts or 3rd party agency/consultants/advisors appointed by DTE&T before the proposed equipment delivered by the executing partner at the proposed CoEs. If the executing partner fails to comply with any of the quality, technical specification or clause mentioned in the RFP, and then the Contract will be terminated by DTE&T Odisha.

3. Provide necessary electrical power supply, water supply etc. required for installation and commissioning.

4. Provide necessary work permit.

5. Provide assistance for unloading of materials but unloading of equipment is responsibilities of selected bidder.

6. Provide required electrical connections of suitable/required load to nearest distribution box of the machines.

7. Provide necessary raw material & consumables for the training post hand holding period.

8. Provide the requisite hostel facilities for 30 students and use of existing workshop or infrastructure. However, additional infrastructure for storage (as per requirement) should be developed by the selected bidder.

9. Create a network of nearby institutes for capacity building and mentoring support. This is under the scope of DTE&T but selected bidder should extend support wherever required.

10. CoE can generate revenue through fees deposited by the admitted trainees and provide skilling, up-skilling/re-skilling training to the trainees from other private institutes. This is under scope of DTE&T. Trainees shall be admitted as per the eligibility criteria specified by CoE Management Committee.

11. CoE may train the semi-skilled technicians of nearby industries on payment, as fixed by CoE Management Committee.

12. CoE, may train the passed out trainees for nearby ITIs & Polytechnics as a value addition course, on the fees as fixed by CoE Management Committee.

3.4. JOINT SCOPE OF DTE&T AND TECHNOLOGY PARTNER

1. Selection of students for specialized course
2. Joint certification of successful trainees
3. Placement Support for the successful trained and certified trainees

4. MANAGEMENT OF COEs

I. The management committee of the CoE will be consisting of representatives from selected bidder company,

DTE&T, representatives from two industries, DSDE officer, and Principal of the institute as member convener.

II. DTE&T Odisha shall be sole authority to oversee all the training and administrative activities in the best interest of the State of Odisha.

III. Company/firm shall support placement of trainees with the help of the particular Industry of each skill.

IV. CoE Management Committee will be constituted by DTE&T for the overall guidance and the role of the committee will generally be limited to:

   a) Review the periodic updating of syllabus, curriculum and course content ii). Review adequacy of courses offered viz - a - viz industry demand and suggest addition/ modification or discontinuation of courses and fixation of fees.

   b) Periodic performance and placement evaluation against pre - defined milestones detailed under RFP document to be published.

   c) Review, and if necessary, engage third party to evaluate the quality of equipment and training.

   d) It will fix the eligibility criteria for admission/reservations etc. and mobilize students/industry employees from nearby cluster for admission.

5. Terms & Conditions:

Centre of Excellence in Home, Building and Industrial Automation to be set up at Govt. ITI Anandapur, JES Jharsuguda and Govt. ITI Rourkela under OMBADC district of Odisha on Turnkey Basis.

I. Bidders need to submit Pre-Qualification Criteria and Mandatory Documents along with Bid Processing Fee & their proposals [Technical Proposal (along with EMD) and Financial Proposal] separately in sealed inner envelopes, and clearly marked on the outside as PRE-QUALIFICATION, TECHNICAL PROPOSAL and FINANCIAL PROPOSAL, as appropriate. These three inner envelops shall then be placed and sealed in one outer envelope clearly marked "**RFP to setup Centre of Excellence in Home Automation, Building Automation and Industrial Automation at Govt. ITI Anandapur, JES Jharsuguda and Govt. ITI Rourkela under OMBADC districts**".

II. Bidders must sign all pages of RFP by their authorized signatory and submit with technical bid.

III. Bidders must bid for all the equipment from list given at "Proposed equipment list for CoE".

IV. Partial bid or selective equipment bids are not allowed.

V. OEM of Home Automation/Building Automation/Industrial Automation equipment or their authorized partner companies are invited to bid. No consortium biddings are allowed.

VI. Bidders may outsource from other reputed world leading OEMs only that equipment for which they are not the manufacturer and bid specific authorization (from these OEMs) must be attached within the technical bid.

VII. Price bid should have equipment wise breakup.

VIII. Price bid should be submitted in the given format in Annexure II.

IX. Bidders must quote for each new equipment for the CoEs.

X. Warranty – 36 months from the date of commissioning.

XI. Project completion Timeline and Payment Schedule for each CoEs mentioned in Section 10.

XII. Performance Security – A performance security in the form of Bank Guarantee for 10% of the Bid Value to be submitted on receipt of the Contract Order (LoA). The Bank Guarantee will be valid for 44months.

Comprehensive Maintenance Services during Warranty Period

The final selected bidder/supplier has to provide Comprehensive Warranty Maintenance Services for all equipment/machines (except raw materials, consumables, PPE and tools & tackles) at each CoE for 36 months from the date of successful installation & commissioning. The scope of the bidders is as below.

1. Maintenance Services shall consist of Preventive and Corrective maintenance of equipment specified in Section -7 (excluding raw materials, consumables, PPE and tools & tackles) & will include repair and replacement of parts free of cost.

2. Preventive maintenance, half-yearly once, which includes:

Check-up to ensure that device connection is proper; cabling is at proper condition etc.

Cleaning of the above instruments & equipments and checking the System Performance.

3. The final selected bidder has to conduct preventive maintenance services at least twice (2 times) in a year at each CoE.

4. The parts replaced must be new parts or equivalent in performance to new parts.

5. Any complaint informed through telephone/email must be acknowledged with a Complaint No. by the Supplier which will be noted by Consignee. All further contact with the Supplier on such complaint will be initiated through that Complaint No. Once rectification done, that No. will be cancelled by both parties. A register is to be maintained by the Supplier where complaints are to be noted along with Complaint No.

6. The normal maintenance of all supplied machines/equipment shall normally be done by the deployed trainer/trainers of the Technology Partner after every week.

7. The Service Engineer of the Supplier will be allowed to handle the respective plant & machineries only in presence of the officer in charge at the CoE site.

8. The Supplier should ensure that maintenance job is not hampered/ delayed due to paucity of spares/inadequate man power etc.

9. Normal response time for repair is 72 hours from the actual time of reporting of the problem to the Supplier.

10. Minor repair to be done within 7 days of complaint registered and for major breakdown or replacement of parts must be completed by 15 days from the complaint registered to supplier. For imported parts, the replacement should be done within 4 weeks maximum.

6.1 Pre–Qualification/Eligibility Criteria of the Bidders and mandatory documents

SL No.	Basic Requirement	Specific Requirements	Documents required
1	Legal Entity	The Bidder must be a Registered Proprietorship firm/A partnership firm/Private Limited Company in India	Copy of valid registration certificate& certificates of incorporation shall be enclosed as a proof
2	No Consortium	The Bidder should not bid under any Consortium. No Consortium bid shall be allowed for this RFP.	Self-declaration should be submitted
3	Continuation of Business	The Bidder company should have been in existence as a registered company in India for at least 05 years and must have prior experience of minimum 03 years in relevant field.	Incorporation certificate of the firm, registration certificate
4	OEM or Authorised Partner	The bidder should be an original manufacturer (OEM) of Home/Building/Industrial Automation equipment & machineries or Authorised Partner of the OEM.	A Self certified certificate on the letter head for OEM and Project specific authorization from the OEM for their partner along with the support and services for entire project duration.
5	ISO Certificate	The OEM company should have ISO 9001, ISO 14001 & ISO 45001 certification.	Copy of valid ISO certificates of the OEM must be shared.
6	Financial: Turnover	The Bidder should have Average Annual Turnover of Rs.20 crores for each of the last 3 Financial Years of 2020-21, 2021-22, & 2022-23	*Audited financial statements/CA certified true copy stating the turnover *Audited Financial statements (Balance sheet, Profit & Loss Account/Income &Expenditure Statement, Cash flow statement, Notes on Account) including Income Tax Return with computation statement for the last three consecutive years (2020-21), (2021-22) & (2022-23)
7	Financial: Net Worth	The net worth of the bidder as per last published audited Balance Sheet i.e. for the year 2022-2023, should be Positive	CA Certificate with CA's Registration Number/ Seal
8	Tax registration and clearance	The bidder should have a registered number of i)GST ii)Income Tax / Pan number	Copies of relevant certificates of registration
9	Past Experience (Both Point No.I and II must be complied)	I. The company must have executed the job of setting up at least 03 (three) Centre of Excellence or Lab in either Home Automation or Building Automation or Industrial Automation technology in any educational institutes/technical institutes/ diploma or engineering colleges/training centres/ industries etc.	Copies of work orders/Contract Agreement/ Project Completion Certificate from Client etc.

		II. The company must have experience of setting up a CoE/Lab in either Home Automation or Building Automation or Industrial Automation technology with a single work order minimum Rs.1(one) crore.	
10	Blacklist	No bidder should have been blacklisted by any State Government or Central Government agencies or corporations governed by them.	Self-declaration in a notarized document
12	Mandatory Undertaking	Bidder should: - a) not be insolvent, in receivership, bankrupt or being wound up, not have its affairs administered by a court or a judicial officer, and must not be the subject of legal proceedings for any of the foregoing reasons; b) not have, and their directors and officers not have, been convicted of any criminal offence related to their professional conduct or the making of false statements or misrepresentations as to their qualifications to enter into a procurement contract within a period of three years preceding the commencement of the procurement process, or not have been otherwise disqualified pursuant to debarment proceedings; c) not have a conflict of interest in the procurement in question as specified in the bidding document. d) comply with the code of integrity as specified in the bidding document.	A Self certified certificate on the letter head
13	Minimum Qualification of Trainers for Hand-Holding Training at CoE	The company should provide minimum 02 (Two) experienced and skilled trainer for technical training at each CoE. Trainers must be minimum Graduate or Diploma Engineer and at least 03 years of industry experience in relevant field.	

Note: Bidders are requested to visit Govt. ITI Anandapur, JES Jharsuguda, & Govt. ITI Rourkela and inspect the existing lab and infrastructure before preparation and submission of their proposals.

6.2 Compliance on Technical & Financial Bids

Technical Bids must contain Technical details with deviation statement, copies of documents as per requirement & Copy of original standard printed catalogue.

Technical detail should contain complete specification of goods/scope of related services/list of deliverables with all technical and commercial terms and conditions. Bidders have to confirm the Technical and Commercial specifications as mentioned in this RFP document. (Ref: Technical Specification/Compliance Statement, Section-7) If there is any deviation(s), the same should be clearly specified in the given column. If there is no deviation, nil deviation should be mentioned per line specification. Standard Printed Catalogue should be submitted invariably. Compliance statement with respect to the technical specification mentioned in the offer and compliance statement should be further specified by indicating the catalogue page no /para number/line no for each specification.

Specifications of the equipment/Bill of quantity should be listed in the bid documents as per the RFP format and copy of Printed catalogues should be attached. Original printed catalogue of the tendered item to be

couriered before opening date. The Model of the items and its Catalogue should be spelt out clearly. Offers without standard printed catalogue shall not be considered for evaluation. Specification as mentioned in the standard printed catalogue shall be considered for technical evaluation/comparison. The detailed specification of the product should also be available in the official website of the bidder/OEM so as to cross check the product while evaluating the technical bid. If there is inconsistency in specification provided in catalogue and website, decision of the evaluation committee shall be final. If offer is submitted for different model DTE&T Odisha reserves the right to accept the make/model more suitable for the purpose.

DTE&T may inspect the equipment as per the RFP document at the bidder's/ customer's premises where the bidder has supplied the particular tendered item before final evaluation. Bidder has to arrange for all in- house facility for the inspection. Inspection report of the visiting committee shall be final for evaluation of the bid.

Wherever there is significant inconsistency, specifically stipulation in the Technical Specifications as a part of bidding document and not complied by the bidder, in such cases, no clarifications shall generally be called [e.g. any response meeting the Technical Specifications should be supported by documents like catalogue, test charts etc. as specified in the bidding document. The bidders shall be considered non-responsive for non-submission of catalogue/test chart. However, DTE&T reserves the right to ask for clarification in case of genuine doubt and bid containing contradictory information, which is in general be for minor, non-material issues.

NOTE:

1. **The parameters which are not available in the catalogue, the value should be mentioned in the column with supporting documents.**

2. **The bidder may suggest better specifications and features for the list of equipment/machines mentioned in the Section 7 with proper justifications. Bidder may add pages as per their requirement to prepare the compliance statement/justifications.**

3. **Bidders should clearly mention the detailed Civil, Electrical and Other Works that they are proposing with their technical specifications to setup each lab at all 03 (three) institutes. Moreover, they must submit detailed drawings with demarcation of equipment/machines in the labs.**

7. Technical Specification/Compliance Statement of Home/Building/Industrial Automation Machine & Equipment for the CoE in Home Automation, Building Automation and Industrial Automation at Govt. ITI Anandapur, JES Jharsuguda and Govt. ITI Rourkela.

(Ref Tender Clause No 6.2)

(To be submitted on bidder's Letter -head as part of Technical Bid)

Bidder's Name:

Address & Contact Detail:

Bidder's Reference No:………………………..….. Date:…………………..

(A) Equipment list for Home Automation

SL. NO.	ITEM DESCRIPTION	QTY/ PANEL	No. of PANEL	TOTAL QTY	Make & Model
1	Power Supply with Diagnostics function, 640mA	1	5	5	
2	Power Supply, 24 V DC	1	5	5	
3	IP Interface, secure	1	5	5	
4	USB Interface	1	5	5	
5	KNX red/black Connection Terminals	50	5	250	
6	Smart Universal Dimming Actuator (4 Channel), 315Watt	1	5	5	
7	Switch Actuator, 8-fold,16 A, C-Load, Energy Function	1	5	5	
8	Tunable DALI Gateway, 2 fold	1	5	5	
9	Switch-/Dim Actuator, 4-fold(1-10V)	1	5	5	
10	KNX RGBW DIMMER 4 CHANNEL	1	5	5	
11	KNX Split Unit Gateway, FM, For split ac control	1	5	5	
12	Voice Control Integration (alexa, google assistant)	1	5	5	
13	KNX Presence sensor with light regulation	1	5	5	
14	Switch/Curtain Actuator 8 Channel, 6A	1	5	5	
15	Weather Station	1	5	5	
16	Weather Sensor, SM	1	5	5	
17	Visualization Software for mobile/Pc	1	5	5	
18	Smart Room Automation KNX 8 Key keypad with display	1	5	5	
19	Surge Protection Device (T2 1N 40-275 P QS)	1	5	5	
20	Bespoke Smart Connected Homes KNX Green Cable	100	5	500	
21	Miniature Circuit Breaker SP 1 A CTYPE	1	5	5	
22	Miniature Circuit Breaker SP 6 A CTYPE	10	5	50	
23	Miniature Circuit Breaker SP 10 A CTYPE	6	5	30	
24	Miniature Circuit Breaker DP 20 A CTYPE	1	5	5	
25	DP RCCB, 25A, 30MA	1	5	5	
26	ETS SOFTWARE FOR PROGRAMMING	1	5	5	
27	MS Gateway to convert KNX data to BACnet/IP. Supports Bidirctional data exchange between BMS 7 KNX devices	1	5	5	
28	Single phase Energy meter with Modbus Communication with class 1 accuracy	1	5	5	
29	**Smart Curtain for demonstrating the application** 220V/230V AC Blind Motor (wired Technology for Automation) should have the capability to handle 5-7 feet Blind.	-	-	1 SET	
30	Supply, Installation, Testing & Commissioning of all equipment/software and devices	All Equipment/Devices and Software must be installed, commissioned and tested			
31	Warranty for 36 months	Warranty must be given for 36 months from the date			

			of successful installation and commissioning of all equipment/software and devices
30	Hand-Holding Training		Hand-Holding Training for 24 months

(B) Equipment list for Building Automation

SL. NO.	ITEM DESCRIPTION	UNIT	TOTAL QTY	Make & Model
I	**Building Management System (BMS)**			
1	**BMS - HARDWARE**			
1.1	Supply, installation, testing & commissioning of Windows-11 based desktop with monitor size 21" or more, multi function USB keyboard & Mouse with following specifications. Intel® based Processor @ 2GHz or higher, (dual or multi-core recommended). 8 GB RAM or 16GB DDR3 Expandable up to 32GB, 1 TB SSD, 3.0Gb/s Hard Drive for OS and BMS Applications. Network Copper Interface Card - 10/100/1000 MB(i.e. 2 sets of 2 Port X 1Gbps cards required) Inbuilt graphics Intel chipset (2GB NVIDIA graphics media accelerator card), with licensed Antivirus & Microsoft office software. Microsoft® Windows 10 or Higher 64 bit which offers teaming feature and compatible with BMS Software. Complete with Anti-Virus, MS Windows Client Software and operating license; Complete with wired/wireless keyboard and mouse.	Nos.	5	
1.2	21" or more LED monitor with Dual HDMI port & supports Dual inputs with all accessories for Table mount	Nos.	5	
2	**BMS - SOFTWARE**			
2.1	HTML-5 supported Web based BMS supervisory software/router with core BMS functionalities & support for BACnet & Modbus drivers with following features . Operating System: on Secure Linux OS with preloaded BMS application . BTL certified BACnet device with B-BC profile . AM335X Dual-core ARM Cortex A8 Dual-core, 4GB RAM, 512MB DDR3 DRAM . 2 GbE Ethernet RJ-45 Connection Auto-sensing 10/100BASE-TX (RJ45), Addressing: IP address or Hostname/DHCP Client or Static IP, Connection Topology: Daisy-chain, supports Spanning Tree Modbus TCP, BACnet/IP . Two RS-485 ports @ 9K6, 19K2, 38K4, 57K6, 76K8 or 115K2 . UL Listed (CDN & US) UL916 Energy Management Equipment – File No. E176435 . Agency compliance :EN 61326-1: 2013, EN 61000-3-2: 2014, EN 61000-3-3: 2013, CE Approved. . Cyber Security: Support for TLS 1.3	USERS.	5	
3	**BACNET/IP BASED DDC CONTROLLERS**			
3.1	Freely programmable BACnet/IP based DDC controller with BTL certification. The controller shall have B-BC profile with buil-in advanced cyber secuirty technology & multi protocol support.	Nos.	5	

	. 32 bit Dual-core Arm Cortex processor, Real time clock with 7 days backup . 4GB eMMC Flash + 512MB DDR3 DRAM . On board 16 I/O channel & expandable up to 96 I/O . 16 bit A/D resolution for inputs & 12 bit D/A resolution for outputs. . Dual ethernet ports & supports BACnet/IP & Modbus-TCP/IP integration . Built-in 2 RS-485 ports to support BACnet-MSTP & Modbus-RS485 integration . Supports Local override function through onboard HOA switches			
3.2	IO module to expand the I/O capacity of main application controller. . 16 channel I/O with 8 univarsal input(AI/DI) & 8 Uniputs (AI/DI/AO/DO) . Easy module expansion with plug-in connectors to communicate with main controllers without the need of external wiring for power & communication. . Support Local override function through onboard HOA switches	Nos.	5	
4	**INTEGRATION**			
4.1	Modbus-RS485 to BACnet/IP gateway for UPS data integration with BMS. . Dual ethernet port to support BACnet/IP or Modbus TCP/IP protocol . BTL certified B-BC profile . Support 320 data points	Nos.	1	
5	**FIELD DEVICES**			
5.1	Indoor Air quality sensor to monitor room temperature, humidity & Co2 levels. . LCD display with variable backlight, 7 capacitive touch buttons on screen, Programmable RGB indication back panel . RS-485 communication . Bluetooth enabled remote touch free interface(Android & IOS supported app)	Nos.	5	
5.2	Single phase Energy meter with Modbus Communication with class 1 accuracy	Nos.	5	
6	**Engineering Tools with License**			
6.1	Supply & installation of BMS software engineering tool to create and define all necessary elements for a project – including network device and point programming, global control sequencing, historical trending, alarming, scheduling, as well as rich graphical user interface pages. The license shall have a validity of 36 Months.	Nos.	5	
6.2	Supply & Installation of DDC commissioning tool/software application with license. The tool shall support simulation & online programing of the controllers with comprehenssive libraries. Support following features. • System configuration • Macros Support • Backup and Restore • BACnet® Properties • Mass Device Commissioning • Easy Discovery and Configuration of BACnet IP Controllers • System Monitoring	Nos.	5	

