Indian Institute of Technology Kharagpur
Sponsored Research and Industrial Consultancy

Tender Enquiry Document

for

Purchase of Intrinsically safe, Compact Multi-channel Interface, Real Time Shield Pressure and Shearer position monitoring and analysis system in underground Longwall Mines

For & On Behalf of
SRIC IIT KHARAGPUR

On E-Tender Basis

Tender No. IIT/SRIC/MIN/IOL/DD/21-22/EQ-2

Sponsored Research and Industrial Consultancy (SRIC)
Indian Institute of Technology Kharagpur
Kharagpur - 721302
Email: deb@iitkgp.ac.in
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SECTION – I

No. IIT/SRIC/MIN/IOL/DD/21-22/EQ-2 Date: 22/06/2021

Invitation for Bids / Notice Inviting Tender

(E-Procurement Mode)

Indian Institute of Technology Kharagpur is set up by the Act of parliament called The Institutes of Technology Act 1961 and it is declared as Institutions of National Importance and Institutions of Eminence. Sponsored Research and Industrial Consultancy (SRIC) is a Research and Industrial Consultancy unit of Indian Institute of Technology Kharagpur. On behalf of Sponsored Research and Industrial Consultancy, INDIAN INSTITUTE OF TECHNOLOGY Kharagpur (IIT KGP) e-tender are invited from all domestic manufacturer having registered office in India, who fulfil the criteria mentioned in the tender documents for Supply of Intrinsically safe, Compact Multi-channel Interface, Real Time Shield Pressure and Shearer position monitoring and analysis system in underground Longwall Mines. The list of equipment and their specifications are given in Section V.

Complete Tender Documents can be downloaded from the website “https://eprocure.gov.in/eprocure/app” from 22 June, 2021 to 22 July, 2021 upto 12:00 HRS. IIT KGP-SRIC shall open the Technical Bids Electronically on the specified date and time at IIT KHARAGPUR (SRIC).

Interested eligible all domestic manufacturer having registered office in India may submit their bids online at https://eprocure.gov.in/eprocure/app in Two-Bids system (i.e. Technical Bid and Price Bid) in prescribed proforma. All the documents in support of eligibility criteria etc. are also to be scanned and uploaded along with the Tender Documents. Tenders sent by any other mode will not be accepted. No tender documents will be accepted after the expiry of stipulated date and time for the purpose under any circumstances what so ever.

The Competent Authority at IITKGP-SRIC reserves right to cancel the tender at any time or amend/withdraw any of the terms and conditions contained in the Tender Document, without assigning any reason, thereof.

IITKGP-SRIC reserves the right to accept either in full or in part any tender and to reject any or all offers without assigning any reason thereof.

Dated: 22/06/2021

Dean (SRIC)

Signature of the Tenderer
Date with Seal
Critical Information

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

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<td>15/07/2021 <a href="mailto:deb@iitkgp.ac.in">deb@iitkgp.ac.in</a></td>
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<td>PROF. DEBASIS DEB DEPARTMENT OF MINING ENGINEERING INDIAN INSTITUTE OF TECHNOLOGY Kharagpur PO: KHARAGPUR, DIST: MEDINIPUR (WEST) WEST BENGAL, INDIA - 721302</td>
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SECTION - II
INSTRUCTIONS TO BIDDERS

A. INTRODUCTION

DEFINITIONS

“The Purchaser” means the DEAN (SRIC), IIT KGP-SRIC, INDIAN INSTITUTE OF TECHNOLOGY KHRAGPUR, KHRAGPUR, SRIC

“The Bidder” means the individual or firm who participates in the tender and submits bid

“The Agency” means the individual or firm rendering the services under the contract.

“The Services” means all activities related to conduct & performance of contractual obligations under the contract.

“The Advance Purchase Order/ Letter of intent” means the intention of IIT KGP – SRIC to place the Purchase Order on the bidder.

“The Purchase Order” means the order placed by IIT KGP-SRIC on the Supplier/ Agency signed by IIT KGP-SRIC including all attachments and appendices thereto and all documents incorporated by reference therein. The purchase order shall be deemed as “Contract” appearing in the document.

