



भारतीय प्रौद्योगिकी संस्थान तिरुपति

Indian Institute of Technology Tirupati

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Telephone: 0877- 2503572, Email: purchase@iittp.ac.in

Tender No. IITT/CIVIL/2022-23/09

29th April, 2022.

NOTICE INVITING TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF DISPLACEMENT TRANSDUCERS AND COMPRESSIVE FORCE TRANSDUCER

(E-PROCUREMENT MODE ONLY)

Indian Institute of Technology Tirupati (IIT Tirupati) invites online bids (e-tender) in Two bid system from eligible **Class-I / Class-II/ Non local suppliers** in line with Government Public Procurement order No.P-45021/2/2017-BE-II dated: 04.06.2020 for the following:

Item Description	Quantity (approx.)	Tender Fee (Inclusive of all taxes in Rs.)
Item 1: Supply, installation, testing and commissioning of Displacement Transducer, 100mm probe as per the specifications of the tender clause 2.1.	10 Nos	500/-
Item 2: Supply, installation, testing and commissioning of Displacement Transducer, 50mm probe as per the specifications of the tender clause 2.1.	10 Nos	
Item 3: Supply, installation, testing and commissioning of Displacement Transducer, 20mm probe as per the specifications of the tender clause 2.1.	06 Nos	
Item 4: Supply, installation, testing and commissioning of Compressive Force Transducer 2MN as per the specifications of the tender clause 2.2.	01 Nos	
Total		500/-

The Tender Document can be downloaded from Central Public Procurement (CPP) Portal <http://eprocure.gov.in/eprocure/app> and bid is to be submitted online only through the same portal up to the last date and time of submission of tender.

“Splitting of quantities and items are not allowed and L1 will be decided on total quoted price”

Critical Dates of Tender:

1	Date and time of Online Publication/Download of Tenders	29.04.2022	18.00 hrs
2	Bid submission start date & time	29.04.2022	18.00 hrs
3	Bid submission close date & time	19.05.2022	15.00 hrs
4	Closing date & time for submission of EMD/Tender fee	19.05.2022	15.00 hrs
5	Opening of Technical bids	20.05.2022	15.00 hrs

1. About IIT TIRUPATI:

Indian Institute of Technology Tirupati (IIT Tirupati) is an Autonomous Institute under Ministry of Education, Govt. of India.

2. Technical Specifications: Schedule of requirement

S.No	Item Description with Specifications																			
1	<p>Detailed Specification for Item No.1, 2 & 3</p> <p>Item 1: Displacement Transducer, 100mm probe - 10nos Item2: Displacement Transducer, 50mm probe - 10nos Item3: Displacement Transducer, 20mm probe - 06nos</p> <table border="1"> <thead> <tr> <th>Sl. no.</th> <th>Specification</th> <th>Requirement</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>General</td> <td> <ul style="list-style-type: none"> The instrument shall be a displacement transducer optimised for linearity and thermal behaviour in the shortest possible length. Overall design of instrument shall be compact for easy handling and space-saving. Instrument shall facilitate reliable measurement over its service life without any appreciable wear and tear. The instrument shall be suitable for long-term monitoring tasks. Bridge shall be directly integrated into the sensor for easy connection to the measuring devices. Transducer shall be capable of resisting pressure and acceleration. Overall weight comprised of transducer body and plunger shall not be more than 150g. </td> </tr> <tr> <td>2</td> <td>Measuring principle</td> <td> <ul style="list-style-type: none"> Transducer type shall be inductive with a probe tip </td> </tr> <tr> <td>3</td> <td>Measurement range</td> <td> <ul style="list-style-type: none"> The measurement range shall be given as follows Item 1: 0-20 mm; Item 2: 0-50 mm; Item 3: 0-100 mm </td> </tr> <tr> <td>4</td> <td>Nominal sensitivity & accuracy</td> <td> <ul style="list-style-type: none"> Sensitivity of instrument shall not be Not less than 80 mV/V with output unloaded. </td> </tr> <tr> <td>5</td> <td>Tolerance</td> <td> <ul style="list-style-type: none"> Zero-point tolerance with core in position shall be less than ± 8 mV/V or better with core zero position Deviation of sensitivity from nominal sensitivity shall not be more than $\pm 1\%$ or better. Linearity deviation shall be in the range of $\pm 0.1\%$ to $\pm 0.2\%$ or better. </td> </tr> </tbody> </table>		Sl. no.	Specification	Requirement	1	General	<ul style="list-style-type: none"> The instrument shall be a displacement transducer optimised for linearity and thermal behaviour in the shortest possible length. Overall design of instrument shall be compact for easy handling and space-saving. Instrument shall facilitate reliable measurement over its service life without any appreciable wear and tear. The instrument shall be suitable for long-term monitoring tasks. Bridge shall be directly integrated into the sensor for easy connection to the measuring devices. Transducer shall be capable of resisting pressure and acceleration. Overall weight comprised of transducer body and plunger shall not be more than 150g. 	2	Measuring principle	<ul style="list-style-type: none"> Transducer type shall be inductive with a probe tip 	3	Measurement range	<ul style="list-style-type: none"> The measurement range shall be given as follows Item 1: 0-20 mm; Item 2: 0-50 mm; Item 3: 0-100 mm 	4	Nominal sensitivity & accuracy	<ul style="list-style-type: none"> Sensitivity of instrument shall not be Not less than 80 mV/V with output unloaded. 	5	Tolerance	<ul style="list-style-type: none"> Zero-point tolerance with core in position shall be less than ± 8 mV/V or better with core zero position Deviation of sensitivity from nominal sensitivity shall not be more than $\pm 1\%$ or better. Linearity deviation shall be in the range of $\pm 0.1\%$ to $\pm 0.2\%$ or better.
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		<ul style="list-style-type: none"> The measurements shall be insensitive to dirt.
6	Operating temperature	<ul style="list-style-type: none"> The instrument shall have good thermal stability in the event of temperature gradients. Operating temperature shall be in the range of -25°C to 80°C or wider. Effect of temperature on zero signal and output signal shall be <math>\pm 0.01\%</math> per °C or better.
7	Resistance	<ul style="list-style-type: none"> Input resistance shall be $350 \Omega \pm 10\%$ or better. Output resistance shall be $680 \Omega \pm 10\%$ or better.
8	Excitation voltage	<ul style="list-style-type: none"> Nominal excitation voltage shall be 2.5Vrms with an operating excitation voltage range of 0.5 - 10Vrms.
9	Carrier frequency	<ul style="list-style-type: none"> Nominal range of carrier frequency shall be $4.8 \pm 1\%$ kHz or better. Operating range shall be $4.8 \pm 8\%$ kHz for LVDT Carrier frequency shall be insensitive to electrical inference.
10	Pressure	<ul style="list-style-type: none"> The max. acceptable pressure range of the instrument shall be greater than 350 bar.
11	Cable	<ul style="list-style-type: none"> Instrument shall be provided with permanently mounted cable of minimum 3m length. It should be extendable to 20m if required without loss of accuracy.
12	Protection, safety and service life	<ul style="list-style-type: none"> The instrument shall be made out of high-quality material resistant to rust. Instrument body shall be tested for resistance to shock and vibrations according to standards, and it shall be within the severity level. <i>Impact acceleration</i>: At least 65g for 3ms. <i>Vibration resistance</i>: 15g Frequency range between 5 to 65Hz Instruments impact resistance shall be tested according to standards, and it shall be within the severity level. The ingress protection class of the instrument shall be IP67 or better according to EN60529. Instrument shall have a service life of a minimum of 10 million cycles or better.
13	Standards	<ul style="list-style-type: none"> The equipment shall build up to good engineering practice and certified quality assurance according to international standards. The equipment shall comply fully with the relevant international and country-specific safety at work legislation.

