RAILTEL CORPORATION OF INDIA LIMITED
(A Govt. of India Undertaking)

Expression of Interest for Selection of Partner from Empaneled Business Associate for EXCLUSIVE PARTNERSHIP TEAMING ARRANGEMENT

For

"Supply and install of ATL, Astronomy & VR Lab in Government Schools"

EOI No: RailTel/EOI/COMKTG/EB/ATLLab/2024-25/02 dated 19th December 2024

EOI NOTICE

Plate-A, 6th Floor, Office Tower-2, NBCC Building, East Kidwai Nagar, New Delhi-110023

EOI Notice No: RailTel/EOI/COMKTG/EB/ATLLab/2024-25/02 dated 19th December 2024

RailTel Corporation of India Ltd., (here after referred to as "RailTel") invites EOIs from RailTel's Empaneled Partners for the selection of suitable partner as Partnership arrangement for "Supply and installation of ATL, Astronomy & VR Lab in Government Schools".

The details are as under:

1	Last date for submission of Technical Packet against EOIs by bidders	20 Dec 2024 at 15:00 Hours
2	Opening of Technical Bid of EOIs	20th Dec 2024 at 15:30 Hours
3	Number of copies to be submitted for scope ofwork	One
4	EOI fees inclusive tax (Non-refundable)	Rs. 5,900/- (Five Thousand Nine Hundred only)
5	EOI EMD	Rs. 5,00,000/- (Five Lakhs Only) to be submitted along with EOI via online submission. To be submitted by selected Business Associate, in the form of BG/online transfer.

The EMD should be in the favor of RailTel Corporation of India Limited payable at Delhi through online bank transfer in favour of RailTel Corporation of India Limited. Partner need to share the online payment transfer details like UTR No. date and Bank along with the proposal.

RailTel Bank Details: Union Bank of India, Account No. 340601010050446, IFSC Code - UBIN0534064.

Eligible Business Associates are required to direct all communications related to this Invitation forEoI document, through the following Nominated Point of Contact persons:

Level:1 Contact: Anish Singh Gusain
Designation: DGM/EB
Email: anishgusain@railtelindia.com

Level:2 Contact: Chandni Garg
Designation: Chief Mgr/Fin
Email: cachandnigarg@railtelindia.com

Level:3 Contact: Vrishad Shahade
Designation: AGM/Mktg
Email : vrishad.shahade@railtelindia.com

Level:4 Contact: Hemant Yadav
Designation: JGM/GB
Email : Hemant.yadav@railtelindia.com

Note:
1. Empaneled partners are required to submit soft copy of technical packet through an e-mail at **eoi.ebco@railtelindia.com** duly signed by Authorized Signatories with Company seal and stamp.
2. The EOI response is invited from eligible **Empaneled Partners of RailTel only.**
3. All the document must be submitted with **proper indexing** and **page no**.
4. This is an **exclusive partnership arrangement with empaneled business associate of RailTel for submitting techno commercial to the end customer**. Selected partner's authorized signatory has to give an undertaking they will not submit directly or indirectly techno-commercial solution/proposal with any other organization once selected in this EOI for partnership teaming arrangement (before and after submission of financial proposal to end customer organization by RailTel). This undertaking has to be given with this EOI Response.
5. **Transfer and Sub-letting**. The Business Associate has no right to give, bargain, sell, assign or sublet or otherwise dispose of the Contract or any part thereof, as well as to give or to let a third partytake benefit or advantage of the present Contract or any part thereof.

1. Introduction about RailTel

RailTel Corporation of India Limited (RailTel), an ISO-9001:2000 organization is a Nav Ratna Government of India undertaking under the Ministry of Railways. The Corporation wasformed in Sept 2000 with the objectives to create nationwide Broadband Telecom and Multimedia Network in all parts of the country, to modernize Train Control Operation and Safety System of Indian Railways and to contribute to realization of goals and objective of national telecom policy 1999. RailTel is a wholly owned subsidiary of Indian Railways.
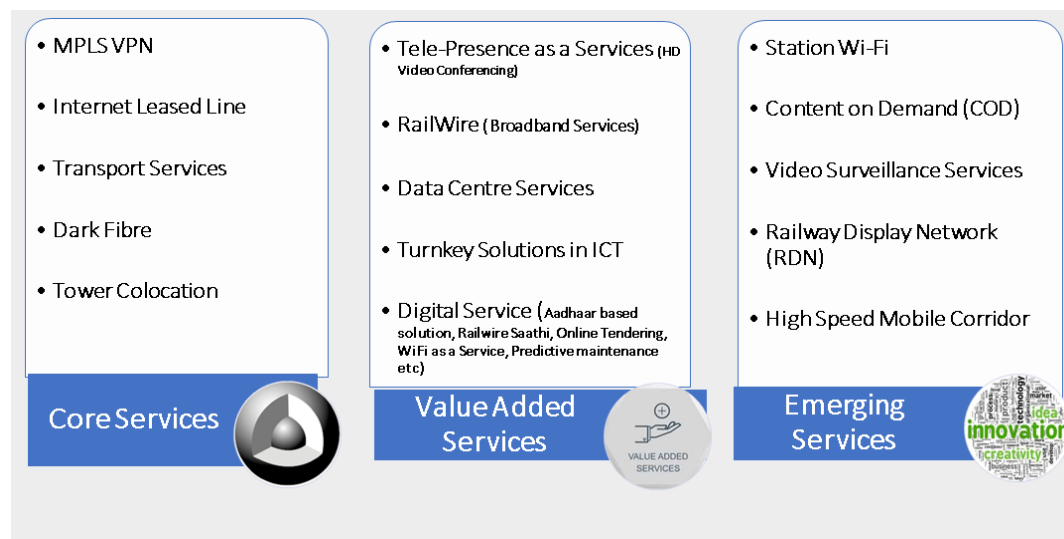
RailTel has approximately 61000 kms of OFC along the protected Railway tracks. The transport network is built on high capacity DWDM and an IP/ MPLS network over it to supportmission critical communication requirements of Indian Railways and other customers. RailTelhas Tier-III Data Center in Gurgaon and Secunderabad hosting / collocating critical applications. RailTel is also providing Telepresence as a Service (TPaaS), where a High Definition Video Conference facility bundled with required BW is provided as a Service.

For ensuring efficient administration across India, country has been divided into four regionsnamely, Eastern, Northern, Southern & Western each headed by Executive Director and Headquartered at Kolkata, New Delhi, Secunderabad & Mumbai respectively. These regionsare further divided into territories for efficient working. RailTel has territorial offices atGuwahati, & Bhubaneswar in East, Chandigarh, Jaipur, Lucknow in North, Chennai &Bangalore in South, Bhopal, and Pune & Ahmedabad in West. Various other territorial officesacross the country are proposed to be created shortly.

RailTel's business service lines can be categorized into three heads namely B2G/B2B (Business to Government and Business to Business) and B2C (Business to customers):

Licenses & Service portfolio:
Presently, RailTel holds Infrastructure Provider -1, National Long Distance Operator, International Long Disftance Operator and Internet Service Provider (Class-A) licenses underwhich the following services are being offered to various customers:

Core Services	Value Added Services	Emerging Services
• MPLS VPN	• Tele-Presence as a Services (HD Video Conferencing)	• Station Wi-Fi
• Internet Leased Line	• RailWire (Broadband Services)	• Content on Demand (COD)
• Transport Services	• Data Centre Services	• Video Surveillance Services
• Dark Fibre	• Turnkey Solutions in ICT	• Railway Display Network (RDN)
• Tower Colocation	• Digital Service (Aadhaar based solution, Railwire Saathi, Online Tendering, WiFi as a Service, Predictive maintenance etc)	• High Speed Mobile Corridor

a) **Carrier Services**
- National Long Distance: Carriage of Inter & Intra -circle Voice Traffic across India using state of the art NGN based network through its Interconnection with all leading Telecom Operators
- Lease Line Services: Available for granularities from E1 to multiple of Gigabit bandwidth& above
- Dark Fiber/Lambda: Leasing to MSOs/Telco's along secured Right of Way of Railway tracks
- Co-location Services: Leasing of Space and 1000+ Towers for collocation of MSC/BSC/BTS of Telco's

b) **Enterprise Services**
- Managed Lease Line Services: Available for granularities from E1, DS-3, STM-1 & above
- MPLS VPN: Layer-2 & Layer-3 VPN available for granularities from 2 Mbps& above
- Dedicated Internet Bandwidth: Experience the "Always ON" internet connectivity at your fingertips in granularities 2 Mbps to several Gbps

c) **DATA CENTER** Infrastructure as a services (IaaS), Hosting as Services, Security operation Centre as a Service (SOCaaS): RailTel has MeitY empaneled two Tier-III data centres in Gurgaon & Secunderabad. Presently RailTel is hosting critical applications of Indian Railways, Central & State government/ PSUs applications. RailTel will facilitate Government's applications / hosting services including smooth transition to secured state owned RailTel's Data Centers and Disaster Recovery Centres. RailTel also offers SOC as a Service 'SOCaaS'. In addition, RailTel offers VPN client services so that employees can seamlessly access government's intranet, applications securely from anywhere without compromising security.

- National Long Distance: Carriage of Inter & Intra -circle Voice Traffic across India using state of the art NGN based network through its Interconnection with all leading Telecom Operators
- Lease Line Services: Available for granularities from E1 to multiple of Gigabit bandwidth& above
- Dark Fiber/Lambda: Leasing to MSOs/Telco's along secured Right of Way of Railway tracks
- Co-location Services: Leasing of Space and 1000+ Towers for collocation of MSC/BSC/BTS of Telco's

d) **High-Definition Video Conference:** RailTel has unique service model of providing high definition video conference bundled with Video Conference equipment, bandwidth and FMS services to provide end to end seamless services on OPEX model connecting HQ with other critical offices. RailTel also offers application-based video conference solution for employees to be productive specially during this pandemic situation.

e) **Retail Services – RailWire**

RailWire: Triple Play Broadband Services for the Masses. RailTel has unique model of delivering broadband services, wherein local entrepreneurs are engaged in delivering &

maintaining broadband services and upto 66% of the total revenues earned are shared to these local entrepreneurs in the state, generating jobs and revitalizing local economies. On date RailTel is serving apprx 5,00,000 subscribers on PAN Indian basis. RailTel can provide broadband service across– Government PSU or any organization's officers colonies and residences.

2. Objective of EOI & Project Background

Atal Innovation Mission is a flagship initiative of the Government of India, housed at NITI Aayog, with a focus to build an innovative and entrepreneurial ecosystem across India, with public-private partnerships. The Atal Tinkering Lab initiative is aimed at disrupting the Indian education system. It is creating a paradigm shift, where children as young as 12 years of age are being introduced to the world of technology innovation, and are experiencing a culturally different micro-environment in Indian schools, which allows them to work in their area of interest without a fixed curriculum. With ATL, problem solving has become an integral part of their behavior.

Under this mission, end customer has requested to RailTel submit techno commercial proposal for the scope of work mentioned below:

Project Background:

Educational institutions must create environments that foster learning, community engagement, social skills, innovation, and creativity. Incorporating STEM education, alongside specific programs in astronomy and space science, from primary to higher education levels, will prepare students for future careers, some of which may not yet exist. By engaging with astronomy kits and models, students can develop problem-solving skills and creativity, and prototype their ideas into tangible projects.

The astronomy kits aim to investigate the properties and behaviours of celestial bodies and phenomena through both observational and theoretical methods. This includes analysing electromagnetic radiation across various wavelengths, from radio waves to gamma rays, to understand the composition, dynamics, and evolution of stars, galaxies, and the universe at large. These labs conduct observational campaigns using ground-based telescopes and utilize data from space-based observatories such as Hubble and Chandra. Additionally, computational models are developed to simulate astrophysical processes, including stellar formation and evolution, galaxy dynamics, and the behaviour of exotic objects like black holes and neutron stars. Through these endeavours, students contribute to our understanding of the cosmos and explore fundamental questions about the origin, structure, and future evolution of the universe.

STEM education in the context of astronomy goes beyond traditional teaching methods by fostering hands-on, experiential learning that encourages active student engagement. It helps students think critically, solve complex problems, and develop a deep understanding of real-world applications, particularly in the field of astronomy. By integrating arts and design into STEM, the initiative promotes creativity, innovation, and the development of a growth mindset. A holistic learning approach is adopted, enabling students to see the connections between different subjects and their applications to understanding the universe.

In today's technology-driven world, early exposure to STEM fields, particularly astronomy, is crucial

for preparing students for future opportunities in space science and related careers. Hands-on experience through practical experiments and projects in Astronomy Labs will deepen students' understanding of theoretical concepts and inspire curiosity-driven learning. The collaborative environment of these labs also promotes teamwork and communication skills, fostering a cooperative mindset essential for tackling the challenges of exploring the cosmos.

Knowledge of India" includes knowledge from ancient India and its contributions to modern India and its successes and challenges, and a clear sense of India's future aspirations with regard to education, health, environment, etc. These elements will be incorporated in an accurate and scientific manner throughout the school curriculum wherever relevant; in particular, Indian Knowledge Systems, including tribal knowledge and indigenous and traditional ways of learning, will be covered and included in mathematics, astronomy, philosophy, yoga, architecture, medicine, agriculture, engineering, linguistics, literature, sports, games, as well as in governance, polity, conservation. Specific courses in tribal ethno-medicinal practices, forest management, traditional (organic) crop cultivation, natural farming, etc. will also be made available. An engaging course on Indian Knowledge Systems will also be available to students in secondary school as an elective.

The training provided in Astronomy Labs, which includes using advanced astronomy kits and equipment, is aimed at enriching the teaching and learning process. These labs offer flexible workspaces where students can develop skills in innovation, observation, and scientific inquiry. The initiative encourages both students and teachers to experiment, explore, and follow a path of self-learning, empowering them to think critically and develop innovative solutions to real-world problems by leveraging the latest technology, such as telescopes, astrophotography tools, simulation software, and space-based observatory data.

India, with its rapidly growing economy and youthful population, must harness this demographic advantage by moving away from rote learning and towards a more practical, hands-on educational approach. The current education system often fails to engage students and cultivate research skills from an early age, leading to a mismatch between industry demands and available talent. A shift towards a 21st-century education system is essential, with a focus on developing key competencies such as understanding Science, Technology, Engineering, and Mathematics (STEM) concepts, alongside creativity, innovation, and problem-solving skills.

Competitions may be held in schools for learning various topics and subjects through fun an indigenous game. Video documentaries on inspirational luminaries of India, ancient and modern, in science and beyond, will be shown at appropriate points throughout the school curriculum. Students will be encouraged to visit different States as part of cultural exchange programmes. Astronomy Labs are designed to create a paradigm shift in education, where children as young as 12 years old are exposed to the field of space science and technology. These labs provide a unique micro-environment within schools that encourages exploration, creativity, and self-guided learning without the constraints of a fixed curriculum. Students engage in problem-solving and hands-on activities, enhancing their understanding of complex astronomical concepts and fostering an innovative mindset.

Note: The placement of order against this EOI is subject to the approval of this EOI process by the end customer organization/ work order by end customer to RailTel after submission of techno commercial proposal to end customer.

3. Scope of Work

Scope of work: As per Annexure A
List of items: As per Annexure B

In case of any discrepancy or ambiguity in any clause / specification pertaining to scope of work area, the terms and conditions of end customer organization work order to RailTel shall supersede and will be considered sacrosanct.

4. Response to EOI guidelines

4.1 Language of Proposals

The proposal and all correspondence and documents shall be written in English in soft copy through an email.

4.2 RailTel's Right to Accept/Reject responses

RailTel reserves the right to accept or reject any response and annul the bidding process or even reject all responses at any time prior to selecting the partner, without thereby incurring any liability to the affected bidder or Business Associate or without any obligation to inform the affected bidder or bidders about the grounds for RailTel's action.

4.3 EOI response Document

The bidder is expected to examine all instructions, forms, terms and conditions and technical specifications in the bidding documents. Submission of bids, not substantially responsive to the bidding document in every aspect will be at the bidder's risk and may result in rejection of its bid without any further reference to the bidder.

All pages of this EOI document shall be signed by the bidder and should be submitted along with the bid.

4.4 Period of Validity of bids and Bid Currency

Bids shall remain valid for a period of 90 days from the date of LOI issued by the end Customer organization to RailTel for which techno commercial proposals are being invited through this EOI.