“The Contract Price” means the price payable to the Supplier/ Agency under the purchase order for the full and satisfactory performance of its contractual obligations.

“Acceptance “is a process of accepting satisfactory services rendered by “Supplier/ Agency” by IIT KGP- SRIC.

1. ELIGIBILITY CRITERIA

The invitation of bids is open to all domestic manufacturer having registered office in India who fulfil the criteria as specified below:

(I) The Bidder shall only be either “Class-I Local Supplier” or “Class-II Local Supplier” as defined under the order no. P- 45021/2/2017-PP (B.E.-II) dated. 16/09/2020 of Ministry of Commerce and Industry, Department for Promotion of Industry and Internal Trade (Public Procurement Section). (A self-certificate shall be submitted by the bidder along with the bid about their category (i.e., Class-I or Class-II) in a prescribed format vide Section XI.

(II) The Bidder shall be registered legal entity under relevant act. and a copy of each of registrations shall be attached with the bids.

(III) Minimum Five (5) years’ experience in the field of supply of laboratory equipment.

(IV) Average Annual Turnover of at least 32,00,000 INR during last 3 financial years i.e. 2017-18, 2018-19 and 2019-20 is required. (Copy of Audited Annual Accounts of the organization for the financial year 2017-18, 2018-19 and 2019-20 shall be uploaded with the bid as proof in this regard).
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(V) Copy of acknowledgement of filing of Income Tax Return for the financial year 2016-17, 2017-18 and 2018-19 shall be uploaded with the bid.

(VI) Must have supplied similar equipment to laboratories of State or Central Government Institutions or reputed Educational or Research Institution and proof of such supplies should be produced.

(VII) It should have PAN, TIN number and GST Registrations (proof in this regard shall be uploaded with the bid).

(VIII) It should not have been blacklisted by the Government Organizations, GOI, Autonomous bodies. Undertaking in Section X in this regards has to be uploaded.

(IX) Registration Certificate/Certificate of incorporation, if any, including the certificate of MSME/NSIC/Other EMD Exemption Document etc.

(X) Authorized dealer Certificate from Manufacturer if the agency is a dealer.

(XI) Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation of Bids.

2. **COST OF BIDDING**

The bidder shall bear all costs associated with the preparation and submission of the bid. The Purchaser will, in no case, be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

3. **BID DOCUMENTS**

3.1 The services required to be rendered, bidding procedures and contract terms and conditions are prescribed in the Bid Documents. The Bid documents include:

a) Notice Inviting Tender & List of Equipment - Section - I
b) Time Schedule of Tender - Section IA
c) Instructions to Bidders and General terms and Conditions - Section II
d) General (Commercial) Conditions of Contract - Section III
e) Special Conditions of the Contract - Section IV
f) Schedule of Requirements with Techno-Commercial Terms - Section V
g) Proforma for Technical Bid - Section VI
h) Price Bid Declaration - Section VII
i) Performance Security Guarantee Bond - Section VIII
j) Bid Security Self Declaration Form - Section IX
k) Undertaking - Section X
l) Self-certificate for Local Content (Preference to make in India for price preference) – Section XI
m) OEM Authorization – Section XII
n) (For Goods/ Services Contracts) Certificate - Bidder Not from/ from Country sharing Land border with India & Registration of Bidder with Competent Authority – Section XIII
o) (For Works Contracts, including Turnkey Contracts) Certificate – Bidder Not from/ from Country sharing Land border with India, Registration of Bidder with Competent Authority & not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority – Section XIV
p) Checklist for the Tenderer – Section XV

3.2 The Bidder is expected to examine all instructions, forms, terms and specifications in the Bid Documents. Failure to furnish all information required as per the Bid Documents or submission of the bids not substantially responsive to the Bid Documents in every respect will be at the bidder’s risk and shall result in rejection of the bid.

B. PREPARATION OF BIDS

Bidder should take into account any corrigendum published on the tender document before submitting their bids.

4. DOCUMENTS COMPRISING THE BID

The bid prepared by the bidder shall comprise the following components (these will also be used for determining the eligibility criteria)

4.1 Documentary evidence established in accordance with the eligibility criteria explained above that the bidder is eligible to bid and is qualified to perform the contract if the bid is accepted.