		<ul style="list-style-type: none"> • Factory acceptance tests should be conducted before delivering the equipment, and the successful proof of the specifications should be certified according to international standards. • Required no. of site acceptance tests should be done and certified depending on equipment configuration. • It should have EMC and ROHS conformity certificate
14	Service	<ul style="list-style-type: none"> • The vendors should provide maintenance based on request. • Required spare parts should be supplied in case of any damage to the parts. • Minimum 1 year and extendable warranty from the completion of installation and commissioning should be provided. • Free support for troubleshooting, questions concerning operation, aids and advice should be provided.
15	Documentation	<ul style="list-style-type: none"> • A technical manual with the complete installation, operating and maintenance instructions, copies of the wiring diagrams and any sensor and controller calibration certificates shall be provided. • All documentation shall use SI units. • Online/web versions of the details specified in sl. no. 1-13 shall be available for reference.
16	Warranty	<ul style="list-style-type: none"> • A minimum one-year onsite warranty from the date of installation, testing and commissioning of Item 1, 2 & 3. Three-year extendable warranty shall be quoted separately in the BoQ for all the items as Optional.
17	Spares and service support	<ul style="list-style-type: none"> • Minimum 5 years Spares and services should be provided for all the items

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Item4: Compressive Force Transducer 2MN – 1nos

Sl. no.	Specification	Requirement
1	General	<ul style="list-style-type: none"> • The instrument shall be a force transducer capable of measuring static and dynamic compressive loads with virtually no displacement. • Overall design of instrument shall be compact for easy handling and space-saving. • The instrument shall be capable of using in harsh

		<p>environments and dynamic measuring conditions.</p> <ul style="list-style-type: none"> • Instrument shall facilitate reliable measurement over its service life without any appreciable wear and tear. • The instrument shall be suitable for long-term monitoring tasks. • Overall weight comprised of transducer body and plunger shall not be more than 15 kg. • Diameter of the instrument shall be less than 200mm and should have a through-hole at the centre.
2	Measurement type	<ul style="list-style-type: none"> • Instrument shall be of strain gauge type load cell for compression measurements.
3	Capacity	<ul style="list-style-type: none"> • Nominal/rated force of the instrument shall be 2MN.
4	Accuracy	<ul style="list-style-type: none"> • The accuracy class of the instrument shall be 0.5% or better. • Relative creep should be less than 0.06% or better. • Effect of eccentricity on measurement shall be less than 0.06%/mm or better. • Relative reproducibility and repeatability errors shall be in the range of 0.1% or better. • Relative reversibility error at 50% of nominal force shall be less than 0.5% or better. • Nonlinearity shall be less than 1% or better. • Nominal sensitivity shall be 2mV/V or better.
5	Electrical output	<ul style="list-style-type: none"> • Nominal/rated output shall be in the range of 2 - 2.5 mV/V or better. • Relative zero signal error shall be less than 1% or better. • Input and output resistance shall be in the range of 380 - 420 Ω and 280 – 360 Ω, respectively. • Tolerance of output resistance shall be 1.5 Ω or better. • Excitation voltage shall be 0.5 to 12V or better. • Insulation resistance shall be more than 5Ω. • Natural frequency shall be in the range of 5-12 kHz or better.
6	Operating Force	<ul style="list-style-type: none"> • Maximum operating force (overload) shall be greater than 150% of nominal force or better. • Breaking force shall be more than 200% of nominal force or better. • Permissible eccentricity shall be 5mm or better. • Nominal/rated displacement due to applied force shall be less than 0.15mm or better.
7	Temperature	<ul style="list-style-type: none"> • Nominal/rated temperature shall be in the range of -20°C to

		<ul style="list-style-type: none"> +80°C or wider. Operating temperature shall be in the range of -10°C – 80°C or wider. Storage temperature shall be in the range of -30°C – 80°C or wider. Temperature effect on zero and span shall be less than 0.01%/°C or better.
8	Cable	<ul style="list-style-type: none"> Instrument shall be provided with permanently mounted cable of minimum 6m length. It should be extendable to 15m if required without loss of accuracy.
9	Protection, safety and service life	<ul style="list-style-type: none"> The instrument measuring body shall be made out of high-quality hermetically sealed SS. Spring elements shall be made out of SS material. Instrument body shall be tested for resistance to shock and vibrations according to standards (IEC 60068-2-6, IEC 60068-2-27), and it should be within the severity level. <i>Shock resistance:</i> At least 65g for 1000 cycles. Instruments impact resistance shall be tested according to standards, and it should be within the severity level. The ingress protection class of the instrument shall be IP68 or better according to EN60529. It should have EMC and ROHS conformity certificate
10	Standards	<ul style="list-style-type: none"> The equipment shall build up to good engineering practice and certified quality assurance according to international standards. The equipment shall comply fully with the relevant international and country-specific safety at work legislation. Factory acceptance tests should be conducted before delivering the equipment, and the successful proof of the specifications should be certified according to international standards. Required no. of site acceptance tests should be done and certified depending on equipment configuration.
11	Service	<ul style="list-style-type: none"> The vendors should provide maintenance based on request. Required spare parts should be supplied in case of any damage to the parts. Minimum 1 year and extendable warranty from the completion of installation and commissioning should be provided. Free support for troubleshooting, questions concerning operation, aids and advice should be provided.

	12	Documentation	<ul style="list-style-type: none"> • A technical manual with the complete installation, operating and maintenance instructions, copies of the wiring diagrams and any sensor and controller calibration certificates shall be provided. • All documentation shall use SI units. • Online/web versions of the details specified in sl. no. 1-10 shall be available for reference.
	13	Warranty	<ul style="list-style-type: none"> • A minimum one-year onsite warranty from the date of installation, testing and commissioning. Three-year extendable warranty shall be quoted separately in the BoQ as Optional.
	14	Spares and service support	<ul style="list-style-type: none"> • Minimum 5 years Spares and services should be provided.

“Splitting of quantities and items are not allowed and L1 will be decided on total quoted price”

- **All offered products technical Specifications and Brochures are to be submitted along with the Technical Bid.**
- **The detailed scope of coverage of Warranty shall be provided in the compliance statement -Annexure-VII.**
- The Bidder shall furnish, as part of its bid, documents establishing the conformity of the Equipment that the Bidder proposes to supply under the Contract to the requirements of the Purchaser, as given in the Tender Document.
- The documentary evidence of conformity of the Equipment to the Tender Document may be in the form of written descriptions supported by Brochure / literature / diagrams / certifications, including: (a) A detailed description of the essential technical, functional and performance characteristics of the Equipment that the Bidder is proposing to supply; (b) Technical details of the major subsystems/components of the Equipment.