	• Real-time Point Scanning • Modbus® (TCP and RTU) device integration			
II	**FIRE ALARM SYSTEM**			
1	Supply of Addressable fire alarm Panel which consists of display board which will have 160 Character Display with Touch key pad, Mother board which will have CORTEX 32 Bit Processor, Inbuilt RS-485 Networking Circuit for peer to peer networking, Inbuilt USB 2.0 Port for upload and download the Configuration tools, Two inbuilt programmable inputs, Two inbuilt NAC's, and Three Programmable Relays, and 1 Loop Card circuits. Power Supply Board which will have SMPS fully protected board, which its operates on 120 to 220V AC ±10% with 50/60 Hz, battery backup 24V DC with built-in charger. the panel have IP-50 rating Optional: for BMS integration MODBUS converter, Graphical Software, Software for TCP/IP Module, provision for Auto dialler Approval UL Listed.	Nos.	5	
2	Supply of Addressable Multi Sensor - Heat Cum Smoke detector with base with Binary coded address setting. Dual LED's for 360° visibility. Sleek low profile housing design. Regular 100mm base. IP Rating : IP - 42. Approval: UL Listed	Nos.	5	
3	Supply of Addressable Heat detector with base with Binary coded address setting. Dual LED's for 360° visibility. Sleek low-profile housing design. Regular 100mm base. IP Rating : IP - 42. Approval: UL Listed	Nos.	5	
4	Supply of Addressable Manual Call Point - Resettable type – with back box with Binary coded address setting with Status LED for 360° visibility - IP:50 Rating	Nos.	5	
5	Supply of Conventional type Horn / Strobe wall mounted type rated at 90 dBA @ 1m for Audible annunciation and 15cd minimum flashing at 1 Hz for visual indication, Note: Need to Connect with Addressable Control Module	Nos.	5	
6	8Ah 12V Battery	Nos.	10	
III	**Testing, Commissioning & Training**			
1	8 Port Giga Byte Network Switch	Set	5	
2	Training panel completed with component installation, wiring & power supply units	Set	5	
3	Single phase UPS with Modbus communications	No	1	
4	Supply, Installation, Testing & Commissioning of all equipment/software and devices	All Equipment/Devices and Software must be installed, commissioned and tested		
5	Warranty for 36 months	Warranty must be given for 36 months from the date of successful installation and commissioning of all equipment/software and devices		
6	Hand-Holding Training	Hand-Holding Training for 24 months		

SL. NO.	ITEM DESCRIPTION	Rating	Unit	Qty Per Set	TOTAL SET	TOTAL QTY	Make & Model
	(C) Equipment list for Industrial Automation						
1	CPU with 2 MB user memory, 1X Ethernet interface, digital I/O 12DI/8DO-T/2DC, 24VDC supply, option board slots – 2 nos., expandable, RTC and Micro memory card		No.	1	5	5	
2	For Standard & Pro CPU, Spring type, Front cable entry, 1x 3 poles for power supply, 1x 13 + 1x 12 poles I/O terminal blocks		No.	1	5	5	
3	Digital Input Mod 16DI 24VDC DI 24VDC Sink/source 1 wire		No.	1	5	5	
4	Digital Output Mod 8DO Transistor DO Transistor 24VDC/0 5A 1 wire		No.	1	5	5	
5	Analog Input Mod 4AI U/I 12bit+sign 24VDC 2 wire		No.	1	5	5	
6	Analog Output Mod 2AO U/I 12bit 24VDC 2 wire		No.	1	5	5	
7	9 pole screw front connector		No.	4	5	20	
8	11 pole screw front connector		No.	4	5	20	
9	control panel, TFT graphic display, touchscreen, 7", 800x480 pixel, with runtime license		No.	1	5	5	
10	PLC Software with USB key		No.	1	5	5	
11	SCADA with 128 tags with Historian, trends & PLC Driver		No.	1	5	5	
12	Power Supply: 24V DC/10 Amps		No.	1	5	5	
13	4 Pole Front operated switch-disconnectors with direct knob type handle	25 Amps	No.	1	5	5	
14	Phase Indication; Red, Yellow & Blue	230 VAC	No.	3	5	15	
15	MCB, TP, 10KA for VFD	6A	No.	1	5	5	
16	MCB, TP, 10KA for Industrial Socket	32A	No.	2	5	10	
17	MCB, DP, 10KA for CPU, HMI, Displays etc.	2A	No.	8	5	40	
18	MCB, DP, 10KA for Power Supply Input & Switch Socket	6A	No.	5	5	25	
19	MCB, DP, 10KA for Power Supply Output	10A	No.	1	5	5	
20	8 Port Unmanaged Ethernet Switch		No.	1	5	5	
21	Ethernet Connector		No.	1	5	5	
22	ON/OFF Toggle Switch; 10A/250V AC & 15A/28V DC	24VDC	No.	16	5	80	
23	Red Led Lamp	24VDC	No.	16	5	80	
24	Mushroom Head Push Button, Turn to Release, Red, with 1 N/C Contact Block	1N/C	No.	1	5	5	
25	Industrial Socket	32 Amps	No.	2	5	10	
26	Industrial Socket for PC and Domestic Use	5 Amps	No.	4	5	20	
27	CAT6 Ethernet Cable (1 Box = 305 mtrs.)		No.	1	5	5	
28	Desktop PC for Engineering Station (21.5" Monitor, 8 GB RAM, 500 GB HDD, Core i5 Processor, USB+Ethernet Port, Keyboard & Mouse) with Windows Operating System & Anti-virus		No.	1	5	5	

29	Process indicators are display units for a 4-20mA signal input		No.	4	5	20	
30	MS Test Bench, IP-42, RAL 7035		No.	1	5	5	
31	MOTOR, 1440 RPM, IE3, S1 DUTY, 415V, IP55, FRAME SIZEM2BAX71MLA4	037KW	No.	1	5	5	
32	AC VFD, 1.2 Amps	037KW	No.	1	5	5	
33	Industrial Robot (6 Axis, min. 12kg payload and min. 1.4 Mtr. reach), Controller, Software & Accessories		Set.	1	1	1	
34	Table and Cage for Robot		Set	1	1	1	
35	Supply, Installation, Testing & Commissioning of all equipment/software and devices	All Equipment/Devices and Software must be installed, commissioned and tested					
36	Warranty for 36 months	Warranty must be given for 36 months from the date of successful installation and commissioning of all equipment/software and devices					
37	Hand-Holding Training	Hand-Holding Training for 24 months					

Smart Classroom with Real Time Collaborative Software & Hardware solution with unlimited number of users Access:

(A) Equipment list for Smart Classroom with Time Collaborative Software & Hardware		
SL. NO.	**ITEM DESCRIPTION**	**QTY**	**Make & Model**

SL. NO.	ITEM DESCRIPTION	QTY	Make & Model
1	**For Networking**		
1.1	6U Rack 400x500MM with 6Socket PDU 5AMP	1	
1.2	CAT6 24 Port Patch Panel Loaded	1	
1.3	Cat6 23 AWG Cable Box 305 Meter	2	
1.4	CAT6 UTP I/O Module	10	
1.5	Face Place Single/Dual	10	
1.6	Patch Cord 1 MTR	20	
1.7	24 Port Gigabit Managed Switch POE	1	
1.8	Firewall XGS-87 or equivalent with 3 years subscription Xtreme Protection, email, Webserver	1	
2	**FOR CCTV Surveillance & WIFI**		
2.1	Dome 2 MP IP camera	3	
2.2	8 Chanell NVR with 1TB HDD	1	
2.3	EAP 653 Ceiling mount AP		
2.4	Intel Core i5-12th Generation Processor /16GB RAM / 512GB NVME SSD + 512GB SATA SSD / DOS / Keyboard Mouse Combo / Nvidia GT710 2GB Graphics Card /3 Years Warranty	6	
2.5	Monitor 22 Inch or more LED	6	
2.6	Windows 11 Pro OEM Licence Pack	6	
2.7	UPS 3KVA with inbuilt Battery for 30 min. Backup	2	
3	**86 inches Interactive Digital Board**		
3.1	Screen Size: 86" Direct-lit LED, 3840 x 2160 @ 60Hz, 400 (cd/m2), 4000:1, 10 Bit 1.07 Billion Color Up to 20 Point Intelligent Touch - supports 1 x fine tip stylus Zero parallax, bonded, anti-glare, anti-finger print glass	1	

	Collaboration Device with 4K HDMi Outputs, 1 HDMI Inputs, 1 Touch Control & Teams Integration - Interactive Canvas expands 20 times the surface area of the physical touch screen - Wireless device sharing supports macOS, iOS, Windows, Android, Linux - Annotation toolset to annotate anything on the Canvas, including live feeds - Built-in Apps Web Browser, Notes, Sketches - Flies Can be saved or opened from the controller (Image, PDF, Videos) - Easy Content Sharing share content from a USB on the fly, or select from integrated network drive or cloud server - Quick Start no session prep required - just tap the display and go, intuitive interface means zero to little training required - Multiple remote users able to view and collaborate on the canvas with Unlimited User License - Multitouch Collaboration System with perpetual license - Touch Control support on Wireless Sharing windows & Mac		
3.2	86'' Display Direct-Lit LED, 3840X2160 @ 60 Hz, 400(cd/m2), 4000:1,10 Bit 1.07 Billion Color up to 20 Point Intelligent Touch - Supports 1 Xfine tip Stylus Zero Parallax,bonded, anti glare,anti finger print glass		
3.3	XL Heavy Duty Univesal Flat Screen Wall Mount or higher(VESA 1000X600)		
3.4	4k Inteligent Video Bar		
4	**Air Condition**		
4.1	* 6HP VRV Outdoor Unit	1	
4.2	* 3HP Indoor Cassate Unit	2	
5	**Furniture**		
5.1	Table	6	
5.2	Chair	21	
5.3	Light Fittings (GRID CEILING 2/2 RECESSED LIGHT 36W)	18	
5.4	16 Amp. Moduler Switch Socket combined	25	
5.5	WIRING	AT ACTUAL	
6	Supply, Installation, Testing & Commissioning of all equipment/software and devices	All Equipment/Devices and Software must be installed, commissioned and tested	
7	Warranty for 36 months	Warranty must be given for 36 months from the date of successful installation and commissioning of all equipment/software and devices	

8. Minimum Specifications of equipment/devices and Software:

Technical Specifications of the listed equipment given above at Section-7 (Home /Building/ Industrial Automation Equipment)

1. KNX Technical Specifications (Home Automation)

SL No.	Description	Bidder's Response
1	**KNX** KNX is the Worldwide standard for the control in intelligent homes and buildings, as enshrined in the European standards EN 50090, EN 13321, the worldwide standard ISO/IEC 14543-3 as well as the Chinese standard GB/T 20965. For any building - commercial or residential, individual or collective, small- or large-scale, public or private – the KNX specification covers the full scope of applications and communication media of integrated automation and control, including. I. lighting, II. shading III. shutters and blinds IV. household appliances V. heating, cooling, ventilation and air-conditioning VI. access and security VII. remote meter reading VIII. energy management and safety KNX, the internationally leading technical standard in the smart home and building sector, has achieved a new milestone in its development. As the world's first vendor- and application- independent security solution for smart buildings, KNX IP Secure has been recognized as an international security standard, the **EN ISO 22510**. The new ISO standard was created specifically to cover open data communication for building automation and building management via KNXnet/IP. Given the growing awareness for cyber threats to which smart buildings are exposed and the resulting increase in security requirements for building automation, the latest ISO standardization highlights the role of KNX as a global technology leader. KNX: the highest priority to maximum security for more than a decade, the KNX technical standard has been a forerunner in top global and regional standardization for building automation. Security has always been the top priority in the development of KNX, so much so that experts still considered the standard to be very secure. Double protection: effectively preventing attacks on smart buildings! KNX Secure, is based on international security algorithms standardized in accordance with ISO 18033-3 and uses recognized encryption in accordance with AES 128 CCM. KNX Secure essentially consists of two mechanisms: KNX IP Secure protects the IP communication between the KNX installations. For this purpose, KNX IP Secure extends the IP protocol in such a way that all transferred telegrams and data are completely encrypted. At the same time, KNX Data Secure effectively protects user data, including data exchanged with the various terminals, against unauthorized access and manipulation by means of encryption and authentication. Both mechanisms can be combined and used in parallel to	

achieve maximum security in smart buildings.

The system shall be completely de-centralized and programmable. Each individual device will have its own intelligence (EEPROM) and programmed parameters configured by using PC or notebook computer located anywhere in the system. Systems using centralized controllers or processors will not be accepted.

The entire system shall consist of bus lines each consisting of up to 64 devices which can be extended up to 255 devices and shall have a topology supporting more than 57000 devices. The system topology shall have the capability to be interfaced to the TCP/IP platform via the KNX-IP secure routers.

Each device shall operate via the 21-30VDC made available on the KNX bus line. The power supply unit should be 640mA/ 320mA diagnostic power supply version depending upon the KNX network density. The power supply module feeding power to the network shall be an uninterrupted power supply and shall be able to provide back-up power to compensate short voltage interruptions of up to 200 ms (without connected battery) and up to 10 minutes battery backup in case of mains failure. This back-up power shall enable the system to put all actuators in a fail-safe position (either on or off or as it is) in the event of power failure. The LEDs indicate the bus current consumption and the status of the line or device. Diagnostic functions via KNX: Bus voltage UN, bus current I, bus current I > rated current IN, overload I > Imax, trigger bus reset, Supply voltage: US 85…265 V AC, 50/60 Hz.

KNX devices shall be protected internally against overvoltage impulses up to 2 kV (1.2/50), which shall be achieved via overvoltage protector (surge arrester).

The Lighting Control System shall support open protocol over OPC Server/Client or BACnet to integrate with other systems such as Building Management System, Fire, Security & Access Control System, etc.

The KNX certification process ensures that different products of different manufacturers used in different applications operate and communicate with each other. This ensures a high degree of flexibility in the extension and in the modification of installations. Product compliance is checked at neutral laboratories (third parties).
KNX is the only home and building control standard running global certification schemes for products, training centers (vocational and private institutions) and even for persons (electrical contractors, building designers).

The Low Voltage Lighting Control System shall be designed and developed in accordance with the KNX multi-vendor open protocol technology and shall be in conformity with the following standards:

Systems which are single vendor based and supporting proprietary protocols shall not be acceptable.
. The system shall be completely de-centralized and programmable. Each individual device will have its own intelligence (EEPROM) and programmed parameters configured by using PC or notebook computer located anywhere in the system. Systems using centralized controllers or processors will not be accepted.

	System Devices and Accessories	
2	**KNX Power Supply with Diagnostic Function:** i. The Power Supply shall provide safe extra low voltage (SELV) of DC 30V for one line with up to 64 devices. ii. It is short-circuiting resistant and features a voltage and current limiter. Excessively high output currents are indicated by a red display (over current). iii. The input power supply shall be rated at 20V AC frequency 50 Hz. iv. Produces and monitors the KNX system voltage. v. With diagnostic function via KNX or freely available Tool. vi. The bus voltage output with integrated choke and the additional voltage output without choke are short-circuit and overload-proof. vii. The 30 V DC voltage output without choke is used to power an additional bus line (in combination with a separate choke). viii. The LEDs indicate the bus current consumption and the status of the line or device. ix. Diagnostic functions via KNX: Bus voltage UN, bus current I1, current at voltage output I2, Total current I (= I1 + I2), total current I > rated current IN, overload I > Imax, bus reset.	
3	**Switching Actuator with Energy Function:** I. Switches electrical consumer circuits using floating contacts via KNX and/or manually. Current measurement and Energy Function. Without additional auxiliary voltage II. With integrated bus coupler and does not required an external power supply with manual operation and contact position indication for each output. III. An application program with the functions like central switching of device, central scene object, central load shedding , safety priority, templates for parameter pages for each function, sending and switching delay after bus voltage recovery, telegram rate limit, 24 thresholds/logical connections AND, OR, XOR, Gate function can be used independently or linked with output and 4 energy groups IV. Per switch output NO/NC contact can be parameterized, time functions, switching on/off delay function, staircase lighting function with advance warning and time for staircase can be changed via KNX. V. 16 scene assignments for each output, option for default state on bus failure and bus recovery and Status byte with operating states VI. Forced operation/block and safety function. VII. Current measurement, power and energy consumption calculation and load monitoring.	
4	**Energy Actuator:** I. Switch Actuator that records the energy consumption of the connected electrical load (Main Meters and Intermediate Meters available). II. Consumption per output and total consumption. III. Measures active power, current, voltage, apparent power, power factor, crest factor and frequency. IV. Outputs can be switched depending on thresholds, meter readings and time. V. Additional functions like load control (Master-slave system). Time functions, on/off delay, staircase lighting with primary warning and changeable duration, logical functions AND, OR, XOR, GATE, forced operation and safety functions, reaction to threshold values and selection of default position on bus voltage failure and recovery.	
5	**DALI dimming with Tunable Lights and Dim2Warm Feature:** Area close to natural sun light, the dimming will be DALI based. And the	

control will be present at control room where the keypads will be mounted and through keypad one can do on/off, dim up / dim down, trigger scenes, control group etc. DALI gateway should be compatible For controlling DALI operating devices with DALI interface types 0, 1 and 8 and should have below mentioned features.

I. Integrated DALI Power Supply.

II. Single-Master Controller to EN 62 386 Part 101ed2 and Part 103ed1

III. DALI-2 certified.

IV. 1/2 DALI outputs for 64/128 DALI devices of type 0/1/8 (Tc) in any combination.

V. Control of 64/128 individual DALI devices, 16 /32groups, 16 /32 scenes or in broadcast mode.

VI. Support for 64/128 DALI self-contained emergency lamps to EN 62 386 Part 202.

VII. DALI DT8 lamps for colour temperature Tc Tunable White to EN 62 386 Part 209. Individual, group and scene control.

VIII. Energy saving function for switching off the ballasts via additional KNX Switch Actuator.

IX. Manual switching of all DALI devices (DALI output test and DALI addressing).

X. Separate Operation and DALI fault LEDs.

XI. Support for KNX programming with long frames.

XII. ETS-independent commissioning and diagnostic tool including display of DALI framing errors.

XIII. Function: Switching, dimming brightness values, colour temperature/Tunable White including various status feedback messages.

XIV. Control of DALI lighting via group, individual, broadcast (central) or scene commands.

XV. Control: colour temperature/Tunable White can be controlled via dimming, setting the colour temperature and scenes.

XVI. Human Centric Lighting (HCL) and Dim2Warm feature.

XVII. Staircase lighting function with pre-warning and permanent lighting.

XVIII. Ballast standby switch-off

XIX. Transfer of emergency lighting test result on KNX.

6	**0-10V Analog dimming**	

0-10V Analog dimming

Device for switching and dimming of eight independent groups of luminaries with electronic ballasts, dimmers or transformers with 1 – 10 V control input. The dimming control per outputs carried out with two control wires. Maximum control load per channel is 100 mA. The Switch/Dim Actuator needs only EIB / KNX bus voltage for normal function. With 2/4/8 output options, potential free relays the supply voltage of the ballasts and consequently the luminaries can be switched on and off over freely available tool or manually without any auxiliary supply. Contact position is displayed. The following functions can be set separately for each channel: -

I. Switching and dimming of lighting.

II. Feedback of switching state and brightness value.

III. Different adjustable dimming speeds for dimming and setting brightness.

IV. Adjustable upper and lower dimming limits.

V. Recall and set of up to 18 light scenes (8-bit commands) per channel - 4 pre-sets (1- bit commands) per channel.

VI. Integration in constant lighting control ("slave mode")

VII. Forced operation with higher priority and staircase lighting function with adjustable staircase lighting time and warning before switching off.

VIII. Disable function to prevent unauthorised operation - characteristic curve adjustment to adapt ballast brightness characteristic.

