

National Skill Development Corporation



RFP for Centre for Future Skills (CFS) model for the establishment of Energy Management and Automation Labs across identified institutions

BID No: RFP/NSDC/Academy/2026/59

Department: Academy

Date of commencement of RFP	18/08/2026
Pre bid meeting Virtual through MS Teams Pre-Bid meeting for RFP for Centre for Future Skills (CFS) model for the establishment of Energy Management and Automation Labs across identified institutions Meeting-Join Microsoft Teams	20/08/2026 at 11:30 AM
Last Date and Time for receipt of queries on mail procurement@nsdcindia.org	20/08/2026 at 05:00 PM
Last Date and Time for submission of Technical and Financial Bid	27/08/2026 at 04:00 PM
Place of Submission of Proposals	https://nsdc.eproc.in/

Kaushal Bhawan, 5th-6th Floors
New Moti Bagh, New Delhi – 110023 [INDIA]

NATIONAL SKILL DEVELOPMENT CORPORATION
Kaushal Bhawan, 5th-6th Floors New Moti Bagh, New Delhi – 110023 [INDIA]

INSTRUCTION TO BIDDERS (“ITB”)

The bidder shall submit their proposal in accordance with terms and conditions of this RFP after reading the RFP document carefully and understanding the requirement of the RFP.

A. General Provisions

1. Definitions

- 1.1. “Affiliate(s)” means an individual or an entity that directly or indirectly controls, is controlled by, or is under common control with the Bidder.
- 1.2. “Applicable Law” means the laws and any other instruments having the force of law in India.
- 1.3. “Client” means NSDC.
- 1.4. “Bidder” means a legally established professional consulting firm or an entity that may provide or provides the Services to the Client under the Contract.
- 1.5. “Contract” means a legally binding written agreement signed between the Client and the Bidder.
- 1.6. “Day” means a calendar day, unless otherwise specified as “Business Day”. A Business Day is any day that is an official working day of the Client. It excludes the Client’s official public holidays.
- 1.7. “Experts” means, collectively, Key Experts, Non-Key Experts, or any other personnel of the Bidder, Sub-Bidder or Joint Venture member(s).
- 1.8. “Government” means the government of India.
- 1.9. “in writing” means communicated in written form (e.g. by mail, e-mail, including, if distributed or received through the electronic-procurement system used by the Client) with proof of receipt.
- 1.10. “Joint Venture (JV)” means an association with or without a legal personality distinct from that of its members, of more than one Bidder where one member has the authority to conduct all business for and on behalf of any and all the members of the JV, and where the members of the JV are jointly and severally liable to the Client for the performance of the Contract.
- 1.11. “Key Expert(s)” means an individual professional whose skills, qualifications, knowledge and experience are critical to the performance of the Services under the Contract and whose CV is taken into account in the technical evaluation of the Bidder’s proposal.
- 1.12. “Non-Key Expert(s)” means an individual professional provided by the Bidder or its Sub-Bidder and who is assigned to perform the Services or any part thereof under the Contract and whose CVs are not evaluated individually.
- 1.13. “Proposal” means the Technical Proposal and the Financial Proposal of the Bidder.
- 1.14. “RFP” means the Request for Proposals to be prepared by the Client for the selection of Bidders, based on the SPD - RFP.
- 1.15. “SPD - RFP” means the Standard Procurement Document - Request for Proposals, which must be used by the Client as the basis for the preparation of the RFP.
- 1.16. “Services” means the work to be performed by the Bidder pursuant to the Contract.
- 1.17. “Sub-Bidder” means an entity to whom the Bidder intends to subcontract any part of the Services while the Bidder remains responsible to the Client during the whole performance of the Contract.
- 1.18. “Terms of Reference (TORs)” means the Terms of Reference that explains the objectives, scope of work, activities, and tasks to be performed, respective responsibilities of the Client and the Bidder, and expected results and deliverables of the assignment.

2. Introduction

- 2.1. National Skill Development Corporation (NSDC), the client intends **for RFP for Centre for Future Skills (CFS) model for the establishment of Energy Management and Automation Labs across identified institutions (hereinafter called “Bidders”)** as per of this RFP.
- 2.2. The Bidders are invited to submit a Technical Proposal and a Financial Proposal against this RFP. The Proposal will be the basis for negotiating and ultimately signing the Contract with the selected Bidder.
- 2.3. The Bidders should familiarize themselves with the local conditions and take them into account in preparing their Proposals.
- 2.4. Pre-Proposal meeting will be held on date and time as specified in the important dates. Attending any such pre-proposal meeting is optional and is at the Bidder's expense.
- 2.5. The Client will timely provide, at no cost to the Bidders, the inputs, relevant project data, and reports required for the preparation of the Bidder's Proposal.
- 2.6. The information contained in this document or information provided subsequently to bidder(s) whether verbally or in documentary form by or on behalf of NSDC, is on the terms and conditions set out in this document and all other terms and conditions subject to which such information is provided. This document is not an agreement and is not an offer or invitation by NSDC to any parties other than the bidder(s) who are qualified to submit the bids (hereinafter individually and collectively referred to as —Bidder or —Bidders respectively). The purpose of this document is to provide the Bidders with information to assist the formulation of their proposals. This document does not claim to contain all the information each Bidder requires. Each Bidder may conduct its own independent investigations and analysis and is free to check the accuracy, reliability, and completeness of the information in this document. NSDC makes no representation or warranty and shall incur no liability under any law, statute, rules, or regulations as to the accuracy, reliability, or completeness of this document. The information contained in the document is selective and is subject to updating, expansion, revision, and amendment.
- 2.7. NSDC reserves the right of discretion to change, modify, reject, add to, or alter any or all of the provisions of this document and/or the bidding process, without assigning any reasons whatsoever. NSDC in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this document. NSDC reserves the right to reject any or all proposals received in response to this document at any stage without assigning any reason whatsoever. The decision of NSDC shall be final, conclusive, and binding on all the parties.

3. Conflict of Interest

- 3.1. The Bidder is required to provide professional, objective, and impartial advice, always holding the Client's interests' paramount, strictly avoiding conflicts with other assignments or its own corporate interests and acting without any consideration for future work.
- 3.2. The Bidder has an obligation to disclose to the Client any situation of actual or potential conflict that impacts its capacity to serve the best interests of its Client. Failure to disclose such situations may lead to the disqualification of the Bidder or the termination of its Contract and/or sanctions by NSDC.
- 3.3. Without limitation on the generality of the foregoing, the Bidder shall not be hired under the circumstances set forth below:
 - 3.3.1. **Conflicting activities:** Conflict between consulting activities and procurement of goods, works or non-consulting services: a firm that has been

engaged by the Client to provide goods, works, or non-consulting services for a project, or any of its Affiliates, shall be disqualified from providing consulting services resulting from or directly related to those goods, works, or non-consulting services. Conversely, a firm hired to provide consulting services for the preparation or implementation of a project, or any of its Affiliates, shall be disqualified from subsequently providing goods or works or non-consulting services resulting from or directly related to the consulting services for such preparation or implementation.

3.3.2. Conflicting assignments Conflict among consulting assignments: a Bidder (including its Experts and Sub-Bidders) or any of its Affiliates shall not be hired for any assignment that, by its nature, may be in conflict with another assignment of the Bidder for the same or for another Client.

3.3.3. Conflicting relationships Relationship with the Client's staff: a Bidder (including its Experts and Sub-Bidders) that has a close business or family relationship with a professional staff of NSDC who are directly or indirectly involved in any part of (i) the preparation of the Terms of Reference for the assignment, (ii) the selection process for the Contract, or (iii) the supervision of the Contract, may not be awarded a Contract, unless the conflict stemming from this relationship has been resolved in a manner acceptable to NSDC throughout the selection process and the execution of the Contract.

4. **Corrupt and Fraudulent Practices:**

The Client requires compliance with its policy regarding corrupt and fraudulent practices as cause their agents, Experts, Sub-Bidders, subcontractors, services providers, or suppliers to permit NSDC to inspect all accounts, records, and other documents relating to the submission of the Proposal and contract performance (in case of an award), and to have them audited by auditors appointed by NSDC.

5. **ELIGIBILITY CRITERIA:**

5. Document to be Submitted by the Bidder		
SN	Description	Documents/ Copies to be submitted
5.1.	The bidder should be a company registered in India under applicable laws. The Bidder should have valid PAN/GST registration.	▪ Certificate of Incorporation/Registration Certificate/partnership deed ▪ Registration for GST ▪ PAN
5.2	The Bidder should have Average Annual Turnover of the financial years 2022-2023, 2023-24, 2024-25 should be at least Rs. 05 Crores. This must be the individual company turnover and not of any group of companies.	CA-certified Turnover Statement with UDIN; Audited Financial Statements
5.3	A Board Resolution / authorization letter from the board of directors or Power of Attorney authorizing the Bid signing in favor of Bidder representative who would be signing all the pages of the bid.	Board Resolution / authorization letter from the Board of directors / or Power of Attorney

5. Document to be Submitted by the Bidder		
SN	Description	Documents/ Copies to be submitted
5.4	The bidder shall submit a valid Manufacturer's Authorization Letter / OEM Authorization on Letter for education partner from the respective OEM separately (As per Annexure V)	The OEM authorization letter must be: • On the OEM's official letterhead mentioned authorized partner detail. • Signed and stamped by an authorized signatory of the OEM • The OEM agrees to provide warranty and technical support for the supplied products. Note: Failure to submit valid OEM authorization letters for each item shall result in rejection of the bid at the pre-qualification stage. • In order to bring the best expertise for the trainees, OEM is envisaged to be a Global OEM of Electrical and Automation Products (ACBs, MCCBs, PLC, SCADA software, COBOT) having multi country presence with manufacturing facilities in India and at least 10 other countries. • OEM must have an annual turnover of at lease INR 1000 Crores in India over the last 3 Financial years 2022-2023, 2023-24, 2024-25. • The proposed training solutions must be available on the Global website of the OEM, link of the Global website must be shared along with the bid.
5.5	Blacklisting Declaration: ▪ The Bidder (Agency) should never have been involved in any illegal activity or financial fraud. ▪ The Bidder (Agency) and its affiliates should not have been blacklisted by any Government Agency / Public Sector Undertaking / Autonomous Bodies of	Undertaking on letter head / self-declaration.

5. Document to be Submitted by the Bidder		
SN	Description	Documents/ Copies to be submitted
	Government / Reputed Corporates for breach of applicable laws or violation of regulatory provisions or breach of agreement.	

Note: Relevant legible certificates/documents in support of the fulfilment of each of the eligibility criteria must be submitted, otherwise bids will not be considered.

6. Technical Criteria:

S. No.	Technical Evaluation Criteria and sub-criteria	Maximum Marks
1	<u>Organizational Experience</u> The Bidder/OEM should have demonstrated experience in establishing and operating Technology Labs, Centres of Excellence (CoEs), Innovation Labs, or Training Centres for educational institutions, government, or industry. Maximum 4 project to be consider. Each assignment having 5 marks (5X4=20) <u>Required Documents:</u> • Work Orders or Contracts or • Work Completion Certificates or • Agreement Copy Scope of work should be mentioned in above required document	20
2	<u>Experience in Engineering Education & Future Skills:</u> The Bidder/ OEM should have proven experience in delivering engineering education, technical skilling, or future-skills programs aligned with emerging technologies Maximum 4 project to be consider. Each assignment having 5 marks (5X4=20) <u>Required Documents:</u> • Work Orders or Contracts or • Work Completion Certificates or • Agreement Copy Scope of work should be mentioned in above required document.	20
3	<u>Training Capability & Outcomes:</u> The bidder should have successfully trained a significant number of learners through similar programs and demonstrate measurable learner outcomes such as certifications, placements, internships, or industry engagement. <u>Required Documents:</u> No's of trained candidate: 100- 05 Marks No's of trained candidate: 200- 07 Marks No's of trained candidate: 500- 10 Marks	10
4	<u>Project Implementation Approach & Methodology</u> The bidder should have a well-defined project implementation methodology covering planning, deployment, governance, monitoring, risk management, and sustainability of the proposed solution. The bidder should provide an industry-aligned curriculum with an outcome-based learning approach, incorporating practical, project-based, and experiential learning methodologies. <u>Required Documents:</u>	50

S. No.	Technical Evaluation Criteria and sub-criteria	Maximum Marks
	The bidder must submit a technical presentation (10–15 slides) along with technical proposal for review by the Technical Evaluation Committee. If required NSDC may call for virtual or physical presentation.	
	Total Marks	100

Note : Technical evaluation with a minimum qualifying score of 70 marks

7. Method of Selection & Award of Contract (QCBS)

1.1 The method of selection applicable under this RFP is **Quality and Cost-Based Selection (QCBS): 70:30**

- In deciding the selection of the Bidder, the technical quality of the proposal will be given a weightage of technical proposal 70 %. The method of evaluation of technical qualification will follow the procedure as given in RFP. The price bids of only those consultants who qualified technically will be opened. The financial proposal shall be allocated a weightage of financial proposal - 30 %.
- The calculation formula is given below

Technical Score (Ts) = (Bidder's Technical Score / Highest Technical Score) X 100

Bidder's Technical Score = Technical Score achieved by the Bid

Highest Technical Score = Technical Score achieved by the Bid that was scored best among all responsive Bids

Commercial Score (Cs) = (Lowest commercial Score / Bidders commercial Score) X 100

Lowest Commercial Score = The lowest of all evaluated Bid price among responsive Bids

Bidders Commercial Score = The evaluated bid price

The Final Score for a bidder will be calculated using the formula given below:

Final Score (F) = (Ts x Technical Weightage) + (Cs x Financial Weightage)

The Bid with the best evaluated Bid Score (B) among responsive Bids shall be the most Advantageous Bid.

- Total Score will be calculated on the Technical and Financial marks awarded by the committee members and the applicable QCBS weightage.
- The Consultant achieving the highest combined technical and financial score will be invited for negotiations on the contract.
- In case two or more consultants achieve the same score, preference will be given to bidder with the highest technical score. If further scores are the same then, the Client reserves the right to negotiate/ select one or more consultants based on technical and financial proposals.
- Negotiation & Award of Contract

8. Incidental Services

The Bidder shall be required to perform the following services:

- Supply, Installation, commissioning and Turnkey works, and Demonstration of the goods.
- Providing required jigs and tools for assembly, for the completion of the installation.
- Supplying required number of operation & maintenance manual for the goods.

9. Insurance

- 9.1. The tenderer shall decide for insuring the goods against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the following manner:
- 9.2. The tenderer shall be responsible till the entire stores/equipment's contracted for arrival in good condition at Free Delivery at Consignee's/destination site basis.
- 9.3. The transit risk in this respect shall be covered by the Supplier by getting the goods/equipment duly insured.
- 9.4. The insurance cover shall be obtained by the Supplier and should be valid till 3 months after the receipt of goods by the Consignee.

10. Payment Terms:

- 10.1. All payments will be made to the Bidder in Indian Rupees only.
- 10.2. An amount equivalent to seventy percent (70%) of the total Contract Value / Purchase Order (PO) Value shall be released upon successful supply, of all equipment and completion of the scope of work, subject to verification and certification by the Institute and/or an authorized NSDC official.
- 10.3. The balance thirty percent (30%) of the total Contract Value / PO Value shall be released after a period of 30 days from the date of completion of installation and commissioning, subject to satisfactory performance of the installed systems and successful inspection, verification, and acceptance by the Institute and/or an authorized NSDC official.
- 10.4. **If the bidder requires an advance payment, a Bank Guarantee (BG) for an equivalent amount must be provided in the prescribed BG format.**
- 10.5. The proposed commercials shall be reviewed every calendar year, or NSDC may initiate a fresh RFP.
- 10.6. Notwithstanding the above, in the event of an exceptional and abnormal escalation in input costs on account of extraordinary market/global conditions, NSDC may, at its sole discretion, consider a review of the commercials on a case-to-case basis even prior to completion of the calendar year, subject to submission of valid documentary proof by the Bidder substantiating such price escalation, to NSDC's satisfaction.

11. Performance Security / Bank Guarantee:

- 11.1. Within the 10 days of Issuance of Purchase Order, the successful bidder must submit the performance bank guarantee for an amount of {5%} of the total contract value / P O value (including taxes) (Sole discretion of NSDC) to the Client's.
- 11.2. The performance bank guarantee shall be denominated in Indian Rupees only.
- 11.3. If the Successful Bidder fails to furnish the performance bank guarantee within 10 days, it shall be lawful for the Client at its discretion debarring for 2 years to participate in any tender, etc.
- 11.4. The Performance bank guarantee shall be in the form of an unconditional and irrevocable bank guarantee issued by a nationalized/scheduled bank located in India acceptable to the Client, in the format provided by the Client (refer Schedule-V). Other banks' performance bank guarantee will not be accepted by the client.
- 11.5. The Performance bank guarantee shall remain valid up to 90 days after completion

of all contractual obligations by the successful bidder, including the warranty obligations.

12. Modification in the Value / Scope of the contract

12.1. NSDC reserves the right to increase or decrease the project order/scope during the tenure of the contract as per the following.

12.1.1. In case of decrease in project parameters, NSDC will give 15 days' written notice to the agency, the agency to ensure the required knowledge transfer and share other relevant documents of the project with the allocated team member of the agency.

13. Warranty:

13.1. The supplier warrants that all the goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and material.

13.2. The warranty shall remain valid for twelve months (12 months Minimum) from the date of completion of installation, commission and training of delivered goods. A certificate duly signed by consignee and supplier's representative is the proof of completion of installation, commissioning and training of delivered goods.

13.3. In case of any issues in the delivered goods during warranty, purchase shall send a information/notice to the supplier. The supplier shall within a period of 3 days, with all reasonable speed, repair or replace the defective goods or parts thereof, free of cost at the ultimate destination.

13.4. In case of replacement of defective parts during the warranty period, the warranty of corrected or replace material shall be extended to further 12 months from date of replacement.

14. Packing and Marking

14.1. The packing for the goods to be provided by the successful bidder should be strong and durable enough to with stand, without limitation, the entire journey during transit including trans-shipment (if any), rough handling, open storage etc. without any damage, deterioration etc. As and if necessary, the size, weights and volumes of the packing cases shall also take into consideration, the remoteness of the final destination of the goods and availability or otherwise of transport and handling facilities at all points during transit up to final destination as per the contract.

15. Inspection, Testing and Quality Control

15.1. The NSDC/Purchaser and/or its nominated representative(s) may, without any extra cost to the purchaser, inspect and/or test the ordered goods and the related services to confirm their conformity to the contract specifications and other quality control details incorporated in the contract. The purchaser shall inform the tenderer in advance, in writing, the NSDC/ Purchaser's programme for such inspection and, also the identity of the officials to be deputed for this purpose. The cost towards the transportation, boarding& lodging will be borne by the NSDC /Purchaser and/or its nominated representative(s) for the first visit. In case the goods are rejected in the first instance and the supplier requests for re-inspection, and if same is accepted by NSDC/ purchaser/consignee, all subsequent inspections shall be at the cost of the supplier. The expense will be to and fro Economy Airfare, Local Conveyance, Boarding and Lodging of the inspection team for the inspection period.

- 15.2. If during such inspections and tests the contracted goods, fail to conform to the required specifications and standards, the NSDC/ Purchaser's inspector may reject them and the tenderer shall either replace the rejected goods or make all alterations necessary to meet the specifications and standards, as required, free of cost to the NSDC/Purchaser and resubmit the same to the NSDC/ Purchaser's inspector for conducting the inspections and tests again.
- 15.3. In case the contract stipulates pre-dispatch inspection of the ordered goods at supplier's premises, the tenderer shall put up the goods for such inspection to the Tender Inviting Authority/Purchaser's inspector well ahead of the contractual delivery period, so that the purchaser's inspector is able to complete the inspection within the contractual delivery period.
- 15.4. The Technical Specification and Quality Control Requirements incorporated in the contract shall specify what inspections and tests are to be carried out and, also, where and how they are to be conducted. If such inspections and tests are conducted in the premises of the supplier or its sub-contractor(s), all reasonable facilities and assistance, including access to relevant drawings, design details and production data, shall be furnished by the supplier to the NSDC/Purchaser's inspector at no charge to the Tender Inviting Authority/Purchaser.
- 15.5. The NSDC /Purchaser's contractual right to inspect, test and, if necessary, reject the goods after the goods arrival at the final destination shall have no bearing of the fact that the goods have previously been inspected and cleared by NSDC/ Purchaser's inspector during pre-dispatch inspection mentioned above.

B. Preparation of Proposals

16. **General Considerations:** In preparing the Proposal, the Bidder is expected to examine the RFP in detail. Material deficiencies in providing the information requested in the RFP may result in rejection of the Proposal.
17. **Cost of Preparation of Proposal:** The Bidder shall bear all costs associated with the preparation and submission of its Proposal, and the Client shall not be responsible or liable for those costs, regardless of the conduct or outcome of the selection process. The Client is not bound to accept any proposal and reserves the right to annul the selection process at any time prior to selection, without thereby incurring any liability to the Bidder.
18. **Language:** The Proposal, as well as all correspondence and documents relating to the Proposal exchanged between the Bidder and the Client, shall be written in "English".
19. **Documents Comprising the Proposal:** The Proposal shall comprise the documents and forms listed in Annexures.
20. **Proposal Validity:** Bidder's Proposal must remain valid up to 180 days after the Proposal submission deadline. During this period, the Bidder shall maintain its original Proposal without any change, including their availability. If it is established that any Bidder was not available at the time of Proposal submission or was included in the Proposal without his/her confirmation, such Proposal shall be disqualified and rejected for further evaluation.
 - 20.1. **Extension of Validity Period:** The Client will make its best effort to complete the negotiations within the proposal's validity period. However, should the need arise, the Proposals' validity will automatically extend by 180 days more.
 - 20.2. Extension of validity of the Proposals shall be done without any change in the original Proposal and with the confirmation of the availability of the staff.

21. Proposal / Bid Security: (Not Applicable)

22. Contract Duration: The overall project tenure shall be Seven (07) years from the date of successful installation, testing, commissioning, and acceptance of the equipment. The bidder shall ensure continuous operational support for the entire project duration.