3. TENDER FEE & BID SECURITY DECLARATION DETAILS:

3.1 Tender Fee of Rs.500/- (Rupees five hundred only) should be submitted through ECS (Bank transfer / NEFT / RTGS) in favour of Indian Institute of Technology Tirupati.

3.2 Bank A/c Details for crediting Tender Fee:

Name : Indian institute of Technology Tirupati Main Account
Bank : State Bank of India
Account No : 35523338208
IFSC Code : SBIN0006677

3.3 Tender Fee and Bid Security Exemption:

I) **Micro and Small Enterprises (MSEs):**

Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) **for goods produced and services rendered**, are exempted from Tender fee and Bid Security. However, they have to enclose **valid self-attested registration certificate(s)** along with the tender to this effect.

Accordingly, MSEs shall be required to submit valid **Udyam Registration Certificate** for availing benefit under MSE Procurement Policy.

The benefit as above to MSEs shall be available only for Goods produced and services rendered by MSEs. However, traders are excluded from the purview of MSE Procurement Policy.

II) **Startup(s):**

Startup(s) as recognized by **Department for Promotion of Industry and Internal Trade (DPIIT)**, Govt. of India, are exempted from Tender fee and Bid Security. However, they have to enclose *valid self-attested registration certificate(s)* along with the tender to this effect.

Eligible MSE and startup bidders who seeks exemption from Tender fee/Bid Security as per clause no. (c) above, if they withdraw or modify their bids during the period of validity, or if they are awarded the contract and they fail to sign the contract, or to submit a performance security before the deadline defined in the request for bids document, they will be suspended for the period of three years or as decided by the competent authority from being eligible to submit bids for contracts with the entity that invited the bids.

3.4 The Bidders will have to upload scanned copy of Payment details towards tender fee and the same will be accepted only on verification and confirmation by the Institute. Any delay in credit will not be entertained by the Institute. **(As per the format attached in Annexure – I)**

3.5 Other than eligible MSE and Startup bidders, Bid Security Declaration:

Bidders should have to submit the Bid Security Declaration (As per the format attached in annexure-II) in duly filled and signed condition.

4. ELIGIBILITY CRITERIA

4.1 Other Important Documents (OIDs)

Firm Incorporation Certificate, PAN details, GST details are to be provided.

4.2. Statutory Documents:

I) The Bidder should give self-declaration certificate for acceptance of all terms & conditions of tender documents. A duly completed certificate to this effect is to be submitted as per the Annexure-I.

II) The firm should not be in the active debarred list by any Central / State Government / Public Undertaking / Institute and no criminal case registered / pending against the firm or its owner / partners anywhere in India. A duly completed certificate to this effect is to be submitted as per Annexure-III.

III) **Experience and Past Performance:**

The bidder/OEM should have supplied similar system during past three financial years **i.e. during 2017-18 to 2019-20 or 2018-19 to 2020-21** in India to Central / State Govt/ PSU/ CPSEs/ Educational R&D Institutions. Vendor should provide satisfactory installation certificates with product details as proof with customer contacts email and phone number as per the **Annexure-IV**.

IV) The Annual Turnover should be at least Rs. 5 lakhs and be profitable during each of the previous three financial years **i.e. during 2017-18 to 2019-20 or 2018-19 to 2020-21**. Audited financial Statements or Financial Statements showing turnover duly signed by a Chartered Accountant are to be submitted as per the Annexure-V.

V) **In case the bidder is a Class-I / Class-II/ Non-Local Supplier in line with the Public Procurement (Preference to Make in India) Order 2017 No. P-45021/2/2017-PP (BE-II) dated 04 Jun 2020 as amended from time to time. A Self-Declaration Certificate regarding “Class-I/Class-II/Non local Supplier” for the tendered items as per the Annexure-V is to be submitted.**

As per the OM of Department of Promotion for Industry and Internal Trade No. P-45021/102/2019-BE-II-Part(1) dated: 04.03.2021. The bidders can't claim themselves as Class-I local suppliers/Class-II local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition.

a. 'Local Content' means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the

item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all custom duties) as a proportion of the total value, in percent.

- b. 'Class-I local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50% as defined under this order.
- c. 'Class-II local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has minimum local content of 20% but less than 50%, as defined under this order.
- d. 'Non-local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than 20%, as defined under this order.
- e. Complaint redressal mechanism: In case any complaint received by the procuring agency or the concerned Ministry/Department against the claim of a bidder regarding local content/domestic value addition in an electronic product, the same shall be referred to STQC.
- f. The bidder shall be required to furnish the necessary documentation in support of the domestic value addition claimed in an electronic product to STQC. If no information is furnished by the bidder, such laboratories may take further necessary action, to establish the bonafides of the claim.
- g. A complaint fee of Rs. 2 lakh or 1% of the value of the domestically manufactured products being procured (subject to a maximum of Rs.5 lakh), whichever is higher, to be paid by Demand Draft to be deposited with STQC. In case, the complaint is found to be incorrect, the complaint fee shall be forfeited. In case, the complaint is upheld and found to be substantially correct, deposited fee of the complainant would be refunded without any interest.
- h. False declarations will be in breach of the Code of Integrity under Rule 175 (1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

VI) The bidder should be OEM or OEM authorized Dealers / Channel partners / Distributors of reputed brand having authorization for sales and after sales support. Valid OEM authorization letter is required to participate in this tender.

VII) Prior Registration and / or Screening of bidders:

Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder registered with the competent authority. **The concerned bidder(s) are required to attach the relevant valid Registration Certificate along with the bid for consideration.**

“Bidder” (including the term ‘tenderer’, consultant or service provider in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

“Bidder from a country which shares a land border with India” for the purpose of this Order means :-

- An entity incorporated, established or registered in such a country; or
- A subsidiary of an entity incorporated, established or registered in such a country or
- An entity substantially controlled through entities incorporated, established or registered in such a country; or
- An entity whose beneficial owner is situated in such a country; or
- An Indian (or other) agent of such an entity; or
- A natural person who is a citizen of such a country; or
- A consortium of joint venture where any member of the consortium or joint venture falls under any of the above.

The detailed terms & conditions issued from time to time in this regard by Government of India will be applicable.

VIII) Authorized Representatives:

Bids of bidders quoting as authorised representative of a principal manufacturer would also be considered to be qualified, provided:

- (i) Their principal manufacturer meets all the criteria above without exemption, and
- ii) The principal manufacturer furnishes a legally enforceable tender-specific authorisation assuring full guarantee and warranty obligations as per the general and special conditions of contract;
and
- iii) The bidder himself should have been associated, as authorised representative of the Principal Manufacturer for same set of services as in present bid (supply, installation, satisfactorily commissioning, after sales service as the case may be) for same or similar item for past three years ending on bid opening date.

4.3 TECHNICAL CRITERIA

Bidders should comply the specification of the tendered item in all respect. The detailed format is attached at Annexure-VII. The bidder is to complete the same in all respect and submit accordingly.