4.2 Bid Security Self Declaration Form at a prescribed format shall be furnished.

4.3 A bid form and price schedule completed in accordance with the guideline.

4.4 Bidder shall furnish a clause-by-clause compliance to the requirements and commercial conditions demonstrating responsiveness to terms and conditions. In case of deviations, a statement of deviations and exceptions of provisions of the contract and commercial conditions shall be given by the bidder. A bid without clause-by-clause compliance of terms and conditions shall not be considered.

4.5 The Copy of Audited Annual Accounts of the organization for the financial year 2017-18, 2018-19 and 2019-20 in support of an average annual turnover of at least 32,00,000 INR during last 3 years i.e. 2017-18, 2018-19, 2019-20 shall be uploaded.

4.6 Registration Certificate of the company as per eligibility criteria.

Signature of the Tenderer
Date with Seal
Indian Institute of Technology Kharagpur
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4.7 Income Tax Return for three financial years i.e. 2016-17, 2017-18 and 2018-19.

4.8 GST Registration Certificate.

4.9 Copy of PAN of the Company/ firm.

4.10 Lists of clients with reference in minimum five firms with name, designation and contact details.

4.11 Self-certification of full-fledged office infrastructure.

4.12 Brief on supply of laboratory equipment handled during last five years.

4.13 List of offices/branches in India/West Bengal with address and contact details.

4.14 Email id and phone number of the contact person of the firm.

5 BID FORM
The bidder shall submit the bid form in their own Stationery and by using only prescribed format. Use of any other format, the bid may be liable for rejection.

6 BID PRICES

6.1 The bidder shall give FOR destination price, inclusive of all Levies & Taxes for laboratory equipment for IIT KGP-SRIC. The price should be indicated as per BOQ.xls Format under Financial Cover.

6.2 A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected.

6.3 The price quoted by the bidder shall remain fixed during the entire period of contract and shall not be subject to variation on any account.

6.4 “DISCOUNT, if any, offered by the bidders shall not be considered unless they are specifically indicated in the price schedule. Bidders desiring to offer discount shall therefore modify their offers suitably while quoting and shall quote clearly net price taking all such factors like Discount, free service, etc, into account”.

6.5 The price accepted by the IIT KGP-SRIC for the supply of equipment will be inclusive of Levies and Taxes.

7 GUARANTEE/WARRANTY

Comprehensive onsite warranty for three years is required. Warranty period will start from the date of installation of items. In case at installation stores / part of stores are found defective / damaged during or after delivery to consignee, the supplier will replace or repair the store under warranty at consignee’s location in India free of cost or if any case it is required to send back to foreign manufacturer / supplier should bear the cost. Bank Guarantee equivalent to the cost of equipment is required to be submitted before lifting the store. All expenses in this regard will be borne by the supplier.
8 BID SECURITY

8.1 The Bidder should submit the Bid Security Declaration as per Format specified in Section X.

8.2 After accepting Bid Security declaration, if bidder withdraw or modify their bids during the period of validity, they will not be allowed to participate to any tender of IIT Kharagpur for a period of 1 (one) year from the date of notification issued by IIT Kharagpur.

9 PERIOD OF VALIDITY OF BIDS

9.1 Bid shall remain valid for 90 days after the date of opening of bids prescribed by IIT KGP-SRIC. A bid valid for a shorter period shall be rejected by IIT KGP-SRIC as non-responsive.

9.2 In exceptional circumstances, IIT KGP-SRIC may request the consent of the bidder for an extension to the period of bid validity. The request and the response thereto shall be made in writing. The Bid Security Self Declaration as per Section IX shall also be suitably extended. A bidder accepting the request and granting extension will not be permitted to modify his bid.

C. SUBMISSION OF BIDS

10 Information for Bidder on e-Procurement

10.1 Tender Documents may be downloaded from Central Public Procurement Portal http://eprocure.gov.in/eprocure/app. Aspiring Bidders who have not enrolled/registered in e-procurement should enroll/register before participating through the website http://eprocure.gov.in/eprocure/app. The portal enrolment is free of cost. Bidders are advised to go through instructions provided at ‘Instructions for online Bid Submission’.