The quoted price shall include:

- i. Supply, installation, testing, and commissioning of all equipment.
- ii. Training of trainers as per the scope of work.
- iii. Certification of Student
- iv. Warranty support for the period as per OEM policy.
- v. Software licenses, updates, firmware upgrades, and technical support required for effective utilization of the equipment during the project period.
- vi. Availability of spare parts and service support throughout the 7-year project tenure.
- vii. The bidder shall submit a detailed support plan covering preventive maintenance, corrective maintenance, response time, escalation matrix, and training schedule for the entire project
- viii. The proposed commercial shall be reviewed in every Calander year or NSDC may initiate fresh RFP.
- ix. *Notwithstanding the above, in the event of an exceptional and abnormal escalation in input costs on account of extraordinary market/global conditions, NSDC may, at its sole discretion, consider a review of the commercials on a case-to-case basis even prior to completion of the calendar year, subject to submission of valid documentary proof by the Bidder substantiating such price escalation, to NSDC's satisfaction.*

23. Sub-Contracting: Subcontracting of some or whole of the service is not allowed.

24. Clarification and Amendment of RFP: The Bidder may request clarification on any part of the RFP till the date as mentioned in the important dates of the RFP. Any request for clarification must be sent in writing, by email to the Client's email address: procurement@nsdcindia.org. The Client may respond in writing, by email, or will upload responses (including an explanation of the query but without identifying its source) to all Consultants. Should the Client deem it necessary to amend the RFP because of a clarification, it shall do so following the procedure described below:

- 24.1. At any time before the proposal's submission deadline, the Client may amend the RFP by issuing an amendment in writing or by standard electronic means. The amendment shall be shared with the Bidders.
- 24.2. Any addendum/corrigendum issued shall form an integral part of the RFP document.
- 24.3. Bidders may regularly visit the NSDC website for any corrigendum/addendum, updated information with respect to RFP and matter incidental thereto.
- 24.4. If the amendment is substantial, or there is technical issue in submission of bids, the Client may extend the proposal submission deadline to give the Bidders reasonable time to take an amendment into account in their Proposals.
- 24.5. The Bidder may submit a modified Proposal or a modification to any part of it at any time prior to the proposal submission deadline. No modifications to the Proposal shall be accepted after the deadline.

22. Confidentiality: From the time the Proposals are opened to the time the contract is awarded, the Bidder should not contact the Client on any matter related to its Technical Proposal.

- 22.1. Information relating to the evaluation of Proposals and award recommendations shall not be disclosed to the Bidders who submitted the Proposals or to any other party not officially concerned with the process, until the selection.

- 22.2. Any attempt by Bidders or anyone on behalf of the Bidder to influence improperly the Client in the evaluation of the Proposals or selection decisions may result in the rejection of its Proposal.
- 22.3. Notwithstanding the above provisions, from the time of the Proposals' opening to the time of selection, if a Bidder wishes to contact the Client on any matter related to the selection process, it should do so only in writing.
- 22.4. This document is meant for specific use by the bidders interested in participating in the current tendering process. This document in its entirety is subject to Copyright Laws. NSDC expects the bidder or any person acting on behalf of the bidders to strictly adhere to the instructions given in the document and maintain confidentiality of information. The bidders shall be held responsible for any misuse of information contained in the document if such a circumstance is brought to the notice of NSDC. By downloading the document, the interested party is subject to confidentiality clauses.

23. Negotiations and Award

- 23.1. The Bidder eligible for award of work will be issued an agreement/Purchase Order and will be requested for their review and signatures.
- 23.2. In case the bidder does not agree on terms of contract/PO, next ranked bidder will be approached.
- 23.3. The discussions are concluded with a review of the Contract, which then shall be initialed by the Client and the Bidder's authorized representative.
- 23.4. Abnormally low or high bids can be checked for accuracy and understanding with respective bidder/s.
- 23.5. The decision of NSDC will be final and binding upon all Bidders.

24. Notice to proceed

- 24.1. NSDC will initially inform the successful bidder through an email enclosing the copy of the notice to proceed to start the work. The timeline will start from the date of notice to proceed.

25. Signing of the Contract

- 25.1. NSDC will share the draft copy of contract with the successful bidder after completion of the procurement process on the basis of the technical and financial evaluation, marks scored in technical evaluation, understanding of the capabilities of the service provider and negotiation (if any).

26. Issuance of Purchase Orders

- 26.1. NSDC will issue a Purchase Order at the earliest after submission of Vendor Registration form and other KYC documents (if required) by successful bidder subject to verification of the documents by NSDC.
- 26.2. Based on service provider satisfactory performance, subsequent, POs will be issued for additional projects / assignments.
- 26.3. However, if service provider performance does not meet NSDC's expectations, no further POs will be issued, and contract can be terminated at the Client's discretion in writing by giving 30 days' notice to the Bidder.
- 26.4. The bidder in these 30 days will ensure that they share / transfer all the knowledge, deliverable, software, documents developed during the period for this project to the Client or an agency appointed by the Client.

27. Locations:

Zone	States Covered	Location Count
North Zone	Haryana, Himachal Pradesh, Punjab, Rajasthan, Uttar Pradesh	7
West Zone	Gujarat, Maharashtra, Goa, Madhya Pradesh	6
South Zone	Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana	8
East Zone	Bihar, Jharkhand, Odisha, West Bengal	5
Central & North-East Zone	Assam, Chhattisgarh	4

28. Phase-wise Delivery Schedule

Activity	Timeline
Supply of Equipment at Site	Within 90 days of PO/contract Signing <i>Bidder to inform the delay for any specific item(s) with a valid reason in advance)</i>
Installation and Integration of Equipment	Within 10 days from date of delivery
Testing & Commissioning	Within 10 days from completion of installation

29. Deduction of Liquidated Damages (LD)

29.1 Notwithstanding anything contained herein, all payments shall be subject to deduction of applicable Liquidated Damages (LD), if any, as stipulated in the Contract/RFP, for delay, non-performance, or partial performance. Such LD shall be deducted from the respective invoice(s) or adjusted/recovered from the Performance Security, at the discretion of NSDC, without prejudice to any other rights or remedies available under the Contract

29.2 In the event of failure by the bidder to achieve any of the above milestones within the stipulated timelines, Liquidated Damages (LD) shall be levied at the rate of 0.5 % of the total contract value for each week or part thereof of delay, subject to a maximum of 5 % of the total contract value.

For the purpose of LD calculation:

- Delay in supply shall be calculated after expiry of the 30-day supply period.
- Delay in installation shall be calculated after expiry of 10 days from the date of delivery.
- Delay in testing and commissioning shall be calculated after expiry of 10 days from completion of installation.
- Delay in completion of any subsequent mandatory training activities specified in the contract may also attract LD as determined by the Purchaser.

29.3 If the delay continues beyond the period corresponding to the maximum LD of 5%, the Purchaser reserves the right to:

- Cancel/terminate the contract wholly or partially;
- Forfeit the Performance Security/Performance Bank Guarantee;
- Procure the goods and services from alternative sources at the risk and cost of the bidder; and
- Take any other action deemed appropriate under the contract.

No Liquidated Damages shall be applicable for delays attributable to the Purchaser or due to Force Majeure events duly accepted by the Purchaser.

Milestone-Linked Table

1. Milestone-wise Liquidated Damages per institutions

Sl. No.	Milestone	Prescribed Timeline	LD for Delay	Maximum LD per Milestone
1	Execution of Agreement	Within 15 days of issuance of Letter of Intent (LoI)	0.25% of total Contract Value/PO Value per week or part thereof	2% of total Contract Value
2	Submission of approved Bill of Materials (BOM) / Quotations	Within 15 days of execution of Agreement	0.5% of total Contract Value/PO Value per week or part thereof	3% of total Contract Value
3	Procurement, delivery, and receipt of Infrastructure Items at each designated centre location	Within 90 days from NSDC's written approval of the BOM	0.5% of total Contract Value/PO Value per week or part thereof	5% of total Contract Value
4	Installation, integration, and commissioning of Infrastructure Items at each designated centre location	Within 15 days from delivery of equipment at site	0.5% of total Contract Value/PO Value per week or part thereof	5% of total Contract Value
5	Submission of Commissioning Report duly countersigned by NSDC, Host Institution, and Selected Bidder	Within 7 days from completion of commissioning	0.25% of total Contract Value/PO Value per week or part thereof	2% of total Contract Value

Quality-Linked Liquidated Damages (LD)

1.	In addition to the timelines specified above, the Selected Bidder shall ensure that all Goods, Infrastructure Items, and Services delivered under the Contract strictly conform to the prescribed technical specifications, standards, and quality benchmarks as approved by NSDC.
2.	In the event of any deficiency in quality, including but not limited to sub-standard materials, deviation from approved specifications, improper installation, poor workmanship, or failure to meet performance requirements, the following provisions shall apply: • NSDC shall have the right to impose Quality-Linked Liquidated Damages (LD) at the rate of 0.5% of the total Contract Value/PO Value per instance of non-compliance, subject to a maximum of 5% of the total Contract Value/PO Value. • The Bidder shall be required to rectify, replace, or re-execute the deficient work/items at its own cost within the timeline specified by NSDC. Any delay in such rectification shall additionally attract timeline-based LD as applicable. • In cases of repeated or material quality failures, NSDC reserves the right to reject the deliverables, cancel the Work Order/Contract (in whole or in part), and/or invoke the Performance Security and/or Advance Payment Security, as applicable, in accordance with the provisions of the Contract. • The decision of NSDC regarding determination of quality deficiency and imposition of LD shall be final and binding.

TERM OF REFERENCE

1. Introduction

National Skill Development Corporation (NSDC) intends to establish a network of Centres for Future Skills in its partner engineering colleges to strengthen industry-aligned technical education, improve employability, and create scalable institutional capacity for emerging technology domains. The attached reference RFP uses a turnkey Centre of Excellence model covering infrastructure setup, curriculum development, training delivery, faculty development, certification support, and post-commissioning operations, which is suitable for adaptation into an NSDC-led multi-college program

The proposed Centres for Future Skills are envisaged as hands-on learning, innovation, and industry engagement hubs within partner engineering colleges. The reference document emphasizes advanced automation, energy management, Industry 4.0, practical labs, software tools, qualified trainers, and industry linkages, all of which can be broadened by NSDC into a future-skills framework for engineering institutions

2. Purpose of RFP

The purpose of this RFP is to identify and empanel one or more eligible System Integrators for designing, setting up, and operationalizing Centres for Future Skills at selected NSDC partner engineering colleges across India. The selected bidder(s) shall deliver the project on a turnkey basis, including lab infrastructure, digital learning systems, curriculum and content, faculty development, student training, assessments, certification support, industry engagement, and operations management for the defined contract period

This RFP also seeks to create a replicable and scalable institutional model that can be deployed across multiple colleges with standardization in quality, governance, technology architecture, and outcome measurement. The reference document explicitly positions the Centre model as scalable and replicable across technical institutions, which supports adopting a hub-and-spoke or multi-campus rollout approach under NSDC.

3. Objectives:

- Establish Centres for Future Skills in selected NSDC partner engineering colleges as industry-aligned training and applied learning hubs.
- Create modern, experiential lab environments in emerging domains such as automation, Industry 4.0, artificial intelligence, data analytics, cybersecurity, IoT, robotics, EV technology, smart manufacturing, renewable energy integration, and energy management, with the final domain mix to be specified by NSDC in each work order.
- Strengthen employability of engineering students, diploma learners, faculty, and local youth through practical, certification-oriented, industry-relevant learning.
- ☐ Build faculty and institutional capacity through training, train-the-trainer interventions, operational SOPs, and academic integration.
- ☐ Enable industry collaboration, internships, apprenticeships, live projects, and placement-oriented engagement.
- ☐ Establish measurable outcomes and a sustainable operating framework for the Centres beyond initial setup.

4. Scope of Work:

The broad scope of work for the selected bidder(s) shall include the following:

4.1 Project Planning and Design

- Undertake site assessment of allotted engineering colleges
- Identify the training curriculums needed for enhancing employability
- Assess the site and suggest the relevant training hardware and software.

4.2 Project Planning and Design

- Supply, install, integrate, test, and commission all required hardware, lab systems, software, licenses, peripherals, furniture etc. for the Lab
- Ensure compliance with applicable safety, quality, and institutional standards.
 - o Create functional labs and learning stations for hands-on training in identified future-skills domains. The reference RFP similarly requires complete installation and commissioning of lab infrastructure, modern learning stations, panels, software tools, and associated hardware for practical learning

5. Institutional Model

Each Centre for Future Skills should function as a campus-level capability hub anchored within a partner engineering college. Depending on NSDC strategy, the centre may support the host institution directly and may additionally serve nearby colleges through shared access, faculty immersion, remote learning, or scheduled utilization.

The selected bidder(s) may be required to implement a standardized architecture across multiple colleges while allowing limited customization based on local sector demand and institutional readiness. This approach extends the reference model, which was designed as a centralized training and innovation hub with strong industry integration and institutional capacity building

6. Roles and Responsibilities

6.1 Responsibilities of NSDC

- Identify partner engineering colleges and issue implementation allocation.
- Provide overall governance, project oversight, and review mechanisms.
- Facilitate coordination with colleges and approve key deliverables.
- Release PO and payments as per approved milestones.

6.2 Responsibilities of Partner Engineering Colleges

- Provide identified space, basic utilities, permissions, and nodal officers.
- Support mobilization of students and faculty.
- Integrate approved training offerings into academic or co-curricular structures as feasible.
- Support centre security, basic upkeep, and institutional coordination.

6.3 Responsibilities of Selected Bidder(s)

- Supply and install the training solutions.
- Deliver all infrastructure, software, content, , training of trainer, and reporting obligations.
- Maintain uptime, serviceability, and compliance for all installed systems.

7. Eligibility Criteria

The bidder shall be a single legal entity. Consortiums are disallowed. The reference document permits a single entity bidder and disallows JV or consortium participation while allowing a technology partner arrangement, which may be retained or modified by NSDC.

8. Scope of work: Procurement and deployment of the below equipment as per BOM shared at the time of order. PO will be generated institute wise:

Sr. No.	Part Ref	Quantity
1	CCTV training module	1
2	Fire alarm and public address training	1
3	Home Automation Training module	1
4	Accessories for Building Automation	1
5	Integrated Building Management System	1
6	Industrial Controls and drives	8
7	Training Motor	4
8	Power and control pack with wiring and sensors	4
9	Accessories for Industrial Installation Controls and Drives	4
10	PLC programing kit	2
11	Static panel	1
12	Industrial Sensor case	1
13	SCADA and Industrial Communication	2
14	Robotics and motion control	1
15	Digital Factory	1
16	IIOT Supervision Development and predictive maintenance bench	2
17	OT Cybersecurity	1
18	Smart IOT Power Distribution	1
19	Critical Power supply operation and maintenance training device	1
20	Smart LV Panel (Main LV Switchboard Cabinet for Professional Training)	1
21	Electrical CAD Software	1
22	Power system Design and Validation software	1

In addition to infrastructure, the RFP will comprehensively cover the following scope:

1. Content and curriculum
2. Pedagogy and delivery framework
3. Modular integration within academic programs
4. Train-the-trainer support
5. Assessment and certification framework
6. Student engagement and outcome tracking

Technical specs of the Training Solutions

1	CCTV and access control pack Tender Specifications: The didactic package is designed to study the system architecture, various components used in CCTV and Access Control system used in residential, commercial, and industrial installations. This building automation lab should be designed to have wooden wiring cubicles installed representing 3-dimensional room to allow even surfaces for equipment installation similar to any residential or commercial installations. The dimensions of cubicles should be minimum enough to accommodate CCTV system, Fire alarm system and the home automation system in the same cubicle. This package is designed in a kit format to enable the learners to achieve the following learning objectives: • Know the analog and IP CCTV System • Different types of cameras, lens, cable types, POE switches etc. • Know different types of recording, storage calculation, analytics • Configure CCTV software and integrate cameras for live viewing and recording playback • Know access control basics like card technologies, reader type, locks, tailgating, antipass back • Configure access software, create personnel, access rights and its working • Integrate access control with CCTV VMS so that live viewing can be seen on access alarm • Carry preventive and corrective maintenance of system Detailed Product Description: • Bullet camera - IP - 1.3mp HD video – 1 Qty • 1/3" CMOS, Lens 4mm – 1 Qty • Dome camera - IP - 2mp, 1/3" CMOS, 4mm – 1 Qty • 4 channel NVR - 4CH video, 1CH audio, HDMI/VGA resolution, 1SATA (4 TB) – 1 Qty • 8 port 10/100 switch with 4 port POE (53W) – 1 Qty • 1TB hard disk – 1 Qty	1 Set
---	---	-------

- 2 door intelligent TCP/IP networkable access controller – 1 Qty
- Power supply, 12VDC - 5 Amps – 1 Qty
- Card readers proximity – 1 Qty
- Card readers smart – 1 Qty
- Electronic lock – 2 Qty
- Exit push button – 2 Qty
- Access card proximity – 2 Qty
- Access card smart – 2 Qty
- 19-inch LCD display with HDMI and VGA input – 1 Qty
- Accessories - 6U rack 1 Qty
- CAT 6 cable – 50 Mtr
- 2 core 1.0 Sq.mm unarmored cable – 50 Mtr
- 8 core 0.75 Sq.mm unarmored cable – 50 Mtr
- Activation indicator at top – 1 Qty
- 4P 25A MCB – 1 Qty
- 6A Socket – 1 Qty
- 6A Switch – 6 Qty
- 3 Module cover plate – 3 Qty
- 2 Module plate for CCTV and access – 2 Qty

Applicable Software:

- CCTV Configuration tool: License Type - Permanent
- Access control software - Licensed Security Management Software: License Type - Permanent

Electrical Characteristics:

- Voltage: 230V, 1P+N+E
- Frequency: 50/60 Hz $\pm$ 5%

**The kit components to be installed on a suitable artwork depicting a particular setup.*

**The equipment should be supported with relevant technical and practical manuals.*

2	Fire Alarm and Public Address System Tender Specifications: This bench is designed to introduce the aspect of building safety and general announcement systems. This bench comprises of Fire Alarm and Public Address System. This Fire Alarm and Public Address System allows the learner to understand the system architecture, install the system components based on zones for detection and announcement, create electrical connections, powering up the system and finally configuring them to make it operational as desired. This building automation lab should be designed to have wooden wiring cubicles installed representing 3-dimensional room to allow even surfaces for equipment installation similar to any residential or commercial installations. The dimensions of cubicles should be minimum enough to accommodate CCTV system, Fire alarm system and the home automation system in the same cubicle The fire alarm and public addressing pack to designed in a kit format to enable the learners to achieve the following learning objectives: • Study the various standards and regulations relating to a fire alarm system • Know different types of devices and detectors and wiring types • Install and configure graphical software and integrate with BMS software • Carry preventive and corrective maintenance of system. • Know different types of speakers, amplifier selection, zoning concept • Install and connect Public Address System with Fire Alarm System for emergency announcement. Detailed Product Description: • Analog addressable fire alarm control panel with minimum 3 programmable discrete inputs – 1 Qty • Multisensory detector - smoke + heat – 1 Qty • Smoke detector – 1 Qty • Heat detector – 1 Qty • Common detector base – 3 Qty • Manual call point – 1 Qty	1 Set

	• Sounder/Strobe – 1 Qty • Control IO module for integrate – 2 Qty • indication lamps – 2 Qty • 12v 7AH battery – 1 Qty • 8 Zone voice alarm controller with USB MP3 AM FM with console – 1 Qty • Power amplifier 240W – 1 Qty • 6W Superb quality ceiling speaker module – 3 Qty • Accessories - 6U rack – 1 Qty • Distribution board, 12 Way (1 Tier) – 1 Qty • E-stop – 1 Qty • 2P, 25A MCB – 1 Qty • Rotary warning light – 1 Qty • Connecting cable 2Cx1.0 sq.mm – 50 M – 1 Qty • Power extension – 1 Qty Applicable Software: • Fire alarm Programming/Configuration tool: License Type - Permanent Electrical Characteristics: • Voltage: 230V, 1P+N+E • Frequency: 50/60 Hz ± 5% <i>*The kit components to be installed on a suitable artwork depicting a particular setup.</i> <i>*The equipment should be supported with relevant technical and practical manuals.</i>	
3	Smart Home Automation – Pack Tender Specifications: The KNX Home Automation pack is designed to discover the home automation solutions for the residential and the commercial installations. The bench is made up of KNX products that are commonly used. The KNX modules are programmable and offers controllable network. The control functions enhance occupants and owners experience. The system is complete, open, and scalable.	1 Sets

	This building automation lab should be designed to have wooden wiring cubicles installed representing 3-dimensional room to allow even surfaces for equipment installation similar to any residential or commercial installations. The dimensions of cubicles should be minimum enough to accommodate CCTV system, Fire alarm system and the home automation system in the same cubicle. The home automation pack to designed in a kit format to enable the learners to achieve the following learning objectives: • Analyze the functionalities and principles of a home automation installation on KNX bus • Fit and connect the components • Configure the system according to various scenarios • Grasp the concepts of energy efficiency Detailed Product Description: • Distribution box with 3 rows, 13M each – 1 Qty • Residual Circuit breaker, 2P, 16A, 30 mA – 1 Qty • KNX bus power supply, 30VDC, 320mA – 1 Qty • DC Power supply, 24V, 04A – 1 Qty • Surge Arrestor, Type 2, 1P+N, 350V – 1 Qty • USB interface din rail mounted, type C – 1 Qty • Network interface with BACnet, KNX, IP (Internet Protocol) and Modbus – 1 Qty • Multi-function pushbutton unit, 2 gang – 1 Qty • Touchscreen, 4 inch, 30VDC – 1 Qty • Presence detector with infrared receiver – 1 Qty • DALI dimmer-Gateway – 1 Qty • Energy meter, Din mounted MODBUS – 1 Qty • Master Switch and blind actuator, 8 channel, 10A – 1 Qty • USB programming lead – 1 Qty • 10 m EIB cables for KNX bus – 1 Qty • Set of KNX connectors and terminal strips – 1 Qty • Accessories pack – 1 Qty	
--	--	--