5. FINANCIAL BID DETAILS

5.1 Financial bid i.e. BOQ given with tender (in **Excel format**) to be downloaded first and uploaded after filling all relevant information strictly as per the format failing which the offer is liable for rejection. Kindly quote your offer on FOR IIT Tirupati (inclusive of all taxes and charges) for indigenous bidders. CIP Chennai airport for foreign bidders. **Vendor should quote prices in BOQ only, offers indicating rates anywhere else shall be liable for rejection.**

5.2 Concessional Custom Duty / Concessional GST is applicable to IIT Tirupati as a Research Institution. Necessary Certificate to this effect shall be provided by IIT Tirupati to the supplier.

6. BID PRICES

- 6.1 Prices must be quoted separately for each equipment/item identified.
- 6.2 Price quoted for equipment must include all costs associated with packing, transportation, insurance, all duties and levies, delivery of equipment, loading and unloading on **DOOR DELIVERY** basis to the **Indian Institute of Technology Tirupati, IIT Tirupati Transit campus, Venkatagiri Road, Yerpedu Mandal, Pin: 517619, Chittoor District, Andhra Pradesh, India** including its installation, commissioning, integration and validation.
- 6.3 In case of equipment originating in other countries, prices shall be quoted on CIP (Port of Destination – Chennai Airport/ Seaport). The comparable prices will be arrived based on CIP basis. In the case equipment originating in other countries, the bidder shall provide the following at the time of supply, within 24 hours of dispatch: a) Supplier's Invoice giving full details of the goods including quantity, value, etc.; b) Packing list; c) Certificate of country of origin; d) Manufacturer's guarantee and Inspection certificate; e) Inspection certificate issued by the Purchaser's Inspector; f) Insurance Certificate upto destination, IIT Tirupathi g) Name of the Vessel/Carrier; h) Bill of Lading/Airway Bill; i) Port of Loading; j) Date of Shipment; k) Port of Discharge & expected date of arrival of goods and l) Any other document(s) as and if required in terms of the contract.

7. Bid Currency:

- 7.1 Prices of indigenous equipment/items shall be quoted in **Indian Rupees**.
- 7.2 Prices of equipment/items originating in other countries shall be quoted in the **currency of country of origin** and the portion of allied work and services, which are to be undertaken in India, are to be quoted in the Indian Currency. The comparison of financial bids would be done after converting the currency value in INR based on RBI rates applicable on the date of opening of the tender.
- 7.3 As per Tender Clause No.5, for Indigenous bidders the quote should be FOR IIT Tirupati (inclusive of all taxes and charges) and for foreign bidders the quote should be upto CIP Chennai Airport. In order to match with Indigenous bidders for arriving L1, the cost towards concessional customs duty, clearance and onward transmission upto

IIT Tirupati will be loaded for the foreign bidders, by adding 10% of the quoted CIP value.

8. TIME SCHEDULE:

S. No.	Particulars	Date	Time
a.	Date of Online Publication of Tender	29.04.2022	18.00 hrs
b.	Bid Submission Start Date	29.04.2022	18.00 hrs
c.	Bid Submission Close Date	19.05.2022	15.00 hrs
d.	Closing Date & Time for Submission of EMD & Tender Fee	19.05.2022	15.00 hrs
e.	Opening of Technical Bids	20.05.2022	15.00 hrs

9. AVAILABILITY OF TENDER

The tender document can be downloaded from <http://eprocure.gov.in/eprocure/app> and be submitted only through the same website.

10. BID VALIDITY PERIOD

The bid will remain valid for 120 days from the date of opening as prescribed by IIT Tirupati. A bid valid for a shorter period shall be rejected, being non-responsive.

11. BID SUBMISSION

11.1 Instruction to Bidder

- I) Bidders are required to enrol on the e-Procurement module of the **Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>)** by clicking on the link "**Online Bidder Enrolment**" on the CPP Portal. **The registration is completely free of charge.**
- II) Possession of a valid Class II/III DSC in the form of smart card / e-token is a prerequisite for registration and participating in the bid submission activities. DSCs can be obtained from the authorised certifying agencies recognized by CCA India (e.g. Sify/TCS/nCode/eMudhra etc).
- III) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- IV) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.

- V) The Bidders are required to log in to the site through the secured log-in by entering their respective user ID / password and the password of the DSC.
- VI) The CPP portal also has user manuals with detailed guidelines on enrolment and participation in the online bidding process. The user manuals can be downloaded for reference.

11.2 TENDER CLARIFICATION

- I) In case the bidders require any clarification regarding the tender documents, they are requested to contact our office Ph. no: 0877-2503572, Email ID: purchase@iittp.ac.in on or before due date.
- II) Technical and Specifications related Clarifications contact our office No : 0877-2503156, Email ID: bjily@iittp.ac.in on or before due date.
- III) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.

11.3 ONLINE BID SUBMISSION PROCEDURE

Cover-1: The file should be saved in a PDF version numbered sequentially and should comprise of the following items:

Packet-1:

Duly Completed Scanned PDF copy of, PAN, GST, Firm Registration certificate and Annexure-I to VIII with relevant supporting documents

Only the relevant documents as per the tender clauses are to be uploaded along with duly completed checklist as per the annexure-IX. Uploading of other than the required documents may liable for rejection of the bid.

Cover-2:

A standard BOQ format has been provided in excel format. Bidders are required to download the BOQ excel file and fill their financial offer on the same BOQ format. After filling the same, submit it online in excel format, without changing the financial template format.

Note:

If the bid is incomplete and / or non-responsive it will be rejected during technical evaluation. The bidder may not be approached for clarifications during the technical evaluation. So, the bidders are requested to ensure that they provide all necessary details in the submitted bids.

12. BID OPENING

12.1 Technical Bids will be opened on **20.05.2022 @ 15.00 Hrs.**

12.2 Financial Bids of the eligible bidders will be opened on a later date. The date and time for opening of Financial Bids will be announced later.

12.3 **Bids should be summarily rejected, if tender is submitted other than through online or original tender fee/Bid security declaration are not submitted within stipulated date / time.**

13. BID EVALUATION

Based on results of the Technical evaluation IIT Tirupati evaluates the Commercial Bid of those Bidders who gets qualify in the Technical evaluation. The Commercial Bid with the lowest price will be the highest evaluated bid.

13.1 Purchase Preference

I) Micro and Small Enterprises (MSEs):

Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) **for goods produced and services rendered**, may be provided following purchase preference:

Item wise Quantity	Price Quoted by MSE	How the tender shall be finalized
Cannot be split	L1	Full Order on MSE
Cannot be split	Not L1 but within L1 + 15%	Full Order on MSE subject to matching L1 Price

II) Preference to Make in India

- a) In procurement goods or works which are covered under by para 3(b) of the extant Public Procurement (Preference to Make in India) Order 2017 dated 04 June 2020 and which are **divisible** in nature, the “Class-I Local Supplier” shall get purchase preference over “Class-II Local Supplier” as well as “Non-Local Supplier” as per following procedure:
- i) **Among all qualified bids, the lowest bid will be termed as L1. If L1 is “Class-I Local Supplier”, the contract for full quantity will be awarded to L1.**
 - ii) **If L1 bid is not a “Class-I Local Supplier”, 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the “Class-I Local Supplier” will be invited to match L1 price for the remaining 50% quantity subject to the Class-I Local Supplier’s quoted price falling within the margin of L1 + 20%,**

and contract for that quantity shall be awarded to such “Class-I Local Supplier” subject to matching the L1 price. In case such lowest eligible “Class-I Local Supplier” fails to match L1 price or accepts less than the offered quantity, the next higher “Class-I Local Supplier” within the margin of L1 + 20% shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local suppliers, then such quantity may be ordered on the L1 bidder.