4.5 Deleted.

4.6 Bid Earnest Money (EMD)

4.6.1 The Business Associate shall furnish a sum as given in EOI Notice via online transfer from any scheduled bank in India in favour of "RailTel Corporation of India Limited"along with the offer. This will be called as **EOI EMD.**

4.6.2 Offers not accompanied with valid EOI Earnest Money Deposit shall be summarily rejected.

4.6.3 **Return of EMD for unsuccessful Business Associates:** EOI EMD of the unsuccessful Business Associate shall be returned without interest after completion of EOI process.

4.6.4 **Return of EMD for successful Business Associate:** EOI-EMD & Earnest Money Deposit (balance proportionate EMD) if applicable of the successful bidder will be discharged / returned as promptly as possible after the receipt of RailTel's EMD/BG from the Customer and or on receipt of Security Deposit Performance Bank Guarantee as applicable (clause no. 4.7) from Business Associate whichever is later.

4.6.5 **Forfeiture of EOI EMD or EOI EMD & EMD (balance proportionate EMD) and or Penal action as per EMD Declaration:**

4.6.5.1 The EOI EMD may be forfeited and or penal action shall be initiated if a Business Associate withdraws his offer or modifies the terms and conditions of the offer during validity period.

4.6.5.2 In case of non-submission of SD/PBG (as per clause no. 4.7) lead to forfeiture of EOI EMD, EMD (balance proportionate EMD) if applicable or suitable action as prescribed in the EMD Declaration shall be initiated as applicable.

4.7 Security Deposit / Performance Bank Guarantee (PBG)

4.7.1 In case the proposal is successful, the PBG (percentage and validity as prescribed by customer) of the requisite amount proportionate to the agreed scope of the work will have to be submitted to RailTel.

4.7.2 As per work share arrangements agreed between RailTel and Business Associate the PBG will be proportionately decided and submitted by the selected Business Associate.

4.8 Last date & time for Submission of EOI response

EOI response must be submitted to RailTel at the email address specified in the preamble not later than the specified date and time mentioned in the preamble.

4.9 Modification and/or Withdrawal of EOI response

EOI response once submitted will treated, as final and no modification will be permitted except with the consent of the RailTel.

No Business Associate shall be allowed to withdraw the response after the last date and time for submission.

The successful Business Associate will not be allowed to withdraw or back out from the response commitments. In case of withdrawal or back out by the successful business associate, the Earnest Money Deposit shall be forfeited and all interests/claims of such Business Associate shall be deemed as foreclosed.

4.10 Details of Financial bid for the above referred tender

Business Associate meeting eligibility criteria Pre-Qualification will be selected for financial bid

opening. Business Associate with best QCBS offer will be selected for exclusive partnership teaming arrangement for optimizing technical and commercial solution so that most winnable solution is submitted to end customer.

The final proposal will be prepared jointly with the selected Business Associate so that the optimal quote can be put with a good chance of winning the Proposal/Order.

4.11 Clarification of EOI Response

To assist in the examination, evaluation and comparison of bids the purchaser may, at its discretion, ask the Business Associate for clarification. The response should be in writing and no change in the price or substance of the EOI response shall be sought, offered or permitted.

4.12 Period of Association/Validity of Agreement

RailTel will enter into a partnership teaming agreement with selected bidder with detailed Terms andconditions.

1. Eligibility Criteria for Bidding Business Partner of RailTel

S.N.	Specific Requirement	Documentary Evidence
1.	The bidder should be empanelled partner of RailTel. Bid by Consortium is not allowed.	• Certificate of Incorporation Registration/ Partnership Deed • Memorandum and Article of association • PAN and GST Registration Certificate. In case of change of name/merger etc. details of all relating history must also be submitted.
2.	Bidder should have cumulative turnover from operations of at least INR 60 Cr. for last three years (FY 21-22, 22-23, 23-24). Bidder should have positive net worth in each of the last three financial years as of 31st March 2024. Bidder should be a profit-making entity in each of the last three financial years i.e. 2021-22, 2022-23 and 2023-24.	Certificate from the Statutory Auditor or Chartered Accountant on Turn Over and Positive Net worth (CA/SA certificate with UDIN)/ Audited Balance Sheets and Profit & Loss statement for last three years i.e. 2021-22, 2022-23 and 2023-24

3.	Bidder should have the experience of Implementation of One work order of Atal Tinkering Lab in Government Schools of value not less than Rs 14 crore. OR Bidder should have the experience of Implementation of two work order of Atal Tinkering Lab in Government Schools each of value not less than Rs 8 crores. Or Bidder should have the experience of Implementation of three work orders of Atal Tinkering Lab in Government Schools each of value not less than Rs 6 crores.	Documentary proof to be submitted :Copies of work order and completion certificate /certificate from customer/Copy of invoice to customer or Go-live certificate, of the respective project/Any other document for execution of services. For ongoing project, CA certificate with UDIN with details of payment received along with % of work completion to be submitted.
4.	The bidder should be an ISO 9001:2015, ISO 20001 & ISO 27001 certified company.	Copy of valid certificate(s) in the name of the bidder attested by the authorized signatory of the company.
5.	The Bidder must have prior experience of working in the Education Projects in Government Schools of Himachal Pradesh	Copy of work-order and copy of completion certificate/Copy of invoices raised/CA certificate with UDIN
6.	The bidder must not have been declared insolvent/ bankrupt or should not have filed for insolvency/ bankruptcy or in the process of being declared bankrupt before any designated authority preceding bid due date	A Self Declaration on the Letter head of the BIDDER regarding BIDDER Company not being bankrupt or in process of being declared insolvent / bankrupt as on date.
Annexures		
Annexure 1		**Covering Letter:** Self-certification duly signed by authorized signatory on company letter head.
Annexure 2		The Bidder should agree to abide by all the technical, commercial & financial conditions of the end customer proposal/requirements for which EOI is submitted.
		Self-certification duly signed by authorized signatory on company letter head.

Annexure 3	An undertaking signed by the Authorized Signatory of the company to be provided on letter head. The Bidder should not have been blacklisted/debarred by any Governmental/ Non-Governmental Organization in India as on bid submission date.
Annexure-4	Format for Affidavit to be uploaded by bidder with the tender documents.
Annexure-5	Non-disclosure agreement with RailTel.
Power of Attorney	Bidder need to provide Power of Attorney/Board Resolution in favour of one of its employees specifically for this EOI who will sign the Bid Documents.
Annexure-6	PBG Format
Annexure-7	Integrity Pact
	A detailed Integrity Pact Program along with Independent External Monitors (IEM)s is available on the RailTel Website.
	https://www.railtel.in/tenders/integrity-pact.html
Annexure-8	Price Bid Format (BOQ) (Financial Bid) with password protected PDF.
Appendix-A	Scope of work
Appendix-B	List of items

5. Technical Evaluation

The Technical Evaluation will be conducted based on the relevant support documents submitted by the Bidders.

S.N.	Description	Evaluation Criteria	Max Marks	Supporting documents
1.	The bidder should be an empanelled partner of RailTel and in operation at least for three years.	In operation 3 to 5 Years: 10 Marks	20	Incorporation certificate to be submitted
		5 to 10 Years: 15 Marks		
		More than 10 Years: 20 Marks		

2.	Bidder should have cumulative turnover from operations of at least INR 60 Cr. for last three years (FY 21-22, 22-23, 23-24).	60 ≤ 75 Crore: 10 Marks >75 ≤ 100 Crore: 15 Marks >100 Crore: 20 Marks	20	Audited balance sheet / Auditor certificate clearly specifying the turnover with net profit and positive net worth for each year/ CA certificate with UIDIN
3.	The bidder has experience of implementing work in education sector in last three financial year i.e., 2021-22, 2022-23 and 2023-24.	If the value of single work order is more than 20 Crore: 20 Marks Single work order of value >15 Crore ≤ 20 Crore: 15 Marks Single work order is of 10 to 15 Crore: 10 Marks	20	Copy of Work order/ Agreement and Completion Certificate/Installation Certificate
4.	Experience of successfully executing the work of Atal Tinkering/Robotics Lab each of value not less than Rs 8 crores in Gov. School of India last three financial year i.e., 2021-22, 2022-23 and 2023-24.	3 projects: 10 marks. 4 projects: 15 Marks >4 projects: 20 Marks	20	Copy of Work order/ Agreement and Completion Certificate/Installation Certificate.
5.	The bidder should have experience of delivering technology-enabled training to a minimum 2,00,000 students for Govt. Schools.	2,00,000 Students: 10 Marks 2 Lakh to 5 Lakh Students: 15 Marks More than 5 Lakh students: 20 Marks	20	Copy of Work order/ Agreement and Completion Certificate/Installation Certificate The count of students trained should be clearly stated on Copy of Work order and Agreement/Certificate of Completion

The evaluation committee shall evaluate the Technical Proposals on the basis of their responsiveness to the Terms of Reference, sub criteria, Essential Technical Pre-requisite criteria. A Proposal shall be rejected at this stage if it does not respond to important aspects of the EOI (including Essential Technical Pre-requisite criteria). Bidder has to submit presentation and shall be called for Presentation before Evaluation Committee if required. The bidder would present their approach and methodology of executing the assignment.

At this stage, minimum qualifying technical score (Tn) will be 70 marks out of 100. Financial Proposals of only such technically qualified bidders who have scored 70 or more marks on Technical evaluation criteria (as above) will be opened

6. Bidder's Profile

The bidder shall provide the information in the below table:

S. No.	ITEM	Details
1.	Full name of bidder's firm	
2.	Full address, telephone numbers, fax numbers, and email address of the primary office of the organization / main / head / corporate office	
3.	Name, designation and full address of the Chief Executive Officer of the bidder's organization as a whole, including contact numbers and email Address	
4.	Full address, telephone and fax numbers, and email addresses of the office of the organization dealing with this tender	
5.	Name, designation and full address of the person dealing with the tender to whom all reference shall be made regarding the tender enquiry. His/her telephone, mobile, Fax and email address	
6.	Bank Details (Bank Branch Name, IFSC Code, Account number)	
7.	GST Registration number	

7. Evaluation Criteria

7.1 The commercial scores will be calculated as $Fn = Fmin / Fb * 100$; where, Fn = final financial score of the bidder under consideration, Fb = Financial bid by the Bidder under consideration $Fmin$ = Lowest Bid quoted by any bidder under consideration Final Evaluation

Evaluation of Bid :- Following completion of evaluation of Technical and Financial Proposals, final ranking of the Proposals will be determined on basis of Quality and Cost Based Selection (QCBS). 70% weightage shall be provided to Technical Score –17– (Tn) & 30% weightage shall be provided to Financial Score (Fn).

The overall score will be calculated as follows: - $Bn = 0.70 * Tn + 0.30 * Fn$ Where Bn = overall score of bidder under consideration Tn = Technical score for the bidder under consideration Fn = financial score of the bidder under consideration The bidder with highest score shall be awarded the work.

Bidder with the highest total score will be awarded the work

7.2 RailTel reserves the right to accept or reject the response against this EOI, without assigning any reasons. The decision of RailTel is final and binding on the participants. The RailTel

evaluation committee will determine whether the proposal/ information is complete in all respects and the decision of the evaluation committee shall be final. RailTel may at its discretion assign lead factor to the bidder as per RailTel policy for shortlisting partner against this EOI.

7.3   All General requirement mentioned in the Technical Specifications are required to be complied. The solution proposed should be robust and scalable.

8.   Payment terms

8.1   RailTel shall make payment to selected Business Associate after receiving payment from Customer for the agreed scope of work. In case of any penalty or deduction made by customer for the portion of work to be done by BA, same shall be passed on to Business Associate.

8.2   All payments by RailTel to the Partner will be made after the receipt of payment by RailTel from end Customer organization. No advance payment will be done.

8.3   Bidder/selected partner understands that if he so selected will be treated as Bidder and not vendor in any manner. It is categorically agreed without any doubt that provision related to MSME shall not be applicable to the selected partner and payment terms shall be governed in accordance with the definitive agreement entered into with bidder.

8.4   Actual payment terms shall be as per agreement between RailTel and Customer and shall be confirmed at the time of PO issuance.

8.5   RailTel shall release the payment to selected bidder after receiving payment from Customer and on submission of Tax invoice by selected bidder on back-to-back basis. Bidder shall support RailTel with supporting documents to raise the invoice to end customer in timely manner.

9. Warranty & Support

1. Provide a one-year warranty support period starting from the date of the Final Acceptance Test (FAT) of the project/ or as per customer requirement/scope of work or final work order from customer to RailTel.
2. Ensure the smooth functioning of all equipment supplied for the Tinkering Lab during the warranty and support period, aiming to achieve maximum uptime for the solution offered.
3. Guarantee that the supplied equipment will not be classified as End of Support or End of Service for a minimum of one year, and ensure software upgrades, if available, for at least three years from the date of commissioning.
4. Deliver on-site warranty support, including preventive maintenance services on a quarterly or half-yearly basis, or as required, to ensure all equipment remains fully operational until the project's completion.
5. Training & Handholding, Key training requirements are listed below: -
   • Conduct a training needs assessment and develop a comprehensive training strategy, including details on the training setup, approach, methodology, and plan.

- Prepare and provide training materials, applications, user manuals, and completion reports.
- Deliver hands-on training on hardware and software applications to ensure users are familiar with the functionalities, features, and processes of the solution.
- Submit attendance records of trainers in hard copy, along with the session plan for each day.
- Deploy sufficient training resources to ensure effective implementation.
- Ensure that the deployed trainers are fluent in both Hindi and English.
- Provide training and guidance to school teachers and headmasters, enabling them to train other teachers effectively.
- Develop a comprehensive training manual for each lab activity, serving as a quick reference guide for teachers at the school level.
- Train a minimum of three teachers at each school, teacher training to be conducted in batches maximum batch size of 40 teachers at a centralized location at the respective district level.

10. Helpdesk And Onsite Support

   1. The selected agency shall establish a centralized helpdesk at the head office to log issues and complaints from various stakeholders and ensure their resolution in a timely manner.
   2. The agency shall deploy sufficient manpower, including IT Coordinators/Operators, to provide online support to stakeholders and management assistance to the department.
   3. Adequate educators must be deployed by the agency to conduct training sessions and activities through the year.
   4. The minimum qualification for deployed personnel shall be a graduate or diploma holder with strong skills in computers, hardware, networking, and communication (both Hindi and English). These personnel must be capable of managing lab hardware and software components on-site, providing training, and offering handholding support to various stakeholders.
   5. The agency must appoint a dedicated Project Manager for the State of Himachal Pradesh to liaise with the department and ensure the successful implementation of the project.

11. Delivery Timeline
   Bidder shall make all the arrangements for the timely delivery as per end customer requirements and installation of equipment for successful completion of project. No other incidental/TA/DA/any other such expenditure shall be paid by RailTel.

- RailTel reserves the right to modify the timelines as per the client's requirements. The milestones and timelines may be shortened based on the specific needs of individual projects or the end client at the time of issuing the work order.
- The bidder shall deliver services and ensure performance aligns with the specified requirements within the timelines set by the Purchaser. If, at any point during the contract, the bidder faces conditions that may delay the timely delivery of goods or services, they must promptly notify the Purchaser in writing, specifying the nature of the delay, its probable duration, and its causes.
- Upon receiving such notification, the Purchaser will evaluate the situation and may, at its discretion, grant an extension for the bidder's performance with or without imposing liquidated damages. Any extension will be formalized through an amendment to the contract, mutually agreed upon by both parties.

Note: Depending on RailTel's business strategy RailTel may choose to work with Partner who is most likely to support in submitting a winning proposal

Annexure 1: Format for COVERING LETTER

COVERING LETTER (To be on company letterhead)

To,

RailTel Corporation of India Ltd.
Plate-A, 6th Floor, Office Tower-2,
NBCC Building, East Kidwai Nagar, New Delhi-110023

Dear Sir,

SUB: Participation in the EoI process

Having examined the Invitation for EoI document bearing the reference number
_____ released by your esteemed organization, we, undersigned, hereby acknowledge the receipt of the same and offer to participate in conformity with the said Invitation for EoI document.

If our application is accepted, we undertake to abide by all the terms and conditions mentioned in the said Invitation for EoI document.

We hereby declare that all the information and supporting documents furnished as a part of our response to the said Invitation for EoI document, are true to the best of our knowledge. We understand that in case any discrepancy is found in the information submitted by us, our EoI is liable to be rejected.

We hereby Submit EMD amount of Rs._____issued vide_____from Bank_____.