	Applicable Software: - ETS6 software program, 1 license: Permanent License Electrical Characteristics: - Voltage: 230V, 1P+N+E - Frequency: 50/60 Hz $\pm$ 5% <i>*The kit components to be installed on a suitable artwork depicting a particular setup.</i> <i>*The equipment should be supported with relevant technical and practical manuals.</i>	
4	Accessories for Building Automation: 1. Wooden Cubicle/ Working board – 1 set 2. Wires, 1.5 sq.mm, Red – 1 Coil 3. Wires, 1.5 sq.mm, Black – 1 Coil 4. Wires, 1.5 sq.mm, Green – 1 Coil	
5	Integrated building management system Tender Specifications: This system controls and monitors the building's mechanical and electrical equipment such as ventilation, lighting, power systems, fire systems, and security systems. To efficiently understand and learn BMS a mechanical hardware preferably a HVAC example should be designed so as have real time data from the electrical instruments. This learning bench should consist of self-standing HVAC bench and BMS bench. This HVAC bench should have the knocked version of outdoor unit of 1Ton compressor, where the refrigerant lines to be installed with pressure and temperature transmitters to input the pressure and temperature values to the BMS panel. And the BMS panel should be an industrial grade DDC panel with Digital and Analog modules with sufficient IO's to receive or command the HVAC bench. This DDC controllers will be then configured with BMS software's supplied to configure, create graphics and operate the mechanical HVAC bench remotely. <i>This equipment includes a HVAC panel and a BMS panel enabling the learners to achieve the following learning objectives:</i> Study system architecture guidelines, identification of components and installation of hardware	1 Set

- Learn the various input and output types, defining and parameterizing I/O Variables
- Study of field instruments and connection of field instruments to the I/O modules
- Create graphics of the given HVAC system and binding of variables to graphical representation
- Operate the system as per the planned sequence and study the effect of various intercepts on the system
- Connect the integrated building management system to CCTV and Fire Alarm and Public address System and create a building control and command center

Detailed Technical Specifications:

HVAC test bench to include:

- Hermetically sealed compressor (1ton cap.) – 1 Qty
- Air cooled condenser – 1 Qty
- Fan motor with blade – 1 Qty
- Expansion Device-Capillary & Thermostatic expansion valve – 1 Qty
- Sight glass for Refrigerant – 1 Qty
- Hand shut off valve-3/8" – 1 Qty
- Filter-Drier – 1 Qty
- Digital Energy meter with RS 485 compatibility – 1 Qty
- Solenoid Valve (3/8"), 230V – 1 Qty
- Thermostat, 230V – 1 Qty
- Pressure/compound gauges – 1 Qty
- Temperature transmitters (at various points) – 5 Qty
- Selector switches to simulate external intercepts – 5 Qty
- Miniature circuit breaker, 230 VAC, 2P, 16A, C Curve – 1 Qty
- Power on indication, Green, 230V – 1Qty
- Start-Stop push button – 2 Qty
- Multifunction meter, power and energy monitoring, Current, Voltage, Frequency, Power factor, RPM, Active power, Active energy, Reactive Power, 300V AC/DC, 50/60Hz, 8 segment LED Red

	display, Modbus at 4800 bps, 9600 bps, 19200 bps, 38.4 Kbps even/odd or none - 2-wire, insulation 2500 V – 1 Qty • Power Contactor, 440V, 50Hz, 3P, 18A, 220V Coil – 1 Qty • Power Contactor, 440V, 50Hz, 3P, 9A, 220V Coil – 3 Qty • Thermal overload relay, 9 to 13A, Class 10, 1NO+1NC – 1 Qty • Thermal overload relay, 2.5 to 4A, Class 10, 1NO+1NC – 3 Qty BMS Panel to include: • BMS controller, LonWorks, 2 Qty of RS-485 ports, 2 Qty of 10/100 ethernet ports – 1 Qty • BMS Power supply module, 24VAC or 21-30VDC – 1 Qty • universal input, 16DI, plug in type, 24V, configurable voltage, current or probe 0 to 20 mA, 0 to 10 V – 1 Qty • Analog output, 8 channels, plug in type, 24V, configurable voltage or current 0 to 20 mA, 0 to 10 V – 1 Qty • Digital outputs, relay type 8 channels, plug in type, 24V – 1Qty • DC Power supply, 24VDC, 6A – 1 Qty • Miniature circuit breaker, 230 VAC, 2P, 6A, C Curve – 1 Qty • RCCB, 2P, 25A, 30mA, AC-type – 1 Qty • Emergency Stop switch – 1 Qty • Network Switch – 1 Qty • Network cable and accessories – 1 Qty • DDC panel – 1 Qty Applicable Software: • BMS Builder's License • BMS Server License • License type: Perpetual license Electrical Characteristics: • Voltage: 230V, 1P+N+E • Frequency: 50/60 Hz $\pm$ 5% Mechanical Parameters:	
--	---	--

	- Minimum Dimensions: HVAC Bench on self-standing structure: 1220 W x 900D x 1345H mm - Minimum Dimension: BMS Panel on self-standing structure: 600W x 210D x 1330H mm <i>*The equipment should be supported with relevant technical and practical manuals.</i>	
6	Industrial Controls and Drive Motor Starter Pack Tender Specifications This assembly allows electromechanics to design, assemble, wire and troubleshoot power control equipment. This didactic package should be designed to study the industrial components and learn to read industrial diagrams. Furthermore this Didactic package should consider motor starting methods to relate to the industrial concepts. It should be designed to achieve learning objectives: - Acquire knowledge of LV switchgear, understand the role and composition of the items implemented in a motor feeder - Study, build and test the various motor feeder diagrams. - Build power control equipment from industrial components essential in all automated systems. - The power distributed through electromechanical products performs four main functions stipulated by regulations: - Separation or disconnection - Control or switching - Short-circuit protection - Overload protection Detailed Product Description: - Control Transformer, 230-400/24V, 400VA – 1 Qty - Cable trunking, PVC, 50x25mm – 1 Set - Connectors, 4 sq.mm – 1 Set - Connectors, 6 sq.mm – 1 Set - Circuit Breaker, 1P, 16A – 1 Qty - Circuit Breaker, 4P, 10A – 1 Qty - Differential Block, 4P, 25A, 30mA, 400-415V – 1 Qty	8 sets

- Din Rail, 500mm – 1 Set
- Perforated mesh, 750x550mm – 1 Qty
- NFC cylindrical cartridge fuses, 10 mm x 38 mm, fuse type a M, 500VAC, 4 A, without striker – 1 Qty
- Aux. Contact Block, 2NO+2NC – 1 Qty
- Time delays auxiliary contact block, 1NO+1NC, 1-30s, for star-delta applications – 1 Qty
- Time delays auxiliary contact block, 1NO+1NC, 1-30s – 1 Qty
- Contactor, 9A, 3P, 440V, 24VAC Coil – 3 Qty
- Reversing Contactor, with mechanical interlock, 9A, 3P, 440V, 24VAC Coil – 1 Qty
- Thermal Overload Relay, 2.5-4A, 1NO+1NC, direct contactor bottom terminals mounting type – 1 Qty
- Fuse-disconnector, 3P, 30A, fuse size 10 x 38 mm – 1 Qty
- Push Button station - green flush/red flush/green flush pushbuttons Ø22 – 1 Qty
- Empty control station, 8 openings in 2 columns – 1 Qty
- Push button, plastic, flush, green, Ø22, spring return, unmarked, 1 NO – 1 Qty
- Push button, plastic, flush, red, Ø22, spring return, unmarked, 1 NO – 1 Qty
- Selector switch, plastic, black, Ø22, 3 positions, stay put, 2 No – 1 Qty
- Single contact block with body/fixing collar, plastic, screw clamp terminal, 1 NO + 1 NC – 1 Qty
- Emergency stop head, switching off, plastic, red mushroom Ø40, trigger and latching turn to release – 1 Qty
- Pilot light, plastic, green, Ø22, 24V AC/DC – 1 Qty
- Pilot light, plastic, red, Ø22, 24V AC/DC – 1 Qty
- Pilot light, plastic, orange, Ø22, 24V AC/DC – 1 Qty
- Tightening tool for fixing nut – 1 Qty
- Limit switch - thermoplastic roller lever - 1NC+1NO – 1 Qty
- Loose bolt and clip nuts – 1 Set

- Electrical Characteristics:
- Voltage: 400V, 3P+N+E
- Frequency: 50/60 Hz $\pm$ 5%

**The equipment should be supported with relevant technical and practical manuals.*

Additional motor starter pack

Detailed Product Description:

- Advanced power base, 3P, 12A/690V, 5.5kW, 1NO+1NC – 1 Qty
- Signaling contacts, 2NO, 5A, 250VAC/DC – 1 Qty
- Auxiliary contacts, 1NO+1NC, 5A, 24-250VAC/DC – 1 Qty
- Standard control unit, 1.25-5A, 3P motors, thermal magnetic protection, class 10, coil 24VAC – 1 Qty
- Reverser block, vertical mounting, 32A/690V, coil 24V AC – 1 Qty
- Control terminal block - for reversing motor starter – 1 Qty
- Control circuit pre-wired connector - for reversing motor starter – 1 Qty

Electrical Characteristics:

- Voltage: 400V, 3P+N+E
- Frequency: 50/60 Hz $\pm$ 5%

**The equipment should be supported with relevant technical and practical manuals.*

Variable speed control add-on motor starter pack

Detailed Product Description:

- Motor Circuit Breaker, 3P, 10A, 440V, magnetic, rotary handle – 1 Qty
- Motor Protection Circuit Breaker, 3P, 2.5-4A, 440V, thermal & magnetic – 1 Qty
- Variable Speed Drive, 1.5kW/2Hp, 400V, 3Ph, Modbus serial – 1 Qty
- Soft Starter, 6A, 1.5 to 3kW, 380 to 415V – 1 Qty

	- Potentiometer, 2.2kΩ – 1 Qty - Din Rail Mounting Base – 1 Qty - Drive communication cable i.e. USB: RJ45 – 1 Qty Electrical Characteristics: - Voltage: 400V, 3P+N+E - Frequency: 50/60 Hz $\pm$ 5% Applicable Software: - Variable speed drive configuration software – 1 Qty License type: Permanent <i>*The equipment should be supported with relevant technical and practical manuals.</i>	
7	Training Motor 400/690V (For Industrial Controls and Drives) Detailed Product Description: 3-phase Asynchronous Motors 400/690V, 180W – 1 Qty - The motor to be supplied with terminal box having the windings wired on the terminal box with 4mm banana connectors. Electrical Characteristics: - Voltage: 400/690V, - Frequency: 50/60 Hz $\pm$ 5% Mechanical Parameters: - Minimum Dimension: 200H x 130W x 230D mm Table - Top	4 sets
8	Power and Control pack with PLC wiring and sensors Tender Specifications The wiring plates reproduces the control and power circuits of a EOT crane system. This pack can be used as a media for intermediate certification concerning two professional training units: preparation for execution of an electrical installation and checking the operation of an electrical installation. To achieve the professional training, the package designed should achieve the following learning objectives: - Unwired version: - Install components as per the drawing, - wire up the power and control components,	1 Set

- wire up the Ethernet components,
- configure the power meter,
- load the test program in the PLC
- test general operation

Detailed Product Description:

- Mesh plate for components installation, 800x600mm – 1 Qty
- Power incomer terminal block – 1 Qty
- Transformer, 230-400 V to 24 V, 63VA – 1 Qty
- DC power supply, 24VDC, 1.2A – 1 Qty
- Control Circuit breakers 1P+N, 0.5A, Icu 50 kA@240V – 1 Qty
- Control Circuit breakers, 1P+N, 1A, Id=14 A – 1 Qty
- Control Circuit breakers, 1P+N, 2A, Icu=15 kA@240 V – 1 Qty
- Control Circuit breakers, 1P+N, 3A, Id = 40A – 1 Qty
- Isolating switch, 3P, 25 A – 1 Qty
- Fuse Switch disconnecter, 32A, 690VAC – 1 Qty
- Contactor, 9A, 1NO, 1NC, 24VAC COIL, 400V – 1 Qty
- Changeover contactor, 9A, 5.5KW, 24VAC COIL, 400V – 1 Qty
- Thermal magnetic circuit breaker, 3P, 2.5A to 4A – 1 Qty
- Compact Motor Starter with Modbus port, 3P, 12A/690V, coil 24VDC – 1 Qty
- Brick PLC with 4 fast inputs, 16 regular inputs & 16 relay outputs, input voltage of 24V DC, a output voltage of 24V DC/220V AC ,output current of 2A, mini B USB 2.0, serial link 1 and RS485, serial link 2 and RS232/RS485, ethernet Modbus TCP/IP, and serial link 2 and RS485 – 1 Qty
- Power meter, 200 to 480VAC, Modbus RTU, RS485 – 1 Qty
- Current transformer, 40/5, inner dia 21mm – 3 Qty
- Control boxes with buttons and indicators
 - Box is used to start up and shut down the system, it contains an emergency stop pushbutton – 1 Qty
 - control box enables to control the M1 and M2 motors in both rotation directions – 1 Qty

	- Emergency stop push button, 40mm dia – 2 Qty - Push button, NO, Black – 3 Qty - Push button, NO, Green – 1 Qty - Selector switch – 2 Qty - Pilot lamp, 24V AC/DC – 4 Qty - Limit switches, 1NO+1NC – 5 Qty Electrical Characteristics: - Voltage: 400V, 3P+N+E - Frequency: 50/60 Hz ± 5% Applicable Software: - PLC Programming Software – 1 Qty License type: Permanent <i>*The equipment should be supported with relevant technical and practical manuals.</i>	
9	Accessories for Industrial Installation Controls and Drives: 1. Table with mesh and power supply- 4 Nos	
10	PLC Programming kit: HMI and PLC Panel Tender Specifications The console consists of a industrial grade, modular type PLC/equivalent with expandable I/O's mounted and wired on front surface plate. The surface plate is mounted on a metal enclosure with the IO's and the power supply. The I/Os from the PLC are wired out to the front surface using 4mm banana sockets. This IO's mounted on the surface can be connected to an external operational equipment in form of push buttons, limit switches and the indicators using suitable stackable patch cords. An HMI display unit enables operator dialogue. <i>This PLC-HMI bench should be designed to achieve the following learning objectives:</i> - Program and configure a modular PLC - Study the display unit - Program and configure the HMI terminal - Control and operate the terminal	2 Set

	• Manage breakdowns(troubleshooting) via feedback from the terminal Detailed Product Description: • Back plane, 8 slots – 1 Qty • Central Processing Unit for PLC, max 1024 discrete + 256 analog I/O, Modbus and/or Ethernet – 1 Qty • DC Power supply for PLC, 24VDC, 16.8W – 1 Qty • Module digital input, 16I, 24VDC, positive discrete input – 1 Qty • Module digital outputs, 16Q relays, 24VDC/24V to 240VAC – 1 Qty • Analog IO module - 4 inputs supporting Current 0~20 mA/Current 4~20 mA, Voltage +/- 10V, Voltage 0~10V, Voltage 0~5V, Voltage 1~5V /2 Analog outputs supporting Current: 0~20 mA, Current: 4~20 mA, Voltage: +/- 10V – 1 Qty • 7" HMI Ethernet colour touch screen terminal – 1 Qty • Unmanaged switch, 8 copper ports – 1 Qty • DC Power Supply, 24VDC, 3A – 1 Qty • Miniature circuit breaker, 2P, 6A, Curve C, 415V – 1 Qty • RCCB, 2P, 25A, 30mA, AC-type – 1 Qty • Contactor, 3P, 9A, 4KW, 1NO+1NC, 220VAC COIL – 1 Qty • Set of programming cables for the PLC and display unit – 1 Qty • Set of cables with round male connectors and flying leads, 4mm – 1 Set Electrical Characteristics: • Voltage: 230V, 1P+N+E • Frequency: 50/60 Hz $\pm$ 5% Mechanical Parameters: • Minimum Dimensions: 690 W x 360D x 795H mm • Table Top Applicable Software: • PLC Programming Software (100 user permanent license) • HMI Programming Software (single user permanent license) <i>*The equipment should be supported with relevant technical and practical manuals.</i>	
--	--	--

11	Static Panel The application panels should be designed to wire out various digital/analogue inputs and outputs from the PLC. The output of the PLC program can be visualized through the LEDs on the application panels. • Traffic light module – 1 Qty • Vehicle parking module – 1 Qty • Elevator Lift module – 1 Qty • Washing machine control module – 1 Qty • Bottle filler control module – 1 Qty • Packaging module – 1 Qty • Level & Pump control module – 1 Qty • Fan control module – 1 Qty • Star- Delta control module – 1 Qty • Safety door control module – 1 Qty • Conveyor belt control module – 1 Qty • Stepper motor module – 1 Qty • DC motor control module – 1 Qty Electrical Characteristics: • Voltage: 24V, DC Mechanical Parameters: • Minimum Dimensions: 260L x 35W x 170H mm Table Top	
12	Industrial Sensor Case Tender Specifications The didactic package should be designed to study various industrial sensors. The various types of detectors and targets should be representative of the equipment found in an industrial environment. The power supply box should be equipped with indicator lights to show the states of the detectors. The package should be designed to achieve the following learning objectives: ○ Finding out about the various sensor technologies used in industrial detection: - Photoelectric detectors (barrier, reflex, fibre optics, background obliteration, etc.)	1 Set

	- Inductive and capacitive detectors for detection of various materials, - Detection of rectilinear or angular movement via position switches. ○ Implementing detectors ○ Making adjustments ○ Setting up a detection chain Detailed Product Description: ○ A grooved Aluminium plate with sliding profiles possible to hold & slide the aluminium vices in X & Y axis – 1 Qty ○ Fast-opening vices with fine screw tightening system – 2 Qty ○ Cam with 15°, 30°, 45°, and 90° angles – 1 Qty ○ Limit switch, metal end plunger with elastomer boot 1NO + 1 NC PG11 – 1 Qty ○ Limit switch plastic thermoplastic roller lever 1 NO + 1NC PG-11 cable – 1 Qty ○ Limit switch thermoplastic roller lever plunger horizontal action in 1 direction 1 NO+1NC PG-11 cable entry – 1 Qty ○ Inductive sensor M12 sensing distances 8mm 1 NO – 1 Qty ○ Inductive sensor M18 sensing distances 8mm PNP – 1 Qty ○ Inductive sensor M30 sensing distances 8mm – 1 Qty ○ Capacitive Proximity sensor M18 sensing distances 5 mm – 1 Qty ○ Photo electric sensor sensing distance 30m through beam need a transmitter – 1 Qty ○ Photo electric sensor sensing distance 30m through beam need a emitter – 1 Qty ○ Photo electric sensor nominal sensing distances 1m defuse – 1 Qty ○ Photo electric fibre amplifier – 1 Qty ○ Plastic fibre optic for sensor 3m long – 1 Qty ○ Fibre optic amplifier – 1 Qty ○ Various types of Reflector (Glass, Aluminium, mirror, brass, copper, acrylic) – 1 Qty ○ Power supply box – 1 Qty	
--	---	--

	○ With regulator 0-24 V variable direct current power supply ○ NPN sensors powering outlets ○ PNP sensors powering outlet ○ DC motor power outlet with potentiometer control ○ Digital counter output panel with bits input ● Electrical Characteristics: ○ Voltage: 230V, 1P+N+E ○ Frequency: 50/60 Hz ± 5% ● Mechanical Parameters: ○ Minimum Dimensions: 540L x 190W x 410H mm ○ Tabletop – Industrial case Table with storage and power supply <i>*The equipment should be supported with relevant technical and practical manuals.</i>	
13	SCADA and Industrial Communication Tender Specifications SCADA (Supervisory Control and Data Acquisition) is a software application for monitoring and controlling industrial processes, which gathers data in real time from remote locations and displays at single platform to monitor and control process. The SCADA bench should be designed based on a factory scenario represented by 2 different standalone stations where each SCADA station is a typical factory/industrial installation and should be developed with the following learning objectives: ○ PLC communication protocols ○ PLC and HMI programming ○ Communication: CAN Open, Ethernet, TCP/IP ○ Software to design supervision system ○ Alarms and report management ○ Variety of graphics and animations	2 Set

- Extensive data and event logging
- Real-time trending
- Wizards for screen development
- Extensive tags and database management
- Script based excel report generation
- Advance component library
- Open data base connectivity

Detailed Product Description:

Station-1: Master Process

- Back plane, 8 slots – 1 Qty
- Back plane, 6 slots – 1 Qty
- Power Supply for PLC, 24VDC, 16.8 W – 2 Qty
- Central Processing Unit for PLC, max 1024 discrete + 256 analog I/O – 1 Qty
- Remote IO Adaptor module – 1 Qty
- Ethernet module - flash memory card - 1 x RJ45 10/100 – 1 Qty
- Ethernet module, 4 x RJ45 10/100 – 1 Qty
- Digital input module, 16I, positive discrete input 24VDC – 1 Qty
- Digital output module, 16 relays, 24VDC/24V to 240VAC – 1 Qty
- Analog IO module - 4 inputs supporting Current 0~20 mA/Current 4~20 mA, Voltage +/- 10V, Voltage 0~10V, Voltage 0~5V, Voltage 1~5V /2 Analog outputs supporting Current: 0~20 mA, Current: 4~20 mA, Voltage: +/- 10V – 1 Qty
- Standard Network Interface Module, Ethernet/IP 10...100 Mbit/s – 1 Qty
- HMI 7" screen, 2 serial ports, 1 Ethernet port – 1 Qty
- Tower light, 40 MM, 100-240 V, BUZZER, BLINKING, LED, GREEN, ORANGE – 1 Qty
- Unmanaged hub switch – 1 Qty
- DC Power supply, 24VDC, 5A – 1 Qty
- Contactor, 3P, 12A, 220VAC coil – 1 Qty

	○ Multi function meter with Power and Energy Class 1.0 RS485 – 1 Qty ○ Variable Speed drive, 0,37KW, 200V, 1PH – 1 Qty ○ Indicators, dia 22mm, 24VDC – 8 Qty ○ Push buttons, dia 22mm – 8 Qty ○ Selector Switch – 2 Qty ○ Variable Potentiometers - 2 Qty ○ Emergency stop Push button – 1 Qty ○ Miniature relay, 24VDC, 2CO – 2 Qty ○ Miniature Circuit Breaker, 2P, 6A – 3 Qty ○ Residual Current Circuit Breaker, 2P, 25A, 30mA – 1 Qty ○ Metal enclosure suitable printed – 1 Qty <u>Station-2: Slave Process</u> ○ Power supply for the standard network interface module ○ Basic digital input kit, 24VDC, 16I – 1 Qty ○ Basic digital output kit, 24VDC, 16I – 1 Qty ○ Brick PLC, 40IO, 24VDC – 1 Qty ○ Unmanaged hub switch – 1 Qty ○ HMI 10.1" screen, 2 serial ports,1 Ethernet port – 1 Qty ○ DC Power supply, 24VDC, 5A – 1 Qty ○ Contactor, 3P, 12A, 220VAC coil – 1 Qty ○ Indicators, dia 22mm, 24VDC – 10 Qty ○ Push buttons, dia 22mm – 10 Qty ○ Tower light, 40 MM, 100-240 V, BUZZER, BLINKING, LED, GREEN, ORANGE, – 1 Qty ○ Miniature relay, 24VDC, 2CO – 2 Qty ○ Emergency stop Push button – 1 Qty ○ Miniature Circuit Breaker, 2P, 6A – 2 Qty ○ Residual Current Circuit Breaker, 2P, 25A, 30mA – 1 Qty ○ Metal enclosure suitable printed – 1 Qty	
--	---	--

	• Electrical Characteristics: ○ Voltage: 230V, 1P+N+E ○ Frequency: 50/60 Hz ± 5% • Mechanical Parameters: ○ Minimum Dimensions: 690 W x 360D x 795H mm ○ Weight: 50Kg • Applicable Software: ○ PLC Programming Software (100 user permanent license) ○ PLC Programming Software (single user permanent license) ○ Drive Configuration Software (single user permanent license) ○ HMI Programming Software (single user permanent license) ○ SCADA Build and Runtime Software with minimum 100 Tags (single user permanent license) Table with storage and power supply • This equipment to be supplied with one fully developed project utilising the complete architecture as used in the equipment.	
14	Robotics and Motion Control Tender Specifications Collaborative robots (COBOT) are a form of robotic automation designed to work alongside human workers in a shared, collaborative workspace. The accuracy, uptime and repeatability of collaborative robots are designed to complement the intelligence and problem-solving capabilities of a human worker. To understand and learn the operation capabilities of COBOT there should be a standalone station of COBOT with PLC and HMI interface should allow to independently program and configure each controller and also should have an working application showing the basic operations of COBOT like sorting, picking, assembling, placing with coordination with smart sensors & PLC/HMI controllers.	