b) In procurement goods or works which are covered under by para 3(b) of the extant Public Procurement (Preference to Make in India) Order 2017 dated 04 June 2020 and which are **not divisible** in nature, and in procurement of services where the bid is evaluated on price alone, the “Class-I Local Supplier” shall get purchase preference over “Class-II Local Supplier” as well as “Non-Local Supplier” as per following procedure:

i) **Among all qualified bids, the lowest bid will be termed as L1.**

If L1 is “Class-I Local Supplier”, the contract will be awarded to L1.

ii) **If L1 is not a “Class-I Local Supplier”, the lowest bidder among the Class-I Local Supplier, will be invited to match the L1 price subject to Class-I Local Supplier’s quoted price falling within the margin of L1 + 20%, the contract shall be awarded to such Class-I Supplier subject to matching the L1 price.**

iii) **In case such lowest eligible Class-I Local Supplier fails to match the L1 price, the “Class-I Local Supplier” with the next higher bid within the margin of L1 + 20% shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the of Class-I Local Supplier within the margin of L1 + 20%, the contract may be awarded to the L1 bidder.**

iv) **Class-II Local Supplier/Non local supplier will not get purchase preference.**

14. PAYMENT TERMS

For Indian bidders:

No advance payment will be made in any case. Bills in Duplicate should be sent and the payment shall be released generally within 30 days, only after it is ensured that the items / quality of the items supplied are to the entire satisfaction of IIT Tirupati and completed the entire work within the stipulated delivery schedule. If any item is found defective, or not of the desired quality etc., the same should be replaced by the firm(s) immediately for which no extra payment shall be made.

For Foreign bidders :

For imported items payment will be made through irrevocable Letter of Credit (LC). 90% of LC will be opened on **CIP Chennai airport value** and will be released against the proof of despatch documents and balance 10% will be released through wire transfer after the successful installation, commissioning and demonstration, training of the equipment at IIT Tirupati site.

Bank charges on LC within India to applicant account and outside India to beneficiary account.

The charges for any LC amendments requested by the vendor will have to be paid by the vendor.

15. WARRANTY OF QUALITY AND QUANTITY

15.1 The awardee shall give **A minimum one-year onsite warranty** for all the items on successful completion of supply and acceptance of supplied items, as well as a three-year extendable warranty, shall be quoted separately(Optional).

15.2 The awardee shall give warranty that all items are as per specification(s), conforming to the specified design and there are no defects in the process of manufacturing, packaging, transportation and delivery.

15.3 Upon receipt of notice from IIT Tirupati for defective material, the firm shall **within 15 days** of receipt of the notice, replace the defective material, free of cost at the destination. The firm shall take over the defective material at the time of their replacement. No claim whatsoever shall lie on IIT Tirupati for the replaced goods thereafter. If the firm fails to replace the defective goods within a reasonable period, IIT Tirupati may proceed to take such remedial actions as may be necessary, at the company's risk and expense.

16. LIQUIDATED DAMAGES

In case of delay in Supply by the stipulated date, IIT Tirupati reserves the right of imposing penalty @0.5% per week on the value of the undelivered items subject to maximum 10% of the cost of undelivered items.

17. DELIVERY SCHEDULE

17.1 The successful bidder should execute the order successfully i.e. Supply, Installation of ordered items within **3 weeks** at IIT Tirupati from the date of issue of the purchase order. In case of any damage/Broken/Expired items found, the item(s) should be replaced **within 15 days** at IIT Tirupati. The bidder has to make own arrangement for unloading and positioning of items at the desired location of IIT Tirupati.

18. PERFORMANCE SECURITY DETAILS

18.1 The successful tenderer will have to deposit the performance security valid **for 15 Months** in the form of DD / TDR / FDR / Bank Guarantee **@03% of the total order**

value at the earliest from the date of issue of the award letter. No interest will be paid by IIT Tirupati on the deposit.

- 18.2 Performance Security will be refunded to the supplier, after it duly performs and completes the contract/warranty period in all respects.
- 18.3 Performance Security will be forfeited if the firm fails to perform/abide by any of the terms or conditions of the contract.
- 18.4 In case, the firm fails to execute the order successfully, within specified delivery period, the same goods/items will be procured from open market and the difference of cost, if any, will be recovered from Performance Security or from pending bill(s) of the defaulting firm or from both in case the recoverable amount exceeds the amount of Performance Security.

19. TERMS AND CONDITIONS

19.1 Termination for Insolvency

- I) The IIT Tirupati may at any time terminate the Contract by giving a written notice to the awarding firm, without compensation to the firm, if the firm becomes bankrupt or otherwise insolvent as declared by the competent Court, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the department.
- II) IIT Tirupati and/or the firm are entitled to withdraw/cancel the rate contract by serving one-month notice on each other. However, once a purchase order is placed on the supplier for supply of a definite quantity in terms of the rate contract during the validity of the rate contract, that purchase order becomes a valid and binding contract.
- III) The courts of Tirupati alone will have the jurisdiction to try any matter, dispute or reference between the parties arising out of this purchase. It is specifically agreed that no court outside and other than Tirupati Court shall have jurisdiction in the matter

19.2 Force Majeure

- I) Should any force majeure circumstances arise, each of the contracting parties be excused for the non-fulfilment or for the delayed fulfilment of any of its contractual obligations, if the affected party within 15 days of its occurrence informs in a written form the other party.

- II) Force Majeure shall mean fire, flood, natural disaster or other acts such as war, turmoil, sabotage, explosions, epidemics, quarantine restriction, strikes, and lockouts i.e. beyond the control of either party.

19.3 Arbitration

- I) All disputes of any kind arising out in connection with the executing the order shall be referred by either party (IIT TIRUPATI or the bidder) after issuance of 30 days' notice in writing to the other party clearly mentioning the nature of dispute to a single arbitrator acceptable to both the parties. The venue for arbitration shall be IIT TIRUPATI India. The jurisdiction of the courts shall be Tirupati, Andhra Pradesh, India.

19.4 Other Conditions

- I) The bidder has to upload the relevant & readable files only as indicated in the tender documents. In case of any irrelevant or non-readable files, the bid may be rejected.
- II) IIT Tirupati will not be liable for any obligation or supplies made unless the Official Purchase Order has been placed by the Purchase Department.
- III) IIT Tirupati reserves the right to accept or reject any or all the tenders in part or in full or may cancel the tender, without assigning any reason thereof.
- IV) IIT Tirupati reserves the right to relax / amend / withdraw any of the terms and conditions contained in the Tender Document without assigning any reason thereof. Any inquiry after submission of the quotation will not be entertained.
- V) IIT Tirupati reserves the right to modify/change/delete/add any further terms and conditions prior to issue of purchase order.
- VI) In case the bidders/successful bidder(s) are found in breach of any condition(s) at any stage of the tender, Performance Security shall be forfeited.
- VII) False declaration/documents will be in breach of the Code of Integrity under Rule 175(1) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.
- VIII) Repeat Order: IIT Tirupati reserves the right to place repeat order up to 100% of the quantities within a period of 12 months from the date of successful completion of purchase order at the same rates and terms subject to the condition that there is no downward trend in prices.
To take care of any change in the requirement during the currency of the contract, a plus/minus option clause for 25 per cent is incorporated in the tender document, reserving purchaser's right to increase or decrease the quantity of the required goods up to that limit without any change in the terms and conditions and prices quoted by the tenderers.
- IX) Conditional tenders will not be considered in any case.