7	**Energy Data Monitoring for M-Bus/Modbus:** Energy management solution should be able to capture and analyse the consumption data of up to 64 electricity, gas, water or heat meters via Modbus RTU. Web-based user interface with graphical analysis functions such as historical data, dashboard, and more. Various export functions and APIs for further processing of metering data. System should have below mentioned feature- I. Display and evaluation of historical consumption and measured data via configurable charts. II. Cost and consumption analysis for media such as electricity, water, heat and gas. III. Display of CO_2 emission and Energy Performance Indicator. IV. Storage of metering data from up to 16/64 meters for at least 3 years. V. Data export (file, e-Mail, FTP, Modbus TCP). VI. User addition and administration functions (simultaneous access for up to 10 users). VII. Notifications when connected meters fail. VIII. Alarms.	
8	**Weather Forecasting:** The system should be capable of detecting wind speed, rain, brightness in 3 directions, twilight, temperature, day/night an over the GPS signal date and time.	
9	**Sun Tracking Based Curtain Control** The system should be capable to control shutter and blind actuators according to the position of the sun. The shutter control unit contains the functions of anti-glare protection and daylight redirection for up to 4 facades. Automatic shading can be implemented for every building and climatic control can be supported by the comprehensive range of parameter settings in the ETS. The sun's position is constantly calculated and updated and then logically combined with a threshold value for the sun's intensity, so that the venetian blind is only moved into the calculated position if the sun really is shining. The shadow effect of shade generators (e.g. buildings opposite) is considered. Up to 200 windows or window groups can be activated individually.	
10	**Power Supply, 24 V DC** Device supplies a regulated output voltage of 24 V DC with a maximum output current of 2.5A	
11	**Line Coupler** Line Coupler is a modular installation device with a module width of 2 space units. It is used as a line or area coupler or as a repeater. As a line coupler, connects a line with a main line, as an area coupler it connects a main line with an area line. It provides electrical isolation in this way. In connection with ETS4, the main groups 14...31 can be filtered. The device supports long frames (from > ETS5) and KNX Data Secure communication. KNX Data Secure telegrams are processed, filtered, forwarded, or blocked depending on settings.	
12	**LED-Dim actuator** Multichannel universal dimming actuator optimised for dimming retrofit LED lamps (LEDi). Also suitable for dimming incandescent lamps, low-voltage halogen lights with conventional or electronic transformers, 230 V halogen lamps and dimmable energy-saving halogen lamps. Automatic load detection (can be deactivated). Separate N-connection per channel. Parallel connection of the outputs possible to increase the output power. Outputs can be connected in parallel in groups. Minimum load: 2 W. Manual operation on device also possible without bus voltage or in an unprogrammed status. Programming of the device also possible without applied 230V supply voltage. Extensive test and	

	diagnosis functions for the diagnostic tool. Fast parameter setting in ETS using copyable channel templates. With integrated bus coupler. Nominal power at 230 V~ mains voltage: 230 V~ incandescent and halogen lamps: 4 x 315 W/VA to 2 x 500 W/VA in trailing edge control, 4 x 120 W/VA to 2 x 200 W/VA in leading edge control. Dimmable 230 V~ LEDi: 4 x 315 W/VA to 2 x 500 W/VA in trailing edge control, 4 x 120 W/VA to 2 x 200 W/VA in leading edge control. Inductive L-transformers with LED/low-voltage halogen lamp: 4 x 315 W/VA to 2 x 500 W/VA. Electronic C-transformers with LED/low-voltage halogen lamp: 4 x 315 W/VA to 2 x 500 W/VA. Electronic LC- transformers with LED/low-voltage halogen lamp: 4 x 120 W/VA to 2 x 200 W/VA.	
13	**KNX RGBW Controller constant voltage** Build-in LED-Dimmer for LED strips with constant curve. To control RGB or RGBW- LEDs. Summary of 2 x 2 channels for activating warm/cold white LED strips. Summary of 3 channels for activating an RGB LED strip. Summary of 4 channels for activating an RGBW LED strip. With integrated power adapter. Grouping of channels possible. Integrated load management for the automatic adaptation of the maximum current strength per channel depending on the channels used. With Master/Slave-function, output load 4 x 1 A (4 A max.) Split Unit Gateway The Split Unit Gateway forms the interface between the KNX system and many manufacturers' air conditioners The split unit's functions can therefore be operated via KNX using any operating element. The available functions are as follows: • On/Off • Specify setpoint temperature including parametrizable setpoint temperature limits • Set operating mode (Automatic, Heating, Cooling, Ventilation, Drying) • Fan speed control • Horizontal and vertical swing • Activate Silent Mode In addition, the following functions can be parametrized via KNX: • Forced operation • Window contact • Presence • Scene • Boost function.	
14	**KNX APP-Control Server** KNX visualization for smartphones, tablets and Windows computers Home automation: switching, dimming, blind, RTC control, scene/sequences 32bit, 533MHz CPU128Mb of non-volatile Flash memory • One multi-purpose I/O port ,Two IR output ports with variable output. • Two assignable voltage sense inputs. • Two programmable relay outputs. • One two-way RS-232 port for bi- directional communication with supported devices. • Integrated 10/100Base-T Ethernet port with PoE for powering, programming, control and two-way communication with compatible devices. • Built-in astronomical clock for time-based events and sleep timers. • Built-in 2.4GHz ZigBee® RF transceiver module and removable antenna. • Configurable for communication with 33MHz wireless controllers.* • USB 2.0 and Ethernet programming. • Field upgradable firmware.	
15	**KNX Presence with light regulation detector** Detection range (for mounting height 2.5 m, 3 m and 4 m): circular. Seated persons Ø: max. 8 m, max. 10 m and max. 14 m. Walking persons Ø: max. 10 m, max. 12 m and max. 16 m. Visible height 23 mm. With 4 channels. For dimming/brightness of the rules to a defined value in a designated collection area. HVAC function for controlling heating and/or cooling systems and ventilation systems in the designated collection area. Detectors application with 2 power off stages. Detectors application with integrated monitoring function. Constant light controller with up to two independent channels. Constant light	

	controller with max. 2 outputs for dimming daylight control/rules of two roof lights in the room. Integrated object room temperature controller. 10 freely programmable IR channels (blue and/or white) Incl. 5 logic channels (logic gates, gates, delay and staircase lighting) Evaluation via internal brightness sensor. Weighting of up to 2 external brightness values and the internal brightness sensor possible. The programming button can be activated with the IR transmitter 6010-25 (-500). With integrated KNX bus coupler. Suitable for false ceilings with a board thickness from 9 to 25 mm. Hole size: Ø 68 mm. Suitable for surface mounting installation.	
16	**Smart touch panel 7 inch** Touch panel should have SD card slot for extension of the picture memory – Capacitive display with glass surface (Resolution: 1024 x 600) – can be fit For flush- mounted installation v– Power supply via Power-over-Ethernet (PoE)– Alternative power supply 24 Volt DC, 280 mA – Protection class (device): IP 30 – Temperature range (device): -10°C … +55°C – Dimensions: (L x W x D): 150 mm x 198.5 mm x 17 mm.	
17	**8 button display keypad with display:** control element with and without integrated room temperature controller, LCD display, temperature sensor. Status illumination • Orientation illumination • Freely programmable • Digital label colour concept • Day / night mode for switchover of the LCD display brightness • Digital labelling of the rocker • Primary first touch function • Energy saving mode • Device / function locking Setting of the setpoint temperature A single press on the up or down button will adjust the setpoint temperature by 0.5 °C. Continues press on the up or down button will accelerate the adjustment of the set temperature at a speed of about 2°C per second **Display feature**, Inactive , Actual temperature, Humility, Pm2.5, VOC, CO2 Time	
18	**BMS connectivity** The control system of all lighting control will be integrated with Building management system. The advantage with this could be cross integration of other system in building. for e.g. If any fire is detected it can turn off all the lights or it can go to predefine state. The system will provide BACnet objects to control entire KNX lighting control. Additional Features- I. Building Automation Controller with Automation Modules for a holistic HVAC Automation Solution from Central HVAC to the Room level. II. Pre-configured Automation Modules for Heating, Ventilation and Air Conditioning (HVAC). III. Freely programmable graphical Logic with offline Simulation and online diagnostic. IV. Automatic generated Web User Interface for Diagnostic, Operation and Override of KNX facilities. V. Bidirectional KNX TP to BACnet/IP Gateway. VI. By Web User Interface configurable time switches for On/Off, Operation Mode and Set Point Temperature. VII. By BACnet configurable time switches for On/Off, Operation Mode and Set Point Temperature. VIII. Operation and Display of Heat Generators like Boilers and Chillers with Operation and Display of Heating-/Cooling Distribution circuits.	

	IX. Calculation of the Supply Flow Set Point Temperature based on Heat Curve or freely customizable curve, Optimization of the Supply Flow Set Point Temperature based on actual Energy demand of the rooms. X. Operation and Display of the Room Automation with Hourly trend log of 50 values over 3 years and visualization on Web User Interface with export as PDF and XLSX. XI. By Web User Interface adjustable Room Set Point Temperatures for Operating Modes with validation. XII. BACnet Schedule Object, BACnet Calendar Object, BACnet Notification Class Object, BACnet Foreign Device (BBMD) support, BACnet BTL tested and listed. XIII. Web User Interface https:// encrypted. XIV. 500 pre-configured Modules executable. Thereof 15-time switches. XV. 1000 freely programmable Logic Elements executable. XVI. Recovering of values after power loss.	
19	**IP Secure** Since the industry is increasingly faced with cyber security risks. To increase the stability, security and robustness of its solutions, KNX has introduced official robustness tests for Internet security as part of the product development process. In addition, the information below includes guidelines and mechanisms that you can use to improve the security of KNX systems.	
20	**Preventing access to the different media** The basis for any protection concept is the careful shielding of the system against unauthorized access. Only authorized persons (installers, janitors and users) should have physical access to a KNX system. The critical points of every KNX medium must be protected as well as possible during planning and installation. In general, applications and devices should be permanently installed to prevent their easy removal and, in this way, prevent access to the KNX system for unauthorized persons. Sub distributions with KNX devices should be closed, or in rooms to which only authorized persons have access. The device must not intend for use on the public Internet. For this reason, router ports in the direction of the Internet must not be opened; this action will ensure KNX communication is not visible on the Internet. Systems can be accessed via the Internet in the following ways: Access to KNX installations via VPN connections. However, this requires a router with VPN server functionality. Use of manufacturer-specific solutions or visualizations, e.g. access via https. The device should always be operated in KNX Secure mode. This ensures security for runtime communication on the IP backbone, for the tunneling servers and for commissioning the device itself and have below mentioned features. I. The IP address can be fix or can be received from a DHCP server. II. 5 tunneling servers available. III. 8k filter table available (main groups 0...31). IV. Indication of bus voltage failure available. V. Supports bus monitor and group monitor. VI. Diagnosis and commissioning via tool.	
21	**Smart Curtain:** 220V/230V AC Blind Motor (wired Technology for Automation) should have the capability to handle 5-7 feet Blind.	

2. Technical Specifications for BMS

SL No.	Description	Bidder's Response
1.	**Technical Specifications –Direct Digital Controllers**	
I	**General Description** The Distributed direct digital control (DDC) system shall be designed with functions distributed both physically and functionally over the field controllers. The DDC's shall be true autonomous with peer-to-peer communication and shall communicate on BACnet/IP protocol. All controllers, Network Routers and Gateways shall be BTL certified. In case of systems using master / slave communications, the master shall be redundant. The controller shall be housed in proper enclosure, providing all required data acquisition, processing capability as required. The controllers shall be completely wired, and all interface relays required for interfacing to external system like MCC etc. should be provided. Autonomous DDC Controllers shall be able to access any data directly to any other DDC Controllers or combination of controllers on the network without dependence upon a central processing device or Network Routers/Gateways. Autonomous DDC Controllers shall work without dependence upon a Process Data Manager. Note: The maximum physical points directly or indirectly connected shall be limited to less than 96 points to any DDC controller. System architecture should ensure that single point failure do not hamper overall system performance and provide high level of reliability.	
II	**Training Panels** • Metal box with press-formed aluminum section structure • Tiltable side supports to adjust the trainer inclination • Power supply unit to convert 230 VAC input to 24V AC/DC suitable to support up to 60VA load • Front panel, in insulating material, with silk screen representation of the diagrams and inner components of the equipment • 24 Vdc / 8 A power supply for control of the digital inputs and outputs. With electronic protection against short-circuits and overloads. • 24 Vac / 3 A power supply relay outputs control with fuse protection against overloads • 8 analog inputs (16 bit): 4x V, 2x I, 2x RTD/TC • 4 analog outputs (16 bit): 2x V, 2x I • Digital inputs: 32 at 24 Vcc, groups of 16 • Digital outputs: 32 at 24 Vcc / 0,5 A • Digital input simulator with permanent and pulse state switches • Safety terminals, standard ø 4 mm and ø 2 mm for connection of the inputs and outputs to external devices.	
III	**Third Party Systems Integrations** Network Area Controller shall support the integration of device data from Modbus RTU or TCP control system devices. The connection to the Modbus system shall be via a RS485 or Ethernet IP as required by the device. ☐ Provide the required objects in the library, included with the Graphical User Interface programming software, to support the integration of the Modbus system data into the FMCS. Objects provided shall include at a minimum: oRead/Write Modbus AI Registers oRead/Write Modbus AO Registers oRead/Write Modbus BI Registers oRead/Write Modbus BO Registers ☐ The Network Area Controller shall perform all scheduling, alarming, logging	

and global supervisory control functions, of the Modbus system devices.

☐ FMCS supplier shall provide a Modbus system communications driver. Provide with documentation of the system's Modbus interface and factory support at no charge during system commissioning

Below are the scopes of works to be followed by the contractor for BACnet/IP or BACnet-MSTP 3rd party devices.

☐ Contractor shall collect the BACnet Protocol Implementation Statement document from the respective Third-Party System supplier/Installer along with the complete Point Schedule details during pre-commissioning stage

☐ The contractor shall coordinate for the demonstrate the BACnet output using standard BACnet explorer tool & verify the functioning of the Third Party BACnet devices through BMS.

☐ The contractor shall coordinate to ensure the unique BACnet Device Instance numbers assigned to each 3rd party BACnet devices to avoid duplication of the instance number resulting into communication failure.

☐ The BACnet points shall be configured as COV Increment with the ability to define the threshold limits from BMS to reduce the network traffic.

☐The contractor shall verify the Read & Write points enabled, accepting the change requests of Set points, Unit On/Off request etc from BMS

Below are the scopes of works to be followed by the contractor for Modbus-TCP/IP or Modbus-RS485 3rd party devices.

☐ Contractor shall collect the Communication parameters such as Modbus Device ID/Slave ID Baud rate, Parity, Data bit & stop bit along with complete Modbus Registers /mapping points details during pre-commissioning stage.

☐ The contractor shall finalize the point schedule along with Client as per the Tender list & mapping points received from 3rd party system supplier/installer

☐ The contractor shall coordinate for the demonstrate the Modbus output using Modscan tool & verify the functioning of the Third-Party Modbus devices through BMS.

☐ The contractor shall coordinate to ensure the unique Modbus Slave ID assigned to each 3rd party Modbus devices to avoid duplication of the ID's resulting into communication failure.

☐ The contractor shall limit maximum 25 Modbus devices per loop however the Network controllers must support 32 devices per loop.

☐ The BACnet points shall be configured as COV Increment with the ability to define the threshold limits from BMS to reduce the network traffic.

☐ The contractor shall verify the Read & Write points enabled, accepting the change requests of Set points, alarm reset request etc from BMS.

IV	**FULLY PROGRAMMABLE PLANT AND PRIMARY EQUIPMENT CONTROLLERS** A.BACnet IP Based Plant Primary Equipment Controllers (DDC) A BACnet enabled controller designed for more complex sequences of operations shall be provided for all primary equipment including, but not limited to build up air handling units, central plant operations, electrical monitoring/metering, and control and management for chillers, boilers and generators. The DDC are to allow for complete flexibility of custom control programming utilizing a graphical object-oriented graphical programming tool. Products that utilize alphanumeric "line" programming shall not be allowed. All DDC shall utilize UniPut™ technology, meaning that a minimum of one third of the DDC total input-output point capacity shall be software configurable as any type of digital input (with the exception of pulse inputs), any type of analog input, any type of digital output, and/or any type of analog output. The DDC shall be built on a modern web-based architecture, witha wide application scope with the flexibility of being stand-alone or network enabled.	

	1. Each controller shall have a minimum of 4Gb of Non-volatile Flash memory for control applications and 512 MB DDR3 RAM with a minimum 32-bit processor. The PC shall have a minimum ambient operating temperature range of -0oC to 70ºC or 32ºF to 158ºF. 2. Inputs – Analog inputs shall have the following minimum level of performance: 16-bit A to D resolution; allow monitoring of platinum 100 ohms, platinum 1000-ohm, nickel 1000 ohms, thermistor 10K type II, thermistor 10K type III, voltage input 0-10VDC, current input 4- 20mA, digital input, pulsed input minimum 2 Hz. 3. Outputs – Outputs shall be either software configurable to be either analog or digital or dedicated digital only - Analog outputs shall be selectable as voltage of 0-10 VDC (linear) or Digital outputs shall be 0-12 VDC (off/on), floating or PWM. Outputs shall have an adjustable range of 2 seconds to 15 minutes. Output Resolution shall be a minimum 10 bit digital / analog converter. All individual outputs and power 4. UniPuts™ - Software configurable as a 0-10V analog input 10V @ 40K Ohm 12-bit resolution, 0-10V analog output 10V @ 20 mA max load, digital volt free contact @ 25 mA continuous, and 24 VAC detect. Provide a minimum of 4 UniPuts on every PC. 5. Provide onboard 2 Ip network communication jacks for daisy chain operation 6. BACnet MS/TP Fieldbus port RS485 @ 9K6, 19K2, 38K4 or 76K8 Baud 7. Modbus RTU/IP on board integration support 8. Port for dedicated handheld tool RJ11 port 9. Processor shall be TI Sitara AM335X Dual-core ARM Cortex A8 10. Minimum Clock Speed 600 MHz 11. Ability to store device program/strategy on PC 12. On board scheduling with a minimum of 10 separate schedules 13. On board data logging/trending 14. User Programmable Memory Battery backed for 2 years' minimum 15. LCD Interface - The LCD shall come standard with a keypad operator interface that provides real-time access to monitored inputs, setpoints, modes, values, statuses, and outputs. 16. Enclosures – Provide separately a plastic enclosure with a separate back plate with terminals such that the electronic portion of the controller can be easily removed for ease of installation and servicing.	
2.	**WEB based BMS Supervisory Router/Network Area Controller (NAC):** **A. Provide Network Area Controllers (NAC)** for all equipment to be controlled as indicated on the Drawings and the sequence of operation specified in Section 23 09 93 - Sequence of Operations for HVAC Controls. 1. Network Area Controllers (NAC) shall provide the interface between the LAN or WAN and the field control devices and provide global supervisory control functions over the control devices connected to the NAC. It shall be capable of executing application control programs to provide: a. Calendar functions through iCalendar protocol applications such as Outlook 2007, Google Calendar, Apple iCal, etc. b. Scheduling through iCalendar protocol applications such as Outlook 2007, GoogleCalendar, Apple iCal, etc. c. Trending to open-source database formats such as MySQL and SQLite. d. Alarm monitoring and routing with alarm recording and historical archiving to open source database formats such as MySQL and SQLite. e. Time synchronization via Internet timeservers utilizing NTP methodology. f. Integration of BACnet controller data. 2. Network Area Controller must provide the following minimum hardware features:	

a. 1Ghz Processor, 512 MB RAM/2GB Flash
b. One Ethernet Port - 10/100 Mbps
c. One RS-232 port
d. One or more RS-485 ports
e. Battery Backup Capability
f. Capable of operation over a temperature range of 32 to 122 degrees F.
g. Capable of operation over a humidity range of 0 to 80 percent RH, non-condensing.