	Aligning to the above aspects the cobot designed should achieve following learning objectives: ○ Understand the basics of articulated robot and its terminologies. ○ Know the difference between an articulated robot and collaborative robot. ○ Know about the different motion interpolations. ○ Configure the settings inside a COBOT controller accordance to ISO/TS 15066 ○ Understand the operation of gripper and its integration with COBOT manipulator. ○ Understand the hardwiring and programming of collaborative robot. ○ Understand the programming of collaborative robot with PLC & HMI ○ Experience the different applications using the collaborative robot. ○ Understand the programming of collaborative robot with Vision camera & I/O Link sensors. Detailed Product Description: ○ Collaborative Robot with 6 degrees of freedom; Payload 3 KG; Operating radius 626mm – 1 Qty ○ COBOT Controller – 1 Qty ○ HMI controller' 5"7 color – 1 Qty ○ Back plane, 8 slots – 1 Qty ○ Central Processing Unit for PLC, max 1024 discrete + 256 analog I/O, Modbus and/or Ethernet – 1 Qty ○ DC Power supply for PLC, 24VDC, 16.8W – 1 Qty ○ Module digital input, 16I, 24VDC, positive discrete input – 1 Qty ○ Module digital outputs, 16Q relays, 24VDC/24V to 240VAC – 1 Qty ○ Unmanaged switch, 8 copper ports – 1 Qty ○ DC Power Supply, 24VDC, 3A – 1 Qty ○ Miniature circuit breaker, 2P, 6A, Curve C, 415V – 1 Qty ○ RCCB, 2P, 25A, 30mA, AC-type – 1 Qty ○ Operating Terminal (Android Tablet) – 1 Qty	
--	---	--

	○ Electric Jaw Gripper- Size: 40, Standard flange, digital I/O, Stroke per jaw: 6 mm, Power supply: 24 V DC, Max. gripping force: 140 N – 1 Qty ○ Mobile Workstation with application – 1 Qty ○ Terminals – 1 Qty ○ Cables – 1 Qty ○ LED Tower for Status Indication – 1 Qty ○ Push Buttons – 2 Qty ○ Selector Switch – 1 Qty ○ Emergency Switch – 1 Qty ○ Vision camera – Monochrome - Autofocus (liquid lens) 6.2 mm – 1 Qty ○ Conveyor running with 24V DC motor– 1 Qty ○ Pneumatic clamping cylinder – 100mm stroke – 1Qty ○ Pneumatic clamping cylinder with storage magazine – 100 mm stroke – 1 Qty ○ Storage plates – 4 Qty ○ Circular workpieces – 9 Qty ○ I/O link based Color sensor - White LED, Operating range 30-500 mm, Spot size from 3.5mm - 18mm, NPN / PNP – 2 Qty ○ I/O link based Photoelectric sensors, Diffused type - 30m sensing range – 8 Qty ○ Circular Connector, 4 Contacts, Cable Mount, M12 Connector, Plug, IP67 – 1 Qty ○ M12 A Coded 4 Pin Male 90° Un-Shielded Screw Type Field Wirable Connector – 16 Qty ○ IO-Link Master Compact67 EtherNet IP, 8x Class A, IO-Link V1.1.2, max. 16 I/O, 8xM12 A-code 5pin female, 2xM12 D-code 4pin female, 2x7/8" 5pin male + female – 1 Qty ○ Photoelectric Sensor, Block Sensor, 2 mm - 120 mm Detection Range – 1 Qty ○ IO-Link Sensor Hub V1.1.3 Class A Base module with M12 5-pin connector 8xM12, 3-pole, 24VDC, LED, 16DI/DO, PNP – 1 Qty ○ Conduent Gland – PG 16 & 36 – 1 Qty each	
--	--	--

	○ Cable trunking, PVC, 50x25mm – 1 Set • Electrical Characteristics: ○ Voltage: 230V, 1P+N+E ○ Frequency: 50/60 Hz ± 5% • Pneumatics Source: ○ 8 bar pressure ○ 165 LPM • Mechanical Parameters: ○ Dimensions: 1200 W x 1550D x 1200H mm ○ Self standing structure • Applicable Software: ○ COBOT Configuration Software (single user permanent license) – 1 Qty ○ PLC Programming Software (single user permanent license) – 1 Qty ○ HMI Programming Software (single user permanent license) – 1 Qty <i>*The equipment should be supported with relevant technical and practical manuals.</i>	
15	Digital Factory Tender Specifications: Consider the following product development scenario to develop the automated modular production line: The production line should implicate the pharmacy automation line where the empty bottle must be filled with solid fillings then must be capped and inspected for the quality and should be finally stored. This functional modular production station must have all kind of actuators like electrical DC, AC & Servo motors with drives & pneumatic rotary and linear cylinders with smart solenoid packs. The automatic operation must include I/O link-based sensors, analogue sensors etc. This system should be controlled by industrial automation controllers like PLC & HMI provided with industrial communication protocols such as TCP/IP, Modbus & OPC UA.	1 Set

	The entire production system should have Client level application with SCADA, IIOT, MES, ERP & OEE solutions, these solutions must be provided with built time software and configurable dashboards. The entire system should be protected with OT cyber security solution, the Firewall should be allowed to change the configuration as per the need of the project functionality. The Augmented reality solution should be provided to use as real time maintenance solution for the modular station and act as training Aid for the users. The mechanical built up of the system must be modular to be able to use each functional operation individually before combining entire system. The mechanical components should be easy assemble and disassembled to encourage the mechanical alignment learning for the users, the sensors used should be allowed to reconfigure and recommission as per need of the program. This modular system should be entire DIY project starting from building mechanical components to entire software programming. With the technical writeup above, the automated process line developed should deliver the following learning objectives: ○ Know-how and assessing an automatic industrial control system. ○ Learning component involving various technologies: Pneumatic, Digital & analogue sensors, energy management, I-O link, Wireless sensors, servo drives, motor controllers, COBOT, RFID, Grippers, PLC, SCADA, Electrical actuators, VFD, Vision camera etc. ○ Learning different software like MES,ERP & AR/MR etc ○ Making a functional and structural analysis ○ Build & test modular production system from basic components for individual station. ○ Studying electrical diagrams ○ Analysing components and an electrical wiring system ○ Commissioning different Automation unit ○ Design multiple production lines. ○ Use Extended Reality to control the process. ○ Analyse statistical production data and machine states using ERP & OEE. ○ Powering a system to service. ○ Operating and piloting a line.	
--	---	--

- Programming, modifying a PLC/HMI/COBOT/SCADA program.
- Understand the Technologies adopted in smart factory like all Industrial communication (MODBUS, Ethernet IP) & MES system.
- Importance of implementing OT cyber security.
- Developing digital twin for the production line using AR software
- Use of Supervision tool.
- Troubleshooting.

The modular production line should implicate the following functionality in individual stations to achieve above learning objectives

Feeder Station: Empty bottles in the rotary feeder move to the clamping cylinder, where the blowing unit cleans them. RFID tags are written with product information during cleaning. Bottles then connect to the filling conveyor.

Sorting & Filling Station: The hopper collects colored balls, sorted by a color sensor into different containers. The servo controls the hopper's movement. RFID tags read at the filling conveyor determine where empty bottles stop for filling.

Bottles are filled with the specified color and quantity of balls as per the RFID data. The pick-and-place unit transfers the filled bottles to the servo linear drive.

Capping Station: A cap dispenser floats the correct cap onto the conveyor. The pneumatic capping unit places and secures the cap onto the bottle.

Visual Inspection Station: Finished bottles are placed on Buffer Cylinder, then moved to the Rotary Inspection Table for quality checks using a vision camera. Good bottles are placed on weighing table.

Storage station: The COBOT places the capped bottle on the load sensor. The RFID head encodes the bottle's data.

The COBOT transfers the bottle to the conveyor, which leads to ACS storage. ACS storage can hold the bottle in 9 locations based on the program.

COBOT station: Final Bottles are sealed as "OK" by the COBOT sealer. The COBOT gripper transfers capped bottles to finished storage by color/pattern, while rejected bottles are set aside.

The automated process line to include minimum following stations and digital technologies:

Feeder Station

Sorting & Filling Station

Capping Station

Visual Inspection Station

Storing Station

COBOT Station

Detailed industrial station description:

Feeder Station

Desired Functionality:

- The empty bottles in the rotary feeder to will transversed to rotary cylinder stopping at the clamping cylinder, the blowing unit cleans the empty bottle. The bottle with RFID tag inbuilt will be written with demanded product by RFID header during cleaning process. The bottles continue to travel connecting to Filling conveyor.

Station Composition:

- PLC – 1 set
 - Rated supply voltage - 100...240 V AC
 - Discrete input number - 24, discrete input 8 fast input conforming to IEC 61131-2 Type 1
 - Discrete output type - Relay & Transistor
 - Discrete output number - 4 transistor 4 fast output, 12 relay
 - Discrete output voltage - 5...125 V DC for relay output
5...250 V AC for relay output
24 V DC for transistor output
 - Discrete input logic - Sink or source
 - Discrete input voltage - 24V DC
 - Discrete output current - 0.1 A for fast output (PTO mode)
2 A for relay output
0.5 A for transistor output
 - Discrete output logic Positive logic (source)
 - Output voltage limits - 125 V DC relay output
30 V DC transistor output
277 V AC relay output
 - Communication port protocol - Modbus TCP
Ethernet/IP
 - Analogue input number – 2
 - Analogue input type - current 4...20 mA

	current 0...20 mA voltage 0...10 V ○ HMI – 7" wide screen touch panel, 16M colors, COM x 2, ETH x 1, USB host / device, RTC, DC24V – 1 Qty ○ Ethernet switch (managed) – 1 Qty ○ AC- DC convertor (230v to 24v / 3A) – 1 Qty ○ Tower lamp (3 lamps) – 1 Qty ○ Push Button – 4 Qty ○ MCB (Control & Power circuit) – 2 Qty ○ Distributor (Main switch) – 1 Qty ○ Servo Motor - 400W – 1 Qty ○ Servo Motor Drive - 400W – 1 Qty ○ Gear box for Servo Motor – 1 Qty ○ Indexing Table – 1 Qty ○ Conveyor module – 1 Qty ○ DC – 24V Motor - 1 Qty ○ I/O Link Master (Ethernet I/P) - 1 Qty ○ I/O Link Hub – 1 Qty ○ 5 Pin M12 Connector - 8 Qty ○ Pneumatic Valve Bank (I/O link) - 1 Qty ○ Pneumatic Cylinders and Connectors – 1 Qty ○ RFID head & tags – 1 Qty <i>*The equipment should be supported with relevant technical and practical manuals.</i> ● Electrical Characteristics: ○ Voltage: 230V, 1P+N+E ○ Frequency: 50/60 Hz ± 5% ● Pneumatics Source: ○ 8 bar pressure ○ 165 LPM	
--	---	--

- **Mechanical Parameters:**

- Min Dimensions: 1174L x 815W x 1373H mm
- Self standing

Sorting & Filling Station

Desired Functionality:

- The Hopper in “Sorting and Filling station” will have collection of all the coloured balls and these balls will be sorted in different container based on the colour identified by colour sensor, the movement of Hopper is precisely controlled by Servo.
- The bottle RFID tag will be read with the requirement at the beginning of the filling conveyor and empty bottle will be made to stop at the respective coloured container as per the demand. The bottle will be filled with demanded colour and number of balls as read in RFID tag.

Station Composition:

- PLC – 1 set
 - Rated supply voltage - 100...240 V AC
 - Discrete input number - 24, discrete input 8 fast input conforming to IEC 61131-2 Type 1
 - Discrete output type - Relay & Transistor
 - Discrete output number - 4 transistor 4 fast output, 12 relay
 - Discrete output voltage - 5...125 V DC for relay output
 - 5...250 V AC for relay output
 - 24 V DC for transistor output
 - Discrete input logic - Sink or source
 - Discrete input voltage - 24V DC
 - Discrete output current - 0.1 A for fast output (PTO mode)
 - 2 A for relay output
 - 0.5 A for transistor output
 - Discrete output logic Positive logic (source)
 - Output voltage limits - 125 V DC relay output
 - 30 V DC transistor output
 - 277 V AC relay output

	○ Communication port protocol - Modbus TCP ○ Ethernet/IP ○ Analogue input number – 2 ○ Analogue input type - current 4...20 mA ○ current 0...20 mA ○ voltage 0...10 V ○ HMI – 7" wide screen touch panel, 16M colors, COM x 2, ETH x 1, USB host / device, RTC, DC24V – 1 Qty ○ Ethernet switch (managed) – 1 Qty ○ AC - DC convertor (230v to 24v / 3A) – 1 Qty ○ Tower lamp (3 lamps) – 1 Qty ○ Push Button – 4 Qty ○ MCB (Control & Power circuit) – 2 Qty ○ Distributor (Main switch) – 1 Qty ○ Conveyor module – 1 Qty ○ DC – 24V Motor - 1 Qty ○ I/O Link Master (Ethernet I/P) - 1 Qty ○ I/O Link Hub – 1 Qty ○ 5 Pin M12 Connector – 8 Qty ○ Dispensing Bottles – 12 Qty ○ Pneumatic Valve Bank (I/O link) – 1 Qty ○ Pneumatic Cylinders and Connectors -12Qty ○ Pneumatic Rotary Cylinders – 3 Qty ○ Servo Slide – 1 Qty ○ Servo Motor - 400W – 1 Qty ○ Servo Motor Drive - 400W - 1 Qty ○ Gear box for Servo Motor – 1 Qty ○ Colour Sensor – 1 Qty ○ Photo sensor – 6 Qty ○ RFID head – 1 Qty <i>*The equipment should be supported with relevant technical and practical manuals.</i>	
--	--	--

- **Electrical Characteristics:**

- Voltage: 230V, 1P+N+E
- Frequency: 50/60 Hz $\pm$ 5%

- **Pneumatics Source:**

- 8 bar pressure
- 165 LPM

- **Mechanical Parameters:**

- Min Dimensions 1195L x 820W x 1710H mm
- Self standing

Capping Station

Desired Functionality:

- The bottle will be picked and placed on the Servo linear drive by Pick and place unit.
- The cap dispenser floats the correct cap on the Rotary plate through slider, the Pneumatic capping unit grab the cap and drop on the bottle and rotates to fix the threaded cap to the ball filled bottle

Station Composition:

- PLC – 1 set
 - Rated supply voltage - 100...240 V AC
 - Discrete input number - 24, discrete input 8 fast input conforming to IEC 61131-2 Type 1
 - Discrete output type - Relay & Transistor
 - Discrete output number - 4 transistor 4 fast output, 12 relay
 - Discrete output voltage - 5...125 V DC for relay output
 - 5...250 V AC for relay output
 - 24 V DC for transistor output
 - Discrete input logic - Sink or source
 - Discrete input voltage - 24V DC
 - Discrete output current - 0.1 A for fast output (PTO mode)
 - 2 A for relay output

	0.5 A for transistor output ○ Discrete output logic Positive logic (source) ○ Output voltage limits - 125 V DC relay output 30 V DC transistor output 277 V AC relay output ○ Communication port protocol - Modbus TCP Ethernet/IP ○ Analogue input number – 2 ○ Analogue input type- current 4...20 mA current 0...20 mA voltage 0...10 V ○ HMI – 7" wide screen touch panel, 16M colors, COM x 2, ETH x 1, USB host / device, RTC, DC24V – 1 Qty ○ Ethernet switch (managed) – 1 Qty ○ AC - DC convertor (230v to 24v / 3A) – 1 Qty ○ Tower lamp (3 lamps) - 1 Qty ○ Push Button – 4 Qty ○ MCB (Control & Power circuit) – 2 Qty ○ Distributor (Main switch) – 1 Qty ○ Servo Slide – 1 Qty ○ Servo Motor - 400W - 1 Qty ○ Servo Motor Drive - 400W – 1 Qty ○ Rotary Vane Motor (Pneumatic) – 1 Qty ○ Parallel Gripper – 1 Qty ○ Pneumatic Valve Bank (I/O link) - 1 Qty ○ Pneumatic Cylinders – 6 Qty ○ I/O Link Master (8 Port) – 1 Qty ○ 5 Pin M12 Connector – 8 Qty ○ Vacuum unit – 1 Qty <i>* The equipment should be supported with relevant technical and practical manuals.</i> ● Electrical Characteristics: ○ Voltage: 230V, 1P+N+E	
--	---	--

- Frequency: 50/60 Hz $\pm$ 5%

- **Pneumatics Source:**

- 8 bar pressure
- 165 LPM

- **Mechanical Parameters:**

- Min Dimensions: 1102L x 722W x 1485H mm
- Self standing

Visual Inspection Station

Desired Functionality:

- The final bottle will be placed on Buffer cylinder 1, and gripper unit places on the Rotary Inspection table for Quality Inspection using Vision camera, all good bottles will be placed on the Buffer cylinder by gripper unit.

Station Composition:

- PLC – 1 set
 - Rated supply voltage - 100...240 V AC
 - Discrete input number - 24, discrete input 8 fast input conforming to IEC 61131-2 Type 1
 - Discrete output type - Relay & Transistor
 - Discrete output number - 4 transistor 4 fast output, 12 relay
 - Discrete output voltage - 5...125 V DC for relay output
 - 5...250 V AC for relay output
 - 24 V DC for transistor output
 - Discrete input logic - Sink or source
 - Discrete input voltage - 24V DC
 - Discrete output current - 0.1 A for fast output (PTO mode)
 - 2 A for relay output
 - 0.5 A for transistor output
 - Discrete output logic Positive logic (source)
 - Output voltage limits - 125 V DC relay output
 - 30 V DC transistor output
 - 277 V AC relay output
 - Communication port protocol - Modbus TCP

Ethernet/IP

	○ Analogue input number – 2 ○ Analogue input type - current 4...20 mA current 0...20 mA voltage 0...10 V ○ HMI – 7" wide screen touch panel, 16M colors, COM x 2, ETH x 1, USB host / device, RTC, DC24V – 1 Qty ○ Ethernet switch (manged) – 1 Qty ○ AC- DC convertor (230v to 24v / 3A) – 1 Qty ○ Tower lamp (3 lamps) – 1 Qty ○ Push Button – 4 Qty ○ MCB (Control & Power circuit) – 2 Qty ○ Distributor (Main switch) – 1 Qty ○ Conveyor module - 1 Qty ○ Rodless Cylinder – 2 Qty ○ Rotary Vane Motor – 1 Qty ○ Parallel Gripper – 1 Qty ○ Vision Camera – 1 Qty ○ Pneumatic Valve Bank – 1 Qty ○ Pneumatic Cylinders – 2 Qty ○ I/O Link Master – 1 Qty ○ 5 Pin M12 Connector – 1 Qty ○ Photo Sensor – 1 Qty <i>*The equipment should be supported with relevant technical and practical manuals.</i> ● Electrical Characteristics: ○ Voltage: 230V, 1P+N+E ○ Frequency: 50/60 Hz ± 5% ● Pneumatics Source: ○ 8 bar pressure ○ 165 LPM	
--	--	--

- **Mechanical Parameters:**

- Min Dimensions: 1030L x 818W x 1350H mm
- Self standing

Storing Station

Desired Functionality:

- The Capped bottle placed by COBOT on the load sensor.
- The RFID head writes the data of the bottle
- The bottle is placed to the conveyor by COBOT
- The bottle further reached to ACS storage
- The ACS storage can store the bottle in 9 different locations based on program

Station Composition:

- PLC – 1 set
 - Rated supply voltage - 100...240 V AC
 - Discrete input number - 24, discrete input 8 fast input conforming to IEC 61131-2 Type 1
 - Discrete output type - Relay & Transistor
 - Discrete output number - 4 transistor 4 fast output, 12 relay
 - Discrete output voltage - 5...125 V DC for relay output
 - 5...250 V AC for relay output
 - 24 V DC for transistor output
 - Discrete input logic - Sink or source
 - Discrete input voltage - 24V DC
 - Discrete output current - 0.1 A for fast output (PTO mode)
 - 2 A for relay output
 - 0.5 A for transistor output
 - Discrete output logic Positive logic (source)
 - Output voltage limits - 125 V DC relay output
 - 30 V DC transistor output
 - 277 V AC relay output
 - Communication port protocol - Modbus TCP
 - Ethernet/IP
 - Analogue input number – 2