- X) In case of doubt in material, the expenditure on testing of equipment will be borne by the tenderer.
- XI) Institute reserve the right to increase/decrease the order quantity at any period of times during the validity of the contract.
- XII) IIT Tirupati may issue amendment/corrigendum to tender documents before due date of submission of bid. Any amendment/corrigendum to the tender document if any, issued by IIT Tirupati will be posted on CPP Portal. For the bidders, submitting bids on downloaded tender document, it is 'bidders' responsibility to check for any amendment/corrigendum on the website of IIT Tirupati or check for the same CPP Portal before submitting their duly completed bids.**

UNDERTAKING

To
The Registrar,
 Indian Institute of Technology
 Tirupati-Renigunta Road, Settipalli post,
 Tirupati 517506.

Tender No. IITT/CIVIL/2022-23/09 dated: 29.04.2022.

Name of the Tender/Supply: Notice Inviting Tender for Supply, installation, testing and Commissioning of Displacement Transducers and compressive force transducer.

Sir,

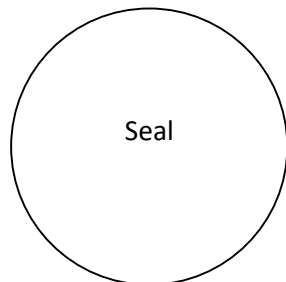
I /we hereby submit our bid for Supply, installation, testing and Commissioning of Displacement Transducers and compressive force transducer.

I/ We enclosed here with the following in favor of Indian Institute of Technology Tirupati towards Tender Fee.

Particular	Amount	Payment Reference Details	Payment Date
Tender Fee (Including Tax)	500/-		

1. I / We hereby reconfirm and declare that I / We have carefully read, understood & complying the above referred tender document including instructions, terms & conditions, scope of work, schedule of quantities and all the contents stated therein. I / We also confirm that the rates quoted by me / us are inclusive of all taxes, duties etc., applicable as on date.
2. I /we have gone through all terms and conditions of the tender document before submitting the same.

Date:
Place:



Authorized Signatory

Name:

Designation:
Contact No :

On Company Letter Head

Bid Security Declaration

To
The Registrar,
Indian Institute of Technology
Tirupati-Renigunta Road, Settipalli post,
Tirupati 517506.

Tender No. IITT/CIVIL/2022-23/09 dated: 29.04.2022.

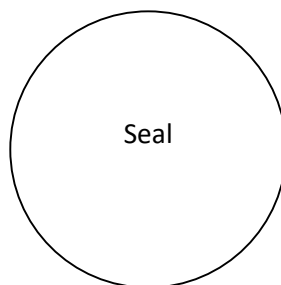
Name of the Tender/Supply: Notice Inviting Tender for Supply, installation, testing and Commissioning of Displacement Transducers and compressive force transducer.

Sir,

We, the undersigned declare that

1. We understood that, according to the tender conditions, bids must be supported by a Bid Security Declaration.
2. We accept that we will automatically be suspended from being eligible for bidding in any contract with the Institute for the period of **3 years** starting from the bid closing date, if we are in breach of our obligation(s) under the bid conditions, because we;
 - (a) have withdrawn our bid during the period of bid validity specified in the letter of bid; or
 - (b) having been notified of the acceptance of our bid by the institute during the period of bid validity, (i) fail or refuse to execute the contract, if required, or (ii) fail or refuse to furnish the performance security, in accordance with the tender conditions.

Date:
Place:



Authorized Signatory

Name:

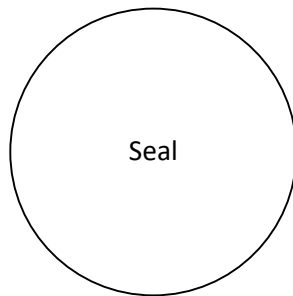
Designation:
Contact No :

**CERTIFICATE
(To be provided on letter head of the firm)**

I hereby certify that the above firm is not in the active debarred list by any Central/State Government/Public Undertaking/Institute nor is any criminal case registered / pending against the firm or its owner / partners anywhere in India.

I also certify that the above information is true and correct in every respect and in any case at a later date it is found that any details provided above are incorrect, any contract given to the above firm may be summarily terminated and the firm may be blacklisted.

Date:



Place:

Authorized Signatory

Name:

Designation:

Contact No.:

a) Experience: (As per tender Clause No.4.2 (III))

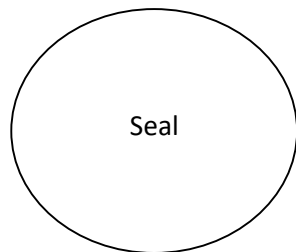
Year	Name of the Item with Specification (Technical specification brochure to be attached)	Purchase Order No. & Date (Copy of the Orders to be attached)	Date of successfully completion of SITC of ordered Item (copy of report from client to be attached)	Contact Details of Client
2017-18				
2018-19				
2019-20				
2020-21				

b) Past Performance: (As per tender Clause No.4.2 (III))

Year	Purchase Order No. & Date (Copy of the Orders to be attached)	Quantity	Date of successfully completion of SITC of ordered Item (copy of report from client to be attached)	Whether supplied item(s) is in successful operation for at least one year (Certificate from client to be attached)	Contact Details of Client [email and phone no]
2017-18					
2018-19					
2019-20					
2020-21					

Date :

Place :



Authorized Signatory

Name:

Designation:

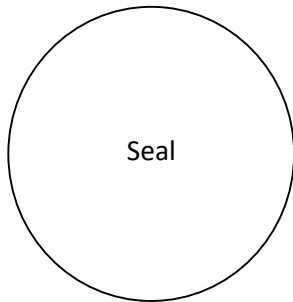
Contact No.:

ANNEXURE – V

Annual Turnover and Profit Details:

Evaluation Criteria				Remark	Specific page no. where the proof of documents are enclosed
Bidder's Annual Turnover and Profit for last three financial years	Financial Year	Turnover in Rs.	Annual Profit in Rs.	-	
	2020-21			Supporting Documents are to be attached along with the Annexure-V [i.e. Audited financial Statements or Financial Statements showing turnover duly signed by a Chartered Accountant are to be submitted]	
	2019-20				
	2018-19				
	2017-18				

Date:



Place:

Authorized Signatory:

Name:

Designation:

Contact No.:

Format for Self-Declaration under preference to make in India order

In line with Government Public Procurement Order No. P-45021/2/2017-BE-II date. 15.06.2017 & P-45021/2/2017-PP (BE-II) dated: 04 June 2020. We hereby certify that we M/s. _____ (supplier name) are **CLASS-I/Class-II/Non-local (Please specify clearly)** supplier for the material against Enquiry No. IITT/CIVIL/2022-23/09 dated: 29.04.2022.