Authorized Signatory
Name
Designation

Annexure 2: Format for Self-Certificate & Undertaking

Self-Certificate (To be on company letter head)

EoI Reference No: Date:

To,

RailTel Corporation of India Ltd.
Plate-A, 6th Floor, Office Tower-2,
NBCC Building, East Kidwai Nagar, New Delhi-110023

Dear Sir,

Sub: Self Certificate for Tender, Technical & other compliance

1) Having examined the Technical specifications mentioned in this EOI & end customer tender, we hereby confirm that we meet all specifications.

2) We_____agree to abide by all the technical, commercial & financial conditions of the end customer for which EOI is submitted (except pricing, termination & risk purchase rights of RailTel). We understand and agree that RailTel shall release the payment to the selected sole partner/lead partner in case of consortium after the receipt of the corresponding payment from the end customer by RailTel. Further, we understand that in case the selected sole partner/lead partner in case of consortium fails to execute an assigned portionof work, then the same shall be executed by RailTel through a third party or departmentally at the risk and cost of the selected sole partner/lead partner in case of consortium.

3) We agree to abide by all the technical, commercial & financial conditions of the end customer's RFP for the agreed scope of work for which this EOI is submitted.

4) We hereby agree to comply with all OEM technical & Financial documentation including MAF, Technical certificates/others as per end to end requirement mentioned in the end customer's RFP. We are hereby enclosing the arrangement of OEMs against each of the BOQ item quoted as mentioned end customer's RFP. We also undertake to submit MAF and other documents required in the end Customer   organization tender in favour of RailTel against the proposed products.

5) We hereby certify that any services, equipment and materials to be supplied are produced in eligible source country complying with OM/F. No. 6/18/2019 dated 23rd July 2020 issued by DoE, MoF.

6) We hereby undertake to work with RailTel as per end customer's RFP terms and conditions. We confirm to submit all the supporting documents constituting/ in compliance with the Criteria as required in the end customer's RFP terms and conditions like technical certificates, OEM compliance documents.

7) We understand and agree that RailTel is intending to select sole partner/ consortium who is willing to accept all terms &conditions of end customer organization's RFP for the agreed scope of work.

RailTel will strategies to retain the scope of work where RailTel has competence.

8) We hereby agree to submit that in case of being selected by RailTel as the sole partner/ consortium for the proposed project(for which EOI is submitted), we will submit all the forms, appendix, relevant documents etc. to RailTel that are required and desired by end Customer well before the bid submission date and as and when required.

9) We hereby undertake to sign the Partnership Agreement and Non-Disclosure Agreement with RailTel on a non-judicial stamp paper of Rs. 100/- in the prescribed Format.

10) We undertake that we will not submit directly or indirectly out bids and techno-commercial solutions/association with any other organization once selected in this EOI for partnership arrangement (before and after submission of bid to end customer organization by RailTel)

Authorized Signatory

Name & Designation

Annexure 3: Undertaking for not Being Blacklisted/Debarred

<On Company Letter Head>

To,

RailTel Corporation of India Ltd
Plate-A, 6th Floor, Office Tower-2,
NBCC Building, East Kidwai Nagar, New Delhi-110023

Subject: **Undertaking for not Being Blacklisted/Debarred**

We, Company Name   , having its registered office at Address

hereby declares that that the Company has not been blacklisted/debarred by any

Governmental/ Non-Governmental organization in India for past 3 Years as on bid submission date.

Date and Place

Authorized Signatory's Signature:

Authorized Signatory's Name and Designation:

Bidder's Company Seal:

Annexure 4: Format of Affidavit

(To be executed in presence of Public notary on non-judicial stamp paper of the value of Rs. 100/-. The paper has to be in the name of the BA) **

     I…………………………. (Name and designation)** appointed as the attorney/authorized signatory of the BA (including its constituents),

M/s_____(hereinafter called the BA) for the purpose of the EOI documents for the work of _____ as per the EOI No. _____of (RailTel Corporation of India Ltd.), do hereby solemnly affirm and state on the behalf of the BA including its constituents as under:

1. I/we the BA (s), am/are signing this document after carefully reading the contents.

2. I/we the BA(s) also accept all the conditions of the EOI and have signed all the pages in confirmation thereof.

3. I/we hereby declare that I/we have downloaded the EOI documents from RailTel website www.railtelindia.com. I/we have verified the content of the document from the website and there is no addition, no deletion or no alternation to be content of the EOI document. In case of any discrepancy noticed at any stage i.e. evaluation of EOI, execution of work or final payment of the contract, the master copy available with the RailTel Administration shall be final and binding upon me/us.

4. I/we declare and certify that I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.

5. I/we also understand that my/our offer will be evaluated based on the documents/credentials submitted along with the offer and same shall be binding upon me/us.

6. I/we declare that the information and documents submitted along with the EOI by me/us are correct and I/we are fully responsible for the correctness of the information and documents, submitted by us.

7. I/we undersigned that if the certificates regarding eligibility criteria submitted by us are found to be forged/false or incorrect at any time during process for evaluation of EOI, it shall lead to forfeiture of the EOI EMD besides banning of business for five years on entire RailTel. Further, I/we (insert name of the BA)**_____and all my/our constituents understand that my/our constituents understand that my/our offer shall be summarily rejected.

8. I/we also understand that if the certificates submitted by us are found to be false/forged or incorrect at any time after the award of the contract, it will lead to termination of the contract, along with forfeiture of EMD/SD and Performance guarantee besides any other action provided in the contract including banning of business for five years on entire RailTel.

<div align="right">

DEPONENT

SEAL AND SIGNATURE
OF THE BA

</div>

VERIFICATION

I/We above named EOI do hereby solemnly affirm and verify that the contents of my/our above affidavit are true and correct. Nothing has been concealed and no part of it is false.

<div align="right">

DEPONENT

SEAL AND SIGNAURE
OF THE BA

</div>

Place:
Dated:

**The contents in Italics are only for guidance purpose. Details as appropriate, are to be filled in suitably by BA. Attestation before Magistrate/Notary Public.

NON-DISCLOSURE AGREEMENT

This Non-Disclosure Agreement (this "***Agreement***") is made and entered into on this _____ day of _____ , 2021 (the "***Effective Date***") at_____.

By and between

RailTel Corporation of India Limited, **(CIN: L64202DL2000GOI107905),** a Public Sector Undertaking under Ministry of Railways, Govt. of India, having its registered and corporate office at Plate-A, 6th Floor, Office Block, Tower -2, East Kidwai Nagar, New Delhi-110023, (hereinafter referred to as **'RailTel')**, which expression shall unless repugnant to the context or meaning thereof, deem to mean and include its successors and its permitted assignees of the ONE PART,

And

_____) (CIN:_____), a company duly incorporated under the provisions of Companies Act, _____ having its registered office at _____, (hereinafter referred to as **'_____'),** which expression shall unless repugnant to the context or meaning thereof, deem to mean and include its successors and its permitted assignees of OTHER PART

RailTel and _____ shall be individually referred to as "Party" and jointly as "Parties"

WHEREAS, RailTel and _____, each possesses confidential and proprietary information related to its business activities, including, but not limited to, that information designated as confidential or proprietary under Section 2 of this Agreement, as well as technical and non-technical information, patents, copyrights, trade secrets, know-how, financial data, design details and specifications, engineering, business and marketing strategies and plans, forecasts or plans, pricing strategies, formulas, procurement requirements, vendor and customer lists, inventions, techniques, sketches, drawings, models, processes, apparatus, equipment, algorithms, software programs, software source documents, product designs and the like, and third party confidential information (collectively, the "***Information***");

WHEREAS, the Parties have initiated discussions regarding a possible business relationship for _____.

WHEREAS, each Party accordingly desires to disclose certain Information (each Party, in such disclosing capacity, the "***Disclosing Party***") to the other Party (each Party, in such receiving capacity, the "***Receiving Party***") subject to the terms and conditions of this Agreement.

NOW THEREFORE, in consideration of the receipt of certain Information, and the mutual promises made in this Agreement, the Parties, intending to be legally bound, hereby agree as follows:

1. **Permitted Use.**

   (a) Receiving Party shall:

      (i) hold all Information received from Disclosing Party in confidence;

      (ii) use such Information for the purpose of evaluating the possibility of entering into a commercial arrangement between the Parties concerning such Information; and

      (iii) restrict disclosure of such Information to those of Receiving Party's officers, directors, employees, affiliates, advisors, agents and consultants (collectively, the "***Representatives***") who the Receiving Party, in its reasonable discretion, deems need to know such Information, and are

bound by the terms and conditions of (1) this Agreement, or (2) an agreement with terms and conditions substantially similar to those set forth in this Agreement.

(b)   The restrictions on Receiving Party's use and disclosure of Information as set forth above shall not apply to any Information that Receiving Party can demonstrate:

(i)   is wholly and independently developed by Receiving Party without the use of Information of Disclosing Party;

(ii)   at the time of disclosure to Receiving Party, was either (A) in the public domain, or (B) known to Receiving Party;

(iii)   is approved for release by written authorization of Disclosing Party; or

(iv)   is disclosed in response to a valid order of a court or other governmental body in the India or any political subdivision thereof, but only to the extent of, and for the purposes set forth in, such order; provided, however, that Receiving Party shall first and immediately notify Disclosing Party in writing of the order and permit Disclosing Party to seek an appropriate protective order.

(c) Both parties further agree to exercise the same degree of care that it exercises to protect its own Confidential Information of a like nature from unauthorised disclosure, but in no event shall a less than reasonable degree of care be exercised by either party.

2.   **Designation**.

(a)   Information shall be deemed confidential and proprietary and subject to the restrictions of this Agreement if, when provided in:

(i)   written or other tangible form, such Information is clearly marked as proprietary or confidential when disclosed to Receiving Party; or

(ii)   oral or other intangible form, such Information is identified as confidential or proprietary at the time of disclosure.

3.   Cooperation.   Receiving Party will immediately give notice to Disclosing Party of any unauthorized use or disclosure of the Information of Disclosing Party.

4.   Ownership of Information. All Information remains the property of Disclosing Party and no license or other rights to such Information is granted or implied hereby. Notwithstanding the foregoing, Disclosing Party understands that Receiving Party may currently or in the future be developing information internally, or receiving information from other parties that may be similar to Information of the Disclosing Party. Notwithstanding anything to the contrary, nothing in this Agreement will be construed as a representation or inference that Receiving Party will not develop products, or have products developed for it, that, without violation of this Agreement, compete with the products or systems contemplated by Disclosing Party's Information.

5.   No Obligation. Neither this Agreement nor the disclosure or receipt of Information hereunder shall be construed as creating any obligation of a Party to furnish Information to the other Party or to enter into any agreement, venture or relationship with the other Party.

6.   Return or Destruction of Information.

(a)   All Information shall remain the sole property of Disclosing Party and all materials containing any such Information (including all copies made by Receiving Party) and its Representatives shall be returned or destroyed by Receiving Party immediately upon the earlier of:

(i)   termination of this Agreement;

(ii)   expiration of this Agreement; or

(iii)   Receiving Party's determination that it no longer has a need for such Information.

(b)   Upon request of Disclosing Party, Receiving Party shall certify in writing that all Information received by Receiving Party (including all copies thereof) and all materials containing such Information (including all copies thereof) have been destroyed.

7.   **Injunctive Relief**: Without prejudice to any other rights or remedies that a party may have, each party acknowledges and agrees that damages alone may not be an adequate remedy for any breach of this Agreement, and that a party shall be entitled to seek the remedies of injunction, specific performance and/or any other equitable relief for any threatened or actual breach of this Agreement

8.   Notice.

(a)   Any notice required or permitted by this Agreement shall be in writing and shall be delivered as follows, with notice deemed given as indicated:

(i)   by personal delivery, when delivered personally;

(ii)   by overnight courier, upon written verification of receipt; or

(iii)   by certified or registered mail with return receipt requested, upon verification of receipt.

(b)   Notice shall be sent to the following addresses or such other address as either Party specifies in writing.

RailTel Corporation of India limited:

Attn: _____
Address:_____
Phone:
Email.

_____:

Attn:
Address:
Phone:
Email:

9.   Term, Termination and Survivability.

(a)   Unless terminated earlier in accordance with the provisions of this agreement, this Agreement shall be in full force and effect for a period of _____ years from the effective date hereof.

(b) Each party reserves the right in its sole and absolute discretion to terminate this Agreement by giving the other party not less than 30 days' written notice of such termination.

(c)   Notwithstanding the foregoing clause 9(a) and 9 (b) , Receiving Party agrees that its obligations, shall:

(i)   In respect to Information provided to it during the Term of this agreement, shall survive and continue even after the expiry of the term or termination of this agreement; and

(ii)   not apply to any materials or information disclosed to it thereafter.

10. <u>**Governing Law and Jurisdiction.**</u> This Agreement shall be governed in all respects solely and exclusively by the laws of India without regard to its conflicts of law principles. The Parties hereto expressly consent and submit themselves to the jurisdiction of the courts of New Delhi.

11. <u>**Counterparts.**</u> This agreement is executed in duplicate, each of which shall be deemed to be the original and both when taken together shall be deemed to form a single agreement

12. <u>**No Definitive Transaction.**</u> The Parties hereto understand and agree that no contract or agreement with respect to any aspect of a potential transaction between the Parties shall be deemed to exist unless and until a definitive written agreement providing for such aspect of the transaction has been executed by a duly authorized representative of each Party and duly delivered to the other Party (a "***Final Agreement***"), and the Parties hereby waive, in advance, any claims in connection with a possible transaction unless and until the Parties have entered into a Final Agreement.

13. **Settlement of Disputes:**

   a) The parties shall, at the first instance, attempt to resolve through good faith negotiation and consultation, any difference, conflict or question arising between the parties hereto relating to or concerning or arising out of or in connection with this agreement, and such negotiation or consultation shall begin promptly after a Party has delivered to another Party a written request for such consultation.
   b) In the event of any dispute, difference, conflict or question arising between the parties hereto, relating to or concerning or arising out of or in connection with this agreement, is not settled through good faith negotiation or consultation, the same shall be referred to arbitration by a sole arbitrator.
   c) The sole arbitrator shall be appointed by CMD/RailTel out of the panel of independent arbitrators maintained by RailTel, having expertise in their respective domains. The seat and the venue of arbitration shall be New Delhi. The arbitration proceedings shall be in accordance with the provision of the Arbitration and Conciliation Act 1996 and any other statutory amendments or modifications thereof. The decision of arbitrator shall be final and binding on both parties. The arbitration proceedings shall be conducted in English Language. The fees and cost of arbitration shall be borne equally between the parties.

14. CONFIDENTIALITY OF NEGOTIATIONS

Without the Disclosing Party's prior written consent, the Receiving Party shall not disclose to any Person who is not a Representative of the Receiving Party the fact that Confidential Information has been made available to the Receiving Party or that it has inspected any portion of the Confidential Information or that discussions between the Parties may be taking place.

15. REPRESENTATION

The Receiving Party acknowledges that the Disclosing Party makes no representation or warranty as to the accuracy or completeness of any of the Confidential Information furnished by or on its behalf. Nothing in this clause operates to limit or exclude any liability for fraudulent misrepresentation.

16. ASSIGNMENT

Neither this Agreement nor any of the rights, interests or obligations under this Agreement shall be assigned, in whole or in part, by operation of law or otherwise by any of the Parties without the prior written consent of each of the other Parties. Any purported assignment without such consent shall be void. Subject to the preceding sentences, this Agreement will be binding upon, inure to the benefit of, and be enforceable by, the Parties and their respective successors and assigns.

17. EMPLOYEES AND OTHERS

Each Party shall advise its Representatives, contractors, subcontractors and licensees, and shall require its Affiliates to advise their Representatives, contractors, subcontractors and licensees, of the obligations of confidentiality and non-use under this Agreement, and shall be responsible for ensuring compliance by its and its Affiliates' Representatives, contractors, subcontractors and licensees with such obligations. In addition, each Party shall require all persons and entities who are not employees of a Party and who are provided access to the Confidential Information, to execute confidentiality or non-disclosure agreements containing provisions no less stringent than those set forth in this Agreement. Each Party shall promptly notify the other Party in writing upon learning of any unauthorized disclosure or use of the Confidential Information by such persons or entities.

18. NO LICENSE

Nothing in this Agreement is intended to grant any rights to under any patent, copyright, or other intellectual property right of the Disclosing Party, nor will this Agreement grant
the Receiving Party any rights in or to the Confidential Information of the Disclosing Party, except as expressly set forth in this Agreement.