	○ Analogue input type - current 4...20 mA current 0...20 mA voltage 0...10 V ○ HMI – 7" wide screen touch panel, 16M colors, COM x 2, ETH x 1, USB host / device, RTC, DC24V – 1 Qty ○ Ethernet switch (managed) – 1 Qty ○ AC- DC convertor (230v to 24v / 3A) – 1 Qty ○ Tower lamp (3 lamps) – 1 Qty ○ Push Button – 4 Qty ○ MCB (Control & Power circuit) – 2 Qty ○ Distributor (Main switch) – 1 Qty ○ Conveyor module – 1 Qty ○ Load sensor – 1 Qty ○ Pneumatic cylinder – 1 Qty ○ RFID head – 1 Qty ○ Photo sensors – 12 Qty ○ Servo Motor – 400 W - 2 Qty ○ Servo Drive – 400 W – 2 Qty ○ Pneumatic gripper – 1 Qty <i>*The equipment should be supported with relevant technical and practical manuals.</i> ● Electrical Characteristics: ○ Voltage: 230V, 1P+N+E ○ Frequency: 50/60 Hz ± 5% ● Pneumatics Source: ○ 8 bar pressure ○ 165 LPM ● Mechanical Parameters: ○ Min Dimensions: 1232L x 992W x 1506H mm ○ Self standing	
--	---	--

COBOT Station

Desired Functionality:

- The bottle stopped by the stopper at the edge of the cylinder will be sealed as “OK” by Sealer mounted on the COBOT.
- The gripper in COBOT grabs the sealed bottle and place on the conveyor

Station Composition:

- PLC – 1 set
 - Rated supply voltage - 100...240 V AC
 - Discrete input number - 24, discrete input 8 fast input conforming to IEC 61131-2 Type 1
 - Discrete output type - Relay & Transistor
 - Discrete output number - 4 transistor 4 fast output, 12 relay
 - Discrete output voltage - 5...125 V DC for relay output
5...250 V AC for relay output
24 V DC for transistor output
 - Discrete input logic - Sink or source
 - Discrete input voltage - 24V DC
 - Discrete output current - 0.1 A for fast output (PTO mode)
2 A for relay output
0.5 A for transistor output
 - Discrete output logic Positive logic (source)
 - Output voltage limits - 125 V DC relay output
30 V DC transistor output
277 V AC relay output
 - Communication port protocol - Modbus TCP
Ethernet/IP
 - Analogue input number – 2
 - Analogue input type - current 4...20 mA
current 0...20 mA
voltage 0...10 V
- HMI – 7" wide screen touch panel, 16M colors, COM x 2, ETH x 1, USB host / device, RTC, DC24V – 1 Qty
- Ethernet switch (managed) - 1 Qty
- AC- DC convertor (230v to 24v / 3A) – 1 Qty

- Tower lamp (3 lamps) – 1 Qty
- Push Button – 4 Qty
- MCB (Control & Power circuit) – 2 Qty
- Distributor (Main switch) – 1 Qty
- Servo Motor - 700W – 1 Qty
- Servo Motor Drive - 700W – 1 Qty
- 6 Axis COBOT with controller– 1 Qty
- Linear Drive – 1 Qty
- Sensor – 1 Qty

**The equipment should be supported with relevant technical and practical manuals.*

- **Electrical Characteristics:**

- Voltage: 230V, 1P+N+E
- Frequency: 50/60 Hz ± 5%

- **Mechanical Parameters:**

- Min Dimensions: 1085L x 818W x 1582H mm
- Self standing

Control & Monitoring Station

Desired functionality:

- The entire 6 stations control and monitoring to be centred to this station .
- Major Monitoring software like SCADA,IOT,MES,ERP must be handled from this systems established in this station
- Cyber security will be originating the data protection from this station

Station Composition:

- Ethernet switch (managed) - 1 Qty
- AC- DC convertor (230v to 24v / 3A) – 1 Qty
- MCB (Control & Power circuit) – 2 Qty
- Distributor (Main switch) – 1 Qty
- Firewall – 1 Qty

	○ IOT server panel – 1 Qty ○ IOT wireless sensors – 24 Qty (distributed in each station) ○ Energy management meter – 1 Qty <i>*The equipment should be supported with relevant technical and practical manuals.</i> • Electrical Characteristics: ○ Voltage: 230V, 1P+N+E ○ Frequency: 50/60 Hz ± 5% • Mechanical Parameters: ○ Min Dimensions: 1085L x 818W x 1582H mm ○ Self standing • Applicable Software's: ○ PLC Programming Software (single user permanent license) ○ HMI Configuration tool (single user permanent license) ○ Configurable Extended reality developer tool (single user 1 year term license) ○ SCADA supervision software (single user 1 year term license) ○ IOT cloud solution (single user 1 year term license) ○ MES/ERP software (single user 1 year term license) ○ Cyber security configuration software (single user 1 year term license) ○ COBOT Configuration Software (single user permanent license) – 1 Qty ○ Vision camera Configuration Software (single user permanent license) – 1 Qty ○ I/O link master Configuration Software (single user permanent license) – 1 Qty	
16	IIOT Supervision Development & Predictive Maintenance Bench Tender Specifications This module is comprised of two discrete technologies, the Industrial Internet of Things (IIOT) & Extended Reality	2 Sets

- IIOT is at the heart of modern industry. Measuring and analysing product and process characteristics makes it possible to anticipate and predict failures & to make responsible decisions.
- Extended Reality allows maintenance and operations technicians to work more efficiently on their tasks and to intervene under conditions to help promote safety.
- This equipment should be able to design and implement IIOT applications, should also have Installation and connection of measurement (wireless & wired) sensors, Real-time visualisation of machine and process states and must give easy access to actionable information in the cloud & must allow to manage operations and assets in the cloud—from anywhere, at any time, alongside the extended reality software should allow Development and presentation of statistical analysis control maps and also this equipment should make it possible to design and implement all the accessible applications using the configurable Extended Reality software, the IIOT & Extended reality solutions should be implemented with actual application panel having all provisions to connect different sensors and also must have operational actuators

The package should be designed to achieve the following learning objectives:

- Transform industrial equipment by integrating connected objects
- Develop or modify a product and process monitoring application using the measured data
- Build control maps and analyze the data
- Performing maintenance, adjustment, and logging procedures in a guided manner,
- Real-time visualization of machine states: operation & efficiency
- Visualization of machine components and virtual security zone
- Access to documentation,
- Follow-up of the operations carried out and sharing between the various stakeholders
- Rendering useful documentation accessible from dynamic links and QR codes
- Real-time access to the operational and monitoring data of the equipment
- Guiding stakeholders in maintenance and operations

	Detailed Product Description: <i>The starter pack includes: It should be a enclosure with following components:</i> • RCBO, 10A, 30mA – 1 Qty • Wireless to Modbus/TCP, Panel Server – Gateway & Energy server datalogger, 110-277 VAC/DC – 1 Qty • Modular box PC, Windows 10 IoT Enterprise 64 bit multi-language, 250 GB M.2 SSD TLC, 4 GB RAM DDR3 internal – 1 Qty • DC Power supply, 100~240VAC to 24VDC, 5A, 120W – 1 • Compact industrial WiFi access point and client, data rates up to 300 Mbps - WiFi 802.11n - MIMO 2T2R - 2.4/5 GHz – 1 Qty • Enclosure with handle – 1 Qty <i>The application pack includes: It should be a enclosure with following components:</i> • Mesh plate for components installation with Enclosure, 800x600mm – 1 Qty • Power incomer terminal block – 1 Qty • Transformer, 230 to 400 V to 24 V, 63VA – 1 Qty • DC power supply, 24VDC, 1.2A – 1 Qty • Control Circuit breakers 1P+N, 0.5A, Icu 50 kA@240V – 1 Qty • Control Circuit breakers, 1P+N, 1A, Id=14 A – 1 Qty • Control Circuit breakers, 1P+N, 2A, Icu=15 kA@240 V – 1 Qty • Control Circuit breakers, 1P+N, 3A, Id = 40A – 1 Qty • Isolating switch, 3P, 25 A – 1 Qty • Fuse Switch disconnecter, 32A, 690VAC – 1 Qty • Contactor, 9A, 1NO, 1NC, 24VAC COIL, 400V – 1 Qty • Changeover contactor, 9A, 5.5KW, 24VAC COIL, 400V – 1 Qty • Thermal magnetic circuit breaker, 3P, 2.5A to 4A – 1 Qty • Compact Motor Starter with Modbus port, 3P, 12A/690V, coil 24VDC – 1 Qty • Brick PLC with 4 fast inputs, 16 regular inputs & 16 relay outputs, input voltage of 24V DC, a output voltage of 24V DC/220V AC ,output current	
--	--	--

	of 2A,mini B USB 2.0, serial link 1 and RS485, serial link 2 and RS232/RS485, ethernet Modbus TCP/IP, and serial link 2 and RS485 – 1 Qty • Power meter, 200 to 480VAC, Modbus RTU, RS485 – 1 Qty • Current transformer, 40/5, inner dia 21mm – 3 Qty • Control boxes with buttons and indicators – 2 Qty • Emergency stop push button, 40mm dia – 2 Qty • Push button, NO, Black – 3 Qty • Push button, NO, Green – 1 Qty • Selector switch – 2 Qty • Pilot lamp, 24V AC/DC – 4 Qty • Limit switches, 1NO+1NC – 5 Qty • 3-phase Asynchronous Motors 400V/690, 180W – 2 Qty • The motor to be supplied with terminal box having the windings wired on the terminal box with 4mm banana connectors <i>The sensor pack includes:</i> • Two push buttons with wireless control – 1 Qty • Wireless contact temperature and humidity probes – 1Qty • Wireless room temperature sensors – 4 Qty • Single-phase power tags – 2 Qty • Tetrapolar power tags – 1 Qty • Wireless limit switch – 1 Qty <i>Applicable Software:</i> • Extended Reality Development software (single user 1 year term license) – 1 Qty • Cloud Subscription for Panel server (single user 1 year term license) – 1 Qty • Open-source software Node-RED – 1 Qty • PLC Programming Software (single user permanent license) – 1Qty • Variable speed drive configuration software (single user permanent license) – 1 Qty	
--	---	--

	Electrical Characteristics: • Starter Park ○ Voltage: 230/400 V ○ Frequency: 50/60 Hz ± 5% • Application pack ○ Voltage: 400/690 V ○ Frequency: 50/60 Hz ± 5% Mechanical Parameters: • Starter Pack ○ Minimum Dimensions: 540W x 230D x 400H mm ○ Table Top • Application Pack ○ Minimum Dimensions: 540W x 230D x 400H mm ○ Table Top • Motor ○ Minimum Dimension: 200H x 130W x 230D mm ○ Table Top <i>*The equipment should be supported with relevant technical and practical manuals.</i>	
17	OT Cybersecurity Tender Specifications In industry all equipment is connected and communicated through various and varied protocols, cybersecurity becomes indispensable. The Operational technology (OT) Cybersecurity research equipment should help raise awareness of the risks of hacking and implement techniques to counter attacks by having the set of industrial controllers like PLC,HMI & drive with actuators simulating operational application, this application must have all major industrial communication protocols like Ethernet/IP, Modbus, CANOPEN etc. The equipment should provide provision of implementing the firewall network into application and should allow configuration & commissioning of the entire system to implicate the OT cyber security.	1 Set

	The package should be designed to achieve the following learning objectives: • Understand industrial networks and their applications • Understand the risks associated with equipment networking • Implement industrial communication buses • Set up a machine and an industrial firewall to help prevent cybersecurity risks • Configuration & commissioning of Firewall • Resetting, registration & initial settings of firewall • Configuration of policies for same & different network devices • Allowing internet access via Firewall Detailed Product Description: • RCBO, 2P, 10A, 30mA – 1 Qty • MCB, 2P, 1A, Curve C – 1 Qty • MCB, 2P, 4A, Curve C – 1 Qty • MCB, 2P,2A, Curve D – 1 Qty • DC POWER SUPPLY, 100~240V AC, 24V, 2.5A, 60W – 1 Qty • DC POWER SUPPLY, 100~240V AC, 12V, 2.5A, 60W – 1 Qty • Motor circuit breaker, 3P, 4 A – 1 Qty • PLC Back Plane, 8 slots – 1 Qty • DC Power supply module for PLC, 24VDC, 16.8W – 1 Qty • CPU for PLC, 1024 Digital I/O, Analog 256 I/O, 3 Standard Ethernet Ports – 1 Qty • CANOpen Communication module for PLC – 1 Qty • Ethernet Control network module for PLC – 1 Qty • HMI, 5.7" TFT LCD – 1 Qty • Variable speed drive, 0.37kW, 240V, 1Ph – 1 Qty • Fire wall - 10 x GE RJ45 ports (including 7 x Internal Ports, 2 x WAN Ports, 1 x DMZ Port) – 1 Qty	
--	--	--

	- Manageable switch, L2 Switch - 8 x GE RJ45 ports, 2 x GE SFP, Fanless, 12V/3A power adapter of input voltage 100 - 240VAC and PSE dual powered L2+ management switch– 1 Qty - PC USB/RJ45 connection cable – 1 Qty Applicable Software: - PLC programming software (single user permanent license) – 1 Qty - HMI programming software (single user permanent license) – 1 Qty - Firewall configuration tool (one year term license) – 1 Qty Electrical Characteristics: - Voltage: 230 V - Frequency: 50/60 Hz ± 5% Mechanical Parameters: - Minimum Dimensions: 750W x 450D x 850H mm - Table Top <i>*The equipment should be supported with relevant technical and practical manuals.</i>	
18	Smart IOT Power Distribution Learning System Tender Specifications: Intelligent IOT Power Distribution Learning System includes Intelligent IOT Power Distribution Learning Platform and power monitoring software. The learning platform consists of intelligent electrical components, operator console and supporting accessories, and the intelligent electrical components are configured with cabinet door display unit, intelligent moulded case circuit breaker and its accessories, intelligent miniature circuit breaker and its accessories, contactor, relay, and other accessories. Electrical components, power meters, temperature sensors, CTs, wired gateways, wireless gateways, wireless communication modules, switching power supplies, switches, motors used as loads, incandescent lamps, etc., which enables the students to master the power distribution system. While installing and electrically connecting the relevant devices of the system, one should be able to achieve specialized skills such as communication connection, device configuration, debugging, and software deployment of the relevant intelligent devices	1 Set

	This learning equipment should be designed as tabletop bench, with all the equipment visible and mounted on a perforated mesh plate. This equipment should be completed wired and should be operational. <i>The equipment should be designed to achieve learning objectives:</i> • Understand the working principle and functional characteristics of intelligent terminal devices. • Learn the fundamentals and working with power system monitoring and management software. • Introduction to network cabling, communication protocols • Implementation and configuration of communication gateways, ethernet switch • Configuration and parameterization of micrologic control units, intelligent energy meters Detailed Product Description: • Table mounted with power supply column and perforated mesh plate – 1 Qty • HMI, 7", 24VDC, Ethernet port – 1 Qty • Switchboard Display Module, 96x96mm, 24VDC, 2xRJ45 – 1 Qty • Power and Energy meter, RS485, 31st harmonic – 1 Qty • Molded case circuit breaker, 3P, 40A, 415VAC – 1 Qty • Energy sensor for 3P MCCB, 250A – 1 Qty • Molded case circuit breaker, 4P, 40A, 415VAC – 1 Qty • Trip Unit for 4P MCCB, 160A – 1 Qty • Motor mechanism Communicating type, 230V – 1 Qty • Breaker status and Control Module, Modbus, ULP Communication, 24VDC – 1 Qty • Modbus interface, 24VDC – 1 Qty • Universal, wireless, Modbus and ethernet gateway, 230VAC/DC – 1 Qty • Smart Communication IO module, 24VDC, Modbus, RS485 – 1 Qty • Unmanaged network switch, 8 ports copper, 12 to 24VDC – 1 Qty • Current transformer Din rail mounting, 40/5A, D21mm – 3 Qty	
--	---	--

	• Industrial sockets, 3P+N+E, 16A – 1 Qty • Industrial plugs, 3P+N+E, 16A – 1 Qty • Miniature Circuit Breaker, 2P, 10A, C Curve – 1 Qty • Miniature circuit breaker, 2P, 2A, C Curve – 3 Qty • Miniature Circuit Breaker, 4P, 16A, D Curve – 1 Qty • Wireless Energy sensor, top/bottom connect, 3P, 63A – 1 Qty • Wireless Energy sensor, top/bottom connect, 2P, 63A – 4 Qty • Auxiliary contact for circuit breaker, OC and fault contact, 1NO+1NC – 3 Qty • Impulse relay, 2P, 16A, Coil 240VAC – 1 Qty • Control and remote indication for impulse relay, 240VAC, 1NO – 1 Qty • Integrated control circuit breaker, 3P, 10A, D Curve – 1 Qty • Contactor, 3P, 440V, Coil 220VAC – 1 Qty • Thermal relay, 0.63 to 1A, 1NO+1NC – 1 Qty • Push button, green, Ø22, Spring return, 1NO – 1 Qty • Push button, red, Ø22, Spring return, 1NC – 1 Qty • DC Power Supply, 24VDC, 5A – 1 Qty • Single-gang switch, 10A, 250V AC – 1 Qty • Five-pin socket, 10A, 250V – 2 Qty • Ethernet port, with surface plate – 1 Qty • Squirrel cage asynchronous motor, 3P, 180W – 1 Qty • LED bulb, 5W – 3 Qty • Stainless steel mesh plate for component mounting – 1 Qty Electrical Characteristics: • Voltage: 400 V, 3P+N+E • Frequency: 50/60 Hz ± 5% Mechanical Parameters: • Minimum Dimensions: 1050H x 1550W x 800Dmm • Tabletop bench	
--	--	--

	<i>*The equipment should be supported with relevant technical and practical manuals.</i>	
19	Critical power supply operation and maintenance training device Tender Specifications: The UPS training equipment should be designed for small and medium-sized power environments, which is easy to install, easy to operate and easy to maintain, and can realize the teaching functions related to daily maintenance and troubleshooting of the UPS, including the ability to view and deal with system alarms, the ability to set alarm thresholds, the ability to conduct battery tests and battery alarms, the ability to replace parts, and the ability to make log inquiries. This learning equipment should be designed as tabletop bench, with all the equipment visible and mounted on a perforated mesh plate. The learning equipment should be supplied with a UPS and associated batteries. This equipment should also include a battery holder to contain the UPS batteries, where it should be convenient for the learners make battery connections easily. This equipment should be completed wired and should be operational. <i>The equipment should be designed to achieve learning objectives:</i> • Understand and learn the function of various components of the UPS • Learn UPS input and output wiring. • Learn the process to commission an UPS • Learn UPS parameterization. • Understand common UPS faults and troubleshooting. • Learn to obtain and interpret the UPS operating log • Learn to set the UPS alarm threshold. • Learn to view UPS system alarm messages. Detailed Product Description: • Table mounted with power supply column and perforated mesh plate – 1 Qty • 3-phase in, 3-phase out, 10KVA, 380/400V, max. 18A, on line UPS – 1 Qty • UPS Network management card – 1 Qty • DC Circuit Breaker for Battery, 3P, 63A – 1 Qty • Under voltage trip coil, 24V - 1 Qty • Miniature Circuit breaker, 4P, 32A, C Curve – 1 Qty	1 Set

	- Industrial plug and socket, 3P+N+E, 32A – 1 Qty - Fuse holder, 1P, 32A - 1 Qty - Indicators, 230V, Φ 22 – 3 Qty - Battery 12V, 18Ah – 32 Qty - Battery Stand – 1 Qty Electrical Characteristics: - Voltage: 400 V, 3P+N+E - Frequency: 50/60 Hz $\pm$ 5% Mechanical Parameters: - Minimum Dimensions: 730H x 1550W x 800D mm - Tabletop bench <i>*The equipment should be supported with relevant technical and practical manuals.</i>	
20	Main LV Switchboard Cabinet for Professional Training Tender Specifications: This cabinet should be designed for the discovery and implementation of the different technologies used in a main LV switchboard cabinet for professional training source inverter, measuring centre, inverter, automatic, load shedding, etc. It allows the distribution and control of electrical energy on a teaching platform. A controller centralises information over Modbus and/or Ethernet links. <i>The equipment should be designed to achieve learning objectives:</i> - Analyze main LV switchboard cabinet for professional training functions. - Identify system components. - Perform main LV switchboard cabinet for professional training commissioning and maintenance - Configure and set up the communication network - Tag out an output - Implement a reactive energy compensation system - Study an inverter - Prepare for electrical accreditation Detailed Product Description:	1 Set

• Industrial Cabinet – 1 Qty • Emergency Stop push button, $\Phi 40$, 1NC – 1 Qty • Switch disconnecter, 4P, 100A, with rotary handle – 2 Qty • Standard auxiliary contact for circuit breaker status, 1NO/NC – 2 Qty • Control relay, 5NO, Coil 220VAC – 2 Qty • Control relay, 3NO+2NC, Coil 220VAC – 1 Qty • Molded case circuit breaker, 4P, 100A – 2 Qty • Indicator, $\Phi 22$, 230V, white – 2 Qty • Reversing contactor, 3P, 440V, Coil 220VAC – 1 Qty • Contactor, 4P, 440V, 20A, Coil 220VAC – 4 Qty • Contactor, 4P, 440V, 80A, Coil 220VAC – 4 Qty • Miniature circuit breaker, 4P, 10A, C Curve – 2 Qty • Earth leakage add-on block, 4P, 25A, 30mA – 8 Qty • Phase control relay, 400V, 8A, 1 C/O – 2 Qty • Voltage control relay, 230V, 8A, 1 C/O – 1 Qty • Remote controlled source changeover, 240VAC, auto/manual operation – 1 Qty • Power meter, 2DI/2DO, upto 31st harmonics, 380VDC/450VAC, modbus RTU, RS 845 – 1 Qty • Current transformer, 400/5A, 56x32mm – 3 Qty • Miniature circuit breaker, 4P, 2A, C Curve – 1 Qty • Miniature circuit breaker, 4P, 10A, D Curve – 1 Qty • Miniature circuit breaker, 2P, 6A, C Curve – 1 Qty • Earth leakage add-on block, 2P, 25A, 30mA – 5 Qty • Miniature circuit breaker, 2P, 1A, C Curve – 1 Qty • Miniature circuit breaker, 2P, 2A, D Curve – 1 Qty • Miniature circuit breaker, 2P, 4A, C Curve – 1 Qty • Miniature circuit breaker, 2P, 3A, C Curve – 1 Qty • Integrated control circuit breaker, 4P, 25A, C Curve – 3 Qty • Integrated control circuit breaker, 2P, 16A, C Curve – 2 Qty	
--	--

	• Integrated control circuit breaker, 2P, 10A, C Curve – 1 Qty • Integrated control circuit breaker, 3P, 25A, C Curve – 2 Qty • Earth leakage add-on block, 3P,25A, 30mA – 3 Qty • Door limit switch, 1C/O – 2 Qty • Tower light, 220V, 3 stages - 1 Qty • Linear switch, 250VAC, 20A, 1 C/O, 2 position – 4 Qty • Modbus TCP/IP and wireless communication module, 24VDC, 1.5A, 7Digital+1 Analog channel – 1 Qty • Modbus Slave module, 24VDC, 1.5A, 11 Digital channels – 2 Qty • Brick PLC, 24IO, 14DI+10DO, 240VAC – 1 Qty • HMI, 5.7", touch screen, 24VDC – 1 Qty • Basic managed, 8 port switch, 24VDC – 1 Qty • DC power supply, 24VDC, 3A, din rail mounted – 1 Qty • Measuring Pack with Meters – 1 Qty • Measuring Pack with Radio Frequency Measurement Sensors – 1 Qty Electrical Characteristics: • Voltage: 400 V, 3P+N+E • Frequency: 50/60 Hz ± 5% Software Requirements: • PLC programming software, License type: Permanent – 1 Qty • HMI programming software, License type: Permanent – 1 Qty Mechanical Parameters: • Minimum Dimensions: 2540H x 1260W x 530D mm • Self-Standing panel <i>*The equipment should be supported with relevant technical and practical manuals.</i>	
21	Electrical CAD Software 1 single user licence for the lecturer+ 50 network licenses for students The Electrical CAD software shall encompass the following features	1 Set

A. Schematics:**1. SLD/Circuit Diagrams Creation:**

The software shall support the creation of Single Line Diagrams (SLD) and Circuit Diagrams in compliance with standard IEC and NFPA norms.