Details of location at which local value addition will be made as follows: (Complete address to be mentioned)

Percentage of Local Content: _____

(As per the OM of Department of Promotion for Industry and Internal Trade No. P-45021/102/2019-BE-II-Part(1) dated: 04.03.2021. The bidders can't claim themselves as Class-I local suppliers/Class-II local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition)

We also understand, false declarations will be in breach of the Code of Integrity under rule 175 (1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

Seal and signature of Supplier

Date :

Place :

Technical Compliance statement

Description			Compl ied (Yes/ No)	Re mar ks, if any	Offere d Make & Model	% of Local Content as per Tender Clause No.4.2(V)	Country of Origin
Equipment Specifications for following items							
Item 1: Displacement Transducer, 100mm probe - 10nos							
Item2: Displacement Transducer, 50mm probe - 10nos							
Item3: Displacement Transducer, 20mm probe - 06nos							
Sl. no.	Specification	Requirement					
1	General	<ul style="list-style-type: none"> The instrument shall be a displacement transducer optimised for linearity and thermal behaviour in the shortest possible length. Overall design of instrument shall be compact for easy handling and space-saving. Instrument shall facilitate reliable measurement over its service life without any appreciable wear and tear. The instrument shall be suitable for long-term monitoring tasks. Bridge shall be directly integrated into the sensor for easy connection to the measuring devices. Transducer shall be capable of resisting pressure and acceleration. Overall weight comprised of transducer body and plunger shall not be more than 150g. 					
2	Measuring principle	<ul style="list-style-type: none"> Transducer type shall be inductive with a probe tip 					
3	Measurement range	<ul style="list-style-type: none"> The measurement range shall be given as follows Item 1: 0-20 mm; Item 2: 0-50 mm; Item 3: 0-100 mm 					
4	Nominal	<ul style="list-style-type: none"> Sensitivity of instrument shall not be 					

	sensitivity & accuracy	Not less than 80 mV/V with output unloaded.					
5	Tolerance	<ul style="list-style-type: none"> • Zero-point tolerance with core in position shall be less than ± 8 mV/V or better with core zero position • Deviation of sensitivity from nominal sensitivity shall not be more than $\pm 1\%$ or better. • Linearity deviation shall be in the range of $\pm 0.1\%$ to $\pm 0.2\%$ or better. • The measurements shall be insensitive to dirt. 					
6	Operating temperature	<ul style="list-style-type: none"> • The instrument shall have good thermal stability in the event of temperature gradients. • Operating temperature shall be in the range of -25°C to 80°C or wider. • Effect of temperature on zero signal and output signal shall be $< \pm 0.01\%$ per $^{\circ}\text{C}$ or better. 					
7	Resistance	<ul style="list-style-type: none"> • Input resistance shall be $350\ \Omega \pm 10\%$ or better. • Output resistance shall be $680\ \Omega \pm 10\%$ or better. 					
8	Excitation voltage	<ul style="list-style-type: none"> • Nominal excitation voltage shall be $2.5V_{\text{rms}}$ with an operating excitation voltage range of $0.5 - 10V_{\text{rms}}$. 					
9	Carrier frequency	<ul style="list-style-type: none"> • Nominal range of carrier frequency shall be $4.8 \pm 1\%$ kHz or better. • Operating range shall be $4.8 \pm 8\%$ kHz for LVDT • Carrier frequency shall be insensitive to electrical inference. 					
10	Pressure	<ul style="list-style-type: none"> • The max. acceptable pressure range of the instrument shall be greater than 350 bar. 					
11	Cable	<ul style="list-style-type: none"> • Instrument shall be provided with permanently mounted cable of minimum 3m length. • It should be extendable to 20m if required without loss of accuracy. 					

12	Protection, safety and service life	<ul style="list-style-type: none"> • The instrument shall be made out of high-quality material resistant to rust. • Instrument body shall be tested for resistance to shock and vibrations according to standards, and it shall be within the severity level. • <i>Impact acceleration</i>: At least 65g for 3ms. • <i>Vibration resistance</i>: 15g Frequency range between 5 to 65Hz • Instruments impact resistance shall be tested according to standards, and it shall be within the severity level. • The ingress protection class of the instrument shall be IP67 or better according to EN60529. • Instrument shall have a service life of a minimum of 10 million cycles or better. 					
13	Standards	<ul style="list-style-type: none"> • The equipment shall build up to good engineering practice and certified quality assurance according to international standards. • The equipment shall comply fully with the relevant international and country-specific safety at work legislation. • Factory acceptance tests should be conducted before delivering the equipment, and the successful proof of the specifications should be certified according to international standards. • Required no. of site acceptance tests should be done and certified depending on equipment configuration. • It should have EMC and ROHS conformity certificate 					
14	Service	<ul style="list-style-type: none"> • The vendors should provide maintenance based on request. • Required spare parts should be supplied in case of any damage to the parts. • Minimum 1 year and extendable warranty from the completion of 					

		<p>installation and commissioning should be provided.</p> <ul style="list-style-type: none"> Free support for troubleshooting, questions concerning operation, aids and advice should be provided. 					
15	Documentation	<ul style="list-style-type: none"> A technical manual with the complete installation, operating and maintenance instructions, copies of the wiring diagrams and any sensor and controller calibration certificates shall be provided. All documentation shall use SI units. Online/web versions of the details specified in sl. no. 1-13 shall be available for reference. 					
16	Warranty	<ul style="list-style-type: none"> A minimum one-year onsite warranty from the date of installation, testing and commissioning of Item 1, 2 & 3. Three-year extendable warranty shall be quoted separately in the BoQ for all the items as Optional. 					
17	Spares and service support	<ul style="list-style-type: none"> Minimum 5 years Spares and services should be provided for all the items 					

Item4: Compressive Force Transducer 2MN – 01 No

Sl. no.	Specification	Requirement
1	General	<ul style="list-style-type: none"> The instrument shall be a force transducer capable of measuring static and dynamic compressive loads with virtually no displacement. Overall design of instrument shall be compact for easy handling and space-saving. The instrument shall be capable of using in harsh environments and dynamic measuring conditions. Instrument shall facilitate reliable measurement over its service life without any appreciable wear and

		<p>tear.</p> <ul style="list-style-type: none"> • The instrument shall be suitable for long-term monitoring tasks. • Overall weight comprised of transducer body and plunger shall not be more than 15 kg. • Diameter of the instrument shall be less than 200mm and should have a through-hole at the centre. 				
2	Measurement type	<ul style="list-style-type: none"> • Instrument shall be of strain gauge type load cell for compression measurements. 				
3	Capacity	<ul style="list-style-type: none"> • Nominal/rated force of the instrument shall be 2MN. 				
4	Accuracy	<ul style="list-style-type: none"> • The accuracy class of the instrument shall be 0.5% or better. • Relative creep should be less than 0.06% or better. • Effect of eccentricity on measurement shall be less than 0.06%/mm or better. • Relative reproducibility and repeatability errors shall be in the range of 0.1% or better. • Relative reversibility error at 50% of nominal force shall be less than 0.5% or better. • Nonlinearity shall be less than 1% or better. • Nominal sensitivity shall be 2mV/V or better. 				
5	Electrical output	<ul style="list-style-type: none"> • Nominal/rated output shall be in the range of 2 - 2.5 mV/V or better. • Relative zero signal error shall be less than 1% or better. • Input and output resistance shall be in the range of 380 - 420 Ω and 280 – 360 Ω, respectively. • Tolerance of output resistance shall be 1.5 Ω or better. • Excitation voltage shall be 0.5 to 12V or better. • Insulation resistance shall be more 				