19. RELATIONSHIP BETWEEN PARTIES:

Nothing in this Agreement or in any matter or any arrangement contemplated by it is intended to constitute a partnership, association, joint venture, fiduciary relationship or other cooperative entity between the parties for any purpose whatsoever. Neither party has any power or authority to bind the other party or impose any obligations on it and neither party shall purport to do so or hold itself out as capable of doing so.

20: **UNPULISHED PRICE SENSITIVE INFORMATION (UPSI)**

_____ agrees and acknowledges that _____, its Partners, employees, representatives etc., by virtue of being associated with RailTel and being in frequent communication with RailTel and its employees, shall be deemed to be "Connected Persons" within the meaning of SEBI (Prohibition of Insider Trading) Regulations, 2015 and shall be bound by the said regulations while dealing with any confidential and/ or price sensitive information of RailTel. _____ shall always and at all times comply with the obligations and restrictions contained in the said regulations. In terms of the said regulations, _____ shall abide by the restriction on communication, providing or allowing access to any Unpublished Price Sensitive Information (UPSI) relating to RailTel as well as restriction on trading of its stock while holding such Unpublished Price Sensitive Information relating to RailTel

21 MISCELLANEOUS. This Agreement constitutes the entire understanding among the Parties as to the Information and supersedes all prior discussions between them relating thereto. No amendment or modification of this Agreement shall be valid or binding on the Parties unless made in writing and signed on behalf of each Party by its authorized representative. The failure or delay of any Party to enforce at any time any provision of this Agreement shall not constitute a waiver of such Party's right thereafter to enforce each and every provision of this Agreement. In the event that any of the terms, conditions or provisions of this Agreement are held to be illegal, unenforceable or invalid by any court of competent jurisdiction, the remaining terms, conditions or provisions hereof shall remain in full force and effect. The rights, remedies and obligations set forth herein are in addition to, and not in substitution of, any rights, remedies or obligations which may be granted or imposed under law or in equity.

IN WITNESS WHEREOF, the Parties have executed this Agreement on the date set forth above.

_____: **RailTel Corporation of India Limited:**

By_____   By_____

  Name: Name:

  Title: Title:

Witnesses

Annexure-6: EMD (as PBG) Format

BG NO   **:**
ISSUANCE DATE   **: DD-MM-YYYY**
BG AMOUNT   **: Rs   xxxxxxx /-**
EXPIRY DATE   **: DD-MM-YYYY**
CLAIM EXPIRY DATE   **: DD-MM-YYYY**

In consideration of the **RailTel Corporation of India Limited, (**CIN: L64202DL2000GOI107905**)** having its registered office at Plate-A, 6th Floor, Office Block Tower-2, East Kidwai Nagar, New Delhi - 110023 (Here in after called RailTel) having agreed to exempt ~~**Partner Name (CIN:)**~~ having its registered office at ~~**Partner's address**~~ (Here in after called "the said Contractor(s)") from the demand, under the terms and conditions of **EOI NO.** made between **RailTel Corporation of India Limited** and ~~**Partner Name**~~ for (here in after called "the said Agreement") of security deposit for the due fulfilment by the said contractor (s) of the terms and conditions contained in the said Agreement, or production of a Bank Guarantee for **Rs. /- (In Words).**

We, ~~**Bank Name**~~ a banking company incorporated under the Companies Act, 1956 and carrying on Banking Business under The Banking Regulation Act, 1949 and having its Registered Office at ~~**Bank's Address**~~ and its Central office at ~~**Bank's Corporate Office Address**~~ (indicate the name of the Bank) here in after referred to as "the Bank") at the request of ~~**Partner's Name**~~ Contractor(s) do hereby undertake to pay the **RailTel** an amount not exceeding ~~**Rs /- (In Words)**~~ .. against any loss or damage caused to or suffered or would be caused to or suffered by the **RailTel** by reason of any breach by said Contractor(s) of any of the terms or conditions contained in the said Agreement.

We, ~~**Bank Name**~~ do here by undertake to pay the amounts due and payable under this Guarantee without any demur, merely on demand from the **RailTel** stating that the amount as claimed is due by way of loss or damage caused to or would be caused to or suffered by the **RailTel** by reason of breach by the said Contractor(s) of any terms and conditions contained in the said Agreement or by the Contractor(s) failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding **Rs. /- (In Words).**

We, ~~**Bank's Name**~~ undertake to pay to the **RailTel** any money so demanded not with standing any dispute or disputes raised by the Contractor(s) / Supplier(s) in any suit or proceedings pending before any court or Tribunal relating thereto our liability under this present being, absolute and unequivocal. The payment so made by us under this Bond shall be a valid discharge of our liability for payment there under and the Contractor(s)/ Supplier(s) shall have no claim against us for making such payment.

We, ~~**Bank's Name**~~ further agree that the Guarantee here in contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the **RailTel** under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till **RailTel** certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharge this Guarantee. Unless a demand or claim under the Guarantee is made on us in writing on or before the **DD-MM-YYYY(Claim Expiry Date.)** We shall be discharged from all liability under this Guarantee thereafter.

We, ~~**Bank's Name**~~ further agree with the **RailTel** that the **RailTel** shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the Agreement or to extend time or to postpone for any time or from time to time any of the powers exercisable by the **RailTel** against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension to the said Contractor(s) or for any forbearance, act or omission on the part of **RailTel** or any indulgence by the **RailTel** to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

This Guarantee will not be discharged due to the change in the Constitution of the bank or the Contractor(s) Supplier(s).

Bank's Name lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the **RailTel** in writing.

Date   : DD-MM-YYYY
Place :

****

Annexure -7: INTEGRITY PACT

RailTel Corporation of India Limited, hereinafter referred to as "The Principal". And
……………………….., hereinafter referred to as "The Bidder/ Contractor"

1. Preamble

The Principal intends to award, under laid down organizational procedures, contract/s for

The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relations with its Bidder(s) and /or Contractor(s).

In order to achieve these goals, the Principal will appoint an Independent External Monitor (IEM), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

2. Section 1- Commitments of the Principal

1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles: -

   a) No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

   b) The Principal will during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the process or the contract execution.

   c) The Principal will exclude from the process all known prejudiced persons.

2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

3. Section 2- Commitments of the Bidder(s) / Contractor(s)

1) The Bidder(s)/Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
   a. The Bidder(s)/contractor(s) will not, directly or through any other persons or firm, offer promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage during tender process or during the execution of the contract.
   b. The Bidder(s)/Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
   c. The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s) /Contractors will not use improperly, for purposes of competition or

personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

    d. The Bidder(s)/Contractor(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly, the bidder(s)/contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s)/Contractor(s). Further, as mentioned in the Guidelines all the payments made to the Indian agent/representative have to be in Indian Rupees only. Copy of the "Guidelines on Indian Agents of Foreign Suppliers' as annexed and marked as Annexure A.

    e. The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

2) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

4.   Section 3: Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2, above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process & exclude him from future business dealings as per the existing provisions of GFR,2017,PC ACT 1988) or take action as per the procedure mentioned in the "Guidelines on Banning of business dealings" and any other Financial Rules/Guidelines applicable to the Principal. Copy of the "Guidelines on Banning of business dealings" is annexed and marked as Annexure "B".

5.   Section 4: Compensation for Damages

1.If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/Bid Security.

2.If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to be terminated the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value or the amount equivalent to Performance Bank Guarantee.

6.   Section 5: Previous Transgression

1.The Bidder declares that no previous transgressions occurred in the last three years with any other company in any country conforming to the anti- corruption approach or with any other public sector enterprise in India that could justify his exclusion from the tender process.

2.If the bidder makes incorrect statement on this subject, he can be disqualified from the tender process for action can be taken as per the procedure mentioned in "Guidelines on Banning of business dealings".

7.   Section 6: Equal treatment of all Bidders / Contractors/Subcontractors.

1.The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a signed commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.

2.The Principal Contractor shall take the responsibility of the adoption of IP by the sub- contractors. It is to be ensured that all sub-contractors also sign the IP.

3.In case of a Joint Venture, all the partners of the Joint Venture should sign the Integrity pact.

4.The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions

8.   Section 7: Criminal charges against violation by Bidder(s) / Contractor(s) / Sub contractor(s)

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

9. Section 8: Independent External Monitor / Monitors

1. The Principal appoints competent & credible Independent External Monitors for this pact as nominated by the Central Vigilance Commission (CVC) Government of India, from the panel of IEMs maintained by it. The task of the Monitors is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

2. The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, RailTel.

3. The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction to all project documentation of the Principal including that provided by the Contractor.

4. The Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/Contractor(s)/Subcontractor(s) with confidentiality.

5. The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

Note: However, the documents /records/information having National Security implications and those documents which have been classified as

Secret/Top Secret are not to be disclosed.

6. For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process or during execution of contract, the matter should be examined by the full panel of IEMs jointly, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

The advice of the IEM panel is restricted to resolving issues raised by a bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some bidders.

7. The panel of IEMs are expected to submit a joint written report to the CMD, RailTel within30 days from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

8. Monitor shall be entitled to compensation on the same terms as being extended to / provided to Independent Directors on the RailTel Board.

9. The IEMs would examine all complaints received by them and give their recommendations/views to the CMD, RailTel at the earliest. They may also send their report directly to the CVO in case of suspicion of serious irregularities requiring legal/administrative action. Only in case of very serious issue having a specific, verifiable vigilance angle, the matter should be reported directly to the Chief Vigilance Commission.

10. The word 'Monitor' would include both singular and plural.

11. In the event of any dispute between the management and the contractor relating to those contracts where Integrity Pact is applicable, in case, both the parties are agreeable, they may try to settle dispute through mediation before the panel of IEMs in a time bound manner. If required, the organizations may adopt any mediation rules for this purpose. In case, the dispute remains unresolved even after mediation by the panel of IEMs, the organization may take further action as per the terms & conditions of the contract. However, not more than five meetings shall be held for a particular dispute resolution. The fees/expenses on dispute resolution shall be equally shared by both the parties.

10. Section 9: Pact Duration

Integrity Pact, in respect of a particular contract, shall be operative from the date IP is signed by both the parties till the completion of contract. After award of work, the IEMs shall look into any issue relating

to execution of contract, if specifically raised before them. However, the IEMs may suggest systemic improvements to the management of the organization concerned, if considered necessary, to bring about transparency, equity and fairness in the system of procurement.

In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the contract has been awarded.

If any claim is made / lodged by either party during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by CMD of RailTel.

11. Section 10: Other Provisions

1.This agreement is subject to Indian Law, Place of performance and jurisdiction is the Registered Office of the Principal, i.e., New Delhi.

2.Changes and supplements as well as termination notices need to be made in writing.
3.If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
4.Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
5.The parties signing the IP shall not approach the Courts while representing the matters to the IEMs and he/she will await the decision in the matter.
6.Principal contractor shall take the responsibility of the adoption of IP by the sub-contractor
7.The Integrity pact shall be deemed to form a part of contract and parties shall be bound by its provision.
8.Issues like warranty/guarantee etc. should be outside the purview of IEMs. (For & on behalf of the Principal) (For & On behalf of
Bidder/Contractor)

(Office Seal)   (Office Seal)

Place:
Date:

Witness 1:   Witness 1:

Address: Address:

Witness 2:   Witness 2:
Address: Address:

Annexure-8: Price Bid Format (BOQ) (Financial Bid) with password protected PDF.

S. No.	Item Description	Rate Per School/Lab	GST	Total Price per Unit Including GST
		A	B	C=A+B
1	ATL Lab			
2	Astronomy & VR Labs			
			Total Price	

Note: -
- All the above price would be in INR only.
- The bidder has to compulsorily quote for all items failing which bid is liable to be rejected.
- GST shall be payable at prevailing rates.
- The bid price should include all taxes and levies.
- Any conditional bid would be rejected.

Scope of work

The scope of work primarily focuses on Implementation of Drone Club, Robotic Lab & Atal Tinkering Labs in the selected schools of Himachal Pradesh, which includes supply, installation, commission, operation & maintenance support of Labs for a period of Ten (10) Months which includes ONE (01) Year Warranty Support Period from the date of Final Acceptance Test of the Project and TWO (02) Years Comprehensive Annual Maintenance Support after completion of initial ONE Year Warranty Support Period. The responsibility for the successful integration of Labs into the school curriculum will lie with the selected Implementing Agency. The agency will oversee all aspects of this initiative, ensuring that the Labs becomes a central part of the school's academic and innovation framework. Below is a detailed breakdown of the responsibilities that the Implementing Agency will handle:

1.1.1. Alignment with Existing Subjects

a. Mapping Activities to School Subjects: The Implementing Agency will map activities to existing subjects such as science, mathematics, and computer science. The agency will work closely with schools to ensure sessions complement regular academic lessons by offering practical applications of theoretical knowledge. For instance, Lab projects related to coding and electronics will be integrated with computer science and physics lessons to enhance students' understanding.

b. Project-Based Learning Approach:

    i. The agency will develop a project-based learning (PBL) approach that emphasizes interdisciplinary projects. Students will engage in real-world challenges that require the application of knowledge from multiple subjects. The agency will ensure that the PBL approach is effectively.

    ii. The Agency shall provide software compatible to block-based coding, wide range of programming languages, including Python, Java, and PHP etc. Additionally, the software must support scripting languages and front-end development tools, enabling students to create interactive projects. This comprehensive support should ensure both beginner-level coders and advanced programmers are able to utilize the various platform effectively.

1.1.2. Development of an Innovation-Focused Curriculum

a. Creation of Specific Modules: The Implementing Agency will be responsible for designing dedicated learning modules sessions in Hindi and English. These modules will promote hands-on learning, encouraging students to explore innovative solutions through structured

tasks, guided projects, and experimentation. The curriculum will focus on fostering creativity, inquiry-based learning, and problem-solving.

b. **Cross-Disciplinary Learning Opportunities:** The agency will ensure that the curriculum supports cross-disciplinary learning, encouraging students to apply knowledge from various subjects to address complex issues. This will help students see the interconnectedness of different disciplines, making their learning more cohesive and relevant to real-world scenarios.

1.1.3. Learning Management System

The Implementing Agency is required to provide a proprietary Learning Management System (LMS) for the project, which will be protected under applicable copyright, trademark, and patent laws. The Agency and its licensors retain all rights, title, and interest in the LMS, including any modifications, extensions, or derivative works. The Client's right to use the LMS is strictly limited to the terms explicitly stated in the agreement. All data belonging to the Client before the start date of the program, including student and teacher data and learning record data, remains the property of the Client.

The key implementation terms for the LMS are as follows:

a. **LMS Hosting:** The Agency will securely implement and host the LMS on the cloud server of Samagra Shiksha (VSK Platform).

b. **Management Responsibilities:** The Agency will be responsible for the administration, documentation, tracking, reporting, and delivery of curriculum, modules, and projects, including their upgrades.

c. **Proprietary LMS Requirement:** The Agency will not use free or open-source LMS platforms such as BUZZ, PowerSchool Unified Classroom, Schoology, Blackboard, HotChalk, Moodle, OpenOLat, Summit Learning, Google Classroom, or similar LMS.

d. **Content Upload and Accessibility:** The Agency will develop and upload lesson plans, course content, and assessments into the LMS, making them accessible to students, teachers, support staff, and officials of Samagra Shiksha Himachal Pradesh, available anytime and anywhere through a secure login system.

e. **Bilingual Content Delivery:** The LMS will provide lab modules and content in both Hindi and English. The modules will be designed for a minimum pace, allowing students to progress through core content at their own speed. The content will be tailored for the labs in 400 schools across Himachal Pradesh and will align with teacher training and lab facilitation at schools.

f. **Assessment and Monitoring:** Students will take assessments when ready to demonstrate mastery. Teachers will monitor progress, focusing on students struggling to keep pace or understand the content. The assessment process will include:

    i. Tracking the number of completed course modules.

    ii. Recording the number of assessments taken by students.

    iii. Calculating and displaying the average assessment score.

g. **Project-Based Learning Integration:** The LMS will track and present projects as part of the project-based learning. It will provide project summaries, expectations, benchmarks, and outcomes, with real-time progress and feedback monitoring.

h. **Leaderboard Feature:** The LMS will feature a leaderboard at both the state and school levels to showcase the comparative progress of projects.

i. **Progress Tracking and Reporting:** The LMS will generate monthly, quarterly, and annual progress reports at the individual user, school, block, district, and state levels. These reports will be made available to the Samagra Shiksha Office.