3. NAC shall support standard Web browser access via the Intranet/Internet.
4. Event Alarm Notification and actions:
a. NAC shall provide alarm recognition, storage; routing, management, and analysis tosupplement distributed capabilities of equipment or application specific controllers.
b. NAC shall be able to route any alarm condition to any defined user location whether connected to a local network or remote via a wide-area network.
c. Alarm generation shall be selectable for annunciation type and acknowledgement requirements including but limited to:
1) To alarm.
2) Return to normal.
3) To fault.
d. Provide for the creation of alarm classes for the purpose of routing types and or classes of alarms, i.e.: security, HVAC, Fire, etc.
e. Provide timed (schedule) routing of alarms by class, object, group, or node.
f. Provide alarm generation from binary object "runtime" and /or event counts for equipment maintenance. User shall be able to reset runtime or event count values with appropriate password control.
5. Control equipment and network failures shall be treated as alarms and annunciated.
6. Alarms shall be annunciated in any of the following manners as defined by the user:
a. Screen message text.
b. Email of the complete alarm message to multiple recipients. Provide the ability to route and email alarms based on:
1) Day of week.
2) Time of day.
3) Recipient.
c. Graphic with flashing alarm object(s).
d. Twitter notification.
e. RSS feeds.
7. The following shall be recorded by the NAC for each alarm (at a minimum):
a. Time and date.
b. Location (building, floor, zone, office number, etc.).
c. Equipment (air handler #, VAV, etc.).
d. End device (Temp sensor, smoke detector, etc.).
e. Acknowledge time, date, and user who issued acknowledgement.
8. Alarm actions may be initiated by user defined programmable objects created for that purpose.
9. Defined users shall be given proper access to acknowledge any alarm, or specific types orclasses of alarms defined by the user.
10. A log of all alarms shall be maintained by the NAC and/or a server (if configured in the system) and shall be available for review by the user.
11. Provide a "query" feature to allow review of specific alarms by user-defined parameters.
12. A separate log for system alerts (controller failures, network failures, etc.) shall be provided and available for review by the user.

13. An Error Log to record invalid property changes or commands shall be provided and available for review by the user.

B. Data Collection and Storage:

NAC shall have the ability to collect data for any property of any object and store this data for future use.

1. Data collection shall be performed by log elements, resident in the NAC that has, at a minimum, the following configurable properties:

a. Designating the log as interval or deviation.

b. For interval logs, the object shall be configured for time of day, day of week and the sample collection interval.

c. For deviation logs, the object shall be configured for the deviation of a variable to afixed value. This value, when reached, will initiate logging of the object.

d. For all logs, provide the ability to set the maximum number of data stores for the log and to set whether the log will stop collecting when full, or rollover the data on a first- in, first-out basis.

e. Each log shall have the ability to have its data cleared on a time-based event or by a user-defined event or action.

2. All log data shall be stored in a relational SQL database in the NAC and the data shall be accessed from a server (if the system is so configured) or a standard Web browser.

3. All log data, when accessed from a server, shall be capable of being manipulated usingstandard SQL statements.

4. All log data shall be available to the user on-demand, or on scheduled intervals in the following data formats:

a. HTML.

b. XML.

c. Plain Text.

d. Comma or tab separated values.

e. PDF.

f. Excel.

5. Systems unable to provide log data in Excel formats at a minimum shall not be acceptable.

6. NAC shall have the ability to archive its log data either locally (to itself), or remotely to a server or other NAC on the network. Provide the ability to configure the following archiving properties, at a minimum.

a. Archive on time of day.

b. Archive on user-defined number of data stores in the log (buffer size).

c. Archive when log has reached its user-defined capacity of data stores.

d. Provide ability to clear logs once archived.

C. Database Backup and Storage:

NAC shall have the ability to have its database backed up manually.

1. Copies of the current database and the most recently saved database shall be stored in the NAC. The age of the most recently saved database is dependent on the user-defined databasesave interval.

2. NAC database shall be stored, at a minimum, in SQL format to allow for user viewing and editing, if desired.

D. Web Browser Clients:

System shall be capable of supporting an unlimited number of clients using a standard Web browser such as Internet Explorer, Mozilla Firefox, Google Chrome and Apple Safari. Systems requiring proprietary software to enable a standard Web browser to be resident on the client machine. Manufacture-specific browsers will not be acceptable. To ensure site security for web-enabled browsing, plug-ins requiring the use of Active-X, Java or Flash technology are not acceptable.

1. Web browser software shall run on any operating system and system configuration that is supported by the Web browser. Systems that require specific

machine requirements in terms of processor speed, memory, etc., in order to allow the Web browser to function with the FMCS, shall not be acceptable.

2. Web browser shall provide the view of the system, in terms of graphics, schedules, calendars, logs, etc.

3. Web browser client shall support at a minimum, the following functions:

a. User log-on identification and password shall be required. Security using Java authentication and encryption techniques to prevent unauthorized access shall be implemented.

b. Graphical screens developed for the GUI shall be the same screens used for the Web browser client. Any animated graphical objects supported by the GUI shall be supported by the Web browser interface.

c. HTML programming shall not be required to display system graphics or data on a Web page. HTML editing of the Web page shall be allowed if the user desires a specific look or format.

d. Storage of the graphical screens shall be in the Network Area Controller (NAC), without requiring any graphics to be stored on the client machine. Systems that require graphics storage on each client are not acceptable.

e. Real-time values displayed on a Web page shall update automatically without requiring a manual "refresh" of the Web page.

f. Users shall have administrator-defined access privileges. Depending on the access privileges assigned, the user shall be able to perform the following:

1) Modify common application objects, such as schedules, calendars, and set points in a graphical manner.

2) View logs and charts.

3) View and acknowledge alarms.

4) Setup and execute SQL queries on log and archive information.

g. Graphic screens on the Web Browser client shall support hypertext links to other locations on the Internet or on Intranet sites, by specifying the Uniform Resource Locator (URL) for the desired link.

E. Server Functions and Hardware:

Provide system with a central server that supports all Network Area Controllers (NAC) connected to the customer's network whether local or remote.

1. Local connections shall be via an Ethernet LAN. Remote connections can be via ISDN, ADSL, T1, etc.

2. It shall be possible to provide access to all Network Area Controllers via a single connection to the server. In this configuration, each Network Area Controller can be accessed from a remote standard Web browser (WBI) by connecting to the server.

3. Server shall provide the following functions, at a minimum:

a. Global Data Access: Provide complete access to distributed data defined anywhere in the system.

b. Distributed Control: Provide the ability to execute global control strategies based on control and data objects in any NAC in the network, local or remote.

c. Include a master clock service for its subsystems and provide time synchronization for all Network Area Controllers (NAC).

d. Accept time synchronization messages from trusted precision Atomic Clock Internet sites and update its master clock based on this data.

e. Provide scheduling for all Network Area Controllers and their underlying field control devices.

f. Implement the BACnet Command Prioritization scheme (16 levels) for safe and effective contention resolution of all commands issued to Network Area Controllers. Systems not employing this prioritization shall not be accepted.

g. Provide central alarm management for all Network Area Controllers supported by the server including:

1) Routing of alarms to display, Twitter, RSS feed, email and SMS text via email.

2) View and acknowledge alarms.

3) Query alarm logs based on user-defined parameters.

h. Provide central management of log data for all Network Area Controllers supported by the server. Log data shall include process logs, runtime and event counter logs, and error logs. Log data management shall include:

1) Viewing and printing log data.

2) Exporting log data to other software applications.

3) Query log data based on user-defined parameters.

4. Server Hardware Requirements: Server hardware platform shall have the following requirements:

a. Computer shall be a Dual Core Intel Atom based computer, minimum processing speed of 1.75 GHz with 4 GB RAM and a 64-gigabyte minimum solid-state drive. Implementations utilizing traditional magnetic storage (HDD), or legacy compact flash (CF) shall not be acceptable.

b. Server operating system shall be Linux based. To ensure site security remains intact, server implementations utilizing Microsoft Windows technology is not acceptable.

c. Connection to the FMCS network shall be via an Ethernet network interface card, 10/100/1000 Mbps.

F. System Programming:

Graphical User Interface software (GUI) shall provide the ability to perform system programming and graphic display engineering as part of a complete software package.

1. Provide a library of control, application, and graphic objects to enable the creation of all applications and user interface screens. Applications are to be created by selecting the desired control objects from the library, pasting them on the screen, and linking them together using a built in graphical connection tool. Completed applications may be stored in the library for future use. Graphical User Interface screens shall be created in the same fashion. Data for the user displays is obtained by graphically linking the user display objects to the application objects to provide "real-time" data updates. Any real-time data value or object property may be connected to display its current value on a user display. Systems requiring separate software tools or processes to create applications and user interface displays shall not be acceptable.

2. Programming Methods:

a. Provide the capability to copy objects from the supplied libraries, or from a user- defined library to the user's application. Objects shall be linked by a graphical linking scheme by dragging a link from one object to another. Object links will support one-to- one, many-to-one, or one-to-many relationships. Linked objects shall maintain their connections to other objects regardless of where they are positioned on the page and shall show link identification for links to objects on other pages for easy identification.

b. Configuration of each object will be done through the object's property panel using fill-in the blank fields, list boxes, and selection buttons. Use of manufacturer- specific procedural language for configuration will not be accepted.

c. The software shall provide the ability to view the logic in a monitor mode. When on- line, the monitor mode shall provide the ability to view the logic in real time for easy diagnosis of the logic execution. When off-line (debug), the monitor mode shall allow the user to set values to inputs and monitor the logic for diagnosing execution before it is applied to the system.

d. System shall support object duplication within a customer's database. An application, once configured, can be copied and pasted for easy re-use and duplication. All links, other than to the hardware, shall be maintained during duplication.

G.Object Libraries:

Provide a standard library of objects for development and setup of application logic, user interface displays, system services, and communication networks.

1.Objects in this library shall be capable of being copied and pasted into the user's databaseand shall be organized according to their function. In addition, the user shall have the capability to group objects created in their application and store the new instances of these objects in a user-defined library.

2.In addition to the standard libraries specified here, the manufacturer shall maintain an on- line accessible (over the Internet) library, available to all registered users to provide new or updated objects and applications as they are developed.

3.All control objects shall conform to the control objects specified in the BACnet specification.

4.The object library shall include objects to support the integration of devices connected to the Network Area Controller (NAC). At a minimum, provide the following as part of the standard library included with the programming software:

a.For BACnet devices, provide the following objects at a minimum:

1) Analog In
2) Analog Out
3) Analog Value
4) Binary In
5) Binary Out
6) Binary Value
7) Multi-State In
8) Schedule Export
9) Calendar Export
10) Device

b.For each BACnet object, provide the ability to assign the object a BACnet device andobject instance number.

c.For BACnet devices, provide the following support at a minimum:

1) Read Property
2) Read Property Multiple
3) Write Property
4) Write Property Multiple
5) Who-has
6) I-have
7) Who-is
8) I-am
9) Ethernet
10) BACnet IP Annex J
11) MSTP
12) BACnet Broadcast Management Device (BBMD) function
13) Foreign Device Registrar
14) Routing
15) BACnet NAT Based Routing

H.Graphical User Interface Computer Hardware (Desktop Client):

1.Browser workstation shall be an Intel Pentium based computer, minimum processing speed of 2.4 GHz with a minimum of 1.0 GB RAM and an 80-gigabyte minimum hard drive). Include with a DVD-ROM/CD-RW Combination Drive and 4-USB ports.

2.Operating system shall be Windows XP Professional and it shall include a web browser, Internet Explorer, Firefox, etc. for access to the NAC/central BAS server via the Web.

3.Provide with a minimum 17-inch flat panel color monitor, 1280 x 1024 optimal

	preset resolution, 25 ms response time. 4.Connection to the FMCS network shall be via an Ethernet network interface card, 10/100 Mbps. 5.Add option for wireless network card. 6.Provide with a system printer, laser type with a minimum 600 x 600-dpi resolution and rated for 8 PPM minimum print speed.	

I.Graphical User Interface Computer Hardware (Portable Operator Terminal Client)

1.Laptop computer shall be an Intel Pentium based laptop computer, minimum processing speed of 2 GHz with dual core or greater, a minimum of 4 GB RAM and a 250-gigabyte minimum hard drive. Include a minimum of 3-USB ports. Operating system shall be Windows 7 or higher and it shall include a web browser, Internet Explorer, Firefox, etc. for access to theNAC/central BAS server via the Web.

2.Connection to the FMCS network shall be via an Ethernet network interface card, 10/100 Mbps.

3.Add option for wireless network card.

4.Provide with a system printer, laser type with a minimum 600 x 600-dpi resolution and rated for 60 PPM minimum print speed.

5.User shall have the ability to monitor and modify all of the inputs, setpoints, outputs and operating parameters of the any unitary controller on the network by connecting to any zone monitoring module anywhere on the network or tapping into the network at any controller.

6.POT interface shall be a portable interface to the unitary controllers.

7.POT interface shall communicate on a peer to peer basis concurrently with Building Automation Systems or unitary controllers and shall be capable of integrating and dynamically displaying all monitoring points, setpoints, outputs and schedules for every unit on the same network.

3.	**Field Devices**	
I	**General** All sensors must be CE-approved. For the final documentation, data sheets must be provided for all sensors used. The sensors must have reverse voltage protection to reduce error sources during electrical connection of the sensors. Proof for the materials used in the sensors must be provided if requested by the building owner. In addition, packing materials must be disposed of in an environmentally compatible manner. Only maintenance free sensors to be used. Any hazardous materials for both human & Environment must not be used in any form.	
II	**Duct Mount Temperature & Rh Sensor** Duct mounted Return air temperature & Rh sensor with all necessary accessories. The temperature and humidity sensor shall be placed at the common return air path. The temperature sensor shall be Ni1000 or PT1000 and humidity sensor shall be electronic type with capacitive sensing element and shall be converted into the standard signal of 0-10V or 4 -20mA. The sensor shall have accuracy of $\pm$ 0.3°C and $\pm$ 3% RH. Measuring range of 0°C to 50°C & 5% to 95% Rh & degree of protection IP 54.	
III	**IAQ Sensors** **General**: The IAQ sensor shall be a combination sensor with room control display with a high-definition capacitive touch backlit LCD display. No multiple sensors solution to monitor below listed IAQ parameters are strictly not allowed. As a minimum below mandatory IAQ parameters must be included/supported by the IAQ sensor. • Temperature (-100C to 500C with 0.5k accuracy) • Humidity (0 to 100% with 3% accuracy) • CO_2 $\pm$ (40 ppm + 5 % of reading)	

	• TVOC (0 to 1,000 ppm of ethanol equivalents Output 1 … 500 where 100 represents average intensity Limit of detection < 0.05 ppm of ethanol equivalents or < 10 % of concentration setpoint (whichever is larger)) The sensor shall have Note: Contractor to arrange for power supply for the sensors in case the sensor requires 24vAC or DC power. In case the input power supply for sensor is 230V AC, contractor to coordinate with electrical contractor for the UPS power point. BMS shop drawing must indicate the power points required for the IAQ sensors operating on 230V AC.	
4.	**Cables & Conduits** The scope of work shall cover supply, installation of all cables, raceways, conduits and wiring. The latest IS standards & codes, rules shall be applicable for all conduits & cabling. Control and interlock wiring and installation shall comply with national and local electrical codes.	
I	**Cables** The scope of work shall cover supply, installation of all cables, raceways, conduits and wiring. The latest IS standards & codes, rules shall be applicable for all conduits & cabling. Control and interlock wiring and installation shall comply with national and local electrical codes. Cable of reputed make to be proposed based on system architecture and site conditions to withstand EMI and assuring high level of reliability. The cable shall be manufacturer tested as per the latest IS standards. The cable shall meet minimum the following requirements: ☐ Cables used must be Unarmored/Armored FRLS cables as per the IBMS BOQ. ☐ Minimum 98% conductivity copper. ☐ Conductor must be Annealed stranded bare copper type conductor. ☐ Minimum 20 twists/m should present for twisted pair cables. ☐ Minimum sheath thickness should be 0.90mm or greater and PVC material. ☐ Minimum 2 Core, 4core , 5 core , 6 core cable connecting the Field devices to DDCs shall be PVC insulated copper, multi strand, Shielded cables shall be minimum 650V grades and shall generally confirm to latest IS standards and meet the signal cabling requirement of the system manufacturer. ☐ For Analog IO's, Digital input Screened cables should be used. ☐ For Digital output, power cables - unscreened cables can be used. ☐ For shorter distance 1.0sq.mm cable and for longer distance 1.5sq.mm cables should be used. ☐ Minimum 2 core twisted pair screened cable of 18AWG should be used for third party integrations /communication in order to avoid Electromagnetic interference (EMI). ☐ Cables that run vertically between floors in shafts need to have conduits/cable raceways. ☐ Cables shall meet the signal cabling requirement of the system manufacturer. ☐ Communication cables shall be shielded and grounded properly as per recommended in respective datasheets. ☐ For screened cables, **drain wire of 1mm** has to be provided with it.	
II	**Signal Cable** The signal cable shall be of the following specifications: a. Wire: multi strand Copper b. Size: 1 Sq.mm, multi strand c. No. of conductors: Two (One pair) d. Shielding: Overall belt foil aluminum polyester shield. e. Jacket: Chrome PVC f. Cable Type: FRLS	

III	**Communication Cable** The communication cable shall be of the following specification: a. Wire: Multi strand Copper twisted pair. b. Size: 1.5 Sq.mm multi strand (18 AWG minimum) c. No.of conductors: Two/Three d. Shielding: Overall bled foil Aluminum polyester shield e. Jacket: Chrome PVC f. Cable Type: FRLS g. Impedance: Between 100 & 130 ohms. h. Capacitance (Conductors): less than 100 pF per meter. i. Capacitance (Shield) : less than 200 pF per meter:	
IV	**For FRLS cables**, ☐ Min Temperature index – 2500C ☐ Oxygen index – 29% min ☐ Smoke density rating – Max 60% ☐ Halogen acid gas generation – Max 20%	
V	**Cable Raceways**: ☐ Cable raceways must be Powder coated GI Perforated. White color raceways are preferred (according to interior color preference as advised by PMC). ☐ The outdoor raceways must have Cover (Powder coated GI). ☐ Supporting clamps/brackets/structures/Threaded-rods should provide for cable raceways, fabricated out of MS angle, channel, plates and flats duly painted/powder coated and complete with necessary hardware. ☐ The dimension of cable raceway should be selected (optimized) based on number & type of cables run through it. ☐ For an interval of 50cm distance, clamps should be fitted to avoid sagging condition. ☐ All cable raceways shall confirm to latest IS standard.	
VI	**Rigid & Flexible conduits**: ☐ Conduits and trunking shall be securely mounted in accordance with IEE regulations. ☐ All PVC conduits should be FRLS with latest IS standards. ☐ Conduit/trunking shall be installed such that any condensation in the conduit cannot run into IBMS equipment. In general conduit shall enter enclosures from the bottom or shall be sloped up to the enclosure. ☐ Junction and pull boxes shall be securely fastened to the conduit, shall be accessible, and shall be provided where required by code and where necessary to facilitate the pulling of cables ☐ Coordinate installation of conduit/trunking with building structure and other trades. Conduit/trunking installation above accessible ceilings shall be such that there will be no interference with the installation of lighting fixtures, fire protection devices, air distribution devices or any other devices. ☐ White color conduits are preferred (according to interior color preference as advised by PMC). ☐ **GI conduits/cable raceways need to be used in outdoor conditions (as per the requirement).** ☐ For an interval of 50cm distance, clamps & other required fittings to be used to avoid sagging condition. ☐ All conduits/casing shall be with suitable fittings and properly harnessed.	
VII	**Accessories:** Conduit fittings such as clamps, bends, elbows, reducers, chase nipples, split couplings, plugs etc. shall be heavy duty specifically designed and manufactured for their particular application. All conduit fittings shall confirm to latest IS standards. Installation of Cables & Conduits/Raceways	

The conduits/raceways shall not be choked with cables. There shall be sufficient space inside the conduit/ raceways even after the cable is pulled.

 Conduits shall be kept at a minimum of 100 mm from the pipes of other non-electrical services.