		<p>than 5Ω.</p> <ul style="list-style-type: none"> Natural frequency shall be in the range of 5-12 kHz or better. 				
6	Operating Force	<ul style="list-style-type: none"> Maximum operating force (overload) shall be greater than 150% of nominal force or better. Breaking force shall be more than 200% of nominal force or better. Permissible eccentricity shall be 5mm or better. Nominal/rated displacement due to applied force shall be less than 0.15mm or better. 				
7	Temperature	<ul style="list-style-type: none"> Nominal/rated temperature shall be in the range of -20°C to +80°C or wider. Operating temperature shall be in the range of -10°C – 80°C or wider. Storage temperature shall be in the range of -30°C – 80°C or wider. Temperature effect on zero and span shall be less than 0.01%/°C or better. 				
8	Cable	<ul style="list-style-type: none"> Instrument shall be provided with permanently mounted cable of minimum 6m length. It should be extendable to 15m if required without loss of accuracy. 				
9	Protection, safety and service life	<ul style="list-style-type: none"> The instrument measuring body shall be made out of high-quality hermetically sealed SS. Spring elements shall be made out of SS material. Instrument body shall be tested for resistance to shock and vibrations according to standards (IEC 60068-2-6, IEC 60068-2-27), and it should be within the severity level. <i>Shock resistance:</i> At least 65g for 1000 cycles. Instruments impact resistance shall be tested according to standards, and it should be within the severity level. 				

		<ul style="list-style-type: none"> • The ingress protection class of the instrument shall be IP68 or better according to EN60529. • It should have EMC and ROHS conformity certificate 					
10	Standards	<ul style="list-style-type: none"> • The equipment shall build up to good engineering practice and certified quality assurance according to international standards. • The equipment shall comply fully with the relevant international and country-specific safety at work legislation. • Factory acceptance tests should be conducted before delivering the equipment, and the successful proof of the specifications should be certified according to international standards. • Required no. of site acceptance tests should be done and certified depending on equipment configuration. 					
11	Service	<ul style="list-style-type: none"> • The vendors should provide maintenance based on request. • Required spare parts should be supplied in case of any damage to the parts. • Minimum 1 year and extendable warranty from the completion of installation and commissioning should be provided. • Free support for troubleshooting, questions concerning operation, aids and advice should be provided. 					
12	Documentation	<ul style="list-style-type: none"> • A technical manual with the complete installation, operating and maintenance instructions, copies of the wiring diagrams and any sensor and controller calibration certificates shall be provided. • All documentation shall use SI 					

		<p>units.</p> <ul style="list-style-type: none"> • Online/web versions of the details specified in sl. no. 1-10 shall be available for reference. 					
13	Warranty	<ul style="list-style-type: none"> • A minimum one-year onsite warranty from the date of installation, testing and commissioning. Three-years extendable warranty shall be quoted separately in the BoQ. 					
14	Spares and service support	<ul style="list-style-type: none"> • Minimum 5 years Spares and services should be provided. 					
Scope of warranty to be mentioned.							

COMPANY DETAILS

Name of the bidder		
Date of Incorporation /		
PAN Number		
GST Registration Number		
Bidder's Bidding Capacity for the tendered items (As a Manufacturer/ Trader/ dealer / channel partner / system integrator, etc.)		
Bank Details	Account Number	
	IFS Code	
	Bank Name	
	Branch Name	
Registered Office Address		
Authorized Signatory Details (Company/Firm Authorization by the competent authority, to be attached)	Name	
	Designation	
	Email	
	Phone	
Details of Contact other than Authorized Signatory	Name	
	Designation	
	Email	
	Phone	

Date:

Signature and Seal of the Tenderer:

Place:

Name in Block Letter:

Designation:

Contact no.

ANNEXURE-IX**CHECKLIST FOR BIDDERS TO BE SUBMITTED IN DULY FILLED AND SIGNED**

Tender Clause No.	Name of the Document	Document Particulars	Submitted (Yes/No)	Page No. of the attached Document
3.1	Tender Fee			
3.4	Bid security Declaration (Annexure-II)			
3.3	Valid Tender Fee / EMD Exemption Certificate			
4.1.	PAN Card			
	Incorporation/Registration certificate of company			
	GST Registration copy			
4.2.(I)	Tender acceptance letter (Annexure I)			
4.2.(II)	Non-Blacklisting undertaking (Annexure III)			
4.2.(III)	The bidder/OEM should have supplied similar system during past three financial years i.e. during 2017-18 to 2019-20 or 2018-19 to 2020-21 in India to IITs, IISERs and IISc.. Vendor should provide satisfactory installation certificates with product details as proof with customer contacts email and phone number as per the Annexure-IV.			
4.2.(IV)	The Annual Turnover should be at least Rs. 5 lakhs and be profitable during each of the previous three financial years i.e. during 2017-18 to 2019-20 or 2018-19 to 2020-21 . Audited financial Statements or Financial Statements showing turnover duly signed by a Chartered Accountant are to be submitted as per the Annexure-V.			
4.2.(V)	In case the bidder is a <u>Class-I / Class-II/ Non-Local Supplier</u> in line with the Public Procurement (Preference to Make in India) Order 2017 No. P-45021/2/2017-PP (BE-II) dated 04 Jun 2020 as amended from time to time. A Self-Declaration Certificate regarding “Class-I/Class-II/Non local Supplier” for the tendered items as per the Annexure-V is to be submitted.			
4.2.(VI)	The bidder should be OEM or OEM authorized Dealers / Channel partners / Distributors of reputed brand having authorization for sales and after sales support. Valid OEM authorization letter is required to participate in this tender.			
4.2.(VII)	Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder registered with the competent authority. The concerned bidder(s) are required to attach the relevant valid Registration Certificate along with the bid for consideration.			
4.3	Technical Compliance Statement : Annexure-VII.			
13.1 (I)	Purchase Preference: (if applicable)			

	Micro and Small Enterprises (MSEs):			
13.2 (II)	Purchase Preference: Make in India			
14	Payment Term: Within 30 days after SITC for Indian bidders & 100 % (90+10) through irrevocable letter of credit for foreign bidders.			
15.	Warranty: A minimum one-year onsite warranty from the date of installation, testing and commissioning, as well as a three-year extendable warranty, shall be quoted separately (optional) in the BoQ.			
2.1.17 & 2.2.14	Spares and service availability: Minimum 5 years Spares and services should be provided for all the items			
17	Delivery: FOR IIT Tirupati within 3 weeks.			
10	Bid validity: 120 days from the date of opening of the tender			
	Company details : Annexure-VIII			

Note:

- 1) **Submission of tender without the above mentioned documents will lead to rejection/disqualification of the tender.**
- 2) **It is mandatory for the bidder to assign page numbers to the tender documents and the same has to be mentioned in the above checklist.**

Signature of the bidder with stamp