2. Wire Rubber Band Function:

The software shall incorporate a function that allows symbols to be moved while maintaining wire connections.

3. Integrated Contact and Cable Manager:

The software shall provide a fully integrated manager for relay contacts, component auxiliary contacts, and connectors and cables.

4. Automatic Wires Numbering:

The software shall facilitate automatic numbering of wires in a variety of formats. It shall also allow for the display and editing of wire directions as required.

5. Predefined Automatic Numbering Mode for PLC Addresses:

The software shall support predefined automatic numbering modes for Programmable Logic Controller (PLC) addresses. These modes shall include hexadecimal, decimal, octal, and custom numbering formulas.

6. Automated Logical Functions for PLCs:

The software shall offer additional automated logical functions for PLCs, enabling real-time bi-directional exchange of PLC address and functional descriptions between racks and I/O signals.

7. Import of PLC Assignment Lists:

The software shall allow for the import of PLC assignment lists in Microsoft Excel® format.

8. Auto Connection Feature:

The software shall include a feature that provides automatic wiring between symbols.

9. Orthogonal Wiring:

The software shall support orthogonal wiring, allowing for multiple wires to be drawn simultaneously.

B. Reports & SQL Report Generator API**1. Quick Output of Reports:**

The software shall facilitate quick generation of purchasing and manufacturing reports. These reports may include documents, components list, cable lists, wire lists, and terminal lists. The software shall also allow for the selection of equipment codes from the attached apparatus catalogue.

2. Graphical List Creation:

The software shall enable the selection and creation of all necessary graphical lists in one operation.

3. Automated Generation of Labels and Tags:

The software shall provide a powerful and fully automated tool for generating labels and tags with the report generator. It shall also support the generation of user-defined reports.

4. Adaptable Document Sorting Order:

The software shall allow the sorting order for different kinds of documents to be adapted as per user requirements.

5. Custom Graphical List Generator in SQL:

The software shall include a custom graphical list generator in SQL, enabling the creation of custom project reports

C. Project Database

1. Project-Specific Settings:

The software shall store all project-specific settings within the project data. These settings can be easily adjusted to meet the user's requirements.

2. Immediate Display of Database Component Modifications:

Any modifications made to database components in the editor shall be immediately displayed in the electrical diagram. The editor shall facilitate easy selection of specific manufacturer's components from the type database.

3. Efficient Navigation:

The software shall enable users to navigate through complex projects quickly and effortlessly. It shall support navigation from the database list to the drawing. Some graphical lists shall also allow navigation to the diagrams.

4. Wide Range of Modifications:

The software shall offer a wide range of modifications possible from database editors.

5. Management of Parts:

The software shall provide functionality for managing parts that don't need to be in the drawings. It shall also offer the possibility to read in an Excel file that contains additional materials.

D. Cabinet:

1. Tools:

The software shall provide a comprehensive set of tools for designing 2D cabinets and panels.

2. Symbol Synchronization:

The software shall support synchronization between circuit and cabinet symbols.

3. Cabinet Pick List:

Components placed in circuit diagrams shall be listed in a cabinet pick list.

	4. Accurate Scaling: Elements inserted into cabinets shall be accurately scaled using the equipment database, either based on the length and width of the component or from imported or user-defined symbols. 5. Project Design: The software shall allow projects to be designed starting from the circuit diagrams or cabinet layout. 6. Dimension Functions: The software shall offer dimensioning and other specialized CAD functions. 7. Rails and Cable/Wire Channels: The software shall allow for the insertion of rails and cable/wire channels as required. 8. Drill-Hole Templates: The software shall enable the generation of drill-hole templates based on information from the equipment database. Cabinet Thermal Calculation: The software shall include a feature for checking the heat properties of cabinets. It shall calculate the power dissipation of all equipment and the required ventilation or cooling. E. Export: 1. Labels: The software shall support the export of labels for terminals, wires, and components in various printer formats, including but not limited to Weidmueller. 2. Open Data: Recognized as an essential tool for companies, the software shall facilitate updates to the project data without the need for an Electrical CAD package. It shall allow the use of Microsoft Excel® to quickly update information for components, parts, terminals, wire labels, PLC data, and more. The software shall also support a single-click import of modified spreadsheet data to update the project.	
22	Power system Design and Validation software: Software must be fully integrated AC and DC electrical power system analysis tool. Software must be capable of the design, analysis, maintenance, and operation of electrical power systems. 1. Base Package with Equipment Evaluation, Cable Sizing & Ampacity-IEEE, ICEA, NEC 2. Load Flow / Voltage Drop Module 3. ANSI / IEC Short Circuit Analysis Module 4. Optimal Power Flow Module 5. Transient Stability 6. Harmonic Analysis Module	1 Set

	7. Protective Device Co-ordination& Sequence of Operations Module 8. Wind Turbine Generator & PV Array 10 user license valid for 3 years	
--	--	--

Deliverables

Key deliverables for each allotted college shall include:

- Approved center design and bill of quantities.
- Supply, installation, testing, and commissioning of lab infrastructure.
- Functional software and licensed digital tools.
- Course curriculum, content, trainer guides, and learner material.
- Faculty development and train-the-trainer completion.

Annexure-I General Information

SN	Particulars	Details (Enclose supporting documents, wherever required)
1.	Name of the Bidder	
2.	Registered Address	
3.	Concerned person's Name and Designation	
4.	Mobile no	
5.	Email ID	

II. Document to be Submitted by the Bidder (Reference Clause 5):

SN	Particulars	Details (Enclose supporting documents)
1.	Bidder's Date of Incorporation/ Registration	
2.	Board Resolution / authorization letter from the Board of directors / or Power of Attorney	
4.	Blacklisting Declaration	
5.	Other Declarations as required	

Annexure-II Information as per technical evaluation criteria to be furnished:

1) Relevant Experience	
Assignment No:1	
Name of Client:	
Brief of Services/Product Provided:	
Location and Country:	
Name of Project:	
Year:	
Project Duration:	
Project Value In INR:	
Email id and contact detail of client	
Assignment No:2	
Name of Client:	
Brief of Services/Product Provided:	
Location and Country:	
Name of Project:	
Year:	
Project Duration:	
Project Value In INR:	
Email id and contact detail of client	
<i>Add more details if required</i>	
2) Details of Project along with Work order	
Assignment	
Name of Client:	
Brief of Services/Product Provided:	
Location and Country:	
Name of Project:	

Year:	
--------------	--

Project Duration:	
Project Value In INR:	
Email id and contact detail of client	

It should be kept in mind that all actions towards award of Contract and its implementation on the ground have to be fair, consistent, transparent and based on highest standard of ethics. Similarly, Bidders/suppliers/contractors/Bidders associated in the procurement of Goods, Works & Consultancy, are expected to observe the highest standard of ethics during procurement and execution of contracts. In pursuance to above:

- a) Proposal for award may be rejected, if it determines that the Bidder, recommended for award, and/or its employees, sub-contractors, sub-Bidder, sub- vendors, agents have engaged in corrupt or fraudulent practices in competing for the Contract in question;
- b) Portion of the funds allocated to a contract may be cancelled, in full or in part, if it is determined that corrupt or fraudulent practices were engaged by contractor/Bidder and/or its employees, subcontractors/sub-Bidders, sub-vendors, agents for getting the Contract or during the execution of a Contract.
- c) A firm may be declared as ineligible, either indefinitely or for a stated period of time, to be awarded a Contract, if it, at any time, determines that the firm has been engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
- d) For the purpose of above provision, the terms, "Corrupt Practice" and "Fraudulent Practice", mean following:

"Corrupt practice" means offering, giving, receiving, or soliciting anything of value to influence the action of NSDC's official(s) in the procurement process or in the contract execution; and

"Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract and includes collusive practices among Bidders (prior to or after bid submission) designed to establish bid/proposal prices at artificial, non- competitive levels.

"Anti-competitive practice" means any collusion, bid rigging or anti-competitive arrangement, or any other practice coming under the purview of The Competition Act, 2002, between two or more bidders, with or without the knowledge of the Procuring Entity, that may impair the transparency, fairness and the progress of the procurement process or to establish bid prices at artificial, non-competitive levels; **"Coercive practice"** means harming or threatening to harm, persons or their property to influence their participation in the procurement process or affect the execution of a contract;

"Conflict of interest" means participation by a bidding firm or any of its affiliates that are either involved in the consultancy contract to which this procurement is linked; or if they are part of more than one bid in the procurement; or if the bidding firm or their personnel have relationships or financial or business transactions with any official of Procuring Entity who are directly or indirectly related to tender or execution process of contract; or improper use of information obtained by the (prospective) bidder from the Procuring Entity with an intent to gain unfair advantage in the procurement process or for personal gain; and

"Obstructive practice" means materially impede the Procuring Entity's investigation into allegations of one or more of the above mentioned prohibited practices either by deliberately destroying, falsifying, altering; or by concealing of evidence material to the investigation; or by making false statements to investigators and/or by threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or by impeding the Procuring Entity's rights of audit or access to information;

Financial Bid Formats

The Bidder is required to submit their financial proposal in the table mentioned below.

Financial Break up:

Sr. No.	Part Ref	Quantity	Rate Without Taxes	Rate With Taxes
1	CCTV training module	1		
2	Fire alarm and public address training	1		
3	Home Automation Training module	1		
4	Accessories for Building Automation	1		
5	Integrated Building Management System	1		
6	Industrial Controls and drives	8		
7	Training Motor	4		
8	Power and control pack with wiring and sensors	4		
9	Accessories for Industrial Installation Controls and Drives	4		
10	PLC programing kit	2		
11	Static panel	1		
12	Industrial Sensor case	1		
13	SCADA and Industrial Communication	2		
14	Robotics and motion control	1		
15	Digital Factory	1		
16	IIOT Supervision Development and predictive maintenance bench	2		
17	OT Cybersecurity	1		
18	Smart IOT Power Distribution	1		
19	Critical Power supply operation and maintenance training device	1		
20	Smart LV Panel(Main LV Switchboard Cabinet for Professional Training)	1		
21	Electrical CAD Software	1		
22	Power system Design and Validation software	1		
	Gross Cost of single lab (A)			

- Note: The above set of equipment is designed for a single laboratory. The estimated number of laboratories to be installed is 30. However, this quantity may increase or decrease depending on project requirements.**

Financial Format:

Description	Unit lab Cost (A) as per above BOM	Total No's of labs(B)	Total Cost (exclusive GST) (C)	Total Cost (including GST) (D)
<u>Supply & installation and training certification of Centre for Future Skills Equipment at Engineering colleges</u>		30		
In words (Total Cost inclusive GST and Taxes as applicable)				

Note: The QCBS evaluation will be calculated on the total Amount of the Project exclusive tax proposed in above format as same as Total Cost (exclusive GST) **Column: (C)**

In addition to infrastructure, the RFP will comprehensively cover the following scope:

- Content and curriculum
- Pedagogy and delivery framework
- Modular integration within academic programs
- Train-the-trainer support
- Assessment and certification framework
- Student engagement and outcome tracking

- The above price includes cost of supply, installation, commissioning and delivery charges (or All the Out of Pocket (OOP) expenses shall be borne by the bidder itself) as per RFP.
- NSDC reserves the right to increase / decrease the number of locations or quantity at the same cost within Calander year on the same terms and conditions of the RFP.
- Charges towards Packing & Forwarding, Inland Transportation, Insurance (local transportation and storage) would be borne by the Supplier from Supplier warehouse to the consignee site, Loading/Unloading and other local costs incidental to delivery of the goods to their final destination as per Consignee List mentioned in the RFP shall also be borne by the Supplier.
- The proposed commercials shall be reviewed every calendar year, or NSDC may initiate a fresh RFP.
- Notwithstanding the above, in the event of an exceptional and abnormal escalation in input costs on account of extraordinary market/global conditions, NSDC may, at its sole discretion, consider a review of the commercials on a case-to-case basis even prior to completion of the calendar year, subject to submission of valid documentary proof by the Bidder substantiating such price escalation, to NSDC's satisfaction.

Annexure V – Manufacturer Authorization Form

To,
National Skill Development Corporation
Kaushal Bhavan, New Moti bagh,
New Delhi
ss
Dear Sir,

Ref. Your RFP document No _____ dated

We, _____(Name of the Manufacturer / OEM),
having our registered office and manufacturing facilities at _____,
and being a proven and reputed manufacturer of _____
(name and description of goods as per the RFP),
do hereby authorize:

M/s _____(Name and complete address of the Authorized Distributor
/ Dealer / System Integrator)

to participate in the bid, submit the tender, negotiate, sign contracts, and execute the supply
against the Procuring Entity's requirement as specified in the above-referred RFP document for
the products manufactured by us.

We further confirm that supplier, or individual, **M/s**_____, is
authorized by us to submit the tender, process the same further, or enter into any contractual
agreement against the said RFP for the goods manufactured by us.

We hereby undertake and confirm that:

- We shall provide full OEM support, technical backing, and product support for the goods
supplied against this RFP through our authorized representative.
- We shall be responsible for the satisfactory execution of the contract awarded to our
authorized distributor/dealer/system integrator.
- Spare parts and accessories required for the supplied equipment shall be available for the
entire expected lifecycle/rated life of the equipment, as per OEM standards.

We further confirm that **the prices quoted by our authorized representative shall not exceed
the prices that we would have quoted directly** for the same items against this RFP.

For and on behalf of the Manufacturer (OEM):

Authorized Signatory Name

Designation

Company Name

Signature & Stamp

Date

Place

**DRAFT AGREEMENT
BETWEEN
NATIONAL SKILL DEVELOPMENT CORPORATION
AND
[<Write name of selected Service Provider>]**

This Agreement ("Agreement") is made on [*Write date of signing of agreement*], between:

National Skill Development Corporation, a company incorporated under the Companies Act, 1956, and having its registered office at 5th & 6th Floor, Kaushal Bhawan, New Moti Bagh, New Delhi – 110023 (hereinafter referred to as "NSDC" which expression shall, unless it be repugnant to the context or meaning thereof, be deemed to mean and include its successors-in-interest and assigns);

and

[...Write name of selected vendor.....], a [*company/joint venture/society/trust-*] incorporated under the [name of the act under which service provider is incorporated], and having its registered office at [,,,write registered office address of the Service Provider.....] (hereinafter referred to as "Service Provider" whose expression shall, unless it be repugnant to the context or meaning thereof, be deemed to mean and successors-in-interest and permitted assigns).

NSDC and Service Provider shall hereinafter be individually referred to as "Party" and collectively as "Parties".

WHEREAS

- (A) NSDC is a non-profit company incorporated under the Companies Act, 1956 ("Act") and has the license under section 25 of the said Act (corresponding to section 8 of the Companies Act 2013) and established as a public private partnership with the object of developing unskilled and semi-skilled labour force into productive and skilled labour and to establish, manage, run and support institutes and polytechnics for achieving this objective ("Business").
- (B) NSDC has through a request for proposal dated {DD-MM-YYYY}, ("RFP") to be read along with corrigendum issued with the RFP, if any, has called for proposals/bids to provide services as enumerated in Schedule I ("Services") to this Agreement.
- (C) The Services Provider submitted a bid response dated DD-MM-YYYY ("Bid Response") pursuant to the RFP where the Services Provider has represented to NSDC that it is an experienced, and fully qualified and capable of providing the Services.
- (D) Pursuant to the evaluation of the Bid Response by NSDC, NSDC has selected the Service Provider to provide the Services under this Agreement on such terms and conditions hereinbelow.

IT IS AGREED BETWEEN THE PARTIES AS FOLLOWS

1. Definition and Interpretation

- 1.1. In this Agreement, including in the Recitals hereof, the following words, expressions and abbreviations shall have the following meanings, unless the context otherwise requires.
 - a) "Agreement" means this Agreement and each of the Schedules, Purchase Order and other attachments that may be agreed by both the Parties in writing.
 - b) "Applicable Law" shall mean any statute, law, regulation, ordinance, rule, judgment, notification, rule of common law, Order, decree, bye-law, government approval, directive, guideline, requirement or other governmental restriction, or any similar form of decision of, or determination

by, or any interpretation, policy or administration, having the force of law of any of the foregoing, by any Authority having jurisdiction over the matter in question, whether in effect as of the date of this Agreement or thereafter.

- c) "Authority" shall mean any national, state, provincial, local or similar government, governmental, regulatory or administrative authority, branch, agency, any statutory body or commission or any non-governmental regulatory or administrative authority, body or other organization to the extent that the rules, regulations and standards, requirements, procedures or Orders of such authority, body or other organization that have the force of Applicable Law or any court, tribunal, arbitral or judicial body, or any stock exchange of the India or any other country.
- d) "Confidential Information" includes the contents of this Agreement and all content created pursuant to this Agreement. It also includes, with respect to NSDC and the Service Provider any information or trade secrets, schedules, business plans including, without limitation, commercial information, financial projections, client information, technical data, developments, intellectual property, ideas, know-how, marketing materials, business information, accounting and financial information, credit information, various types of lists and databases, administrative and/or organizational matters of a confidential/secret nature in whatever form which is acquired by, or disclosed to, either Party pursuant to this Agreement, but excluding information which at the time it is so acquired or disclosed, is already in the public domain or becomes so other than by reason of any breach or non-performance by the receiving Party of any of the provisions of this Agreement and includes any tangible or intangible non-public information that is marked or otherwise designated as 'confidential', 'proprietary', 'restricted', or with a similar designation by the disclosing Party at the time of its disclosure to the receiving Party, or is otherwise reasonably understood to be confidential by the circumstances surrounding its disclosure.
- e) "Deliverables" shall mean materials that are originated and / or prepared for NSDC by Service Provider (either independently or jointly with NSDC or third parties) and delivered / to be delivered to NSDC during the course of Service Provider's performance under this Agreement. Deliverables shall be comprised of Custom Components and/or Service Provider's material;
- f) "Force Majeure" means an act of God, war, civil disturbance, strike, lockout, act of terrorism, flood, fire, explosion or legislation or restriction by any government or other authority, or any other similar circumstance beyond the control of any Party, which has the effect of wholly or partially suspending the obligations hereunder, of the Party concerned during the continuance and to the extent of such prevention, interruption or hindrance.
- g) "Intellectual Property" or "Intellectual Property Rights" shall mean any and all trademarks and services marks (whether or not registered), copyrights, design rights (whether or not registered), moral rights, patents, performance rights, database rights, Internet, WAP and other new media rights, names, logos and codes, publicity rights, and any and all other intellectual property and proprietary rights of any nature whatsoever that subsist, or may subsist, or be capable of registration, in each case whether in relation to the Services or otherwise, and which exist, or may exist, in any jurisdiction anywhere in the World.
- h) "Order" shall mean any order, injunction, judgment, decree, ruling, writ, assessment or award of a court, arbitration body or panel or other Authority.
- i) "Purchase Order" means the document issued by NSDC to the Service Provider that explains the objectives, scope of work, activities, and tasks to be performed, respective responsibilities of NSDC and the Service Provider, and expected results and deliverables of the respective assignment / project.

1.2. Interpretation

- a) Heading and bold typeface are only for convenience and shall be ignored for the purpose of interpretation.
- b) Terms may be defined in clause 1 above, or elsewhere in the text of this Agreement and, unless otherwise indicated, shall have such meaning throughout this Agreement.
- c) Reference to this Agreement shall be deemed to include any amendments or modifications to this Agreement, as the case may be.
- d) References to the singular will include the plural
- e) References to the word "include" shall be construed without limitation.

2. Appointment of Service Provider

- 2.1. NSDC hereby engages the Service Provider on non exclusive basis to provide the Services as stated in Schedule I, in accordance with this Agreement. The Service Provider, in consideration for the payment as stated in Schedule II, hereby accepts the engagement.
- 2.2. During the Term of this Agreement, Service Provider shall keep NSDC informed about any material change (internal or external) which may impact the Service Provider's obligation in any manner.
- 2.3. It is hereby clarified that the Service Provider shall be considered as finally engaged to provide the Services under this Agreement only upon receipt of the electronic performance security by NSDC in accordance with other terms of this Agreement.
- 2.4. Further, for avoidance of doubt, the Service Provider and all its employees, sub-contractor or any associated persons as the case may be, shall never be deemed to be employee(s), sub-contractor(s), agent(s), partner(s) etc. of NSDC for any purpose whatsoever.
- 2.5. Sub-Contracting
 - 2.5.1 The Service Provider shall not sub-contract without the prior written approval of NSDC. Provided that the Service Provider unequivocally agrees that any approved sub-contractor will be required to execute a written agreement with the Service Provider which shall extend all relevant obligations of the Service Provider under this Agreement to the sub-contractor. However, at all times, the Service Provider shall also remain completely responsible for ensuring the satisfactory performance of all subcontracted services.
 - 2.5.2 Notwithstanding any such appointment of sub-contractor, the Service Provider shall remain completely liable and retain overall responsibility and liability towards performance of obligations under this Agreement and shall at all times be liable and responsible for all acts and omissions of its sub-contractor(s).