 Drawing for Conduit & Raceways layout shall be prepared by the contractor taking into account the site conditions and got approved before proceeding with the work.

 Wiring for short extensions to outlets in hung ceiling or to vibrating equipment, motors etc., shall be installed in flexible conduits. No flexible extension shall exceed 1.5 m in length.

 Cables, Conduits & Raceways run on surfaces shall be supported properly. Exposed conduits/ Raceways shall be neatly run parallel or at right angles to the walls of the building. Unseemly conduit bends and offsets shall be avoided by using fabricated galvanized steel junction/pull through boxes for better appearances.

 No cross-over of conduits shall be allowed unless it is necessary and entire conduit installation shall be clean and neat in appearance.

 All cables need to be laid in raceways and properly clamped.

 No wires shall be exposed in any part of the installation. The conduits and unarmored cables shall be laid only as per the approved routing.

Conduits, Cables & Raceways shall be laid by skilled and experienced workmen. No joints shall be allowed between two points.

5.	**Execution**	
I	**DRAWINGS**:- The IBMS Contractor shall furnish detailed working drawings (using latest edition Computer Aided Design - CAD) drafting package, Two-dimensional schematic and information page, graphics of all system, controlled by a monitored by the BAS shall be furnished. The sizing of control valves, actuators etc. should be provided as a part of submittal.	
II	**System Overview**:- This gives the overall distribution of systems and the automation stations should be clearly indicated with input/output details. Such a detailed diagram shall be a part of the preliminary drawing for approval and in as- built document.	
III	**Electrical Wiring Diagram**:- Electrical wiring diagram indicating the wiring connections of controllers with the connectors and the field devices with the numbering system adopted shall be clearly explained and such a diagram shall be a part of the preliminary drawing for approval and in as-built document.	
IV	**Interfacing diagram**:- A detailed interfacing diagram which corresponds to software and hardware interlocks of various system interfaced (e.g. fire alarm) shall be a part of the preliminary drawing for approval and in as-built document.	
V	**GA Diagram**:- GA diagram gives the details of the controllers, relay cards, internal terminals placed in the panel layout.	
VI	**Schematics**:- A well developed schematic diagram of the DDC interfaced and its field devices distributed on the air flow diagram with their corresponding logic for all equipments like air handling unit, VRF, etc. shall be clearly indicated.	
VII	**Signal List**:- A detailed input/output list with detailed terminal numbers, signal type, cable type, device codes, device type, and device ordering reference shall be clearly	

	explained in the preliminary document and in as-built document.	
VIII	**Installation Methods** The contractor shall provide necessary details to maintain the quality of installation mentioned as per the manufacturer's instruction to his engineers and shall be a part of the preliminary document.	
IX	**Safety instructions** The contractor shall comply with all applicable safety regulations in his design, access arrangements and operations on site. The Contractor shall equip his engineers and technicians with necessary wares for safety operation.	
X	**Testing** Testing is carried out in the presence of the consultant and the client for all equipment means typical equipment of each category to the best of their satisfaction and the corresponding result shall be documented and submitted as a part of the document. • Fine-tuning of all temperature, humidity and pressure control loops with a suitable building load shall be carried out by IBMS Contractor. If necessary, an artificial building load shall be generated by HVAC Contractor. • Documentary evidence to the Owner of full commissioning, prior to offering a system for demonstrator shall be provided. • Demonstrate each and every hard-wired point, software control strategy and graphic points of the entire fully commissioned IBMS to the Owner. • Programming configuration and commissioning of the entire PPM (Planned Preventive Maintenance) system and project software shall be demonstrated to the Owner. • Comprehensive operation and maintenance document (both system and proper equipments for BMS and PPM package) shall be provided before demonstration.	
XI	**Commissioning Report** Detailed commissioning report indicating all the parameters such temperature, set temperature, RH%, set RH%, pressures, set pressures, proportional bands etc., of each individual system shall be carried out and their corresponding reports shall be maintained on a case to case basis and shall be a part of the document submission on the as built document.	
XII	**Start-up Reports** Monthly progress reports shall be prepared by the contractor and submitted to the employer's representative. Each report shall include; • Detailed description of progress, including each stage of design, procurement, manufacture, delivery to site, construction, erection, testing and commissioning. • Records of personnel and contractor's equipment on site • Charts showing the status of construction documents, purchase orders, manufacturer and construction. Note: Contractor shall submit necessary SITC documents/checklists as desired by Third Party Peer Reviewer.	
XIII	**Training** Comprehensive training shall be by the IBMS contractor and shall utilize specified manuals and as built documentation. Operator training shall include total seven sessions each of six-hour encompassing. • Modifying text and graphics • Sequence of operation review • Selection of all displays and reports • Use of all specified OS functions • Trouble shooting of sensors (determining bad sensors) • Password assignment and modification. The training shall be undertaken in two phases. One training session shall be conducted at system completion, demonstrating the functionalities of the test	

kits. Second training session shall be focused on training the trainers for effective usage of the test kits. The training manual shall be prepared in-line with the training requirements.

	O&M Reports Prior to commencement of the test on completion, the contractor shall prepare and submit to the employer's representative, operation and maintenance manuals in accordance with the employer's requirement and in sufficient detail for the employer to operate, maintain, dismantle, reassemble, adjust and repair works.	
	Full life Cycle System Support The IBMS contractor shall provide the full life cycle in the form of ☐ System warranty of all products and services ☐ Training services at manufacturers office / employer's plant sites ☐ Site support, resident specialist availability full time during plant start-up and part time after plant start- up. ☐ Spare parts management programs to suit specific site requirements ☐ System consultant and network support services ☐ Technical assistance centre to provide trouble shooting over phone ☐ Complete organization to back-up for local support services.	

3. Technical Specifications for Industrial Automation

SL No	Description	Bidders Response
Technical Specifications for Test Bench:		
1	**Three Phase Mains Power Supply:** A. 415V AC, 50Hz three phase with neutral power supply. B. Residual current circuit breaker (for operators safety) - Rated fault current: 30mA - Rated current: 40Amps - No. of poles :4 C. MCB (for operators safety) D. R,Y,B Power On Lamp E. With 5meters power cable to connect the input supply to the test bench	
2	**230V AC Industrial Socket:** A. MCB B. Universal AC Socket C. 230V AC/32A D. Minimum 02nos.	
3	**230V AC Socket for PC/Domestic Use:** A. MCB B. AC Socket C. 230V AC/5A D. Minimum 04nos.	
4	**Fixed DC Power Supply:** A. MCB as Power On/Off B. 24V DC/10Amps for Internal Use	
5	**Display Unit:** A. MCB B. 4digit single display process indicator	

	C. Universal input: 0 to 10V DC, 0/4 to 20mA DC, TC (J,K,T,R,S), RTD:PT100)	
	D. 230V AC Input Voltage	
	E. Minimum 04nos.	
	F. 48x96mm. size, Panel Mount	
6	**POT:** A. 5K, 10T for Voltage regulation B. Minimum 04nos.	
7	**Motor:** A. Motor, 1440RPM, IE3, S1Duty, 415V, IP55, Frame Size-M2BAX71MLA4, Foot mounted B. Rating: Not less than 0.37KW C. Minimum 01no. D. Motor must be VFD operated	
	VFD: A. The VFD must be an all-compatible machinery drive ideal for compact machines. This cost-effective and compact drive is optimized form a chine builders requiring ease of use and reliable machine performance. B. Reliable operation even in harsh conditions C. The drives are designed for 50°C ambient temperature without derating (in heavy duty) and up to 60 °C with derating D. Drive must support sensor less vector control within duction and permanent magnet motors. E. Built-in EMC filter F. The standard Modbus RTU interface enables connectivity with an industrial automation network. The predefined Modbus macro allows your drive to connect with a PLC in a few seconds. G. "Mini PLC" must be included in the drive. H. Drive must have Load profile feature to collect drive values, such as current and stores them in a log. This enables to analyze and optimize the application with the help of historical data load. I. Drive must have a wide range of standard interfaces via spring terminals. The standard variant includes: • 4DI+1DO+2AI+1AO+1RO+STO+10&24VDC J. Drive must have Mobile-friendly digital user guides to provide simple and animated step-by-step instructions to assist with wall mounting of drives, electrical installation and drive programming. The content is frequently updated and further developed, making it your comprehensive source of instructions and help. K. Efficiency not less than 98% L. Power Factor must be 0.98 M. Input Frequency will be 47 to 63Hz N. Output Frequency will be 0 to 599Hz O. Product must compliant with CE Low Voltage Directive 2014/35/EU,EN61800-5-1:2007 Machinery Directive 2006/42/EC, EN 61800-5-2: 2007 EMC Directive 2014/30/EU,EN61800-3:2004+A1:2012 RoHS directive 2011/65/EU and delegated directive (EU)2015/863 Eco design (EU) 2019/1781	

	China RoHS IIGB/T26572 UL, cUL RCM KC		
	TÜVNord (safety functions) UKCA		
	Quality assurance system ISO9001 and Environmental system ISO 14001		
	Waste electrical and electronic equipment directive (WEEE) 2002/96/EC		
	P. Drive rating will be not less than 0.37KW		

9. PLC & SCADA Station:

Technical specification of PLC must be the following.

SL No	Description	Qty Per Set	Unit
1	CPU with 2 MB user memory, 1X Ethernet interface, digital I/O 12DI/8DO-T/2DC, 24VDC supply, option boards lots-2nos., expandable, RTCand Micro memory card.	1	No.
2	For Standard & Pro CPU, Spring type, Front cable entry, 1x3 poles for power supply, 1x13+1x12 poles I/O terminal blocks.	1	No.
3	DigitalInputMod16DI24VDCDI24VDC Sink/source 1 wire	1	No.
4	Digital Output Mod8 DO Transistor DO Transistor 24VDC/0 5A 1 wire	1	No.
5	Analog Input Mod 4AIU/I12bit +sign 24VDC 2 wire	1	No.
6	Analog Output Mod 2 AOU/I12bit 24VDC 2wire	1	No.
7	9 pole screw front connector	4	No.
8	11 pole screw front connector	4	No.
9	Control Panel, TFT graphic display, touch screen, 7", 800x480 pixel, with runtime license	1	No.
10	Engineering Software for PLC with License	1	No.
11	Engineering and Operating SCADA Software with 128 tags with Historian, trends with License	1	No.
12	Desktop PC for Engineering Station (21.5"Monitor, 8 GB RAM, 500 GB HDD, Core i5 Processor, USB + Ethernet Port, Keyboard & Mouse) with Windows Operating System & Anti-virus	1	No.

10. Technical Specifications of Industrial Robot (Robotic pick & place educational automation system)

Sl. No.	Complete Description of Items	Quantity required
1.	Six-axis Pick & Place robot along with the related accessories and software	1 set

Detailed specifications of all of the above items are given below:

Sl. No.	Complete Description of Items	Bidder's Response
3.	**PICK & PLACE ROBOT**	
3.1	**Technology requirements**	
	The Pick & Place robot should interface with the pneumatic gripper to automate the process	
3.1.2	The arm of the Pick & Place robot should be articulated	
3.1.3	Pick & Place robot should have six axes	
3.1.5	Pick & Place robot should carry a payload of a minimum of 12 kg or more.	
3.1.7	Pick & Place robot should have pose repeatability of ±0.05mm or better	
3.1.8	Pick & Place robot joints should have arrange of axes and speeds as given below	
3.1.9	Pick & Place robot should reach a minimum of 1400mm or more	
3.1.10	Pick & Place robot should be mounted to the floor	
3.1.11	An alternate current servo motor should drive all axes of the Pick & Place robot	
3.1.12	The operating noise level of the Pick & Place robot should be less than 80dB	
3.1.13	Pick & Place robot should have provision for an external drive in addition to a controller	
3.1.14	The operating temperature range of the Pick & Place robot should be in the range of 10ºC to 45ºC	
3.1.15	The brakes of all the axes of the Pick & Place robot should be either electrical or mechanical.	
3.1.16	Pick & Place robot should be able to perform multi-pass and continuous Pick & Place operation.	
3.1.17	Pick & Place robot arm should have a protection rating of IP65or better.	
3.1.18	Pick & Place robot should fulfill one or more of the following standard industry applicable safety regulationslikeEN60204-1:2006,ISO10218-1:2006, ANSI/RIAR 15.06, UL17410 or equivalent	
3.1.19	Pick & Place robot should have electronic mastering provision for all axes	
3.2	**Compact Controller requirements**	
3.2.1	All the six axes of the Pick & Place robot should have the facility to control	
3.2.2	There should be provision for an additionally two axes minimum	
3.2.3	The controller's process or should be a multi-processor system, preferably with a PCI bus	
3.2.4	The controller should have well proven real time operating system	

Table within row 3.1.8:

Joint1→	-185 deg	/+185 deg	and200deg/s
Joint2→	-185 deg	/+65deg	and175deg/s
Joint3→	-140 deg	/+175 deg	and190deg/s
Joint4→	-350 deg	/+350 deg	and400deg/s
Joint5→	-130 deg	/+130 deg	and400deg/s
Joint6→	-350 deg	/+350 deg	and600deg/s

	3.2.5 The programming language of the controller should be user friendly through teach pendent and Pick & Place robot	
	3.2.6 The controller should have program memory capacities such as a flash disk/SD Card for mass memory of at least 1 MB, expansion and additional backup facility will be preferred	
	3.2.7 The controller should provide external storage such as PCMCIA card slot/RWCD/DVD drive/SD Card	
	3.2.8 The controller should have other requirements such as USB memory interface, energy back-up to handle power failure and provision for connecting to external keyboard and external monitor display	
	3.2.9 The controller should have external interfaces like device net/ Profibus/Interbus/ethernet	
	3.2.10 The controller should have a minimum of 16 digital inputs and 16 digital outputs (I/0 points) and should be expandable	
	3.2.11 The controller should have communication ports such as RS232/RS485/Ethernet port	
	3.2.12 The controller should have a protection rating of IP54.	
3.3	**Operator's panel (teach pendant) requirement**	
	3.3.1 The cable connecting controller from teach pendant should have a minimum of 8m in length	
	3.3.2 Teach pendant should have basic switches like a lockable emergency, reset, power on/off, mode selector and other functional keys, and joystick/6D mouse for robot axes movement (Optional)	
	3.3.3 The visual display of the teach pendant should be at least 8inches or bigger with an LCD screen	
	3.3.4 Teach pendant should have provision for a hot plug	
Notes		
	(i)The preferred make of Pick & Place robots is Kuka, ABB, FANUC, Yaskawa or equivalent	
4.	**SOFTWAREREQUIREMENTS**	
4.1	**Simulation Software**	
	4.1.1 Robot OEM's simulation software should have a work cell layout designing and modelling license	
	4.1.2 Simulation software should provide motion simulation for robots	
	4.1.3 Simulation software should be able to do collision detection, reach and cycle time studies	
4.2	**Offline programming software**	
	4.2.1 Robot OEM's offline programming software should have a license for generating the robot programs offline, which is then downloadable to the robot controller	
4.3	**Software licenses**	
	4.4.1 License for both machine control (item3) and pre-processing software should be included with the system. Free and perpetual software license for pre and post processing software module should be provided	
	4.4.2 License for both machine control (item3) and pre-processing software should be included with the system. Free and perpetual software license for pre and post processing software module should be provided	
	4.4.3 Software license should facilitate to develop/edit the process parameters	
Documentations Requirements (in English)		
	(i)Operation manual	
	(ii)Software instruction manual	
	(iii)Maintenance, troubleshooting and safety guidelines manuals	
	(iv)Manuals to handle accessories and guidelines	
	(v)Occupational Health and Safety (OHS) guidelines and warnings	

Sl. No.	Complete Description of Items	Bidder's Response
Warranty and Annual Maintenance Contract requirements		
	(i)A3-year warranty should be provided for all the above mentioned items for smooth and trouble free working after installation and commissioning	
	(ii) Bidder should have provision for a continuous Annual Maintenance Contract upon the completion of warranty period	
Inspection, installation, commissioning and training		
	(i)All the essential requirements ensuring a ready-to-use setup at each institute (Govt. ITI Rourkela, Govt. ITI Anandpur and JES Jharsuguda) should be supplied	
	(ii)Comprehensive training for minimum two Trainers/students from proposed Govt. ITIs/Polytechnics should be given on all the above-mentioned software's and related programming, and the Robot cell operation for at least four days, till the research fellows/students gain the confidence. The entire cost of the training should be borne by the vendor.	
	(iii) At the end, the trainer needs to demonstrate the pick & place of a sample.	
	(iv)The vendor must depute at least one trainer at each CoE, after commissioning the pick & place cell. These trainer shall provide 02 (two) years hand-holding training to the trainers and trainees from each institute.	
Spares, consumables, mandatory accessories and standard feed stocks		
	(i)Bidder should offer a list of essential spare parts and accessories with their part numbers for a continuous operation for three years. The bidder should also ensure that the spare parts and accessories should be made available to procure for a smooth operation over at least 15 years from the date of installation	
	(ii)However, the consumables and parts required for the installation and standardization of the system should be given free of cost.	
Additional mandatory conditions		
	(i) Continuous operational support to each CoE should be provided without any additional cost during the warranty period (at least three years from the date of installation)	
	(ii)There should be a minimum of two visits per year by the equipment supplier's service engineer and application engineer (preferably from OEM)	
	(iii)The total cost of the system should be inclusive of these visits	
	(iv)The bidder must either be OEM or legal representatives of the OEM in India. The bidder and the legal representatives should have ISO certification for quality standards (a copy of ISO certification should be attached with the technical bid)	
	(v) A pre-installation instructions should be provided with the equipment, indicating air, electrical, space, gas connections and safety protocols should be provided.	
	(vi) Any other accessories or software's necessary (other than mentioned above) for the proper installation and commissioning of the robot as well as for its hassle-free functioning, also need be supplied by the vendor.	
	(vii)Total weight of the system should be provided	
	(viii)Personnel safety accessories (goggles, masks etc.) should be provided	
	(ix)Special design/provisions should be made to prevent accidents while in	
	(x)"Emergency Stop" button(s) should be provided at a convenient and easily accessible location	
	(xi)Safety manuals (in English) and charts (in English) should be provided	
	(xii) Supplier should provide safety training at the time of installation	
	(xiii)Flow line diagrams (in English) and electrical circuit diagrams (in English) should be provided	
	(xiv)It is the duty of the vendor to perform the integrating operation between the	

	tilting turn table, welding robot, and the digital microprocessor controlled inverter based GMA welding power source (capable of modified dip transfer mode), and finally providing the system in working condition		
	(xv) The integration operation should be performed in such a way that the operator should have the flexibility to run the welding robot with or without interfacing the tilting turn table		

Accessories			
1	Pedestal -750mm	- 1No.	
2	Schunk Gripper (PZN+64-1)	- 1 No.	
3	Pneumatics (Festo/Janatics)	- 1 No.	
4	Gripper Mounting Plate	-1 No.	
5	Gripper Fingers	- 8 Nos.	
6	Safety Fence – 8Mtr. long and 2000mm height	-1 Set	
7	Cable – 25Mtr	-1 No.	
8	Cable Tray (10M)	-10 Nos.	
9	PB Unit	-2 Nos.	
10	Light Curtain (at bearing & Output bin location)	-1 No.	