1.1.4. Continuous Engagement and Activity Planning

a. Regular Sessions: It will be the Implementing Agency's duty to ensure that schools allocate specific time slots for regular sessions within the academic timetable. This guarantees that students are consistently engaged in the lab, allowing them to explore, innovate, and experiment throughout the school year.

b. Project-Based Assessments: The agency will develop and implement a project-based assessment framework, evaluating students based on their creativity, problem-solving skills, and teamwork. These assessments will align with the overall educational objectives of the Labs, focusing on the learning process rather than just the final outcomes of the projects.

c. Thematic Innovation Challenges:

    i. The Implementing Agency will plan and organize thematic innovation challenges throughout the academic year. These challenges will encourage students to work on innovative solutions to pressing global or local issues, with themes ranging from sustainability to healthcare etc.

    ii. The Agency shall ensure that the students create Artificial Intelligence based Projects. Further the Agency shall also ensure that per schools there should be at least two AI based project created by the students.

1.1.5. Teacher Training
a. **Lead Trainers:**

The Agency is responsible for ensuring that its lead trainers receive training and certification from the Original Equipment Manufacturer (OEM). Before deploying these lead trainers to conduct training for master trainers, the Agency must submit the OEM training certification to Samagra Shiksha. Samagra Shiksha reserves the right to contact the OEM to verify the certifications, for which the Agency will provide accurate contact details of all relevant OEM personnel.

b. Trainers:

The Agency will deploy trainers according to the qualifications specified in the contract. Additionally, the Agency is required to provide Samagra Shiksha with a detailed training schedule and a training completion report.

c. Facilitators:

The Agency must deploy the facilitators as per the criteria mentioned in the tender document for shortlisting and selecting facilitators to Samagra Shiksha, along with the training details and assessment scores of each selected facilitator.

d. Teacher Training:

The Agency will conduct 5-days offline day-training sessions for the teachers of all these schools, selecting at least two teachers from each school, as outlined. The list of teachers to be trained will be provided by the Samagra Shiksha Office. The Agency shall provide the training schedule, session plan with the technical bid. The TA/DA and other required logistics will be borne by the Agency. The following conditions apply to the teacher training:

i. The training will be conducted in 16 batches, with each batch containing no more than 50 teachers.

ii. The profiles of the lead trainer and other trainers must be approved by the Samagra Shiksha Office based on the specified qualification criteria.

iii. The training module and materials must be vetted and approved by the Samagra Shiksha Office at least one week before the commencement of the 5-day teacher training. One copy of teacher training modules must be submitted to the Samagra Shiksha Office. The teacher training modules will also cover design thinking, product development, product storage and maintenance, as well as lab monitoring and inventory management to ensure effective lab functioning.

iv. Feedback and reviews from the teacher training sessions must be recorded and submitted to the Samagra Shiksha Office after the completion of the 5-day training for all Seven batches. Trainee teachers will be enrolled on the LMS upon the completion

of the teacher training. Post-training, the Agency will provide mentoring support to trainee teachers through the LMS.

1.1.6. Student, Teacher and Administrator Involvement

a. Teacher Training Programs: The Implementing Agency will design and deliver comprehensive training programs for educators and Lab Assistants to familiarize them with Lab tools, equipment, and facilitation techniques. These programs will equip teachers with the skills needed to guide students in their innovative endeavours. The agency will also provide continuous support to teachers to ensure they can integrate Lab activities seamlessly into their lesson plans.

b. Collaboration in Curriculum Design: The agency will involve teachers and school administrators in the curriculum design process to ensure that Lab activities align with the school's academic goals. The agency will facilitate workshops and collaborative sessions to gather input from educators, tailoring the curriculum to suit the specific needs of each school.

1.1.7. Promoting Design Thinking and Creative Problem-Solving

a. Implementation of Design Thinking Frameworks: The Implementing Agency will introduce structured frameworks like design thinking into the Lab program. The agency will guide students through the stages of empathizing with problems, ideating solutions, prototyping, and testing. This approach will encourage creative problem-solving and promote iterative learning, helping students refine their ideas based on real-world feedback.

b. Organization of Competitions and Hackathons: It will be the agency's responsibility to organize regular hackathons, competitions, and maker fairs, providing students with opportunities to showcase their innovative projects. These events will stimulate creativity, foster a competitive spirit, and allow students to demonstrate their problem-solving abilities to a wider audience.

1.1.8. Collaboration with External Experts and Mentors

a. Guest Lectures and Expert Workshops: The Implementing Agency will coordinate guest lectures, expert sessions, and workshops with professionals from the technology, innovation, and education sectors. These external engagements will expose students to the latest developments in various fields, inspiring them to apply their knowledge to real-world applications. The agency will also facilitate collaborations with universities and innovation hubs for advanced learning opportunities.

b. Mentorship Programs: The Implementing Agency will establish mentorship programs where industry professionals and university students mentor Lab participants. These mentorship opportunities will provide students with direct access to expert guidance, fostering a deeper understanding of STEM concepts and innovative practices.

1.1.9. Long-Term Innovation Programs

a. Facilitating Student-Led Projects: The agency will encourage and support long-term, student-led projects that extend beyond routine classroom activities. The Implementing Agency in collaboration with school's authorities will ensure that students are given the resources and guidance needed to pursue projects that tackle community-based challenges or explore new technologies. The agency will also track these projects, helping students refine their innovations over time.

b. Organizing Innovation Exhibitions: The Implementing Agency will coordinate innovation exhibitions in which students can present their work to a broader audience, including parents, local community members, industry leaders, and government officials. These exhibitions will provide recognition for students' efforts and achievements, encouraging continued participation in Lab activities.

1.1.10. Expansion and Scaling

a. While the immediate focus is on setting up Labs in selected schools, the larger vision should involve scaling the initiative across the state. Based on the success and lessons learned from the initial phase, the program can be expanded to include more schools, potentially reaching every corner of Himachal Pradesh. This expansion will ensure that the benefits of the Lab initiative are experienced by a wider pool of students, gradually building a state-wide culture of innovation that aligns with national educational goals.

b. The establishment of Labs in Himachal Pradesh will lay the foundation for a transformative shift in how students approach science, technology, and creative thinking.

1.1.11. Student Participation and Project Completion Certificates

The Implementing Agency shall ensure that students who participate in various activities and projects under the Lab program receive certificates issued by their respective schools. These certificates will recognize students' involvement in Lab activities, including participation in specific projects, competitions, and other related events. The certificates will highlight the student's achievements and contributions, providing formal acknowledgment of their efforts. The Implementing Agency will standardize the design and content of the certificates, ensuring they include details such as the student's name, the specific activity or project completed, and the date of participation. Schools will have the flexibility to customize these certificates with

additional relevant information as needed.

1.1.12. Monitoring & Evaluation

The Implementing Agency will also be responsible for conducting baseline, midline, and end-line surveys during the execution of the project. These surveys will serve as critical tools for assessing the program's impact, progress, and effectiveness.

a. Baseline Survey: This survey will be conducted at the inception of the project to establish a reference point for measuring the initial conditions of the schools. It will gather data on students' current levels of creativity, problem-solving skills, and exposure to STEM activities, as well as assess the readiness of the schools to host programs.

b. Midline Survey: Conducted midway through the project, the midline survey will track progress and measure the effectiveness of the interventions made by the Labs. It will assess changes in student engagement, learning outcomes, and the success of Lab activities, while also identifying any challenges or gaps that need to be addressed.

c. End-line Survey: The end-line survey will be carried out at the conclusion of the project. Its purpose is to evaluate the overall impact of the program on students' innovation and problem-solving skills, their confidence in using technology, and the long-term benefits to the schools. The results will inform future scalability and improvements to the program.

d. Submission of weekly reports: The Implementing Agency shall submit a weekly report covering the schools visited by the resources deployed, activities undertaken, no. of students participated, outcome, etc. The format of the report may be amended or prescribed by the Department.

e. The Implementing Agency shall present monthly reports to assess the progress of the Lab project across different zones in the office of Samagra Shiksha, however Samagra Shiksha may conduct monthly meetings with the Agency to review the project.

f. Documentation of Best Practices: Document best practices, lessons learned, and success stories from the Lab initiative.

g. Project Completion Report: The Project Completion Report (PCR) by the Implementing Agency should provide a concise overview of the entire Drone Club, Robotic Lab & Atal Tinkering Labs initiative. It should summarize the project's objectives, the scope of work, and the timeline, including key milestones. The report should detail the setup and installation of Drone Club, Robotic Lab & Atal Tinkering Labs in selected schools, how the Lab activities were integrated with the existing curriculum, and the training provided to teachers and lab assistants. It should also include insights on student engagement, project outcomes, and the results of monitoring and evaluation activities. Finally, the

report should highlight challenges faced, lessons learned, and recommendations for future projects.

1.1.13. Submission of Implementation Plan

The Implementation Plan should include detailed description, operational mechanism as well as activity tracker for the below mentioned activities.

a. Plan for Supply and Installation of Hardware equipment in all the schools.

b. Profiles of Trainers for Approval by Samagra Shiksha office.

c. Training Modules for Teacher Training for Approval by Samagra Shiksha office.

d. Training Module and Robotics Project Description Videos/Audio Sessions to be uploaded on LMS for Students.

e. Timeline including training Schedule and session Plan for Teacher Training- in a batch of 50 teachers.

f. Plan for Enrolment of Trainee Teachers on LMS including timeline.

g. Plan for participants Feedback and teacher assessment report on acquisition of training inputs, including assessment items.

h. Deployment Schedule for manpower as per RFP.

i. Enrolment of Students in Learning Management Systems (LMS).

j. Creation of School Tabs and District Tabs for Comparison of Progress and Learning Outcomes through LMS.

k. learning modules tailored for Lab sessions in Hindi and English.

l. Plan for Upkeep, Maintenance and Lab-Facilitation after project rollout phase (Month 1-Month 3) from Month 4 to Month 15.

m. The Implementing Agency is responsible for planning and organizing competitions as part of the Lab program. The agency must develop a detailed competition planning schedule and submit it to the Samagra Shiksha Office for approval.

n. The Implementing Agency will compile and provide a comprehensive list of projects, with a strong emphasis on AI-based initiatives. These projects will be tailored to different skill levels and designed to engage Lab students in exploring various applications of artificial intelligence.

1.1.14. Implementation framework

A two layered structure shall be established by the selected Implementing Agency for the operation and maintenance of Labs as given below:

• Central Program Management Team (PMT) and

• Regional Nodal Centre

The roles & responsibilities of the PMTs and District Nodal Centre shall be as under:

1. **Central PMT (**Program Management Team)

   a. A Central PMT shall be operated by the Implementing Agency near the State Project Office, Shimla.

   b. Strategic & Policy Leadership

      • Develop the overall vision, mission, and strategic framework for the Labs.

      • Set program guidelines, standards, and evaluation metrics for Labs.

      • Coordinate for partnerships with Universities and industry experts for curriculum development and resource provision.

      • Manage funding allocation and resource distribution to schools.

      • Conduct state-wide monitoring and evaluation, analyse the data to track progress and inform for program improvement.

   c. Knowledge Management & Support

      • Organise and maintain a repository of innovation projects, lesson plans and best practices.

      • Provide technical support and guidance to Nodal Centres and schools on lab operations, equipment maintenance and technology integration.

      • Facilitate knowledge sharing and peer learning.

      • Develop and deliver online training modules for teachers and lab assistants on innovation pedagogy and project implementation

   d. Operational Execution & Support

      • Provide direct support to schools in setting up and managing the Labs.

      • Identify and recruit qualified members to activate the Labs in schools.

      • Oversee the conduct of regional training workshops for students and professional development programs for teachers on innovation.

      • Facilitate inter-school collaboration and networking within their zone.

      • Monitor and evaluate lab performance, reporting progress and challenges to the Department.

   e. Contextual Adaptation & Outreach

      • Build partnerships with stakeholders, including Universities, businesses to provide resources and support to schools.

      • Organise innovation boot camps, hackathons, events and outreach programs to generate awareness and engagement.

      • Identify and address unique challenges faced by schools, tailoring solutions and support accordingly.

   f. Collaboration & Communication

      • The Central PMTs must maintain close collaboration and communication to ensure

the smooth operation and effectiveness of the program.

- Regular meetings, data sharing and feedback to coordinate activities, resolve issues and improve the program.
- Provide a centralised platform for resource sharing, knowledge sharing and communication among all stakeholders (Nodal Centre, schools, teachers, and students) for further enhancement of collaboration and program success.

g. Monitoring and Evaluation

- Tracking Progress and Impact: Monitor the project's implementation within the schools, collecting data on student outcomes, teacher engagement, and resource utilisation.
- Conducting Regional Evaluations: Organise regional evaluations to assess program effectiveness, identify areas for improvement, and tailor future program iterations to better serve the needs of the schools.
- Reporting to the Central PMT: Provide regular reports and updates on the progress, challenges, and successes of the program within the region.
- Adapting the Project to Regional Context: Monitor the specific needs and challenges of the schools within the region and adapt program elements or resources to ensure relevance and effectiveness.

Onsite Support & Manpower Requirement

Sr. No	No of Positions	Role
1	1	State Lead
2	3	Zonal head
3	40	Instructor

Note∗ The proposed scope of work and Technical specifications/list of items is as per customer requirement. In case of any change in scope of work and the technical specifications/BOQ/List of items by customer, same will be applicable to the bidder on back to back basis

List of Equipment and Kits in Drone Club, Robotic Lab & Atal Tinkering Labs

Package 1: Electronics Development, Robotics, Internet of Things and Sensors

Sr. No	Category	Name	Specification	Qty	Type
1	Electronics Development	Arduino Uno or equivalent	ATmega328P - 8 bit AVR family microcontroller, equivalent or better. Operating Voltage: 5V Digital I/O Pins: 14 (of which 6 provide PWM output) PWM Digital I/O Pins:6 Accessories : Case shell enclosure, compatible USB cable (length - 6 inch or more)	30	Consumable
2	Electronics Development	Arduino Nano or equivalent	ATmega328P - 8 bit AVR family microcontroller, equivalent or better. Operating Voltage: 5V Digital I/O Pins : 14 (of which 6 provide PWM output) Analog Input Pins:8 Accessories : Compatible USB cable (length -6 inch or more)	10	Consumable
3	Electronics Development	Arduino Mega or equivalent	ATmega 2560P - 8 bit AVR family microcontroller, equivalent or better. Operating Voltage: 5V Digital I/O Pins:54 (of which 6 provide PWM output) Analog Input Pins: 16 Accessories: Case shell enclosure, Compatible USB cable (length -6 inch or more)	10	Consumable
4	Electronics Development	Raspberry Pi 3 Model B+	RASPBERRY PI 3 MODEL B+, equivalent or better Accessories - MicroSD card - 32 GB, USB 3.0 cable (1	5	Consumable

			meter), HDMI to VGA - 1 meter, HDMI to VGA adapter, Case shell enclosure		
5	Electronics Development	Breadboards & Mini Breadboards	Solderless 400 pin breadboard Solderless 800 pin breadboard Self-Adhesive Proto Shield	**30** **20** **20**	Consumable
6	Electronics Development	General Purpose solderable Board	FR2 A Grade Material (140 x 90 mm) FR2 A Grade Material (80 x 55 mm)	**30** **30**	Consumable
7	Electronics Development	Berg Strips	Female Berg Strip, 2.54mm pitch, 40 pin single row, breakable pin Male Berg Strip, 2.54mm pitch, 40 pin single row, breakable pin	**30** **30**	Consumable
8	Electronics Development	16x2 LCD display	Dot matrix LCD display. 16 characters X 2 lines. I2C	**10**	Consumable
9	Electronics Development	USB Cables	USB Cable Set (A to B, 12 inch or more)	**10**	Consumable
10	Electronics Development	USB Cables	USB Cable Set (Mini, 12 inches or more)	**10**	Consumable
11	Electronics Development	Battery	9-12V 2000 to 2500 mAh rechargeable battery with 2 chargers. Equivalent or better	**10**	Consumable
12	Electronics Development	Resistor Kit	One kit contains - 30 carbon film resistors of 20 different resistance values each assorted, packaged together and labelled. Wattage: 0.125W to 1W Values: 0Ω, 1.5Ω, 4.7Ω, 10Ω, 47Ω, 100Ω, 220Ω, 330Ω, 470Ω, 680Ω, $1k\Omega$, $2.2k\Omega$, $3.3k\Omega$, $4.7k\Omega$, $10k\Omega$, $22k\Omega$, $47k\Omega$, $100k\Omega$, $330k\Omega$, $1M\Omega$	**20**	Consumable
13	Electronics Development	Capacitor Kit	One kit contains - 20 electrolytic capacitors of 10	**20**	Consumable

			different capacitance values each. Assorted kit packaged together and labelled. Values: 10pF, 22pF, 100pF, 1nF, 10nF, 100nF, 1µF, 10µF, 100µF, 1000µF		
14	Electronics Development	Linear Voltage Regulator	7805, 7812,7809	**30**	Consumable
15	Electronics Development	Water Pump module	DC12V 3W Submersible Water Pump	**4**	Consumable
16	Electronics Development	Piezoelectric Plate	Normal Copper based 4 cm Diameter approx.	**30**	Consumable
17	Electronics Development	8∗8 LED Matrix Module	Max7219 Dot LED Matrix Module. MCU Control LED Display Module	**10**	Consumable
18	Electronics Development	Bluetooth module	HC 05 Bluetooth module Voltage Rating: 5 V	**15**	Consumable
19	Electronics Development	7 Segment Led Display	LED 4-Digit Display Module Voltage Rating: 2.4V to 5.5V 4-Pin interface: Vcc, Gnd, Data, Clock	**20**	Consumable
20	Electronics Development	GSM	Sim900 GPRS Transfer Board Micro Sim Gsm Core TTL Port Module for Arduino	**4**	Consumable
21	Electronics Development	GPS	GY-NEO6MV2 new GPS module	**4**	Consumable
22	Electronics Development	Laser Diode Emitter	650 nm 5mW Mini Laser Dot Diode Module	**10**	Consumable
23	Electronics Development	LDR Module	5mm/12mm, Photosensitive LDR Light Sensor Module	**30**	Consumable
24	Electronics Development	Keypad	Universal 16 Key Switch Keypad	**10**	Consumable
25	Electronics Development	JoyStick	2-axis joystick with push button function	**10**	Consumable
26	Electronics Development	Active Buzzer	Small 5 volt Big 5 volt	**40** **40**	Consumable
27	Electronics	Motor driver	L293D	**10**	Consumable