10.2 Help for Service Providers, FAQ, Information about DSC and Bidders Manual Kit containing the detailed guidelines for e-Procurement system are also available on Central Public Procurement Portal. [https://eprocure.gov.in/eprocure/app]

10.3 It is mandatory for all the bidders to have a valid Class-II/Class-III Digital Signature Certificate (in the name of person having power of attorney to sign the Bid) from any of the licensed Certifying Agency (Bidders can see the list of licensed CA’s from the link www.cca.gov.in) to participate in e-Procurement of IIT KHARAGPUR.

10.4 It is mandatory for the bidders to get their firm/company registered with e-procurement portal https:// eprocure.gov.in/eprocure/app to have user ID & password.

10.5 Bidder should log into the site well in advance for bid submission so that he/she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.

The tender documents shall be submitted online in the prescribed format given on the websites and technical bids received online shall be opened as per NIT or Corrigendum thereof. No other mode of submission is acceptable. Detailed credentials as per the requirement of eligibility criteria and all tender papers except Bill of Quantities are to be submitted in “Technical Bid”.

Bill of Quantities with rates duly filled in are to be submitted in the format provided online in the name of “Financial Bid”.

Bidders cannot submit the tender after the due date and time of e-bid submission. Time being displayed on Central Public Procurement Portal [https://eprocure.gov.in/eprocure/app (“Server System Clock Time”)](https://eprocure.gov.in/eprocure/app) shall be final and binding on the bidder. e-Bids are required to be submitted by bidders, only as per the Indian Standard Time (IST) and not the time as per their location/country.

The bidders are advised to submit their e-bids well before the e-bid due date. IIT Kharagpur shall not be responsible for any delay in submission of e-bids for any reason including server and technical problems.

The Technical and Financial Bid shall be digitally signed by the Authorized Signatory of the bidder & submitted “on-line” only. The authorized signatory of the bidder must be in possession of Power of Attorney before submitting the digitally signed bid. Scanned copies of various documents can be prepared in .pdf file format.

A standard BoQ format has been provided with the tender document to be filled by all the bidders. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. Bidders are required to download the BoQ file, open it and complete the blue colored (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

The server time (which is displayed on the bidders’ dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.

All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done.

The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
 Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.

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

**GENERAL TERMS AND CONDITIONS:**

1. **BID OPENING AND EVALUATION**
   1.1 OPENING OF BIDS BY SRIC, IIT KGP
   1.1.1 IIT KGP-SRIC shall open the Technical Bids Electronically on 23/07/2021 at 12:00 HRS IIT Kharagpur (SRIC).

   1.1.2 The date fixed for opening of bids if subsequently declared as holiday by SRIC, IIT KGP the revised date of schedule will be notified. However, in absence of such notification, the bids will be opened on next working day, time and venue remaining unaltered.

   1.1.3 The financial bid will be opened only for bidders declared eligible and selected after techno-commercial evaluation. The financial bid will be opened on a date fixed after evaluation of techno-commercial bids and will be intimated to all eligible bidders in advance.

2. **CLARIFICATION OF BIDS**

   In case any bidder requires any clarification, bidder can feel free to raise their query on or before the date given in SECTION-1A of the tender document. Release of response to clarifications on queries shall be available in the Institute’s website [www.iitkgp.ac.in](http://www.iitkgp.ac.in) by the respective principal investigator.

   All interested bidders shall follow the institute’s website and CPP Portal at regular intervals for clarifications / corrigendum if any.

3. **SELECTION PROCEDURE**

   3.1 Agencies found to fulfil eligibility conditions will be considered after verifications of eligibility criteria mentioned in Section II.

   3.2 The bidders shall be evaluated as per criteria mention in the tender documents.

   3.3 Financial bids of the selected agencies only shall be opened.

4. **Evaluation of Bids**

   4.1 The technical bids will be evaluated in two steps

   The bids will be examined based on eligibility criteria stipulated at Section-II-1 to shortlist the eligible bidders.