9.   Instruction to the Bidders

a. General Conditions

a. All information supplied by bidders may be treated as contractually binding on the Bidders, on successful award of the assignment by DTE&T, Odisha on the basis of this RFP.

b. No commitment of any kind, contractual or otherwise shall exist unless and until a formal written contract has been executed between DTE&T and the selected bidder. Any notification of preferred Bidder status by DTE&T shall not give rise to any enforceable rights by the Bidder. DTE&T may cancel the process at any time prior to a formal written contract being executed by DTE&T or post unsatisfactory of pre-delivery & post-delivery inspections (PDI).

c. This RFP supersedes and replaces any previous public documentation & communications done in this regard, and Bidders should place no reliance on such communications.

b. Compliance / Completeness of Response

a. Bidders are advised to study all instructions, forms, terms, requirements, appendices and other information in the RFP documents carefully. Submission of the Proposal shall be deemed to have been done after careful study and examination of the RFP document with 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:

  i.   Comply with all requirements as set out within this RFP.

  ii.   Submit the forms duly signed as specified in this RFP and respond to each element in the order as set out in this RFP.

  iii.   Include all supporting documentations duly attested by authorized person as specified in this RFP.

c. The Proposals must be complete in all respects, Indexed and Hard Bound. The page numbers must be clearly marked on each page and cross reference be indicated on the Index Page.

c. Bidder Clarifications (Pre-Bid Discussion):

i.   Queries to the RFP

a. DTE&T, Odisha invites queries from Bidders on any section/ requirement mentioned in this RFP.

b. The Bidders will have to ensure that their queries should reach DTE&T, Odisha, as per the communication address provided on or before the specified date for Pre-Bid Discussion. The queries should either be sent to the specified e-mail or through authorized representative of the Bidder. The queries should necessarily be submitted in the following format:

Section/Page No.	Content of RFP requiring clarifications	Change/Clarification requested	Remarks

ii. Responses to Queries and Issue of Corrigendum

a. The queries submitted by the Bidders will be responded through a virtual pre-bid meeting at DTE&T office as per the schedule mentioned in the Fact Sheet of this RFP document with only one representative from every interested bidder may participate in the pre-bid meeting.

b. The purpose of Pre-Bid discussion is to provide the Bidders with information regarding the RFP, project requirements, and opportunity to seek clarification regarding any aspect of the RFP and the project. However, DTE&T, Odisha, reserves the right to hold or to reschedule the Pre-Bid meeting.

c. DTE&T, Odisha shall not be responsible for ensuring that the Bidder's queries have been received by them. Any requests for clarifications received after Pre-Bid meeting will not be entertained.

d. However, DTE&T, Odisha makes no representation or warranty as to the completeness or accuracy of any response made in good faith, nor does it undertake to answer all the queries that have been submitted by the Bidders

e. DTE&T at any time prior to the last date for receipts of Proposals, may for any reason, modify the RFP Document by a corrigendum.

f. The Corrigendum/Addendum (if any) will be uploaded at DTE&T website (www.dtetodisha.gov.in).

g. Any such corrigendum shall be deemed to be incorporated into this RFP and binding on all Bidders.

d. Key Requirements of the Bid

i. Rights to terminate the process

a. DTE&T, Odisha may terminate the RFP process at any time and without assigning any reason. DTE&T, Odisha makes no commitments, express or implied, that this process will result in a business transaction with anyone.

b. This RFP does not constitute an offer by DTE&T, Odisha. The Bidders' participation in this process may result in engaging the Bidder towards execution of the Contract.

c. Any document, information, data or statement submitted by the Bidder in its Proposals, based on which the selected Bidder was considered eligible or successful, is found to be false, incorrect or misleading.

ii. Bid Processing Fee

Bidders must submit, along with their Proposals, non-refundable Bid Processing Fee of INR 10,000/- (Rupees Ten Thousand Only), in the form of a Demand Draft issued in favour of DTE&T, Odisha payable at Cuttack.

iii. Earnest Money Deposit

a. Bidders shall submit, along with their Proposals, EMD of INR 10,00,000/- (Rupees Ten Lakhs Only), in the form of a Bank Guarantee issued in favour of Directorate of Technical Education and Training, Odisha payable at Cuttack, and should be valid for 225 Days from the due date of the RFP.

b. EMD of all unsuccessful Bidders would be refunded within 45 Days of the Bidder being

notified as being unsuccessful. The EMD, for the amount mentioned above, of the successful Bidder would be returned within 45 Days, only after submission of Performance Bank Guarantee.

c. EMD amount is interest free and will be refundable to the unsuccessful Bidder without any accrued interest on it.

d. The Proposal submitted without Bid Processing Fee & EMD, mentioned above, will be summarily rejected.

e. The EMD may be forfeited:

    i. If a Bidder withdraws its Proposal during the period of validity.

    ii. In case of a successful Bidder, if the Bidder fails to sign the Contract in accordance with this RFP.

iv. Submission of Responses

a. Pre-qualification Criteria, mandatory documents and Bid Processing Fee (in a separate sealedenvelope)

b. Technical Proposal (in sealed envelope containing)

    i. Earnest Money Deposit (in a separate sealed envelope)

    ii. Technical Proposal (in a separate sealed envelope)

c. Financial Proposal (in sealed envelope containing)

    i. Cover Letter

    ii. Financial Proposal

v. Authentication of Proposals

The Proposal should be authorized by the authorized signatory of the company. The Proposal shall be sent by Registered Post/Speed Post/Courier only. It is desirable but not mandatory that companies send their one representative during the opening of the bids and for technical presentation.

e. Preparation and Submission of Proposal

Proposal Preparation Costs

The Bidder shall be responsible for all costs incurred in connection with participation of the RFP process, including, but not limited to, costs incurred in conduct of informative and other diligence activities, participation in meetings/ discussions/ presentations, preparation of Proposal, in providing any additional information required by to facilitate the evaluation process, and in negotiating a definitive Contract or all such activities related to the process.
DTE&T will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the process.
Bidders are advised to visit the institutes before preparation and submission of their proposals.

i. Language

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

documents, the English translation shall govern.

ii.   Late Proposals

a. Original hard copy of the RFP document, fees and EMD received after the due date and the specified time (including the extended period if any) for any reason whatsoever, shall not be entertained and shall be returned unopened.

b. The Proposals must be submitted through Speed Post/Registered Post/Courier/By Hand (in persons). But, proposals submitted by telex/ telegram/ fax/ e-mail etc. shall not be considered. No correspondence will be entertained on this matter.

c. DTE&T, Odisha shall not be responsible for any postal delay or non-receipt/ non-delivery of the documents. No further correspondence on the subject will be entertained.

d. DTE&T, Odisha reserves the right to modify and amend any of the above-stipulated condition/ criterion depending upon project priorities vis-à-vis urgent commitments.

f. Evaluation Process

a. The DTE&T reserves the right to reject any or all Proposals on the basis of any deviations.

b. Each of the responses shall be evaluated as per the criterions and requirement specified in this RFP under the 'Evaluation and Selection' section.

i.   Tender Opening

The Proposals submitted within due date and time mentioned in this RFP document will be opened by DTE&T, in the presence of the Bidders or their authorized representatives who may be present at the time of opening. The representatives of the Bidders should submit a letter of authorization from the Bidder companies to participate in the opening of the Proposal.

ii.   Proposal Validity

The offer submitted by the Bidders shall be valid for a minimum period of 180 days from the date of submission of Proposal.

iii.   Proposal Evaluation

Proposal evaluation and Selection will be carried out as per the specifications mentioned in the Section on 'Evaluation and Selection'.

g.   Proposal Forms

Wherever a specific form is prescribed in this Request for Proposal (RFP) document, the Bidder shall use the form to provide relevant information. If the form does not provide space for any required information, space at the end of the form or additional sheets shall be used to convey the required information. For all other cases, the Bidder shall design a form to hold the required information. The additional sheets attached should be properly annexed.

h.   Local Conditions

a. Each Bidder is expected to become fully acquainted with the local conditions and factors, which may affect the performance of the Contract and/ or the cost.

b. The Bidder is expected to know all conditions and factors, which may have any effect on

the execution of the Contract after issue of letter of Award. The DTE&T, shall not entertain any request for clarification from the Bidder regarding such local conditions.

c. It is the Bidder's responsibility that such factors have been properly investigated and considered before submitting the Proposal. No claim, whatsoever, including that for financial adjustment to the Contract awarded under the bidding document will be entertained by DTE&T. Neither any change in the time schedule of the Contract nor any financial adjustments arising thereof shall be permitted by the DTE&T on account of failure of the Bidder to know the local laws/ conditions. The Bidder is expected to visit and examine and study the location of Govt. ITI Anandapur, JES Jharsuguda and Govt. ITI Rourkela and its surroundings and obtain all information that may be necessary for preparing the Proposal at its own interest and cost.

i. Contacting DTE&T, Odisha or any of the bodies related to DTE&T, Odisha

Any effort by the Bidder to influence the Proposal evaluation, Proposal comparison or Contract award decisions may result in the rejection of the Proposal.

Bidder shall not approach any DTE&T officer after office hours and/ or outside office premises, from the time of the Proposal opening till the time the Contract is awarded.

j. Tentative Schedule of Events

Tentative schedule of events shall be as per the dates and time given in the Fact Sheet.

k. Opening of Proposal

First, Pre-Qualification of bidders will be checked. Secondly, the Technical cover will be opened and evaluated for the bidders who qualify in the Pre-Qualification Criteria. The Financial Proposal of the technically qualified bidders will only be opened. The Technical Evaluation Committee will open the Proposals. Sequence of opening is as follows:

a. Pre-Qualification Criteria

b. Technical Cover
c. Financial Cover

a. Pre-Delivery Inspection of sample equipment & Post-Delivery Inspection of all equipment

DTE&T will conduct a pre-delivery inspection of sample equipment before the proposed equipment delivered/shipped by the selected bidder/bidders to the CoE and post-delivery inspection of all equipment by its own technical experts or 3rd party agency/consultants/advisors appointed by DTE&T at the CoEs.

Bidders failing to comply with any of the clause then the Bid will be summarily rejected. DTE&T reserves the rights to reject the bid any time without citing any reason thereof.

b. Deciding Award of Contract

a. DTE&T reserves the right to ask for a technical elaboration/clarification in the form of a technical presentation from the Bidder on the already submitted Technical Proposal at any point of time before opening the Financial Proposal by providing at least 3 working days of advance notice.

b. DTE&T shall inform those Bidders whose Proposals did not meet the requirement or were

considered non-responsive, informing that their Financial Proposals will be not opened after completing the selection process. DTE&T shall simultaneously notify those Bidders who technically qualify on the Technical Evaluation process, informing the date and time set for opening of Financial Proposals.

c. The Bidder's name, the Proposal Price, the total amount of each Proposal and other such details, will be announced and recorded by the DTE&T at the opening of Proposal.

d. After acceptance of LoA, Performance Security has to be deposited as specified in this document for signing an Agreement with DTE&T.

e. Special Condition for Awarding the Agreement:

i. DTE&T will sign the Agreement with the successful Bidder for a period as mentionedin 'Duration of Contract' in the document.

ii. DTE&T may extend the Agreement for a time period beyond what has been specified in 'Duration of Contract' in the document.

iii. DTE&T will also have the right to provide extension/ increase in the scope of work as perthe mutually agreed terms and conditions between both the parties.

c. Confidentiality:

a. As used herein, the term "Confidential Information" means any information, including information created by or for the other party, whether written or oral, which relates to internal controls, computer or data processing programs, algorithms, electronic data processing applications, routines, subroutines, techniques or systems, or information concerning the business or financial affairs and methods of operation or proposed methods of operation, accounts, transactions, proposed transactions or security procedures of either party or any of its affiliates or any client of either party, except such information which is in the public domain at the time of its disclosure or thereafter enters the public domain other than as a result of a breach of duty on the part of the party receiving such information. It is the express intent of the parties that all the business process and methods used by the Bidder in rendering the Services hereunder are the Confidential Information of the Bidder.

b. The Bidders shall keep confidential, any information related to this RFP, with the same degree of care as it would treat its own confidential information. The Bidders shall note that the confidential information will be used only for the purposes of this RFP and shall not be disclosed to any third party for any reason whatsoever.

c. At all-time of the performance of the Services, the Bidder shall abide by all applicable security rules, policies, standards, guidelines and procedures. The Bidder should note that before any of its employees or assignees is given access to the Confidential Information, each such employee and assignees shall agree to be bound by the terms contained under this RFP and such rules, policies, standards, guidelines and procedures by its employees or agents.

d. The obligations of confidentiality under this section shall survive rejection of the Contract.

d. Publicity

Any publicity by the Bidder containing the name of DTE&T should be done only with the explicit written permission from DTE&T.

e. Execution of the Agreement

After acknowledgement of the LoA by the selected Bidder, a performance guarantees amounting to 10% of Total Bid Value has to deposited in the form of FDR/BG of any nationalized/scheduled bank drawn in the name of Director of Technical Education & Training, Odisha, the performance guarantee shall be valid for a period of 44 months from the date of award of Contract as specified in the RFP document. The selected Bidder shall sign the Agreement within thirty days from the issue of LoA.

Agreement is mutually extendable post the completion of the initial term.

i. Performance Guarantee

The successful Bidder firm shall furnish the Performance Guarantee as stipulated in the section 'Contract Performance Guarantee' in this document.

f. Duration of Contract

The assignment of the work shall be valid initially for a period of 42 months.

g. Terms and Conditions: Applicable Post Award of Contract

ii. Termination Clause

1. Termination for Default

DTE&T, Odisha may, without prejudice to any other remedy for breach of contract, by a written notice of default of at least 30 days sent to the selected Bidder, terminate the Contract in whole or in part (provided a cure period of not less than 60 days is given to the selected Bidder to rectify the breach):

   a. If the selected Bidder fails to deliver any or all quantities of the equipment or services within the time period specified in the Contract, or any extension thereof granted by; or

   b. If the selected Bidder fails to perform any other obligation under the Contract within the specified period of delivery of service or any extension granted thereof; or

   c. If the selected Bidder, in the judgment of DTE&T, Odisha, is found to be engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract.

   d. If the selected Bidder commits breach of any condition of the Contract

If DTE&T, Odisha terminates the Contract in whole or in part, the amount of Performance Guarantee shall be forfeited. Notwithstanding anything contrary elsewhere contained in the document, Bidder shall be entitled for all the payments accrued on account of services rendered till the date of such termination.

2. Termination for Insolvency

DTE&T, Odisha, may at any time terminate the Contract by giving a written notice of at least 30 days to the selected Bidder, if the selected Bidder becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the selected Bidder, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to DTE&T, Odisha.

3.   Termination for Convenience

a. DTE&T, Odisha by a written notice of at least 30 days sent to the selected Bidder may terminate the Contract, in whole or in part, at any time for its convenience. The Notice of termination shall specify that termination is for DTE&T, Odisha's convenience, the extent to which performance of the selected Bidder under the Contract is terminated, and the date upon which such termination becomes effective.

b. In such cases, DTE&T, Odisha will pay for the entire pending invoice as well as the work done till that date by the Bidder.

c. Depending on merits of the case the selected Bidder may be appropriately compensated on mutually agreed terms for the loss incurred by the Contract if any, due to such termination.

d. Limitation of Liability: In no event shall either party be liable for consequential, incidental, indirect, or punitive loss, damage or expenses (including lost profits). Notwithstanding anything to contrary elsewhere mentioned in the contract, the selected Bidder shall not be liable to the other here under or in relation here to for more than the value of the fees to be paid (including any amounts invoiced but not yet paid) under this Agreement.

4.   Termination by DTE&T, Odisha

a. The DTE&T, Odisha may, by not less than 30 days written notice of termination to the Bidder, such notice to be given after the occurrence of any of the events, terminate this Agreement if:

   i. The selected Bidder fails to remedy any breach hereof or any failure in the performance of its obligations here under as specified in a notice of suspension, within thirty (30) days of receipt of such notice of suspension or within such further period as the may have subsequently granted in writing;

   ii. The selected Bidder becomes insolvent or bankrupt or enters into any agreement with its creditors for relief of debt or take advantage of any law for the benefit of debtors or goes into liquidation or receivership whether compulsory or voluntary;

   iii. The selected Bidder fails to comply with any final decision reached as a result of the Dispute Resolution mechanism/proceedings.

   iv. The selected Bidder submits to the DTE&T, Odisha a statement which has a material effect on the rights, obligations or interests of DTE&T, Odisha and which the selected Bidder knows to be false.

b. Any document, information, data or statement submitted by the Bidder in its Proposals, based on which the selected Bidder was considered eligible or successful, is found to be false, incorrect or misleading; or as the result of Force Majeure, the selected Bidder is unable to perform a material portion of the Services for a period of not less than sixty(60)days

c. If the DTE&T, Odisha would like to terminate the Contract for reasons not attributable to the selected Bidder's performance, they will need to clear all invoices for the Services up to the date of the notice. If the DTE&T, Odisha would like to terminate the Contract for reasons attributable related to the selected Bidder's performance, the DTE&T will give a rectification notice for 3 months to the Bidder in writing with specific observations and instructions.

5.   Consequences of Termination

a. In the event of termination of the Contract due to any cause whatsoever, [whether consequent to the stipulated term of the Contract or otherwise], DTE&T, Odisha shall be

entitled to impose any such obligations and conditions and issue any clarifications as may be necessary to ensure an efficient transition and effective business continuity of the Service(s) which the Bidder shall be obliged to comply with and take all available steps to minimize loss resulting from that termination/breach, and further allow the next successor Bidder to take over the obligations of the rest while Bidder in relation into the execution/continued executionof the scope of the Contract.

b. Nothing herein shall restrict the right of DTE&T, Odisha to invoke guarantees, securities furnished, enforce the Deed of Indemnity and pursue such other rights and/or remedies that may be available to the under law or otherwise.

c. The termination here of shall not affect any accrued right or liability of either Party nor affect the operation of the provisions of the Contract that are expressly or by implication intended to come into or continue in force on or after such termination.

iii. Delay Charges

a. Notwithstanding the right of DTE&T, Odisha to cancel the order, Delay Charges for late delivery at 1% (One percent) of the undelivered portion of order value per month will be charged for every month's delay in the specified delivery schedule subject to a maximum of 10% of the value of the contract. Delay Charges should be recouped from Performance Guarantee. No Damage will be charged in case of circumstances beyond control of the Company.

b. Please note that the above Delay Charges for delay in delivery and delay in commissioning are independent of each other and shall be levied as the case maybe.

c. DTE&T, Odisha reserve its right to recover these amounts from Performance Guarantee. DelayCharges will be calculated on per week basis.

d. The cumulative and aggregate limit of Delay Charges for delay in delivery and Delay Charges for delay in commissioning would be limited to maximum of 10% of the total Bid Value. The aggregate liability of the Company shall in no event exceed the total value of the fee received under this Contract.

iv. Dispute Resolution Mechanism

a. The DTE&T, Odisha and the selected Bidder shall make every effort to resolve amicably by direct negotiations, any disagreement or dispute, arising between them under supply order.

b. All claims and disputes arising under or relating to this Agreement are to be settled by binding arbitration in the state of Odisha. An award of arbitration may be confirmed in a court of competent jurisdiction. Arbitration shall be as per Indian Arbitration Act,1996.

c. The DTE&T, Odisha may terminate this contract, by giving a written notice of termination of minimum 30days, to the selected Bidder, if the selected Bidder fails to comply with any decision delivered by DTE&T, Odisha.

v. Notices

Notice or other communications given or required to be given under the Contract shall be in writing and shall be e-mailed followed by hand-delivery with acknowledgement thereof, or transmitted by prepaid registered post or courier. Any notice or other communication shall be deemed to have been validly given on date of delivery if hand delivered & if sent by registered post than on expiry of seven days from the date of posting.

vi. Force Majeure

Force Majeure is herein defined as any cause, which is beyond the control of the selected Bidder or DTE&T, Odisha as the case may be which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affect the performance of the Contract, such as:

a. Natural phenomenon, including but not limited to floods, droughts, earthquakes and epidemics.

b. Acts of any government, including but not limited to war, declared or undeclared priorities, quarantines and embargo.

c. Terrorist attack, public unrest in work area provided either party shall within 10 days from occurrence of such a cause, notifies the other in writing of such causes.

d. The selected Bidder or DTE&T, Odisha shall not be liable for delay in performing his/her obligations resulting from any force majeure cause as referred to and/ or defined above.