		Development	Module			
28	Electronics Development	Sound Playback Module	ISD1820 voice recording module or equivalent	10	Consumable
29	Electronics Development	DC Plastic Gear motor with wheel	12V, 150RPM, Side Shaft BO (Battery operation) Motor	40	Consumable
30	Electronics Development	Node MCU	ESP 8266 I2C, 1 wire, plug and play	6	Consumable
31	Electronics Development	WeMos D1 R2	WeMos D1 R2 with WiFi ESP 8266 Operating Voltage: 5V	6	Consumable
32	Electronics Development	Vibrating Motor	Weight: 10 Grams Operating Voltage: 1.5 to 3V	20	Consumable
33	Electronics Development	Alligator Connectors	Multi-Colour Alligator Connectors - 12 inch	200	Consumable
34	Electronics Development	Battery clips with DC Jack	9-volt battery clips with DC Jack	40	Consumable
35	Electronics Development	Hook-up Wires	Red & Black set 100 Meters each	4	Consumable
36	Electronics Development	Jumper Cable	Male-Male Male-Female Female-Female	1000 600 400	Consumable
37	Electronics Development	RGB LEDs	Regular 5mm 3-5 volt Range	400	Consumable
38	Electronics Development	LEDs (Red)	Regular 5mm 3-5 volt Range	1000	Consumable
39	Electronics Development	LEDs (Green)	Regular 5mm 3-5 volt Range	1000	Consumable
40	Electronics Development	LEDs (Blue)	Regular 5mm 3-5 volt Range	1000	Consumable
41	Electronics Development	LEDs (Yellow)	Regular 5mm 3-5 volt Range	1000	Consumable
42	Electronics Development	LEDs (White)	Regular 5mm 3-5 volt Range	1000	Consumable
43	Electronics Development	Timer IC- LM 555	LM 555 Timer IC. Voltage range - 4.5V to 16V	30	Consumable
44	Electronics	Atmega16u2	8 bit microcontroller Individual	10	Consumable

			IC (DIP). Voltage range: 2.7V to 5.5V. Operational Range: -40°C to +80°C		
45	Electronics Development	Diodes and Transistors Kit	One Kit Contains - 25 Assorted Basic Diodes of 4 different types each. Types: NPN Transistor - 2N3904, BC547 PNP Transistor -2N3906, BC557 Silicon Diode -1N4148, Power Diode - 1N4004/4001. Equivalent or better. Wattage: 1W, Current rating: 1A Assorted kit packaged together and labelled.	3	Consumable
46	Electronics Development	Button Switch Set	One Kit Contains - 100 buttons of different types. Types: Push, toggle, rotary, selector and slide switch. Assorted kit packaged together and labelled.	3	Consumable
47	Electronics Development	Capacitative touch Module	MPR 121 with I2C. Voltage Range: 2.5V to 3.6V DC.	20	Consumable
48	Electronics Development	Capacitative Touch Switch Module	Digital Capacitive touch switch module -TTP223B Voltage Range: 2V to 5V DC.	10	Consumable
49	Internet of Things & Sensors	IR Sensors, Obstacle avoider sensor module	LM393 Detection distance: 2 - 30 cm Detection angle: 30 - 40°	20	Consumable
50	Internet of Things & Sensors	Triple Axis Magnetometer	3-Axis Magneto resistive Sensors I2C Digital Interface Integrated 12-bit ADC Range of -8 to +8 Gauss	10	Consumable

			160 Hz Maximum o/p rate		
51	Internet of Things & Sensors	Humidity Sensor	Operating range: 20 - 95 % RH Temperature: 0 - 60 Celsius Power supply: 1.5V AC (Max sine) Operating frequency: 500Hz - 2kHz	10	Consumable
52	Internet of Things & Sensors	MQ Series	MQ- 2 Smoke Detection MQ-3 Alcohol - Ethanol Sensor MQ-4 Methane Natural Gas Sensor MQ-5 Methane Liquified Gas Sensor MQ-6 Liquified Petroleum Gas Sensor MQ-7 High Sensitivity CO Carbon Monoxide Sensor Detector MQ-8 Hydrogen Gas Sensor MQ-135 Air Quality Sensor	3 3 3 3 3 3 3 3	Consumable
53	Internet of Things & Sensors	IR transmitter/ receiver	TSOP 1738 Switching rate: 38 KHz Voltage Rating: 5V	10	Consumable
54	Internet of Things & Sensors	Ultrasonic Sensor Module HC-SR-04 or compatible	Working Voltage - DC 5V Working current - 15 mA Working Frequency - 40 Hz Range - 1 cm to 4 m Effectual Angle - <15° Measuring Angle - 30° Resolution - 0.3 cm	40	Consumable
55	Internet of Things & Sensors	Triple Axis accelerometer-	3-axis sensing Small, low profile package 4 mm × 4 mm × 1.45 mm LFCSP Low Power: 350 µA (typical) Single-supply operation: 1.8V to 3.6V	10	Consumable

			Temperature stability		
56	Internet of Things & Sensors	PIR Motion Detector Module	High digital pulse when motion detected Low digital pulse when idle /no motion detected Sensitivity range (up to 6 m) Power supply: 5V - 12V	20	Consumable
57	Internet of Things & Sensors	Pulse Rate Heart Sensor	Pulse Rate Sensor Finger Based (finger or earlobe) Working voltage 3-5V	4	Consumable
58	Internet of Things & Sensors	Relay Module	5V 10A - 2 Channel Relay Module. Compatible with Arduino.	20	Consumable
59	Internet of Things & Sensors	Relay Module	5V 10A - 1 Channel Relay Module. Compatible with Arduino.	20	Consumable
60	Internet of Things & Sensors	Big Sound microphone module	Large Electret capsule sound module	10	Consumable
61	Internet of Things & Sensors	Soil Moisture Sensor module	FC-28 with LM293 comparator Operating Voltage: 3.3V to 5V.	6	Consumable
62	Internet of Things & Sensors	Touch Sensor	Capacitive Touch Sensor Module. TTP22X series. Voltage Range: 2.4V to 5.5V	6	Consumable
63	Internet of Things & Sensors	Metal Touch Sensor Module	KY-036 or equivalent metal touch sensor module	6	Consumable
64	Internet of Things & Sensors	Rain Drop Sensor	Rain Sensitive, Rain Drop Detection Sensor Module. Voltage Range: 3.3V to 5.5V. Size: 5mm X 40mm or equivalent.	6	Consumable
65	Internet of Things & Sensors	Flex Sensor	Flex Sensor. Size - 2.2 Inches	6	Consumable
66	Internet of Things &	Temperature Sensor	LM35 Full range temperature sensor. Voltage Range: 4V to	6	Consumable

		Sensors		30V. Error: ±0.5°C		
67	Internet of Things & Sensors	Temperature and humidity sensor module	DHT 11 Voltage Range: 3V to 5V	**40**	Consumable
68	Internet of Things & Sensors	Force Pressure Sensor	Force sensitive resistor with a square, 1.75x1.5" sensing area	**4**	Consumable
69	Internet of Things & Sensors	Colour Recognition Sensor	TCS3200 Colour Recognition Sensor	**4**	Consumable
70	Internet of Things & Sensors	Water Flow Sensor	Arduino Compatible Water flow sensor. 5V DC Input.	**4**	Consumable
71	Internet of Things & Sensors	Sound Sensor	Sound Sensor Module, Microphones module	**10**	Consumable
72	Internet of Things & Sensors	IR Sensors Array module for Line Following	8 IR Sensors Array module for Line Following Operating Voltage: 5V	**10**	Consumable
73	Internet of Things & Sensors	Power Bank	10000 mAh 5-volt Power Bank	**5**	Consumable
74	Internet of Things & Sensors	RFID Reader-Tags	Current :13-26mA / DC 3.3V Idle Current :10-13mA Sleep Current<80uA Peak Current<30mA Operating Frequency: 13.56MHz<30mA Read range between 20cm to 1m	**10**	Consumable
75	Internet of Things & Sensors	RF Modules Tx & Rx 315 MHz ASK	Frequency Range: 433.92/315 MHz Supply Voltage: 3 - 6 V Output: 4 - 16 Dbm Low power consumption Easy application	**10**	Consumable

76	Robotics	Stepper motor with Driver board	28BYJ-48 ULN2003 5V Stepper Motor + ULN2003 Driver Board	**10**	Consumable
77	Robotics	DC motor	12V DC Gear 150 RPM	**20**	Consumable
78	Robotics	Servo motors	Position Servo Angle based Metal Gear Small Servo Metal Gear Continuous Metal Gear Servo 360 Small Servo Plastic Gear	**10** **10** **10** **40**	Consumable
79	Robotics	150 RPM BO Motor	150 RPM BO Motor	**10**	Consumable
80	Robotics	L298P Motor Driver	L298P Motor Driver Shield or relative Driver Shield	**10**	Consumable
81	Robotics	Servo Motor Tester	CCPM 3 channel Servo Tester	**4**	Consumable
82	DIY Kit	Robotics DIY Kit	Robotics DIY kit with programmable intelligent brain/brick.	**3**	Equipment
83	DIY Kit	Mechanical (Modular) Construction kit	Metal/plastic mechanical construction kit compatible with electronic equipment.	**5**	Equipment
84	STEM Learning/ Application Kit	Educational Purpose	Drone Kit Aerospace Kit Automobile Kit Bio-Medical Kit Agri-Tech Kit Water/ Sanitation Kit Bio Tech Kit Other Potential STEM Application Kit	**1** **1** **1** **1** **1** **1** **1** **1**	Equipment

Package 2: Rapid Prototyping Tools

Sr. No	Category	Name	Specification	Qty	Type
1	Rapid Prototyping	3D Printer Kit and	Printer Type: FDM (Fused Deposition Modelling),	**1**	Equipment

		Tools	tools	Minimum Dimensions: 160mm *160mm *160mm Build Size or 4 litre Build Volume., Nozzle: 0.3mm to 0.4mm nozzle diameter, slicing software should be free or Open source, LCD Screen UI that display print metrics, Good Heated Print bed. Material Compatibility - PLA, ABS, and derivatives of PLA, Ninjaflex Quality Anti-bacterial/fungal Cover. Repair Kit - with spare springs, screws, keys, tweezers, etc.		
2	Rapid Prototyping Tools	Dedicated UPS/Power back up	Dedicated UPS/Power Back up with 2-hour battery backup	1	Equipment
3	Rapid Prototyping Tools	Filament for 3D printer	Compatible 1000 Grams Filament in 5 different colours	5	Consumable
4	Rapid Prototyping Tools	Filament Storage Box	Compatible Filament storage box	5	Consumable
5	Rapid Prototyping Tools	Set of Arts & Crafts Accessories - e.g.- stationary items and basic prototyping material	Cardboard Foam core boards 20m spool of thick strings various colour Rubber band Popsicle sticks Wood glue - 500 ml	5 5 5 100 100 2	Consumable

Package 3: Mechanical, Electrical and Measurement tools

Sr. No	Category	Name	Specification	Qty	Type
1	Mechanical	Hacksaw	Size: 12 inches	1	Equipment

		Tools	Frame			
2	Mechanical Tools	Hacksaw blades	Size: 12 inches	10	Consumable
3	Mechanical Tools	Mini Hacksaw Frame	Size: 6 inches	1	Equipment
4	Mechanical Tools	Mini Hacksaw blades	Size: 6 inches	10	Consumable
5	Mechanical Tools	Pliers: 4.5-inch size	External Straight Nose Circlip Plier Long Nose Plier Combination Mini Plier Wire stripping pliers Bent nose plier Needle nose pliers	1 1 1 1 1 1 1	Equipment
6	Mechanical Tools	Tweezer Set	6 Pc Non-Magnetic Tweezer Set Size - 6 inches	2	Equipment
7	Mechanical Tools	Ball Pein Hammer	Ball Pein Hammer Weight - 0.75kg	1	Equipment
8	Mechanical Tools	Steel Shaft Claw Hammer	Claw Hammer Steel Shaft Weight - 0.75kg	1	Equipment
9	Mechanical Tools	C-Clamp	Metal Clamp: 3-inch size	4	Equipment
10	Mechanical Tools	Allen Key Set	10 Piece Ring Imperial Allen Hex key	1	Equipment
11	Mechanical Tools	Drill Machine Set	Drill Machine with accessories Hammer/Screw and clockwise/ anticlockwise modes. Power: 500W Chuck capacity - 1 to 10 mm Drill Bits - Masonry, Metal, Wood	1	Equipment
12	Mechanical Tools	Drilling Workstation	Drill Press, Drill Holder and Rotary Tool, Compatible with Drilling machine provided	1	Equipment
13	Mechanical Tools	Spanner Set	12-piece combination Spanner Set Range - 4 mm to 30 mm	1	Equipment
14	Mechanical Tools	Vice Normal	Table top vice	1	Equipment

15	Mechanical Tools	Precision Screw Driver Set	6 Piece Precision Screw Driver Set Types: PH0, PH1, Flat head - 1.4mm, 2mm, 2.4mm, 3mm	2	Equipment
16	Mechanical Tools	Wrench	Adjustable Universal Wrench	2	Equipment
17	Mechanical Tools	Wire Strippers Screwdriver	Wire Stripper Cutter Plier With Spring -26x6x20 cm (LxWxH)	5	Equipment
18	Mechanical Tools	Cordless Rotary Multitool Set	40 pc Multi-purpose screwdriver set	3	Equipment
19	Mechanical Tools	Air Blower	Cordless Rotary multitool with all cutting, grinding, polishing, engraving and drill bits. Speed: Adjustable up to 30000 RPM Battery Type: Li-ion Voltage/current range : 8- 10V, 0-2 A	1	Equipment
20	Mechanical Tools	Drill Bit Set	500 W or more. Variable speed blower	1	Equipment
21	Mechanical Tools	File set	High Quality 13 Pcs HSS Drill Bits Set for Wood, Iron, Aluminium, Plastic etc.	1	Equipment
22	Mechanical Tools	Mini File set	6 pc file set Working length - 6 inch	1	Equipment
23	Mechanical Tools	Flexible	6 pc mini file set Working length - 3 inch	1	Equipment
24	Mechanical Tools	Cutting Mat	A3 Size with Marked Pattern and Grids (18" X 12")	1	Equipment
25	Mechanical Tools	Plastic Storage Drawer/ organizer	Number of Drawers: 60 or equivalent Drawer size (l*w*d) (inch):2*2*5	2	Equipment
26	Mechanical Tools	Pegboard	Peg board System to mount tools on wall with attachments. Size: 3ft*2ft	2	Equipment
27	Electric Tools	Hot glue gun	Works with standard 0.5- inch glue sticks. Temperature - 230 to 280 degree Celsius.	4	Equipment