3. Consideration and Payment Terms

- 3.1. The Parties acknowledge and agree that the detailed financials and the corresponding terms and conditions are fully described in **Schedule II** of this Agreement.
- 3.2. NSDC will have the right to audit books and records of Service Provider for the purpose of verifying: (a) the proper performance by Service Provider of its obligations under this Agreement; and (b) the amounts and costs payable by or to be paid by NSDC. NSDC may, on reasonable notice, conduct an audit of books and records of Service Provider by authorized representatives of its own, or by any public accounting firm selected by NSDC, during normal business hours at any reasonable time or times during the term of this Agreement and within a period of seven (7) years thereafter.

4. SERVICE PROVIDER'S RESPONSIBILITIES

- 4.1. The Service Provider shall execute and complete the Services with due care and diligence, and in such manner as may be required and specified under this Agreement.
- 4.2. The Service Provider confirms that it has entered into this Agreement on the basis of a proper examination of the data and information provided by NSDC. The Service Provider acknowledges that any failure to acquaint itself with all such data and information shall not relieve its responsibility for properly estimating the difficulty or cost of successfully performing the obligations in relation to the Services contemplated herein.
- 4.3. The Service Provider shall acquire in its name all applicable Approvals required for the performance of its obligations under this Agreement and comply with terms and conditions thereof while execution of its obligations.
- 4.4. The Service Provider unequivocally undertakes to comply with all applicable laws in force including but not limited to the provisions of the Digital Personal Data Protection Act, 2023. The Service Provider shall indemnify and hold harmless NSDC from and against any and all liabilities, damages, claims, fines, penalties, expenses etc. of whatever nature arising or resulting from the violation of such applicable laws by the Service Provider or its personnel, including the sub-contractor(s) and their personnel.
- 4.5. The Service Provider shall:
 - (i) diligently carry out the Services in an ethical manner and in good faith;
 - (ii) comply with the NSDC's requirements relating to the Services;
 - (iii) not do anything during its dealings with any third party in relation to this Agreement, which may adversely affect or injure the goodwill of NSDC and/or bring NSDC disrepute;
 - (iv) not make any untrue or misleading statement in relation to NSDC at any time in terms of this Agreement;
 - (v) adhere to specific delivery timelines of NSDC and ensure that its performance meet the specifications/ requirements as specified in the agreed scope of work.
- 4.6. The Service Provider agrees that Service Provider shall be solely liable to NSDC for any loss that NSDC may suffer as a result of any act or omission, breach of this Agreement, theft, fraud, breach of confidentiality or other criminal act of the Service Provider or any of its employees, workers, sub-contractor(s) or personnel whatsoever. Further, Service Provider shall be responsible for all compliances related to its employees, sub-contractor(s) and their employees.
- 4.7. The Service Provider shall execute all such separate mutually agreed agreements such as the confidentiality and non-disclosure contract etc. which may be required by NSDC in pursuance of this Agreement.
- 4.8. The Service Provider agrees to be bound by the terms & conditions of the RFP which by their very nature, would apply to Service Provider for providing the Services under this Agreement, and which forms an integral part of this Agreement. Further, unless specified otherwise, in case of any inconsistency between the provision(s) of this Agreement and terms & conditions of the RFP, the provision(s) of this Agreement shall prevail.

5. **Term**

Notwithstanding the date hereof, this Agreement shall commence on the [] ("Effective Date") and shall be valid for a period of _____ (_____) years/months and shall come to an end on []. The term can be extended or reduced depending upon performance of the service provider and requirement of NSDC. Term may be extended only by mutual written agreement of the Parties.

6. **Termination**

- 6.1. NSDC may terminate this Agreement immediately in the event that:

- a) Service Provider has committed a breach of any of the terms and conditions, the covenants, representations and warranties or obligations stipulated in this Agreement which cannot be remedied.
 - b) Service Provider fails to provide the Services or has underperformed in providing the Services under this Agreement.
 - c) Any information given by the Service Provider is incorrect or misleading, or a representation, warranty, undertaking or statement made hereunder is incorrect or misleading in any respect;
 - d) Service Provider has committed a material or repeated breach of any of its obligations hereunder and has failed to remedy such breach (if the same is capable of remedy) within thirty (30) days of being required by written notice so to do;
 - e) Service Provider goes into liquidation or bankruptcy (whether compulsory or voluntary) or an administrator or receiver is appointed over the whole or any part of that Service Provider's assets or if the Service Provider enters into any arrangement for the benefit of or compounds with its creditors generally or threatens to do any of these things or any judgment is made against that Service Provider or any similar occurrence under any jurisdiction affects that Service Provider; or
 - f) Service Provider ceases or threatens to cease to carry on business or is removed from the relevant register of companies, where applicable.
- 6.2. NSDC may terminate this Agreement, without assigning any reason by giving written notice of 30 (thirty) days.
- 6.3. NSDC may terminate this Agreement immediately if NSDC determines that the Service Provider and/or its employees, sub-contractors, sub-consultant, sub-vendors, agents have engaged in Corrupt or Fraudulent practices in executing this Agreement. The terms "corrupt" and "fraudulent" are defined in Schedule III to this Agreement.
- 6.4. NSDC's right to terminate this Agreement shall be without prejudice to the other rights and remedies it may have under Applicable Law.
- 6.5. This Agreement may also be terminated prior to the completion of its term by the mutual consent of both the Parties in writing.

7. Consequences of Expiry / Termination

- 7.1. Upon termination or expiry of this Agreement, any rights or authority granted by NSDC to the Service Provider under this Agreement shall terminate with immediate effect.
- 7.2. Within 7 business days after termination or expiry, upon the request of NSDC, Service Provider will return or destroy, at the option of NSDC, all Confidential Information of NSDC and all materials relating to work in progress of the Services.
- 7.3. Upon termination or expiry of this Agreement, NSDC shall pay Service Provider for all Services rendered validly and in accordance with the terms of this Agreement, provided that such Services are not in dispute. This shall include a pro rata portion for Deliverables in progress prior to the date of termination in accordance with Schedule II.
- 7.4. The accrued rights of the Parties as at termination, or the continuation after termination of any provision expressly stated to survive or implicitly surviving termination, shall not be affected or prejudiced in any manner.
- 7.5. Upon termination of the Agreement by NSDC, the Service Provider shall provide all necessary support in handing over the project to new incumbent identified by NSDC, handover all relevant documentations like installation documents, any other document prepared as part of the project, provide team support during the handover period and ensure a seamless and smooth transition.

The project transfer completion certificate will be provided to the Service Provider only after receiving sign-off from the new incumbent.

8. Service Provider's Representation and Warranties

The Service Provider represents and warrants that:

- 8.1. It validly exists under Laws, and has the power and authority to carry on its business in India, and provide the Services under this Agreement;
- 8.2. It has the power to enter into this Agreement and comply with its obligations under the Agreement;
- 8.3. It has full capacity and all Approvals, necessary permissions, consents and licences to enter into and to perform its obligations under this Agreement to provide the Services;
- 8.4. The execution of this Agreement by the Service Provider does not contravene the provisions of any applicable law or regulation or agreement or document to which it may be or may have been a party;
- 8.5. The Service Provider shall not, in rendering of its obligations under this Agreement utilise any development, innovation, improvement or trade secret in which it does not have a proprietary interest, or other necessary rights for such utilisation.
- 8.6. Upon execution of this Agreement by the Service Provider, this Agreement shall be legally binding on the Service Provider and shall be legally enforceable against it.
- 8.7. The Service Provider or any of its partner, employee or sub-contractor involved in the provision of Services under this Agreement, have not been convicted of or pleaded guilty to a criminal offence, including one involving fraud, corruption, or moral turpitude, or is subject to any government/ legal investigation for such offences.
- 8.8. This Agreement is being executed by a duly authorised representative of the Service Provider.
- 8.9. The Service Provider shall comply with all applicable laws and regulations governing the rendering of Services and shall maintain and keep up-to-date any registration with regulatory bodies and authorities required to render the Services under this Agreement and provide proof of such approvals and registrations to NSDC as and when required by NSDC.
- 8.10. The Service Provider warrants that its Services will be performed in a good and diligent manner. The Service Provider agrees to re-perform any Services not in compliance with this warranty brought to its attention by NSDC. Additionally, Service Provider warrants that its Deliverables are original content and shall conform to their relevant specifications. Service Provider agrees to correct any such Deliverables not in compliance with this warranty brought to its attention by NSDC.

9. Performance Guarantee:

- 9.1. Within ten (10) working days from the date of execution of this Agreement by both Parties, the Service Provider shall furnish to NSDC an electronic performance security equivalent to five percent (5%) of the Agreement value/PO Value, amounting to Rupees [●] only (INR [●]). The electronic performance security shall be denominated in Indian Rupees and shall be provided in the form of an unconditional and irrevocable bank guarantee issued by a nationalized/scheduled bank located in India, acceptable to NSDC, and in the format prescribed by NSDC (as set out in Schedule V) (the "Performance Bank Guarantee" or "PBG").
- 9.2. The PBG shall remain valid throughout the Term of the Agreement and for a further period of three (3) months or ninety (90) days, following the expiry or termination (whichever is earlier) of the Agreement, unless earlier encashed by NSDC in accordance with the terms of this Agreement.

- 9.3. In the event the Term of the Agreement is extended for any reason whatsoever or any additional PO is issued during the term of this Agreement, the Service Provider shall ensure that the validity of the PBG is correspondingly extended so as to remain valid throughout the extended Term or additional PO amount for a further period of three (3) months / ninety (90) days thereafter, on the same terms and conditions.
- 9.4. In the event NSDC terminates this Agreement in accordance with sub-clauses 6.1 or 6.3, NSDC shall be entitled to forfeit and encash the PBG, without prejudice to any other rights or remedies available under this Agreement or applicable law.

10. **Personnel**

- 10.1. The Service Provider shall deploy personnel for providing the Service only after they have been screened, to ensure that they meet the minimum quality standards. The title agreed job description, minimum qualification and estimated period of engagement to carry out the Services of each consultants, key expert shall be described in Schedule IV. ("Key Experts").
- 10.2. The Service Provider shall immediately terminate and replace a Key Expert who has: (a) breached any terms and conditions of this Agreement; or (b) has committed a data breach or (c) is in anyway not in compliance with Applicable Law.
- 10.3. NSDC shall have the right to interview any of the Key Experts engaged by the Service Provider to ensure they are duly qualified to provision the Services.
- 10.4. In the event that any of the Key Experts resign or cease to provide their services due to reasons beyond the control of the Service Provider, the Service Provider shall immediately replace such Key Experts, with equally competent resources, and ensure that a complete knowledge transfer, and all other processes required to maintain business continuity.
- 10.5. In the event that any Key Experts fails to meet the reasonable expectations of NSDC, NSDC may request a replacement, and the Service Provider shall promptly replace, with a suitable and equivalent replacement.
- 10.6. Substitution of Key Experts
- i. If any of the Key Experts become unavailable, the Service Provider shall provide a written adequate justification and evidence satisfactory to NSDC together with the substitution request. In such case, a replaced Key Expert shall have equal or better qualifications and experience than those of the originally proposed Key Expert.
 - ii. Service Provider cannot change the Key Experts as submitted in response to the bid, except in case of resignation, medical incapacity death or any other unanticipated circumstances from the project start date unless there is written approval of the VP- IT & Digital, NSDC.
 - iii. The Key Experts have to be full-time on this project and at the location mentioned as per the terms and conditions of the Agreement . This clause is non-negotiable and penalties to an extent of 50% of the fee for the Key Expert may be levied for the entire balance period of the Agreement for such change request, unless an acceptable replacement is provided within 15 days of such change request. For any change request of Key Expert, the substitute has to be an individual with similar / better experience & qualifications and accepted in writing by VP- IT & Digital, NSDC.
 - iv. If NSDC finds that any of the personnel have committed serious misconduct or have been charged with having committed a criminal action, or have reasonably caused to be dissatisfied with the performance of any of the personnel, then the Service Provider shall, at the NSDC's written request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the NSDC.

- v. If the Service Provider fails to provide a replacement of any Key Expert with equal or better qualifications, or if the provided reasons for the replacement or justification are unacceptable to NSDC, such proposal will be rejected.
- vi. Sub-Contracting
 - a. Sub-Contracting of Key Experts is not allowed, and all the resources should be on the payroll of the Technical Consultant.
 - b. Service Provider to provide a Self-Certificate from its Head – HR or Authorized Signatory that the resources deployed on the Project is on the Payroll of the Technical Consultant, at the start of the project. This Certificate needs to be provided annually.

11. Compliance with Laws

The Service Provider shall at all times during his performance of the Services under this Agreement comply with all the applicable laws and shall be solely liable for any non-compliance with such applicable laws and shall at all times indemnify and hold NSDC, its employees, directors harmless and indemnified against any liabilities arising out of any non-compliance of the applicable laws by the Service Provider.

12. Intellectual Property Rights

- 12.1. The Service Provider agrees not to use or misuse or register as the owner, licensee, or cause to be registered, nor assist any other person or entity in misusing or in registering as the owner or causing to be registered, in any part of the world, any trademark, trade name, service mark, copyrights, insignias, symbols, know-how, trade dress, slogans and logos, photographs and images currently used and to be used in the future (including emblems, services and rights in the distinctive design and signs, or combinations thereof) and all similar proprietary rights belonging to NSDC or associated with NSDC's work / Services ("Intellectual Property").
- 12.2. Service Provider understands that the data and information are collected and compiled for NSDC in order to meet its business requirements. The information collected for this assignment as well as provided by Service Provider to NSDC are the sole and absolute property of NSDC. Service Provider understands and appreciates that the formats prepared and the data submitted by Service Provider to NSDC therefore constitute trade secrets. Service Provider therefore understands and acknowledges that the property including formats, data and information collected by its personnel in terms hereof are the sole and absolute property of NSDC.
- 12.3. Service Provider hereby agrees and undertakes that it has no interest whatsoever in the information collected by it and the formats created and shall not use the same for any purposes whatsoever other than as set out in this Agreement.
- 12.4. The Service Provider hereby represents and warrants that none of its activity, software, documentation etc. used under this Agreement and / or provided to NSDC does or will infringe any Intellectual Property Rights held by any third party and that it has all necessary rights or at its sole expense shall have secured in writing all transfers of rights and other consents necessary to make the assignments, licenses, and other transfers of Intellectual Property Rights for NSDC to own or exercise all Intellectual Property Rights as provided in this Agreement. The Service Provider further represents and warrants that it has secured / shall secure all necessary written agreements, consents, and transfers of rights from its employees and other persons or entities whose services are used for providing Services.
- 12.5. Service Provider, subject to Clause 12.6 below and to any restrictions applicable to any third-party materials embodied in the Deliverables, hereby grants to NSDC a perpetual and exclusive rights to use, copy and prepare derivative works of the Deliverables, for purposes of publication

and / or NSDC's internal business (which includes any business associated with any Ministry of India) only. All other intellectual property rights in the Deliverables shall remain with and/or are assigned to NSDC.

- 12.6. NSDC shall have or obtain no rights in any Service Provider Knowledge Base other than (a) to use the same on a non exclusive and non transferable basis and otherwise as authorized by Service Provider, (b) to the extent the Service Provider Knowledge Base is incorporated into a Deliverable, to use it on a non exclusive and non transferable basis as part of the Deliverable for purposes of NSDC's internal business objective (which includes any business associated with any Ministry of India), or (c) pursuant to Service Provider 's standard licence for such Service Provider Knowledge Base or, in the case of Service Provider Knowledge Base owned by third parties, pursuant to terms acceptable to the applicable third party and as intimated to NSDC by Service Provider. If any Service Provider Knowledge Base is made available to NSDC under (a) above, it will be made available in an "AS IS" condition and without express or implied warranties of any kind; and any Service Provider Knowledge Base made available under (c) above shall be subject only to applicable terms of the applicable licence.
- 12.7. The Parties shall cooperate with each other and execute such other documents as may be necessary or appropriate to achieve the objectives of this Clause 12.
- 12.8. Service Provider shall be free to use its general knowledge, skills and experience, and any ideas, concepts, know-how, and techniques (which does not contain any information, data, input etc. of the Services or any reference of this) that are acquired or used in the course of providing the Services.
- 12.9. This Clause 12 shall survive the termination or expiry of this Agreement.

13. Indemnification

- 13.1. Without limiting any other rights which NSDC may have under this Agreement and under law, the Service Provider shall indemnify, defend, hold harmless and keep indemnified NSDC, its associates, partners or its directors or its employees from and against any claim or loss including without limitation, fines, penalties, fees, damage, costs (including legal fees and expenses) liability (whether criminal or civil) suffered and/or incurred by NSDC, its affiliates or its directors or its employees arising from or in connection with the performance of the Services by the Service Provider under this Agreement or due to any breach of the terms and condition of this Agreement including any covenants, obligations and representations and warranties of the Service Provider, or with any applicable laws and regulations governing the performance of the Services by the Service Provider under this Agreement. The provisions of this Clause 13 shall survive the termination or expiry of this Agreement.
- 13.2. Neither Party shall be liable for any consequential, incidental, special, indirect, exemplary or punitive damages, or damages for any loss of profits, revenue or business, regardless of the nature of the claim, even if the other Party has been notified of the possibility of such damages.
- 13.3. The above limitations of liability and exclusions from liability set forth in this Clause 13 shall not apply (i) in cases of gross negligence or wilful misconduct; or (ii) to any liability arising out of fraudulent conduct or (iii) to statutory liability.

14. Use of Confidential Information

- 14.1. During the course of performance of the Services under this Agreement, the Service Provider may have access to information which could be confidential and proprietary information of NSDC as well as of its associates, affiliates, partners or its clients, including but not limited to business plans, financial information, mechanisms, business related functions, activities and services,

computer lists, knowledge of customer needs and preferences, trade secrets, business strategies, marketing strategies, methods of operation, tax records, markets, data or other proprietary information relating to products, processes, know-how, designs, formulas, developmental or experimental work, computer programs, data bases, other original works of authorship, other valuable information, personally identifiable information, confidential information and trade related information relating to the activities of NSDC or its associates and partners (collectively the "Confidential Information"). Any Confidential Information shall be considered confidential regardless of whether or not it is expressly marked as being confidential or proprietary and regardless of the form in which such information is communicated to the Service Provider, whether it be oral, in writing or by any other form or mode of communication (including, but not limited to electronic or magnetic recordings and e-mail communications).

- 14.2. The Service Provider agrees and undertakes not to disclose or disseminate (or cause to be disclosed or disseminated), whether directly or indirectly, Confidential Information to any third party, without the express prior written authorization by NSDC. Without prejudice to the generality of the foregoing, it is understood that Confidential Information may be disclosed by the Service Provider only for the purpose of complying with its contractual obligations under this Agreement. In any event, the Service Provider shall ensure that any person to whom Confidential Information is communicated by the Service Provider, must abide by the terms of this Clause 14 as if they were themselves a party to it.
- 14.3. Notwithstanding the foregoing, the Service Provider may disclose Confidential Information, while safeguarding to the greatest extent possible the confidential nature of the Confidential Information, to its legal advisors, tax consultants and accountants or other member firms of Service Provider or Service Provider's information technology vendors for the purpose of performance of its obligations under this Agreement only and not for any other purpose or for carrying out internal, support, administrative, support, financial purposes, risk management or other quality checks for the Service Provider after obtaining prior written permission from NSDC.
- 14.4. The Service Provider undertakes not to use (and to take reasonable efforts to cause any person to whom it has communicated Confidential Information not to use) Confidential Information, except in accordance with this Agreement. More generally, nothing in this Agreement related to the disclosure of Confidential Information shall be interpreted as a licence, implicit or explicit, to use the Confidential Information in any manner other than as contemplated herein or, more generally, for the purpose for which it was disclosed.
- 14.5. The Service Provider shall, in particular, take all reasonable measures, which are appropriate to safeguard the Confidential Information. The Service Provider shall immediately inform NSDC in writing of any unauthorized use or disclosure of Confidential Information of which it may become aware and it shall assist NSDC in ending such unauthorized use or disclosure.
- 14.6. All Confidential Information (including, but not limited to, documents, drawings, sketches and electronic or magnetic recordings and e-mail communications) on which Confidential Information appears or is recorded shall remain the NSDC's property. Accordingly, except for the purpose of sharing Confidential Information with persons to whom disclosure is permitted, the Service Provider unequivocally undertakes not to make any copies of Confidential Information without the NSDC's prior written consent and it shall immediately, at NSDC's first request (i) return to NSDC or destroy all copies of such Confidential Information it may be holding; and (ii) confirm in writing to NSDC that any such media containing Confidential Information in any form has been returned to NSDC or completely destroyed so that the Confidential Information is no longer readily recoverable. Provided however, that the Service Provider may retain such copies of such Confidential Information that may be required by it for its legal and regulatory purposes.

- 14.7. At NSDC's request, the Service Provider shall provide NSDC with a detailed list of any person(s) to whom Confidential Information has been disclosed/ communicated by it.
- 14.8. It is understood that Confidential Information shall not include any information which:
- (i) has entered the public domain prior to its disclosure or subsequently, provided in the latter case that such entry was not due to the Service Provider's action or inaction, or due to the action or inaction of any third party to whom it may have communicated Confidential Information;
 - (ii) was received from a third party in a lawful and unrestricted manner without violation of the terms hereof or of the terms of a similar agreement; and
 - (iii) was known to the Service Provider at the time of its disclosure, the burden of proof in such case being placed on the Service Provider.
- 14.9. In the event the Service Provider is required, under any law or by a court order, to disclose any Confidential Information, it may make only such disclosure while safeguarding to the greatest extent possible the confidential nature of the Confidential Information that would satisfy the requirement of such law or such court order, as the case may be, and nothing more. It is further agreed that before making any such disclosure, the Service Provider shall consult NSDC to the extent legally permissible and reasonably practicable in the circumstances.
- 14.10. The Service Provider recognizes that the protection of Confidential Information is essential to NSDC and that any unauthorized disclosure of Confidential Information is likely to cause NSDC significant harm and prejudice. Accordingly, without prejudice to any other recourse available to NSDC (including injunctive or interlocutory relief), the Service Provider acknowledges, agrees and undertakes that in the event of a breach of any terms of this Clause 14 caused by it or any third party to whom such Confidential Information has been disclosed, the Service Provider shall hold NSDC harmless and fully indemnified which NSDC may have suffered as a result of such disclosure.
- 14.11. The Service Provider shall comply with all applicable laws in force including laws relating to privacy and data protection.
- 14.12. The provisions of this Clause 14 shall survive the expiry or termination of this Agreement.