Force Majeure shall not include any events caused due to acts/ omissions of such Party or result from a breach/contravention of any of the terms of the Contract, Proposal and/or the Request for Proposal (RFP). It shall also not include any default on the part of a party due to its negligence or failure to implement the stipulated/proposed precautions, as were required to be taken under the Contract. The failure or occurrence of a delay in performance of any of the obligations of either party shall constitute a Force Majeure event only where such failure or delay could not have reasonably been foreseen, or where despite the presence of adequate and stipulated safeguards the failure to perform obligations has occurred. In such an event, the affected party shall inform the other party in writing within five days of the occurrence of such event. The DTE&T, Odisha will make the payments due for Services rendered till the occurrence of Force Majeure. However, any failure or lapse on the part of the Selected Bidder in performing any obligation as is necessary and proper, to negate the damage due to projected force majeure events or to mitigate the damage that may be caused due to the above mentioned events or the failure to provide adequate disaster management/ recovery or any failure in setting up a contingency mechanism would not constitute force majeure, as set out above.

In case of a Force Majeure, all Parties will endeavor to agree on an alternate mode of performance in order to ensure the continuity of Service and implementation of the obligations of a party under the Contract and to minimize any adverse consequences of Force Majeure.

In case, Force Majeure hindrances the validity, performance guarantee and project duration should be extended accordingly as desired by Govt.

vii. Failure to agree with Terms and Conditions of the RFP

Failure of the successful Bidder to agree with the Terms & Conditions of the RFP shall constitute sufficient grounds for the annulment of the award, in which event may invoke the PBG of the successful Bidder and award the contract to the next best value Bidder or call for new Proposals from the interested Bidders.

h. Contract Performance Guarantee

a. Within 14 days after the receipt of notification of award of the Contract from, the successfulBidder shall furnish Contract Performance Guarantee to the DTE&T, Odisha which

shall be equal to 10% of Total Bid Value and shall be in the form of a Bank Guarantee Bond from any Nationalized Bank/ Scheduled bank in the Performa given here-in-after in this document valid for period of 44 months from the date of award of Contract as specified in the document.

b. The proceeds of the performance guarantees shall be payable to the DTE&T, Odisha as compensation for any loss/ penalties resulting from the Selected Bidders failure to complete its obligations under the Contract.

c. The performance guarantee will be released by DTE&T, Odisha and returned to the Selected Bidder after 44 months from the date of award of Contract as specified in the document.

i. Statutory Requirements

During the tenure of this Contract, nothing shall be done by the Selected Bidder in contravention of any law, act and/ or rules/ regulations, there under or any amendment thereof governing inter-alia customs, stowaways, foreign exchange etc. and shall keep indemnified in this regard.

j. Contract administration

a. Either party may appoint any individual/Company as its authorized representative through a written notice to the other party. Each Representative shall have the authority to:

i. Exercise all of the powers and functions of his/ her Party under this Contract, other than the power to amend this Contract and ensure proper administration and performance of the terms hereof; and

ii. Bind his or her Party in relation to any matter arising out of or in connection with this Contract.

iii. The Selected Bidder shall be bound by all undertakings and representations made by the authorized representative of the Selected Bidder and any covenants stipulated hereunder, with respect to this Contract, for and on their behalf.

iv. For the purpose of execution or performance of the obligations under this Contract, the DTE&T, Odisha's, representative would act as an interface with the nominated representative of the Selected Bidder. The Selected Bidder shall comply with any instructions that are given by the representative during the course of this Contract in relation to the performance of its obligations under the terms of the Contract.

v. A committee comprising of representatives from the DTE&T, Odisha and the Selected Bidder shall meet on a quarterly basis to discuss any issues/ bottlenecks being encountered. The Selected Bidder shall draw the minutes of these meetings and circulate to the DTE&T, Odisha.

k. Right of Monitoring, Inspection and Periodic Audit

The DTE&T, Odisha reserves the right to inspect and monitor/ assess the progress/ performance at any time during the course of the Contract, after providing due notice to the Selected Bidder. DTE&T, Odisha may demand, and upon such demand being made, the selected Bidder shall provide with any document, data, material or any other information required to assess the progress of the project. DTE&T, Odisha shall also have the right to conduct, either itself or through any another consultant/ advisor as it may deem fit, an audit to monitor the performance by the Selected Bidder of its obligations/ functions in accordance

with the standards committed to or required by DTE&T, Odisha and the Selected Bidder undertakes to cooperate with and provide to DTE&T, Odisha/ any other Consultant/ Advisor/ Company appointed by DTE&T, Odisha, all documents and other details as may be required by them for this purpose. Any deviations or contravention identified as a result of such audit/ assessment would need to be rectified by the Selected Bidder failing which DTE&T, Odisha may, without prejudice to any other rights that it may have, issue a notice of default.

l. DTE&T, Odisha's Obligations

DTE&T, Odisha shall interface with the Selected Bidder, to provide the required information, clarifications, and to resolve any issues as may arise during the execution of the Contract.

DTE&T, Odisha shall ensure that timely approval is provided to the selected Bidder, where deemed necessary, which should include diagram/ plans and all specifications related to Services required to be provided as part of the Scope of Work.

m. Information Security

The selected Bidder would sign a Non-Disclosure Agreement with the DTE&T, Odisha to ensure information security and confidentiality of processes, information and the various projects and activities taken up during the period of the agreement.

The Selected Bidder shall not carry and/ or transmit any material, information, layouts, diagrams, storage media or any other goods/ material in physical or electronic form, which are proprietary to or owned by DTE&T, Odisha, out of premises, without prior written permission from the DTE&T, Odisha.

The Selected Bidder shall, upon termination of this agreement for any reason, or upon demand by DTE&T, Odisha, whichever is earliest, return any and all information provided to the Selected Bidder, including any copies or reproductions, both hard copy and electronic.

n. Indemnity

The Selected Bidders shall execute and furnish a Deed of Indemnity in favor of the DTE&T, Odisha, in a form and manner acceptable to the, indemnifying from and against any costs, loss, damages, expense, claims including those from third parties or liabilities of any kind how- so-ever suffered including patent, copyright, trademark and trade secret, arising or incurred inter-alia during and after the Contract period out of:

a. Negligence or wrongful act or omission by the Selected Bidder or its team or any Company/ Third Party in connection with or incidental to this Contract; or

b. Any breach of any of the terms the Selected Bidder's Proposal as agreed, the Tender and this Contract by the Selected Bidder, its Team or any Company/ Third Party.

c. The indemnity shall be to the extent of Total Bid Value.

o. Bid Prices

Bid Price should have equipment wise breakup and including Freight, GST and any other taxes & duties. Bid price should be valid for minimum 180 days from the date of Financial Bid opening.

Prices quoted must be firm and shall not be subject to any upward revision on any account what-so-ever throughout the period of the engagement.

p. Payment Schedule

Payment will be made to the selected company as per the schedule mentioned in **section 10**. "Deliverable and Payment Schedule"

q. Continuance of the Contract:

Notwithstanding the fact that settlement of dispute(s) (if any) may be pending, the parties hereto shall continue to be governed by and perform the work in accordance with the provisions under the Scope of Work to ensure continuity of operations.

r. Conflict of interest

The Bidder shall disclose to DTE&T, Odisha in writing, all actual and potential conflicts of interest that exist, arise or may arise in the course of performing the Service(s) as soon as practical after it becomes aware of that conflict.

s. Severance

In the event any provision of the Contract is held to be invalid or unenforceable under the applicable law, the remaining provisions of this Contract shall remain in full force and effect.

t. Governing Language

The Agreement shall be written in English language. Subject to below Clause, such language versions of the Agreement shall govern its interpretation. All correspondence and other documents pertaining to the Contract that are exchanged by parties shall be written in English language only.

u. "No Claim "Certificate

The Selected Bidder shall not be entitled to make any claim, whatsoever against, under or by virtue of or arising out of, the Contract, nor shall entertain or consider any such claim, if made by the Selected Bidder after it has signed a "No claim" certificate in favor of DTE&T, Odisha in such form as shall be required by it after the work is finally accepted.

v. Publicity

The Selected Bidder shall not make or permit be made a public announcement or media release about any aspect of this Contract unless DTE&T, Odisha first gives its written consent to the selected Bidder.

w. General

viii. Relationship between the Parties

Nothing in the Contract constitutes any fiduciary relationship between the DTE&T, Odisha, and Selected Bidder/Bidder's Team or any relationship of employer/employee, principal and agent, or partnership, between DTE&T, Odisha and Selected Bidder.

No Party has any authority to bind the other Party in any manner whatsoever except as agreed under the terms of the Contract.

DTE&T, Odisha will not be under any obligation to the Implementing Company's Team except as agreed under the terms of the Contract.

ix. No Assignment

The Selected Bidder shall not transfer any interest, right, benefit or obligation under the Contract without the prior written consent of the DTE&T, Odisha.

x. Survival

The provisions of the clauses of the Contract in relation to documents, data, processes, property, Intellectual Property Rights, indemnity, publicity and confidentiality and ownership survive the expiry or termination of this Contract and in relation to confidentiality, the obligations continue to apply unless notifies the Selected Bidder of its release from those obligations.

xi. Entire Contract

The terms and conditions laid down in the Request for Proposal (RFP) and all annexure thereto as also the Proposal and any attachments/ annexes thereto shall be read in consonance with and form an integral part of the Contract. The Contract supersedes any prior contract, understanding or representation of the Parties on the subject matter.

xii. Governing Law

This Contract shall be governed in accordance with the laws of India.

xiii. Jurisdiction of Courts

The High Court of Odisha at Cuttack, has exclusive jurisdiction to determine any proceeding in relation to the Contract.

xiv. Compliance with Laws

The Selected Bidder shall comply with the laws in force in India in the course of performing the Contract.

xv. Notices

A "notice" means:

    i. A Notice; or

    ii. A consent, approval or other communication required to be in writing under the Contract.

All notices, requests or consent provided for or permitted to be given under this Contract shall be in writing and shall be deemed effectively given when personally delivered or mailed by prepaid certified/registered mail, return receipt requested, addressed as follows and shall be deemed received within two days after mailing or on the date of delivery if personally delivered:
To,

Director,

Directorate of Technical Education & Training,Odisha,
Killa Maidan, Buxi Bazar,Cuttack 753001
Phone No : 0671-2301061, Fax –0671-2301961
Email : dtetorissa@gmail.com & dtetodisha.procurement@gmail.com

Any Party may change the address to which notices are to be directed, by giving a notice to the other party in the manner specified above. A notice served on a Representative is taken to be notice to that Representative's Party.

xvi. Waiver

Any waiver of any provision of this Contract is ineffective unless it is in writing and signed by the Party waiving its rights.

A waiver by either Party in respect of a breach of a provision of this Contract by the other Party is not a waiver in respect of any other breach of that or any other provision.

The failure of either Party to enforce at any time any of the provisions of this Contract shall not be interpreted as a waiver of such provision.

xvii. Modification

Any modification of the Contract shall be in writing and signed by an authorized representative of each Party.

xviii. Taxes

The Bidder shall pay service and other applicable taxes, if any, imposed on the Services under this Contract. Any variation to statutory duties/taxes shall be borne by DTE&T.

xix. Application

These General Conditions shall apply to the extent that provisions in other parts of the Contract do not supersede them.

x. Fraud and Corrupt Practices

xx. Fraud and Corrupt Practices

a. The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Selection Process. Notwithstanding anything to the contrary contained in this RFP, DTE&T, Odisha shall reject a Proposal without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the "Prohibited Practices") in the Selection Process. In such an event, DTE&T, Odisha shall, without prejudice to its any other rights or remedies, appropriate the Bid Security or Performance Security, as the case may be, as mutually agreed genuine pre-estimated compensation and damages payable to DTE&T, Odisha for, inter alia, time, cost and effort of DTE&T, Odisha, in regard to the RFP, including consideration and evaluation of such Bidder's Proposal.

b. Without prejudice to the rights of DTE&T, Odisha under Clause above and the rights and remedies which DTE&T, Odisha may have under the LoA or the Agreement, if an Bidder, is found by DTE&T, Odisha to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Selection Process, or after the issue of the LoA or the execution of the Agreement, such Bidder shall not be eligible to participate in any tender or RFP issued by DTE&T, Odisha during a period of 2(two) years.

c. For the purposes of this Section, the following terms shall have the meaning hereinafter respectively assigned to them:

i. "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection Process

i. "Fraudulent practice" means a misrepresentation or omission of facts or disclosureof incomplete facts, in order to influence the Selection Process;

ii. "Coercive practice" means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person's participation or action in the Selection Process;

iv. "undesirable practice" means (i) establishing contact with any person connected with or employed or engaged by with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process; or(ii) having a Conflict of Interest; and

v. "Restrictive practice" means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Selection Process.

Y. Documents/Details to be submitted

The RFP shall be submitted with documents specified below with annexures.

SL.No	Document Description
1	Proposal Covering Letter as per **Annexure I**
2	Financial Proposal Format as per **Annexure II**
2	Applicant details as per **Annexure III**
3	Relevant document for Proprietorship/Private Limited Company/ Public Limited Company etc. (Self-attested copy of Registration certificates etc. of the firm)
4	a. Copy of PAN Card (Self-attested) b. GSTIN registrations (Self-attested) c. Self-attested copy of Bank Details
5	a. Turnover statement certified by a Chartered Accountant in the format given in **Annexure-V** b. Audited Financial statements (Balance sheet, Profit & Loss Account/Income & Expenditure Statement, Cash flow statement, Notes on Account) including Income Tax Return with computation statement for the last three consecutive years (2020-21), (2021-22) & (2022-23).
6	An affidavit for not being blacklisted as per **Annexure-VI**
7	Agreement copies to prove experience of CoE setup on Home/Building/Industrial Automation.
8	Client Certificate/Project Closure Report for point no. 11 from Eligibility Criteria
9	All documentary evidence wherever applicable supporting the Eligibility Criteria and Evaluation Matrix
10	Power of Attorney as per **Annexure-VII (** Authorizing signatories on stamp paper to sign the bid**)**
11	Relevant documents like technical data, Printed literature/ Catalogue, drawings, and other documents, as per the tender requirement.
12	Qualification Criteria - Compliance

10.Deliverable and Payment Schedule for each CoE

The selected company will have the following deliverables: -

SL No	Deliverable	Time Line	Amount Payable
1	**Milestone 1**: i) Pre-Delivery inspection of sample equipment. ii) Delivery of the material, equipment, PPE and Tools &Tacklesfor each CoE. iii) Visual inspection of equipment by the Principals of respective CoEs.	Within 3 months of signing the Contract Agreement (MoA)	**60%** of the 'Total Bid Value' with 100% GST within 30 days of receipt of the invoices.
2	**Milestone 2**: i) Complete setup of CoEs including Civil and Electrical works (interior design, electrical cabling and infrastructure work etc.) ii) Installation & Commissioning to be completed of all equipment. iii) Inspection and testing of equipment for each Centre of Excellence and stock entry. iv) Submission of safety certificates from competent authorities, supply of Machine Consumables, safety equipment etc. Complete setup of the CoEs.	Within 5 month of signing the Contract Agreement (MoA)	**30%** of the 'Total Bid Value' within 30 days of complete setup of the CoEs.
4	**Milestone 3 -** Completion of the Hand holding period (two years) Training sessions should commence within15days from the completion of complete setup of the Centre of Excellences.	Within 30 months of signing the Contract Agreement (MoA)	**2.5%** of the 'Total Bid Value' after completion of every 6 Months hand-holding training & certification. Payment will be made within 30 days from the completion of the 6months training/eligible for payment and satisfactory performance reports from Principals of the institute/CoE.

*Note: *Each schedule of payment will be done after 3rdparty inspection for Quality and *value for money.*

   ***Bidder should raise progressive invoice as per the payment terms for i) supply of materials, ii) Installation and commissioning iii) Half-Yearly handholding charges. Bidders may raise CoE wise invoices for payment.*

** **Value for money should be understood as best price for the quality of equipment and training provided*

11. Evaluation and Selection

The bidders who will be eligible by meeting all mandatory eligibility criteria, will be selected for Technical Bid opening. The evaluation criteria will be **Quality cum Cost Based System (QCBS)** with **70:30** where Technical Bid Score will get a weightage of 70% and Commercial Bid Score a weightage of 30%.

A bidder has to score minimum 70% in the Technical Bid Evaluation to qualify for the opening of financial bid.

a. Technical Evaluation

Initial Bid scrutiny will be made and incomplete details as given below will be treated as non-responsive if Proposals

   i. Are not submitted in as specified in the RFP document

   ii. Are found with suppression of details

   iii. With incomplete information, subjective, conditional offers and partial offers submitted

   iv. Have non-compliance of any of the clauses stipulated in the RFP

   v. Have a lesser validity period

All responsive Bids will be considered for further processing as below.

Technical Evaluation Committee will prepare a list of responsive Bidders, who comply with all the Terms and Conditions of the Tender. All eligible bids will be considered for further evaluation by the Committee according to the evaluation process defined in this RFP document. The decision of the Committee will be final & binding in this regard.

a. Technical Evaluation committee will examine the bids to determine whether they are complete, eligible, whether any computational errors have been made, and whether the bids are generally in order.

b. DTE&T, Odisha may conduct clarification meetings with each or any Bidder to discuss any matters, technical or otherwise.

c. Further the scope of evaluation committee also covers taking any decision with regard to the Tender document, execution/ implementation of the project including management period.

  d. Proposal document shall be evaluated as per the following steps.

i. Evaluation of document: A detailed evaluation of the bids shall be carried out by the Technical Evaluation Committee in order to determine whether the Bidders are competent enough and whether the technical aspects are substantially responsive to the requirements set forth in the RFP document. The bidders must submit the Make, Model, Country of origin, Features, and Technical Specifications along with the images of equipment for which they are submitting the bid.

i. Bidders may propose better technical specifications which may fit for the CoE and fulfill the objective of the project.

ii. Bidders failing to comply with any of the above then the Bid will be summarily rejected.

iv. Bidders who scores at least 70% marks in Technical Evaluation criteria set forth in this RFP document will be eligible for opening of their Financial Bid. If a bid does not meet these minimum score, it will be deemed technically non-compliant and will not proceed to the financial evaluation.

Technical Bid Score is calculated as follows: -

S_T = Technical score X 70/ 100

Technical Evaluation Criteria

Sl. No.	Evaluation Criteria	Maximum marks	Remarks
1.	**Design of CoEs** • Layout designing of the CoEs with proper demarcation of equipment/machines – 09 Marks (03 Marks for each CoE)	**09**	
2.	**Past Experience** The company must have executed the job of setting up Centre of Excellence/Lab in either Home Automation/Building Automation or Industrial Automation technology, at least in 03(three) institutes/training centres/industries or together. • 3 Centre of Excellence/Lab – 09 Marks • For every additional number of similar projects 03 Marks will be given subjected to maximum 15 Marks.	**15**	
3.	**Quality of equipment/machines** • Quality of equipment will be evaluated as per the quality of machines/equipment offered in the technical bid. Machines with better quality and features, will secure better marks. -Home Automation : 20 Marks - Building Automation : 20 Marks - Industrial Automation : 20 Marks **Note: Scores/Marks given by the Technical Committee members will be considered as final.**	**60**	
4.	**Course Curriculum and Placement** • Understanding of the requirements of the industries and align the training plan with advanced technology. – 06 Mark • Daily Lesson Plan, Weekly Assessment Plan & Final Evaluation,Certification and Placement Plan. – 10 Marks	**16**	

Note: -1- The bidder has to score at least 70% to qualify for the opening of Financial Bid.
2- The scores provided by the Technical Committee, will be considered as final.

*Note 2:-If due to some unforeseen/unavoidable circumstances the above resources cannot be provided or left in between the duration of contract, then they should be replaced with resources having similar credentials and experience.

b. Financial Evaluation

The Bidder shall be selected on the basis of **Quality cum Cost Based System (QCBS)**.

Financial Proposals of only those bidders who qualify in the Technical Proposal evaluation shall be opened and computed based on the commercial bid submitted by the bidders. If

FDC is the value of commercial bid price quoted in the bid under consideration.

FLDC is the value of lowest commercial Bid among all the technically qualified bidders.

Technical Bid Score (ST) = Technical score X 70/ 100 (70% weightage)

Commercial Bid Score (SF) for each bid shall be computed as follows:

SF = 30 x (FLDC / FDC) (30% weightage)

TOTALSCORE

Total Score (Ts) for each qualified bid shall be computed as under:

TS = ST + SF

The Bidder obtaining highest Total Score (TS) value, will be declared as the **Best Evaluated Bid** and **Selected Bidder**.