28	Electric Tools	Digital Oscilloscope	Minimum Bandwidth: 50 Mhz. Minimum number of channels: 2 channels. Sample Rate: 1Gsa/s With inbuilt waveform function generator.	1	Equipment
29	Electric Tools	Soldering Kit	Variable Wattage of Soldering Iron: 15-30 watts/230 volts Soldering Iron Temperature Range: 280°C to 450°C De-Soldering Pump, Soldering Flux (Paste) 100 grams, DE-soldering Copper Braid (Solder Wick) - 1.5m*2mm Compatible Soldering Tip - Bevel, Chisel, Conical - 5 each per kit. Soldering Wire: 20/22 AWG soldering Wire with rosin core flux (100 Grams)	4	Equipment
30	Electric Tools	Adapters	DC power Adapter with 5V, 2A	10	Consumable
31	Electric Tools	Adapters	DC power Adapter with 12V, 2A	10	Consumable
32	Electric Tools	Electric Screw Driver Set	Multipurpose Electric screwdriver set. Accessories - Compatible bits Mode - Wireless Battery - Li-ion 3.6V or equivalent with charging dock	1	Equipment
33	Electric Tools	Dual Temperature Heat Gun	1800 W Dual Temperature Heat Gun	1	Equipment
34	Electric Tools	Soldering Helping hand	Specifications: Adjustable crocodile holding clamps/clip. Soldering iron holder. LED light. Magnifying lens.	4	Equipment
35	Measurement Tools	Return measuring tape	Return measuring tape 5Mx19mm	2	Equipment
36	Measurement Tools	Stainless Steel Rule	Stainless Steel 12" / 150 mm Rule	5	Equipment
37	Measurement Tools	Digital Vernier Calliper	150 mm / 6" Digital Vernier Calliper	2	Equipment

38	Measurement Tools	Spirit Level	12" Spirit Level	1	Equipment
39	Measurement Tools	Digital Pen electric Tester	Voltage tester	1	Equipment
40	Measurement Tools	Digital Multi Meter	Digital Multi Meter Voltage Current Resistance-7 functions + 19 ranges to cover DC voltage 200mV to 1kV, AC voltage 200 V - 750 V, DC current 200 µA - 10 A Resistance 200 -2 M Ohm and Transistor & diode test.	5	Equipment
41	Biology Kit	DIY Paper Microscope	DIY Paper microscope. Magnification range - 100x to 2000x	5	Equipment
42	Astronomy Equipment	Telescope	All glass optical components Altazimuth mount suitable for terrestrial and astronomical use minimum 700 mm focal length	1	Equipment
43	Textile Equipment	Sewing Kit	Semi-Automatic Sewing machine Straight stitch Consumables - 2 set of assorted needles and 10- color spool set.	1	Equipment

Package 4: Power Supply, Consumables, Accessories and Safety Equipment

Sr. No	Category	Name	Specification	Qty	Type
1	Power Supply & accessories	Glue Sticks	11 mm x 200mm Hot Melt Glue Stick	100	Consumable
2	Power	Nuts and	Specs - M4X12MM M4X20MM	40	Consumable

		Supply & accessories	Bolts and screw	M5X16MM M5X25MM M6X20MM		
3	Power Supply & accessories	Cable Tie	Small Cable Tie Pack - Pack of 100 Medium Cable Tie Pack - Pack of 100 Big Cable Tie Pack - Pack of 100	10 10 10	Consumable
4	Power Supply & accessories	Sand Paper	Grit Values - 80, 100, 120, 200, 300. 5 Nos of each	10	Consumable
5	Power Supply & accessories	Power Strip Adaptors	Standard Quality Extension with 5Amp safety fuse. 5 or more sockets in each extension. 5-meter length of each extension.	5	Consumable
6	Power Supply & accessories	Bulb Holders	Regular Hanging Bulb holder	10	Consumable
7	Power Supply & accessories	Electric Wires	Twisted Red black pair	20 meters	Consumable
8	Power Supply & accessories	USB TO DC jack cable	USB to DC jack cable for Battery bank	10	Consumable
9	Safety equipment	First-Aid Kit	Standard Medical First Aid kit in portable container.	2	Consumable
10	Safety equipment	Fire extinguisher (handy units)	Powder Type Fire Extinguisher 2KG	2	Consumable
11	Safety equipment	Safety goggles (with/ without LED torch)	Polycarbonate Safety goggles Clear lens with no tint	30	Consumable
12	Safety	Safety	Latex Coating Gloves (Medium	10	Consumable

		Gloves Pairs	Size)		
13	Safety equipment	Safety Mask	Filtering efficiency ranging 80 percent when tested against 0.3-micron sodium chloride particle	**20**	Consumable

Package 5: Minimum Specification of Laptops

Sr No	Particulars	Description
1.	**Processor**	Intel® Core™ 5 processor 120U (12MB cache, 10 cores, 12 threads, up to 5.0 GHz) or Higher
2.	**Memory**	16 GB: 5200 MT/s or Higher
3.	**Storage**	1TB M.2 PCIe NVMe Solid State Drive
4.	**Operating System**	Genuine Windows 11 preloaded from factory and should be listed in OEM website along with the hardware
5.	**Video Card**	Intel® Graphics
6.	**Ports**	2 USB 3.2 Gen 1 (5 Gbps) ports 1 USB 3.2 Gen 2 (10 Gbps) Type-C with Power Delivery and DisplayPort 1 headset (headphone and microphone combo) port 1 HDMI 1.4 port∗ 1 power-adapter port
7.	**Slots**	1 SD-card slot
8.	**Camera**	Integrated HD Camera with dual or digital microphone or Higher
9.	**Audio and Speakers**	Stereo speakers and Dolby Atmos Core, minimum 2W x 2 = 4W total
10.	**Wireless**	Integrated wireless b/g/n and Integrated Bluetooth 5.0 or Higher
11.	**Display Size**	14", FHD+ 1920x1200, Min. 60Hz, IPS, Anti-Glare
12.	**Battery**	Min 54 Wh, integrated Power: 65W AC adapter Power Button with Fingerprint Reader
13.	**Package**	pre-loaded with latest legal version of Microsoft Office Home and Student 2021
14.	**Security Software**	3 Years Pre-Loaded with Latest version of Antivirus - McAfee
15.	**Support Services**	3 year comprehensive onsite warranty including Battery

16.	**Body**	Metal built
17.	**Max weight**	1.6 Kg

Package 6: Minimum Specification of Printer

Sr No	Particulars	Description
1	Speed	20 ppm or more A4
2	Memory	Minimum 64 MB expandable up to 128 MB
3	Print Technology	Monochrome Laser
4	Print Resolution	Minimum 600 x 600 dpi
5	Automatic Duplex Printing	Yes
6	Language Support	PCL 6, PCL 5, Postscript Level 3 Emulation, Direct PDF Printing
7	Trays Paper Input **Capacity** Paper Output **Capacity**	Minimum 100 sheets Minimum 100 sheets
8	Media Size	A4
9	Media Types	Plain, preprinted, letterhead
10	Ports	USB 2.0/3.0 Port
11	Networking	Ethernet 10/100 BaseTX
12	Network Protocols	TCP/IP : IPV4
13	Operating Systems Supported	Windows, Mac
14	Installation	a. Onsite Installation b. Vendor shall get the Serial No. registered on OEM portal on behalf of CDOT c. Affix sticker with warranty commencement, expiry, service contact details
15	Warranty	a. Comprehensive - 3 Years onsite from the date of installation/acceptance by school. b. Warranty Card to be provided mandatorily c. Vendor should clearly indicate the parts covered under warranty and parts that are not covered.
17	Cables, drivers and other accessories	a. Vendor should provide the required interface cable supported by the printer. b. Required Software drivers and accessories should be provided by the vendor

Package 7: Minimum Specification of Robotic Equipment

S.N.	Item	Minimum Technical Specification	Item Type	Quantity
1	Programmable Robotics	Programmable robotics kit for learning by doing. Using the kit students should be able to create 10+ different configurations of robots. The Kit should have multifunctional models like - a Obstacle Avoider, b) Edge Detector, c) Ball Kicker, d) Hammer, e) Line Follower, f) Remote Car, g) Maze Solver car h) pick and place etc. Structures for making functional models/projects should be included in the kit. Should be Programmable. The programmable CPU must have at least 8 analog input pins & 8 digital I/O pins with AVR architecture, and powered by 5V-9V power bank. It should have sensors like Ultrasonic Sensor & I Sensor for obstace detection. The kit Should include servo motor, 150 RPM Motor, Bluetooth HC05/HM10 Bluetooth for communication, L293D Motor Driver, RGB LED, Buzzer, Notch Pliers, Mini Screw Driver, etc. The PCB boards must have handling protection like rubber/plastic costumes with openings for connection. The kit should be modular in such a way that all the functional components can be connected via snap connectors like FRC, JST & USB. Kit should have assembly manual in form of Booklet/Chart and online assembly & programming videos in English & Hindi Language,	Capital	8
2	Mechanical Construction Set	Should have Remote Control (Must be with DPDT Switches of 2 and 4 switch mode, Data Cable, Power Distribution Board, 60, 35 and I2 Teeth Spur Gear Wheels attachable with Track Belts, Track Belts, Bolts, Pulley,	Capital	3

		Different size Gears, 150 RPM Motors , Plates, Nits, Bolt and other equipment's.		
3	Sensor Kit	Different types of sensors (Capacitive Touch Switch, Triple Axis Magnetometer, Humidity Sensor DHT I I, MQ 4, MQ3, MQ 7, MQ 2, MQ135, PIR Motion Sensor, Pulse Rate Heart Sensor, Soil Moisture Sensor, Metal Touch Sensor, Rain Drop Sensor, Temperature Sensor, Force Pressure Sensor, Color Recognition, IR Sensor)	Consumables*	3
4	IoT & Home Automation Kit	This kit should be reprogrammable & should offer opportunity to explore and innovate in the field of Cloud Computing and Internet. The Kit should have microcontroller based programming board having 32 bit/8266 Architecture, clock speed of 80 MHz, operating voltage 3.3 v, 11 Digital i/o ports, PWM pin, inbuilt Wi-Fi 802.11 b/g/n Kit Features: 1. DIY Home setup 2. OLED display system 3. Access to Adafruit and Blynk server to control home appliance 4. Battery powered 5. It includes Relay switches to control AC Appliances 6-. It should include - Light Sensor, Temperature-Humdity Sensor, Sonar Sensor, IR Sensor, Moisture Sensor, GPS Device. The Kit should include utility based Metal/Carboard/Wood structures to construct Real World IoT Applications like: Smart Irrigation, Smart Home, Smart Alarm, Pet Feeder, Smart Dustbin, Liquid Dispenser, Wearable IoT - Smart Watch, etc (Atleast 5 Structures) Kit should have assembly manual	Capital	1

		in form of Booklet/Chart and complete step by step tutorial should be made available for students to learn at the ease of Mobile application and using website with over 30+ projects tutorials in Hindi/English language.		
5	3D Printer with 3 D Pens	Extruder - Single extruder Plate Removable plate Print technology - Fused Deposition manufacturing (FDM) Printing Material supported - PLA Layer Resolution - 100 microns Print size metric in MM - 210 x 210 x2l0 Print Area Auto Calibration with Adjustable Screws- Yes Auto Loading with External Filament System- Yes This kit should offer opportunity to explore and stickers 3 D Pens with Drawing Sheets and display unit, Filament – PLA, Anti-clog nozzle, USB cable 100-240 V AC 50/60Hz adapter.	Capital	1
6	Filament	Material- PLA Color - White/ Blue/Black/ Red/Yellow- Weight - 1 Kg	Consumables∗	3
7	Drone	Drone Kit It shall be a classic quad-copter kit which features styled professional left hand throttle. The advance speed switch suits everyone from beginner to experts. It shall come equipped with 6-axis gyro making it more stable. Also shall come with four propellers, Brushless Motors of 40000 RPM or above, ESC 2S/5A, Rechargeable Battery 3.7v/300mAh. Flight time 15 minutes. 2.4 GHz Radio Trans-receiver..	Capital	1
8	Gear Set	Gears of different ratios	Consumables∗	10
9	Water Pump Module	DC 12 V 3W Submersible water pump	Capital	5

10	Bluetooth	HC05 working voltage 5 V	Capital	5
11	GSM	GSM	Capital	2
12	GPS	GPS	Capital	2
13	BO Motor	150RPM	Consumables∗	20
14	DC Motor	DC Motor 100 RPM	Consumables∗	20
15	LDR Module	Photo sensitive Light sensor module	Capital	15
16	Keypad	Universal 16 key switch keypad	Capital	10
17	Joystick Module	Joystick module for Arduino	Capital	5
18	Relay Module 1 Channel	5v 10A	Consumables∗	5
19	Multi Resistor Box	Resistor Set - Multiple quantities each IE,2E2, 4E.7,10F,,22F,338,68E, I0oE, IS0E, I0K, 22K, 33K, 47K,68K, 100K,220K, 330K, ltr,2208, 330F, 47 0F, 560E, 680E LK, 2K2, 3K3,4K7, 6K8	Consumables∗	10
20	Multi Capacitor Box	Capacitor Set - Multiple Quantities each 2PF, I0PF, I5PF, 22PF, 33PF, 47PF, 68PF, 82PF, I00PF, 220PF, 330PF, 470PF, 820PF, IKPF, 1K5PF, 2K2PF, 3K3PF, 4K7PF, I0KPF I04PF	Consumables∗	10
21	DIY Circuits Kit	Circuit kit for students to make their desired circuits over breadboard with the help of electronic components such as 5 mm LEDs ¼ watt resistors, capacitors (10uf, 104), transistors (547,548), Ics (555 Timer) etc.	Consumables∗	5
22	Mini Breadboard	Mini Breadboard	Consumables∗	10
23	9 Volt Battery	9 Volt Battery	Consumables∗	10
24	Linear Voltage Regulator	7805/7812/7809	Capital	10

25	Metal Robot Chassis	To Connect DC Motors	Capital	5
26	Node MCU	Wi-Fi Internet development board module node MCU	Capital	5
27	LEDs (Red)	Regular 5mm 3-5 volt Range	Consumables∗	250
28	LEDs (Green)	Regular 5mm 3-5 volt Range	Consumables∗	250
29	LEDs (Blue)	Regular 5mm 3-5 volt Range	Consumables∗	250
30	LEDs (Yellow)	Regular 5mm 3-5 volt Range	Consumables∗	250
31	LEDs (White)	Regular 5mm 3-5 volt Range	Consumables∗	250
32	RGB LEDs	Regular 5mm 3-5 volt Range	Consumables∗	50
33	Jumper Cable	40 pin Strip, 20cm length	Consumables∗	600
34	Hookup Wires	Hookup Wires	Consumables∗	2
35	Push Button Switch	Push Button Switch	Consumables∗	50
36	555 Timer IC	555 Timer IC	Consumables∗	10
37	Battery Clip with DC Jack	Battery Clip with DC Jack	Capital	10
38	Power Bank	Power Bank	Capital	2
39	Screw Driver Set	Screw Driver Set	Capital	2
40	Return measuring Tape	Return measuring Tape	Consumables∗	5
41	Hot Glue Gun	Glue Gun	Consumables∗	5
42	Soldering Station	Standard Quality Soldering station with Soldering Wires	Capital and Consumables∗	1
43	Glue stick	11 mm x 200mm Hot Melt Glue Stick	Consumables∗	10
44	Cable Tie	Cable Tie Big in pack of 100	Capital	10

45	Power Strip Adapter	Standard Quality Extension	Capital	2
46	Safety Goggles	Polycarbonate Safety goggles Clear lens with no tint	Consumables*	10
47	Safety Gloves Pair	Latex Coating Gloves (Medium Size)	Consumables*	10
48	Safety Mask	Filtering efficiency ranging 80 percent when tested against 0.3-micron sodium chloride particle	Consumables*	10
49	First Aid Kit	Standard first aid kit	Consumables*	2
50	Programming Software	Arduino, Processing, M-Block, Scratch, TinkerCAD, App Inventor, Scratch, EagleCAD	Software	Each Lab
51	Coding Kit Brain with Sensors	An all in one platform compatible to embedded system development, prototyping, IOT with embedded C and easy to do connection using RJ 11 cables. A brain board with 8-bit inbuilt microcontroller to connect with Digital I/O devices and 6 Analog I/O devices. The kit should have inbuilt wireless enabled using 2.4 GHz wireless trans receiver and LCD.	Capital	5
52	Alligator Connectors	Multicolor alligator connectors	Consumables*	100
53	Piezoelectric Plate	Piezoelectric Plate	Consumables*	10
54	Laser Diode	Laser Diode	Consumables*	10
55	Lab Cupboard	60" × 36" × 22". One shelf in Cupboard with door lock.	Capital	1
56	Lab Wall Cabinet	30" × 24" × 22". One shelf in wall Cabinet with door lock.	Capital	2

| 57 | Lab Work Bench | Black Granite Top, Made of Steel. Painted or Powder Coated. 5 Electrical Sockets of 5 amps or 16 amps, Options for Electrical Raceway on the Table. With Storage Space below.