15. Force Majeure

- 15.1. Neither party will be liable for any loss or damage resulting from delay or failure to perform any of its contractual obligations within the time specified as a result of causes beyond its control ("Force Majeure"). Force Majeure may include, by way of example but not limitation, those circumstances beyond the control of the affected party such as acts of God, the public enemy, acts of government, or any department or agency thereof, as well as fire, flood, earthquakes, pandemic, epidemics, quarantines, riots, wars, civil insurrections, freight embargoes, labour disputes, localized conflicts, accidents, and unusually severe weather.
- 15.2. In the event of a Force Majeure, the affected party will be excused from performance during the existence of the Force Majeure provided the affected party informs the other party about such Force Majeure event immediately but not later than 7 days of its occurrence, and the date of performance of the work will be extended for a period of time equal to the impact of the delay on the schedule. When a Force Majeure occurs, the affected party shall notify the other party in writing of the existence of the Force Majeure (the "Force Majeure Notice"), and both parties will attempt to mitigate the effect of the Force Majeure as much as possible. If such Force Majeure shall continue for more than 30 (thirty) days from the date of the Force Majeure Notice, both parties shall have the right, upon written notice to the other party, to terminate this Agreement.

- 15.3. The above is without prejudice to the rights already accrued to the parties as a result of their performance or failure to perform, either in whole or in part pursuant to their obligations under the Agreement, prior to the occurrence of events of Force Majeure.
- 15.4. NSDC shall not have any obligation to make any further payments to the Service Provider under this Agreement in the event of a Force Majeure except for Services already rendered under this Agreement.

16. Governing Law, Dispute Resolution and Jurisdiction

- 16.1. All or any dispute, controversy, claim or disagreement arising out of or touching upon or in relation to the terms of this Agreement or its termination, breach, invalidity, including the interpretation and validity thereof and the respective rights and obligations of the Parties hereof, that cannot be amicably resolved by mutual discussion within 30 (thirty) calendar days, shall be settled as per the provisions of the Arbitration and Conciliation Act, 1996 which shall be final and binding arbitration. The proceedings of the arbitration shall be in accordance with the Rules of Arbitration of the Indian Dispute Resolution Centre ("IDRC") which rules are deemed to be incorporated by reference in this clause and the award made in pursuance thereof shall be binding on the Parties. The arbitration proceedings shall be conducted in English language and seat of arbitration shall be New Delhi.
- 16.2. During the pendency of any dispute resolution exercise whether by negotiations or otherwise, the Parties shall be bound by the terms of this Agreement and shall continue to perform their respective obligations not under dispute under this Agreement.
- 16.3. This Agreement shall be governed by and construed in accordance with the laws of India.
- 16.4. Subject to Clause 16.1, all disputes arising from this Agreement between the Parties shall be subject to the jurisdiction of the Courts at Delhi/New Delhi only.

17. COMPLIANCE WITH ANTI-CORRUPTION LAWS

- 17.1 The Service Provider represents and warrants that it is familiar with the anti-corruption laws in India including but not limited to the Prevention of Corruption Act, 1988 ("PCA"), Indian Penal Code, 1860 ("IPC") and any other anti-corruption laws and their respective purposes, including its prohibition against bribery, corrupt payment, offer, promise, or authorization of any payment or transfer of anything of value, directly or indirectly, to any government official or employee (including employees of government-owned or controlled companies or public international organizations) or to any political party, party official, or candidate for public office.
- 17.2 The Service Provider irrevocably, unequivocally and explicitly undertakes, assures and agrees to:
- (i) observe the highest standards of ethics during rendering of the Services and undertakes to take all measures necessary to prevent "corrupt practices" at all times during the discharge of its obligations under this Agreement;
"corrupt practices" shall mean and include, but not be limited to, offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the rendering of the Services, offering of employment to, or employing, or engaging in any manner whatsoever, directly or indirectly, any governmental official, etc.;
 - (ii) neither directly nor indirectly, pay, offer, give, or promise to pay or give, any portion of monies or anything of value received from NSDC to a public official or any person in violation of any applicable laws relating to anti-corruption or anti-bribery;
 - (iii) comply with all the applicable laws of India relating to anti-corruption or anti-bribery, including but not limited to PCA and IPC.

- 17.3 It is explicitly agreed, acknowledged and undertaken by the Service Provider that it is an independent Service Provider fully and solely responsible for its own actions and is not, and shall not hold itself out as, an employee, agent, partner or joint venture party of or with, or attorney of NSDC. The Service Provider undertakes that it shall not make or sign or purport to make or sign any contracts or other instruments in the name of NSDC, make any commitment for the account of, assume or create express or implied obligations of any kind on behalf of, or in any respect bind NSDC. In no event shall NSDC be held liable or accountable for any obligations incurred by the Service Provider due to a breach of this clause 17.3 by the Service Provider.
- 17.4 The Service Provider undertakes and agrees, at all times, to comply with all legal, fiscal and commercial obligations, which are required of the Service Provider in its capacity as an independent Service Provider.
- 17.5 The Service Provider shall indemnify and hold harmless NSDC for the amount of any actual loss which may be suffered by NSDC and any penalty imposed on NSDC by the competent authorities as a result of Service Provider's breach of the anti-corruption laws under Clause 17 hereof.
- 17.6 The Service Provider explicitly and irrevocably agrees that NSDC shall have the absolute right to immediately terminate this Agreement without incurring any liability, on Service Provider's breach of any provision of this Clause 17.

18. INFORMATION SECURITY, COMPLIANCE AND OTHER OBLIGATIONS OF SERVICE PROVIDER

NSDC, in its sole discretion and at the request of Service Provider, may provide access of its Information Technology assets, information etc. e.g. e-mail (hereinafter collectively referred to as "NSDC's Information") to Service Provider. In addition to Service Provider's obligations provided elsewhere under this Agreement and any Applicable Law, Service Provider agrees and undertakes to comply the following obligations:

- 18.1 Process for authorization and removal of authorization for use of NSDC's information and related assets:
- (1) Service Provider shall remove its personnel's authorization to access NSDC's Information and related assets upon such personnel's termination of employment, resignation, or other separation from service with Service Provider. Service Provider shall also inform NSDC within 3 days about such terminations/change of employment. Service Provider shall also remove its personnel's authorization if the personnel is found to have violated Service Provider's confidentiality or security policies.
 - (2) Service Provider shall take all necessary steps to ensure that upon termination/resignation/separation etc. of its personnel, such personnel's access to NSDC's Information and related assets is terminated, including but not limited to:
 - i) Disabling the personnel's login credentials.
 - ii) Deleting the personnel's access permissions.
 - iii) Returning any physical media and information asset containing NSDC's Information to Service Provider.
 - (3) Service Provider shall be liable to NSDC for any damages caused by the its failure to remove its personnel's authorization to access NSDC's Information and related assets in accordance with this clause.
 - (4) In case electronic communication medium is provided to Service Provider by NSDC, Service Provider agrees and undertakes to adhere to NSDC's electronic communication usage policy.

18.2 Training and awareness requirement related to information security

- (1) Service Provider shall provide all of its employees who have access to the NSDC's Information with training and awareness on information security. The training shall be provided at least once per year, and more frequently as needed.
- (2) NSDC may terminate the Agreement if Service Provider fails to provide training and awareness on information security to its employees. NSDC may also seek damages from Service Provider for any losses caused by the Service Provider's failure to provide training and awareness on information security.

18.3 Assigning a point of contact by Service Provider who will notify NSDC in case of any security incidents/breach.

Service Provider shall designate a point of contact (POC) who will be responsible for notifying NSDC of any security incidents or breaches. The POC shall be available 24/7 and should be able to communicate with NSDC in a timely manner.

18.4 Background Verification Checks regarding Service Provider users-

- (1) Background Verification Checks – Service Provider shall conduct background verification checks on all its personnel who will have access to NSDC's Information and related assets. The background verification checks should include, but not be limited to, the following:
 - (a) Criminal background check.
 - (b) Employment verification.
 - (c) Education verification.

The cost of the background verification checks shall be borne by Service Provider.

- (2) Results of Background Verification Checks- The results of the background verification checks shall be made available to NSDC. NSDC shall have the right to refuse to authorize access to NSDC's Information and related assets to any Service Provider's personnel whose background verification check results are not satisfactory to NSDC.
- (3) Effect of Refusal to Authorize Access - If NSDC refuses to authorize access to NSDC's Information and related assets to a user of Service Provider, Service Provider shall immediately remove the user's authorization to access such information and assets.

18.5 BCP Plan

Business Continuity Plan: Service Provider shall have a business continuity plan in place in the event of a disaster or other event that disrupts the Service Provider's ability to provide services to NSDC. The business continuity plan should include provisions for the restoration of services to NSDC in a timely manner.

18.6 Right to Audit

NSDC shall have the right to conduct Audit on Service Provider's compliance with the terms and conditions of this Agreement.

18.7 Penalties

If Service Provider breaches any of the terms and conditions set forth in this Agreement, Service Provider shall be liable for a penalty as levied by NSDC which shall not be less than the amount of loss, fine, penalty, liability etc. suffered by NSDC and / or the aggregate of the amounts provided in one or more applicable laws.

19. **Miscellaneous**

- 19.1. Entire Agreement: This Agreement, the Schedules and recitals hereto (which are hereby expressly incorporated herein by reference) constitutes the entire understanding between the Parties, and supersedes all other discussions and understanding between the Parties.

- 19.2. No Benefits: Since the Service Provider is being appointed by NSDC to perform the Services under this Agreement as an independent Service Provider and not as an employee of NSDC, no benefits as applicable to the employees of NSDC under the policies of NSDC or applicable labour laws or applicable shops and establishment act or any other applicable employment related law(s) shall be available to the Service Provider or to its employees, and the Service Provider hereby agrees and undertakes not to claim such employment benefits from NSDC. Owing to the nature of the engagement, the Service Provider unequivocally and unambiguously agrees, acknowledges and undertakes that it shall have no claim for employment related benefits against NSDC for vacation, vacation pay, sick leave, retirement benefits, workmen's compensation, health and disability benefits or employee benefits of any kind.
- 19.3. Assignment:
- (a) The Service Provider shall not, without the express prior written consent of NSDC, assign to any third party, the Agreement or any part thereof, or any right, benefit, obligation or interest therein or thereunder.
 - (b) NSDC shall be entitled to assign the Agreement or any part thereof, or any right, benefit or interest therein or there under, to any third party without the prior written consent of the Service Provider. Upon such assignment, the Service Provider shall fulfil and perform all its obligations to such assignee, in accordance with the terms and conditions of this Agreement, as if such assignee were NSDC herein and shall execute all documents required in this behalf by NSDC.
- 19.4. Amendments: The terms and condition of this Agreement shall not be changed or modified except by written amendment mutually agreed between NSDC and the Service Provider.
- 19.5. Waiver: The failure of either NSDC or the Service Provider to enforce, in any one or more instances, performance of any of the terms, covenants or conditions of this Agreement shall not be construed as a waiver or a relinquishment of any right or claim granted or arising hereunder or of the future performance of any such term, covenant, or condition, and such failure shall in no way affect the validity of this Agreement or the rights and obligations of NSDC and the Service Provider hereto. NSDC and the Service Provider acknowledge that a waiver of any term or provision hereof may only be given by a written instrument executed by each of NSDC and the Service Provider, as the case may be, hereto.
- 19.6. Delays or Omissions: No delay or omission to exercise any right, power or remedy accruing to any Party, upon any breach or default of any Party hereto under this Agreement, shall impair any such right, power or remedy of any Party nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of any similar breach or default thereafter occurring; nor shall any waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any Party of any breach of default under this Agreement or any waiver on the part of any Party of any provisions or conditions of this Agreement, must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement, or by law or otherwise afforded to any Party shall be cumulative and not alternative.
- 19.7. Relationship:
- (a) Nothing contained herein shall be construed as creating a partnership or a joint venture or a principal - agent or an employer-employee relationship between the Parties. The Service Provider shall always remain an independent Service Provider during the term of this Agreement and shall always solely remain liable to NSDC or any third party for all its acts and omissions to act during the course of providing the Services under this Agreement. The Service Provider is an independent Service Provider and nothing in this Agreement should be construed as constituting an employment relationship between the Service Provider and NSDC. The Service

Provider unequivocally, unambiguously, irrevocably and explicitly acknowledges that this Agreement is not subject to any employment law(s) or related statute(s). This sub-clause 19.7(a) shall survive the termination or expiry of this Agreement.

- (b) The Service Provides acknowledges and accepts that this is a non-exclusive agreement and NSDC reserves the right to carry out or cause to be carried out the Services at any time and at its sole discretion using any other source.

- 19.8. Notices: Except as may be otherwise provided herein, all notices, requests, waivers and other communications ("Notices") shall be deemed to be delivered as provided herein: (a) if delivered to the addressee ("Receiving Party") by hand: upon the Notice being acknowledged by written receipt by the Receiving Party; (b) if sent by facsimile: upon the receipt of transmission report confirming transmission; (c) if sent via an overnight courier: upon receipt (evidenced by proof of delivery). The Notices shall be addressed to the Parties at the contact details provided below. Each Party shall promptly inform the other Parties of any change to its contact details.

To NSDC:

5th & 6th Floor, Kaushal Bhawan,
New Moti Bagh, New Delhi - 110023

To Service Provider:

□

- 19.9. Publicity: The Service Provider shall not, during or after the expiry / termination of this Agreement, print or distribute cards, flyers, brochures and any printed, promotional or publicity material items (including in any proposal or representation made to its client or prospective client) publicly or privately bearing the name of NSDC or any of its associate entities (including any Ministry of India) without the prior written consent of NSDC.

- 19.10. Legal Expenses: In the event that any transaction in which the Service Provider is involved and which results in dispute, litigation or legal expense involving NSDC, the Service Provider shall co-operate fully with NSDC. It is NSDC's policy to avoid litigation wherever possible and NSDC reserves the right to determine whether or not any litigation actions should be taken, defended, compromised or settled and the terms and conditions of any compromise or settlement.

- 19.11. Severability: Any provision of this Agreement which is prohibited, unenforceable or is declared or found to be illegal, unenforceable or void in any jurisdiction shall (i) as to such jurisdiction, be ineffective only to the extent of such prohibition or unenforceability without invalidating the remainder of such provision or the remaining provisions of this Agreement, and (ii) not affect the validity or enforceability of such provision in any other jurisdiction. If any such invalidity substantially affects or alters the commercial basis of this Agreement, NSDC and the Service Provider shall negotiate in good faith to amend and modify the provisions and terms of this Agreement as may be necessary or desirable in the circumstances to achieve, as closely as possible, the same economic or commercial effect as the original provisions and terms of this Agreement.

- 19.12. Survival: The provisions of Clauses and such other provisions of this Agreement, which are by their nature, intended to survive the termination of this Agreement, shall survive the termination of this Agreement.

The Parties hereto have duly executed this Agreement as of the date and year hereinabove first written.

For National Skill Development Corporation

Sign: _____

Name:

Title: For <Name of Service Provider>[]

Sign: _____

Name:

Title:

SCHEDULE I
SERVICES

SCHEDULE -II

Payment Details

Schedule -III

Fraudulent or Corrupt Practices

It should be kept in mind that all actions towards award of Contract and its implementation on the ground have to be fair, consistent, transparent and based on highest standard of ethics. Similarly, Bidders/suppliers/contractors/Bidders associated in the procurement of Goods, Works & Consultancy, are expected to observe the highest standard of ethics during procurement and execution of contracts. In pursuance to above:

- a. Proposal for award may be rejected, if it determines that the Bidder, recommended for award, and/or its employees, sub-contractors, sub-Bidder, sub- vendors, agents have engaged in corrupt or fraudulent practices in competing for the Contract in question;
- b. Portion of the funds allocated to a contract may be cancelled, in full or in part, if it is determined that corrupt or fraudulent practices were engaged by contractor/Bidder and/or its employees, subcontractors/sub-Bidders, sub-vendors, agents for getting the Contract or during the execution of a Contract.
- c. A firm may be declared as ineligible, either indefinitely or for a stated period of time, to be awarded a Contract, if it, at any time, determines that the firm has been engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
- d. For the purpose of above provision, the terms, "Corrupt Practice" and "Fraudulent Practice", mean following:

"Corrupt practice" means offering, giving, receiving, or soliciting anything of value to influence the action of NSDC's official(s) in the procurement process or in the contract execution; and

"Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract and includes collusive practices among Bidders (prior to or after bid submission) designed to establish bid/proposal prices at artificial, non- competitive levels.

"Anti-competitive practice" means any collusion, bid rigging or anti-competitive arrangement, or any other practice coming under the purview of The Competition Act, 2002, between two or more bidders, with or without the knowledge of the Procuring Entity, that may impair the transparency, fairness and the progress of the procurement process or to establish bid prices at artificial, non-competitive levels;

"Coercive practice" means harming or threatening to harm, persons or their property to influence their participation in the procurement process or affect the execution of a contract;

"Conflict of interest" means participation by a bidding firm or any of its affiliates that are either involved in the consultancy contract to which this procurement is linked; or if they are part of more than one bid in the procurement; or if the bidding firm or their personnel have relationships or financial or business transactions with any official of Procuring Entity who are directly or indirectly related to tender or execution process of contract; or improper use of information obtained by the (prospective) bidder from the Procuring Entity with an intent to gain unfair advantage in the procurement process or for personal gain; and

"Obstructive practice" means materially impede the Procuring Entity's investigation into allegations of one or more of the above mentioned prohibited practices either by deliberately destroying, falsifying, altering; or by concealing of evidence material to the investigation; or by making false statements to investigators and/or by threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or by impeding the Procuring Entity's rights of audit or access to information

Schedule IV

Key Experts with Names(Not applicable to this RFP)

Schedule V

Performance Security - Bank Guarantee

[Guarantor letterhead or SWIFT identifier code]

Performance Guarantee No.....[insert guarantee reference number]

Date.....[insert date of issue of the guarantee]

To: _____ [name of Purchaser]

_____ [address of Purchaser]

WHEREAS _____ [name and address of Supplier1] (hereinafter called "the Applicant") has undertaken, in pursuance of Agreement dated _____ under RFP no. _____ dated _____ to provide services as mentioned therein [brief description of Goods and related Services] (hereinafter called "the Agreement");

AND WHEREAS it has been stipulated by you in the said Agreement that the Applicant shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with its obligations in accordance with the Agreement;

AND WHEREAS we have agreed to give the Applicant such a Bank Guarantee; NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Applicant, up to a total of _____ [amount of guarantee2] _____ [in words], and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ [amount of guarantee] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein. Except for the documents herein specified, no other documents or other action shall be required, notwithstanding any applicable law or regulation.

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

We further agree that no change or addition to or other modification of the terms of the Agreement or of the Goods and related Services to be supplied thereunder or of any of the Agreement documents which may be made between you and the Applicant shall in any way release us from any liability under this Guarantee, and we hereby waive notice of any such change, addition or modification.

This Guarantee shall be valid until i.e, 90 days following the Completion date of the Agreement/PO Value including any warranty obligations , and any demand for payment under it must be received by us at this office on or before that date.

No action, event, or condition that by any applicable law should operate to discharge us from liability hereunder shall have any effect, and we hereby waive any right we may have to apply such law,

so that in all respects our liability hereunder shall be irrevocable and, except as stated herein, unconditional in all respects.

Signature and seal of the guarantor _____

Name of Bank _____

Address _____

Date _____

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

Platform Support for Tender Preparation:

1. C1 India Private Limited: Service provider to provide the e-Tendering Software and facilitate the process of e-tendering on Application Service Provider (ASP) model.
2. NSDC e-Procurement Portal: An e-tendering portal of National Skill Development Corporation ("NSDC") introduced for the process of e-tendering which can be accessed on <https://nsdc.eproc.in>. Pre-requisites:

- a) It is mandatory for all the bidders to have Class-III Digital Signature Certificate (With Both DSC Components, i.e. Signing & Encryption) from any of the licensed Certifying Agency under CCA, Ministry of Electronics and Information Technology, Government of India to participate in e-tendering portal of NSDC. Bidders can see the list of licensed CA's from the link www.cca.gov.in
- b) C1 India Pvt. Ltd. also facilitate Class III Digital Signature Certificate (With Both DSC Components, i.e. Signing & Encryption) to the bidders. Bidder may contact C1 India Pvt. Ltd. at mobile no. +91-7291981138 for DSC related queries or can email at vikas.kumar@c1india.com.
- c) To participate in the online bidding, it is mandatory for the Applicants to get themselves registered with the NSDC e-Tendering Portal (<https://nsdc.eproc.in>)
- d) System Requirement/ Registration Manuals/ Bid Submission Manuals are available at the NSDC eTendering Portal (<https://nsdc.eproc.in>)
- e) For helpdesk, please contact Help Desk Nos. +91-124-4302033 / 36 / 37
- f) Participant are requested to email their issues to procurement@nsdcindia.org and helpdesk at nsdcsupport@c1india.com. This will help serving the participant better.

Note: The subject line must be mentioned in mail heading "**Empanelment of agencies to onboarding Tech partners for support Implementation of Health Intervention Pilot under the Skill Impact Bond**".

- g) The amendments/ clarifications to the tender, if any, will be posted on the NSDC eTendering Portal (<https://nsdc.eproc.in>)
- h) The Bidder may modify or withdraw their bid after submission prior to the Bid Due Date. No Bid shall be modified or withdrawn by the Bidder after the Bid Due Date and Time.
- i) It is highly recommended that the bidders should not wait till the last date of bid submission to avoid complications like internet connectivity issue, network problems, system crash down, power failure, browser compatibility issue, system compatibility issue, improper digital signature certificate problem etc. In view of this context, neither M/s National Skill Development Corporation nor M/s. C1 India Pvt. Ltd will be responsible for such eventualities.