12 Annexure

Annexure I: Proposal Covering Letter

Date: ………………….

To,

Directorate of Technical Education & Training, Odisha

Killa Maidan, Buxi Bazar,Cuttack-753001

Phone No-0671(2301061),Fax-0671(2301961)

Email-dtetorissa@gmail.com

Dear Sir,

We ....(Name of the Bidder) hereby submit our Proposal in response to notice inviting RFP date …………….. and RFP document no ....and confirm that:

1. All information provided in this Proposal and in the attachments is true and correct to the best of our knowledge and belief.

2. We shall make available any additional information if required to verify the correctness of the above statement.

3. Certified that the period of validity of Proposal is180days from the last date of submission of Proposal and

4. We are quoting for all the services mentioned in the Scope of Work of the RFP.

5. We the Bidders are not under a Declaration of Ineligibility for corrupt or fraudulentpractices or blacklisted by any of the Government companies.

6. DTE&T, Odisha, may contact the following person for further information regarding this Proposal:

   A. Name and full address of office, Contact No., Email ID, Company Name
7. We are submitting our technical & financial bid documents along with original BG of EMD.

Yours sincerely,
Signature

Full name of signatory
Designation
Name of the Bidder/Company etc.

Annexure II: Financial Proposal Format

To be submitted in original along with the Proposals (Envelope-C)

To,
Directorate of Technical Education & Training, Odisha
Killa Maidan, Buxi Bazar,Cuttack-753001
Phone No-0671(2301061),Fax-0671(2301961)
Email-DTE&Torissa@gmail.com

Subject: RFP for setup of CoE in Home Automation, Building Automation and Industrial Automation at Govt. ITI Anandapur, JES Jharsuguda and Govt. ITI Rourkela under OMBADC districts of Odisha.

Sir,
We, the undersigned, offer to provide the services as Technology Partner for Centre of Excellence setup in Home Automation, Building Automation and Industrial Automation at Govt. ITI Anandapur, JES Jharsuguda and Govt. ITI Rourkela under OMBADC districts of Odisha in accordance with your Request for Proposal (RFP) dated [Insert Date] and our Technical Proposal. Our Financial Proposal is as below:

SL No	Particulars	Cost (Rs)	Applicable Taxes (Rs)	Total Cost with applicable taxes (Rs)
A	**Cost of Goods** (supply of equipment & machineries including delivery, insurance, unloading, installation, commissioning charges etc, PPE, tools & tackles, consumables, safety certificates, fire safety equipments, Pre & Post Delivery inspection and testing of equipment etc.) ****The bidder must provide equipment wise cost breakup with this section.**			
B	**Cost of Works** (Design of CoE, Civil, Electrical and other works, including interior design with fire retardant, plastic coating painting, design of shop floor with anti skid, electrical insulating, fire retardant with epoxy flooring, required electrical, civil and plumbing works etc. to make the CoE functional) **The bidder must provide component wise cost breakup with this section**			
C	**Cost of Services** (Preparation of Training Modules, design course curriculum, supply of training materials, conduct hand-holding for 24 months, conduct assessments, awarding certificates etc.) **The bidder must provide component wise cost breakup with this section**			
	*Total Price offered by the bidder (A+B+C)			

D	AMC Per Year (After 3 years of warranty)			

Notes:

a. *The total price offered by the bidders will be considered during price bid calculation.

b. The above fee includes Design, Development, Supply, Insurance, Installation, Testing,Commissioning, Operation and Maintenance of CoE.

c. The fooding, lodging, travel and other expenses of qualified Engineers/faculties from the technology partner/company must be borne by the bidder. But, the cost of fooding, lodging, travel and other expenses of the trainers nominated by DTE&T for training will be borne by DTE&T Odisha.

d. **The bidders must provide every equipment wise cost breakup sheet along with aboveformat.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from contract negotiations, up to expiration of the validity period of the Proposal.

We solemnly affirm that we will strictly adhere to the laws against fraud, corruption and unethical practices, including but not limited to "Prevention of Corruption Act, 1988", during the Request for Proposal (RFP) process and execution of the Contract, in case we are awarded the work. We understand you are not bound to accept any Proposal you receive.

We remain,

Yours

sincerely,
Authorised Signature {In full and initials}:
Name and Title of Signatory:

Annexure III: Applicant Details

<< Declaration to be submitted under the signature of Authorized Representative / Signatory of the applicant agency onOfficial Letterhead and official seal >>

S. No.	Description	Details	
1	Name of Legal Constitution of Applicant		
2	Status / Constitution of the Firm		
3	Name of Authorized Signatory (Enclose letter of authorization)		
4	Contact address and number		
5	Registration Number		
6	Date of Registration		
7	Place of Registration		
8	PAN Card Number		
9	GST Registration Certificate No.		
10	Number of years in the relevant field		
11	Do you have a service centre in Eastern India? If so, please give complete address and Contact No.		
12	Primary Single Point of Contact* (For all sort of communicationpurpose)	Email:	Contact No:
13	Secondary Single Point of Contact*	Email:	Contact No:

Note*:

1. *All correspondence shall be to the aforesaid email ids only.*
2. *DTE&T shall entertain communications received from the aforesaid email ids only.*
3. *DTE&T shall not be liable if the Single point of Contact fails to convey relevant information to their organization /Authorities*
4. *DTE&T shall not entertain requests from the company to re send Emails.*

For and on behalf of:
Signature:
Name:
Designation:
(Authorized Representative and Signatory)
Date:
Note: Please provide copy of Registration Certificate from the appropriate Registering Authority

Annexure IV: Past Project Experience

SL. No	Name of Client, Contact Person, Telephone No, Mobile No, e-Mail, Physical Address	Name of Project	Project Start Date, End Date, Brief of Project	Project Cost	Status (Complete/ In Progress/ Delay)

Note: The information provided in the above table must supported by copies of relevant work order and completion certificate.

Signature of witness   Signature of the Bidder
Date: Date:
Place: Place:

Company Seal

Annexure V: Financial Details of Bidder

<< Declaration to be submitted under the signature of Chartered Accountant on Letterhead with his/her dated Sign andSeal >>

TO WHOMSOEVER IT MAY CONCERN

On the basis of audited financial statements, we hereby certify that (Name of Agency) having registered office at (Office address) has an average annual turnover of Rs._____In the last three financial years, in the past three consecutive years (FY 2020-21, 2021-22, 2022-23) for CoE. The details of annual turnover are mentioned below:

SL No	Financial Year	Annual Turnover
1	2020-2021	
2	2021-2022	
3	2022-2023	

Note: Audited financial statements for the past three years should be submitted by the Bidder.

Chartered Accountant:
Signature
Name Registration No
Contact No.
Seal
Date:
Place:

Annexure VI: An affidavit for not being black listed

<< An affidavit on a non-judicial stamp paper of INR 10/- by Company Secretary/ Authorized Representative and Signatory of the Applicant with his/her dated Sign and Seal >>

<u>**AFFIDAVIT**</u>

We, <>, having its registered office at <>, do hereby declare that the Applicant hasn't been blacklisted/ debarred by any State Government/ Central Government authority for breach on our part.

For and on behalf of:

Signature:

Name:
Designation:
(Authorized Representative and Signatory) Date:

Place:

Annexure VII: Format for Power of Attorney

(Required only if the Signatory is not directly authorized by the Company Board/Governing Body, or Partners. Otherwise the Board Resolution/Partners Resolution would suffice)

Date:

To,
The Director,
Directorate of Technical Education and Training, Odisha, Cuttack
Killa Maidan, Buxi Bazar, Cuttack – 753001.

Dear Sir,

Sub: RFP published by DTE&T to setup CoE in Home Automation, Building Automation and Industrial Automation at Govt. ITI Anandapur, JES Jharsuguda and Govt. ITI Rourkela under OMBADC districts of Odisha.

<Name of the Applicant> hereby authorizes to act as a representative of <>for the following activities vide its Board Resolution (and Power of Attorney if applicable) attached herewith.

To attend all meetings conducted by DTE&T and shall discuss, negotiate, finalize and sign any Proposal or agreement and contract related to RFP.

Yours faithfully,

For

Encl: Board resolution for Authorized signatory

Annexure VIII: Non-Disclosure Agreement Format

<u>NON DISCLOSURE AGREEMENT</u>

This Confidentiality and Non-Disclosure Agreement ("Agreement") dated ("**Effective Date**") is entered into by and between

DTE&T, ODISHA having its principal place of business at Cuttack (hereinafter referred to as **"Client"** which expression shall mean and include its parent, affiliates, sister concerns, subsidiaries and assigns),

And

……………..., a company incorporated under the provisions of ………………. and having its principal place of business at(here in after referred to as "Company" which expression shall mean and include its parent, affiliates, sister concerns, subsidiaries and assigns)

1. <u>Purpose</u>

Parties have to disclose certain confidential, technical and business information in order to avail the Services from the Company. To protect the said confidential information both the parties desires to sign this Non- Disclosure agreement.

2. <u>Disclosure of Confidential Information</u>

Either party may disclose to the other party either orally or in any recorded medium, information comprising or relating to its / or its affiliates, parent, sister concerns group companies: techniques; schematics; designs; contracts; financial information; sales and marketing plans; business plans; clients; client data; business affairs; operations; strategies; inventions; methodologies; technologies; employees; subcontractors; pricing; service proposals; methods of operations; procedures; products and/or services ("Confidential Information"). Confidential Information shall include all nonpublic information furnished, disclosed or transmitted regardless of form.

3. <u>Confidentiality</u>

Either Party shall use the Confidential Information solely in furtherance of the actual or potential business relationship between the parties. The parties shall not use the Confidential Information in any way that is directly or indirectly detrimental to the other party or its subsidiaries or affiliates, and shall not disclose the Confidential Information to any unauthorized third party.

Parties shall ensure that access to Confidential Information is granted only to those of its employees or agents ("Representatives") who have a demonstrated need to know such information in order to carry out the business purpose of this Agreement. Prior to disclosing any Confidential Information to such Representatives, party shall inform them of the confidential nature of the information and their obligation to refrain from disclosure of the Confidential Information. Each party and its Representatives will take all reasonable measures to maintain the confidentiality of the Confidential Information, but in no event less than the measures it uses for its own information of similar type. Parties and its Representatives shall not disclose to any person including, without limitation, any corporation, sovereign, partnership, limited liability company, entity or individual (i) the fact that any investigations, discussions or negotiations are taking place concerning the actual or potential business relationship between the parties, (ii) that it has requested or received Confidential Information, or (iii) any of the terms, conditions or any other fact about the actual or potential business relationship.

Each Party and its Representatives will immediately notify the other Party of any use or disclosure of the Confidential Information that is not authorized by this Agreement. Each Party and its

Representatives will use its best efforts to assist the other Party in remedying any such unauthorized use or disclosure of the Confidential Information.

Either Party shall implement and follow the rules as laid down in the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011 ['the Rules'].

Either Party shall monitor the security practices, control processes and checks in place in respect of the Confidential Information on a regular basis and disclose any breaches in the security practices, control processes and checks in place to the other Party.

The obligations contained in this Section 2 will not apply to the extent that either Party can demonstrate that the Confidential Information: (a) was part of the public domain at the time of disclosure or properly became part of the public domain, by publication or otherwise; (b) was rightfully acquired by Receiving Party prior to disclosure by Disclosing Party; (c) was independently developed by Receiving Party or its Representatives without reference to the Confidential Information; or (d) is required to be disclosed by a government company or by a proper court of competent jurisdiction; provided, however, that Receiving Party and its Representatives shall provide Disclosing Party prompt prior written notice of such requirement, shall consult with and assist Disclosing Party in obtaining a protective order prior to such disclosure, and shall only disclose the portion of Confidential Information which it has been advised by written opinion of counsel is legally required to be disclosed and shall use its best efforts to obtain assurance that confidential treatment will be accorded such information if the protective order is not obtained or if Disclosing Party waives disclosure of such information.

4. Ownership of Materials/No Warranty

Each Party retains all rights, title and interest to its Confidential Information. No license under any trademark, patent or copyright, or application for same which are no worth thereafter may be obtained by the other Party is either granted or implied by the disclosure of Confidential Information. Confidential Information is provided "as is" with all faults. In no event shall parties be liable for the accuracy or completeness of the Confidential Information.

5. Term

This Agreement shall terminate two (2) years from the Effective Date. Receiving Party's obligations with respect to confidentiality shall expire after two (2) years from the date of disclosure.

6. Return of Confidential Information

Upon written request of either Party, Parties and its Representatives shall promptly return to the other Party all copies of Confidential Information in its possession including, without limitation, all copies of any analyses, compilations, studies or other documents prepared by Receiving Party or its Representatives containing or reflecting any Confidential Information. Either Party shall certify in writing that it and its Representatives have returned all such information to the otherParty.

7. General

a) This Agreement shall be governed by and construed in accordance with the laws India without regard to its conflicts of law provisions.
b) Either Party agrees that the breach of the provisions of this Agreement by any Party will cause the other Party an irreparable damage for which recovery of money damages would be inadequate. Either Party will, therefore, be entitled to obtain timely injunctive relief to protect its rights under this Agreement in addition to any and all remedies available at law or in equity. Receiving Party and its Representatives hereby irrevocably and unconditionally consent to submit to the exclusive jurisdiction of the courts of Cuttack, Odisha for any actions, suits or proceedings arising out of or

relating to this Agreement and the transactions contemplated hereby (and agree not to commence any action, suit or proceeding relating thereto except in such courts), and further agree that service of any process, summons, notice or document by registered mail or tracked courier service to the address set for the above shall be effective service of process for any action, suit or proceeding brought against Receiving Party and its Representatives in any such court.

c) Neither party may assign any of its rights or obligations under this Agreement without the prior written consent of the other party. This Agreement shall be binding upon and inure to the benefit of the parties permitted successors and assigns.

d) This Agreement may be amended or supplemented only by a writing that is signed by duly authorized representatives of both parties.

e) No term or provision hereof will be considered waived by either party, and no breach excused by it, unless such waiver or consent is in writing signed an authorized representative of the non-breaching party. No consent to, or waiver of, a breach by a party, whether express or implied, will constitute a consent to, waiver of, or excuse of any other, different, or subsequent breach.

f) If any part of this Agreement is found invalid or unenforceable, that part will be amended to achieve as nearly as possible the same economic and legal effect as the original provision and the remainder of this Agreement will remain in full force.

g) This Agreement constitutes the entire agreement between the parties relating to this subject matter and supersedes all prior or simultaneous representations, discussions, negotiations, and agreements, whether written or oral.

h) This agreement may be executed in two counterparts, each of which shall be deemed to be an original but all of which together shall constitute one and the same agreement.

Accepted and agreed as of the date first above written by the following authorized Party representatives:

Client	**The Company**
By: _____	**By:**
Name: _____	**Name:**
Title: _____	**Title:**
Witness:	**Witness:**
Name:	**Name:**
Title:	**Title:**

Annexure-IX. Sub-Contracting Clause

The selected bidder cannot outsource or sub-contract the complete work or part of it. All the personnel considered should be on the direct payroll of the Company.

Annexure-X: Acceptance of Terms & Conditions Contained in the RFP Documents

To

Director of Technical Education and Training, Odisha,

Killa Maidan, P.O: Buxi Bazar, Cuttack-753001, Odisha

Sir,

I have carefully gone through the Terms & Conditions contained in the NIT No._____, regarding RFP Name < _____>.

I declare that all the provisions of this Tender Document are acceptable to my company. I further certify that I am an authorized signatory of my company and am, therefore, competent to make this declaration.

Signature of witness   Signature of the Bidder
Date: Date:
Place: Place:

Company Seal

Annexure XI: Self-Declaration regarding "Restrictions on procurement from a Bidder of a country which shares a land border with India"
(To be submitted on Bidder's Letter Head)

Tender Ref. No.: _____ Dated: _____

To,

The Director

Directorate of Technical Education and Training, Odisha

KillaMaidan, Buxi Bazaar, Cuttack- 753001

Phone No-0671 (2301061); Email: dtetorissa@gmail.com

Dear Sir,

In reference to bid submitted by M/s _____ against DTE&T Odisha's Tender NIT Number: _____, I/We have read the Order No: 27945 /F; dated: 16-10-2020 from Government of Odisha Finance Department regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries.

I/We certify that M/s_____ (name of Bidder) is not from such a country and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I also certify that M/s_____will not offer any products/services of entity from such countries unless such entity is registered with the Competent Authority.

I/We certify that we/our Collaborator/Tie-Up Partners are/is not from such a country or, if from such a country, have/has been registered with the Competent Authority and we will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority.

We hereby certify that we fulfil all requirements in this regard and are eligible to be considered.

_____

Date : _____   Seal of Organization & Signature

Place : _____   of Authorized Applicant

Annexure XII: <u>Bank Guarantee Format for Earnest Money Deposit (EMD)</u>

To,
Director of Technical Education and Training, Odisha
Killa Maidan, Buxi Bazaar, Cuttack- 753001
Phone No-0671 (2301061),
Email: dtetorissa@gmail.com

Whereas << name of the bidder >> (hereinafter called "the Bidder") has submitted the bid for submission of RFP # <<RFP Number>> dated <<insert date>> for <<name of the assignment>> (herein called "the Bid") to DTE&T Odisha
KNOW ALL MEN by these presents that we, <<name of the issuing bank>> having our office at <<Address>> (herein called "the Bank") are bound unto …………………………..(herein called the "Purchaser") in the sum of Rs………………………<<amount in figures>> (Rupees <<Amount in words>> only) for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the
Common seal of the said Bank………………day of…………….20….<<insert date>>
The conditions of the obligation are:
1. If the Bidder withdraws or amends, impairs or derogates from the Bid in any respect within the period of validity of this tender; or
2. If the Bidder, having been notified of the acceptance of its bid by the Purchaser during the period of validity of bid: -
a. Withdraws his participation from the bid during the period of validity of bid documents; or
b. Fails or refuses to participate for failure to respond in the subsequent Tender process after having been short listed;
c. If the Bidder fails to furnish the Performance Security for the due performance of the contract.
d. Fails or refuses to accept/execute the contract.
We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force upto and including 45 days after the period of Bid validity and any demand in respect thereof should reach the Bank not later than the above date.
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 on or before Dt…………..............Otherwise bank shall be discharged of all liabilities under this guarantee thereafter.

NOTHWITHSTANDING ANYTHING CONTAINED HEREIN:
1. Our liability under this Bank Guarantee shall not exceed Rs. <<Amount in figure>> (Rupees <<Amount in words>> only)
2. This Bank Guarantee shall be valid upto <<insert date>>
3. It is condition of our liability for payment of the guaranteed amount or any part thereof arising under this Bank Guarantee that we receive a valid written claim or demand for payment under this Bank Guarantee on or before <<insert date>> failing which our liability under the guarantee will automatically cease.

…………………………………………………………….
(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 XIV: <u>**Available Lab Space for the CoEs**</u>

SL No	Institute Name	Available Space
1	Govt. ITI Rourkela	6.40 X 10.97 Sq. Mtr.
2	JES Jharsuguda	15.35 X 6.30 Sq.Mtr.
3	Govt. ITI Anandapur	6 X 15 Sq. Mtr (Yet to be finalized)

<u>Address and Contact details:</u>

<u>Jharsuguda Engineering School (JES), Jharsuguda</u>
PO- Kalimandir Road, Jharsuguda, Odisha 768202
Principal Name: Smt. Rinita Das
Contact No. 9861132851
Email Id: principal_jes@rediffmail.com

<u>Govt. ITI Rourkela</u>
At:Jail Road, Po:Panposh, Dist: Sundargarh, PIN: 769004, Odisha
Principal Name: Sri Dhanjaya Khura
Contact No. 9439209917
Email Id: iti.rkl@rediffmail.com

<u>Govt. ITI Anandpur</u>
At/ Po.- Salapada, Dist.- Keonjhar, Odisha, Pin-758020
Principal Name: Sri Manas Ranjan Pati
Contact No. 8093395322
Email Id: itiwanandpur@gmail.com