24 Inches Broad, 30-Inches-Deep, 36 Inches Tall. | Capital | 4 |
|----|----|----|----|----|
| 58 | Fire Extinguisher | Dry Chemical 6 Kg Fire Extinguisher (ISI Marked, Certified, Approved) Cylinder. Dimensions 53 x 17 x 17 cm | Capital | 1 |

Package 8: Minimum Specification of Drone Equipment

Sr. No	NAME	SPECIFICATION
01	Commercial Drones along with manual	IZI Advance 2.0MP Wifi 720P 120° Wide Angle Camera Drone FPV Quadcopter with Remote Controller
02	Commercial Drones along with manual	Syma X5SW Explorers 2 Wifi Headless Mod FPV RC Quadcopter 0.3MP Camera 2.4GHz 6-axis 360 Degree Eversion RTF - Black
03	Custom made Drones along with manual	Hex copter with 1080 HD camera, transmitter and receiver with autopilot, 7 inch ground display and control unit & GPS
04	Custom made Drones along with manual	Plastic Quad copter with propulsion kit
Micro Quad copter kit
05	Custom made Drones along with manual	Fixed Wing UAV with 2.4 GHz, digital six channel transmitter with HD camera
06	Thrust measuring stand	Generic Color:- Clear
Ean:- 8903627869130
Included Components Switch
Model Number1168758 Number of Items 1
Part Number 1168758 Size Standard
Voltage 60 volts
07	Magnetic Propeller balancer	ITEM NAME:1Pc
Magnetic Propeller Prop Balancer Carbon Fiber for Remote Aircraft FP_hg.Item:Magnetic Propeller Prop Balancer for Quadcopter/Multi- Rotor Copter/Airplane.

		Tapered propeller holder, automatically align the propeller to shaft center. High Sensitivity Propeller Balancer. 1 x Prop Balancer.
08	Digital Caliper	Brand Name:- Corceptive Colour:- silver Ean:- 5050491848822 Finish Type:- Stainless Included Components:- Case Item Thickness:-150.00 millimeters Material:- Stainless Steel Model Number:- GC-3 Number of Items:- 1 Part Number:- CL-4 Power Source Type cell Size medium
09	Anemometer	Displays Air Velocity and Temperature at the same time. Has facility to measure wind flow. Highly Sensitive and accurate. Temperature sensor built- in with anemometer Fan. Low Power Consumption. Data Hold and Max / Min record facility. Auto power Off. Low Friction ball bearing vane wheel for high accurac. 20 point averaging is done for airflow measurement. Extra Large Dual LCD Display. Range of Wind Speed in m/s: 0.40 to 30.00m/s with an accuracy of ±3%. Range of Wind Speed in ft/min: 80 to 5900ft/min with an accuracy of ±3%.Range of Wind Speed in Km/hr: 1.4 to 108.0 Km/h with an accuracy of ±3%. Range of Wind Speed in mph: 0.9 to 67.0mph with an accuracy of ±3%. Range of Wind Speed in knots: 0.8 to 58.0 Knots with an accuracy of ±3%. Range of Air Flow in CFM: 0 to 9999 CFM with an accuracy of ±3%. Range of Air Flow in CMM: 0 to 9999 CMM with an accuracy of ±3%. Range of Temperature: -10° to 60°C / 14.0° to 140.0°F; Accuracy: ± 1.5°C / °F.
10	Laser Tachometer	99999; Speed Line Measure Range: 0.05 to 99.99 100.0 more; Resolution: 0.1 RPM or 1 RPM 0.01 M per minute, 0.1 per minute; Laser or photoelectric measure range 5 centimeter to 60centimeter; Express Function: Display 5 digital LCD display the subtitles LCD display the subtitles photoelectric measure range 5 centimeter to

		60 centimeter; Express Function: Display 5 digital LCD display the subtitles 10 millimeter; Maximum or minimum or last data refer; Auto power off Standard Accessory: User's manual gift box reflective paper (9 centimeters x 2) tapered adapter funnel-shaped adapter and wire-speed ferry Battery type AA1.5V×4 Detecting Distance : 2 to 20 inch.(for non- contact type)
11	Multimeter	Clear LCD display. Comfortable protective cover with test lead hanging groove. 2 meters drop test, precision protection. Loud buzzer sound; Ergonomic design. DC voltage (V)200mV/2V/20V/200V/ 600V; Accuracy ±0.5%＋2. AC voltage (V)200V/600V±; Accuracy 1.2%+3. DC current (A)2000μA/20mA/200mA /10A; Accuracy ±1%+2. Resistance (Ω)200Ω/2kΩ/20kΩ /200kΩ/20MΩ/200MΩ; Accuracy ±0.8%+2. 2000 count LCD Display. Auto power off/Auto backlight off. Diode test/Continuity buzzer. 2m drop test. Safety Rubber Holster with Test probe holder. Non-contact voltage detection. Ideal for Home, Students, Colleges, Manufacturing and DIY Projects.
12	Electronic Hanging Balance	AC Operating Voltage - 230V, 50 Hz, 10% DC Operating Voltage -9 V, 1 Amp∗ Battery type - 4 V, 4.5mAh 4 V Operating Temperature - 0 to 40 Celsius Auto Tracking Zero Auto Power Saving Feature Common Cathode/Anode Display 100% overload protection architecture Battery Back-up up to 25 hours Auto Calibration facility A to D converter with 40 pin programmable IC 32-bit expandable architecture with Advanced PLU logic systems Piece counting Function Available Digital overload indication with 100% tare functionality Ultra Powder coating body with 90+ micron Digital auto

		Calibration Optional Remote/Wi-Fi Display available. Sleep Mode for extended Battery Life Printer output is Optional
13	Magnetic Tray	Stainless steel tray with powerful magnets on base for affixing onto metal objects such as vehicle bodies, toolboxes etcmagnets are rubber coated in order to avoid scratches Magnetism transfers to the inner surface of tray to hold small metal parts, tools, nuts, bolts etcwhile working ensuring that parts are not lost Size 360 X 158 X 40 mm
14	Soldering Kits - Basic and Battery powered	Cordless, compact, portable iron is ready to power on and solder, wherever you are One charge provides 45 minutes continuous soldering or 1, 100 solder joints Round, co-molded handle designed for comfort Zero in on your solder joint with confidence with the first soldering iron to use LED illumination on your application Reaches 536 °F, solder melting point, in 35 seconds (goes up to 950 °F)
15	Hand Driller Kit	Brand new electric drill. High quality and efficient electric grinding set. Curved design ergonomic handle, comfortable for use. Mini portable electric grinder, light weight, very convenient to carry with. Package include 1∗Electric Drill Grinder, 1∗Power Adapter, 4∗Stone Mill and 5∗Clamp, 5∗ Drills
16	Glue Gun	Suitable for paper and crafts purposes only Glue gun will not heat up enough to melt glue in AC Compatible glue stick thickness: 11 mm Take 5 to 8 minutes to heat
17	Cutting mat	Brand HOME BUY Colour green Material Rubber Product Dimensions 5L x 5W x 5Th Centimeters Shape Rectangular

		Item Weight 1.35 Pounds Number of Items 1
18	Allen Key set	Allen Key Set SIZE:- 1/16- 5/64-3/32-1/8-5/32-3/16-1/4-5/16-3/8" Long Ball Type
19	Screw Driver set	Precision machined cr-v bits made of chrome vanadium (white nickel plated) coated high grade steel Steel bits with smooth sandblasted finish offer durability and corrosion- resistant performance Includes 53pc screwdriver bits, 35pc security screwdriver bits, 12pc screwdriver nut bits, 24pc precision screwdriver bits, 1pc Ratchet Screwdriver handle, 1pc Magnetic extension bit holder, 24pc precision screwdriver bits set with case, 1 mini plier
20	Plier set	Brand AIW Model Name Multipurpose Plier Model Number Plier set -5 Type Pincer Color Multicolor Handle Material Rubber Body Material Iron Sheath Included No Finish Matt Designed For Cutting wire, Holding Object, Flat Cutting Number of Tools 5 Type of Tools Handwire Cutter
21	Hammers	Made in India Ideal for DIY, Home Improvement, General Repairs, Maintenance, Construction, Woodworking, Metalwork and more 3pc Home Value Toolkit: Claw Hammer (450 GMS), Sledgehammer (2lb), Cross-Pein Hammer (300 GMS) Ergonomic Anti-Slip and Anti-Shock Fiberglass Core Handle Usage: Sledgehammer (Surface Hardening & Driving Chisels), Cross- Pein Hammer (Nails, Chisels & Rivets), Claw Hammer (Driving/Removing Nails
22	Hacksaw	Material: Others, Color: Yellow Item Dimension: 200 x 50 x 100 cm No Warranty Bipico hack saw frame With 5 hack saw blade carbon Durable and useful

23	BL DC Motor	Max. Efficiency Current: 6- 12A
		The steel design is capable of withstanding competition conditions. Lightweight design makes them suitable for a wide range of Quad copter and Hexacopter Frames. Smooth throttle response for best RC experience.
24	Electronic Speed Controller	CONNECTORS:- BATTERY SIDE - MALE DEANS (T) CONNECTOR MOTOR SIDE - FEMALE 3.5MM GOLD CONNECTOR WEIGHT: 23g DIMENSIONS: 45 x 24 x 9 mm(LxWxH)
		Color: Yellow CURRENT (A): 30A
		Li-Poly: 2-3 Ni-Mh/Ni-CD:
		4-10 Ni-Mh
		Break On/Off Auto Low BATTERY Slow down at 3.0V/cell Lipo, cut-off at 2.9V/cell lipo APPLICATION: Multirotors, Rc Airplanes,
		etc.
25	LiPo Battery	Model No: 2200/3S-30C Voltage: 11.1V
		Max Continuous Discharge: 30C(66.0A) Balance Plug: JST-XH Charge Rate: 1-3C Recommended, 5C Max
26	Battery charger	The B3 Compact charger is a convenient charger for 2S and 3S battery packs. it has inbuilt power supply which can be powered with 100-240V AC. No additional power supplies or 12V batteries are needed.
		Built in power supply	Automatic charge start	Simple	Reliable	Safe to use
		LxWxH : 88 x 57 x 35 mm The B3 Compact charger can be easily used for 2S and 3S battery packs. B3 makes an ideal pocket- sized charger to keep in your field box.
		Input Voltage : 100-240V AC Balance Charge Current : 850mA/Cell Battery Type : Lithium- Ion/Lithium Polymer Cell Cut Off Voltage : 4.2V + 0.02V Cell Count : 2-3 Cells Charge Current : 1.2A Max Circuit Power : 11W + 10%
27	LiPo Battery Checker	1-8s Lipo Battery Voltage Tester, Low Voltage Alarm Mode for 2-8S, Function of Checking Your Lipo Cells Voltage Use for 1-8s Lipo/Li- ion/LiMn/Li-Fe,Automatic Protects Against Reverse Connection

		Voltage Display Function and Low Voltage Alarm Funtion Protect the Battery from Overcharging or Overdischarging When the Voltage is Below the Set Value,It Will Buzzer with Red LED Light,Pre-set Value 3.3V.Push Key which Can Change the Voltage Settings and Save
28	Propellers	This is a set of 2 pairs of 1045 Propellers. It includes one clockwise rotating and one counter- clockwise rotating propeller with 2 x propeller shaft adapters. These are high-quality propellers specially designed for multi- copters. Perfect for use in twin and multiple motor RC airplanes or coaxial RC helicopters | Strong | Lightweight | Use with DC motors | Great lifting capacity Propeller Length:10 inches length The propellers are strong and lightweight which are well suited lower RPM motors and slow flying drone models. These are designed to provide the best aerodynamic efficiency and great lifting capacity. The propellers offer smooth flights with longer flight times perfect for FPV and aerial photography. With a high kV motor (more than 1200 kV), this propeller offers fast flights perfect for acrobatic flights. Propellers Number of propellers:4 propellers Material:ABS and glass fiber plastic Pitch:4.5 inches per revolution Thrust @ 3S with 1045 propeller:800gms approx
29	Arducopter Flight Controller with GPS	APM 2.8 Multicopter Flight Controller is an upgraded version of 2.5, 2.6; with a Built-in Compass for FPV RC Drone. The sensors are exactly the same as the APM 2.6 flight controller; however, the module has the option to use the built- in compass an external compass via a jumper. This makes the APM 2.8 ideal for use with multi- copters and rovers. The APM 2.8 Multi copter Flight Controller is a complete open source autopilot system. This is the best selling technology that won the prestigious Outback Challenge UAV competition. It allows the user to turn any fixed, rotary-wing. In addition, it turns multi rotor vehicle (even

		cars and boats) into a fully autonomous vehicle. meanwhile, it is capable of performing programmed GPS missions with waypoint.
30	Arduino Uno Micro controller	Microcontroller: ATmega328P. Operating Voltage: 5V. Input Voltage: 7-12V. Digital I/O Pins: 14 (of which 6 provide PWM output). Analog Input Pins: 6. DC Current: 40mA. Flash Memory: 32 KB. SRAM: 2 KB. EEPROM: 1 KB. Clock Speed: 16 MHz.
31	Ultrasonic Sensor (upto 400 cm)	Operating Voltage of 5V Range - 2 cm to 400 cm Resolution : 1 cm Beam Type: Wide Angle Small size No need of any external circuit for using this sensor.
32	Distance and Gesture sensor module	Operating Voltage: 3.3V - 5V Z-Axis Recognition Range: 10 Inches (~25cm) X-Axis Recognition Range: 6 Inches (~15cm)4 Supported Gesture Commands I2C or UART Communication
33	Raspberry Pi kit	Quad-Core 64-bit Broadcom 2711, Cortex A72 Processor Dual-Display Micro HDMI Ports which supports H 265 Decode for 4K Video @60p LAN RJ45 10/100/1000 Mbit (Gigabit LAN over USB 3.0) WLAN 802.11 b/g/n/ac (2,4 + 5,0 GHz) Operating Power 5V@3A via USB type-C Port
34	Humidity and Temperature sensor	Low cost, 2.5mA max current use during conversion (while requesting data) 3 to 5V power and I/O, Body size 15.5mm x 12mm x 5.5mm Good for 20-80% humidity readings with 5% accuracy Good for 0-50°C temperature readings ±2°C accuracy No more than 1 Hz sampling rate (once every second), 4 pins with Approximate 0.1" spacing

35	IR proximity sensor	BUY IN ORIGINAL FROM OLatus or OL ELECTRONICS STORE ONLY. WE WILL NOTE SUPPORT FAKE MODULES COMPATIBLE WITH ARDUINO, RASPBERRY PI, ARM, AVR, PIC, 8051, etc. Useful for various Robotic Applications, Object Detection, Visitor Counter, etc Operating Voltage : 5V DC Digital Output : logic one (+3.5V DC) logic zero (0V DC)
36	Gas sensor	This is a simple-to-use hydrogen gas sensor, suitable for sensing hydrogen concentrations in the air The mq-8 can detect hydrogen gas concentrations anywhere from 100-10000ppm Conductivity increase according to flammable gas concentration
37	433 MHz Telemetry	Brand: Generic Module Open source For APM 2.5 2.6 2.8 Data Systems
38	Foldable Air Frame - Aluminum & Glass Fiber	Model S500 Drone Type Quad copter Material Glass Fiber + Poly amide Nylon 500 Landing Gear Color Black Shipment Weight 0.9 kg Shipment Dimensions 35 × 10 × 5 cm Wheelbase (mm)
39	RC Flight Simulator	18 in 1 8CH RC Drone Flight Simulator w/Disk for RC Helicopter Flight Train Colour Beige What is in the box? As shown Material Others Wireless Communication Technology Radio Frequency Condition- New Color as shown Package includes- 1 pcs only