   The technical bids of only the short listed eligible bidders shall be evaluated based on technical specifications stipulated.
The bidders whose technical bid is found to meet both the requirements as specified above will qualify for opening of the financial bid and will be informed about the date and time of the opening of the financial bid.

The duly constituted Tender Evaluation Committee (TEC) shall evaluate the bids. The TEC shall be empowered to take appropriate decisions on minor deviations, if any.

The bidder’s name, bid prices, discounts and such other details considered as appropriate will be announced at the time of opening of the financial bids.

4.2 Comparison of Bids

Only the short-listed bids from the bid evaluation shall be considered for commercial comparison.

The Financial bids will be evaluated on the basis of prices quoted.

The contract will be awarded to lowest evaluated bidder.

4.2.1 SRIC-IIT KGP reserves the right to offer the contract to a qualified bidder.

4.2.2 SRIC-IIT KGP’s decision in regard to evaluation & selection shall be final and binding on the Agency and same shall not be challenged by the agency before the Court.

5. CONTACTING SRIC, IIT KGP

5.1 No bidder shall try to influence SRIC, IIT KGP on any matter relating to the bid.

5.2 Any effort by a bidder to influence SRIC, IIT KGP in SRIC, IIT KGP’s bid evaluation, bid comparison or contract award decision shall result in the rejection of the bid.

6. AWARD of Contract

6.1 IIT KGP-SRIC shall award the contract to the Bidder(s) whose Bid(s) has been determined to be substantively responsive, eligible and qualified, technically suitable and who has offered the lowest evaluated bid price as per evaluation criteria detailed in the tender document. The contract will be awarded based on the guidelines mentioned in the ‘Public Procurement (Preference to Make in India), Order 2017’ order no. P- 45021/2/2017-PP (B.E.-II) dated. 16/09/2020 of Ministry of Commerce and Industry, Department for Promotion of Industry and Internal Trade (Public Procurement Section) and any subsequent revision thereafter.

6.2 Award of work shall be considered on the basis of requirement as assessed by SRIC, IIT KGP.

6.3 A purchase order will be issued by SRIC, IIT KGP to the successful bidder.

6.4 The Agency should supply the equipment as early as possible after the award of purchase order.

6.5 Upon the successful bidder furnishing of performance security pursuant to clause 2 Section III, IIT KGP-SRIC shall discharge the bid security in pursuant clause to 8, Sec II.

6.6 The selection of the agency will be at the sole discretion of the SRIC, IIT Kharagpur.
7. **SRIC, IIT KGP’s RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS**

IIT KGP – SRIC reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids, at any time prior to award of contract without assigning any reason whatsoever and without thereby incurring any liability to the affected bidder or bidders on the grounds of SRIC, IIT KGP’s action.

8. **JURISDICTION**

This tender and or the contract or work order issued under this tender shall be governed by Laws of India and shall be exclusive jurisdiction of courts at Medinipur, West Bengal.

9. **TAXES**

Suppliers shall be entirely responsible for all taxes, duties, license fees, octroi, road permits, etc., incurred until delivery of the contracted Goods to the Purchaser.

For research purpose(s) ONLY, 5% GST will be applicable with concessional GST Certificate.

10. **DUTIES**

IIT Kharagpur is exempted from paying custom duty under notification No.51/96 (partially or full) and necessary “Custom Duty Exemption Certificate” can be issued after providing following information and Custom Duty Exemption Certificate will be issued to the shipment in the name of the Institute, (no certificate will be issued to third party): The procured product should be used for teaching, scientific and research work only.

11. Bidders should be the manufacturer / authorized dealer. Letter of Authorization from original equipment manufacturer (OEM) on the same and specific to the tender should be enclosed.

(ii) An undertaking from the OEM is required stating that they would facilitate the bidder on a regular basis with technology/product updates and extend support for the warranty as well.

(iii) OEM should be internationally reputed Branded Company.

(iv) Non-compliance of tender terms, non-submission of required documents, lack of clarity of the specifications, contradiction between bidder specification and supporting documents etc. may lead to rejection of the bid.

(v) In the tender, either the Indian agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.

(vi) If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.
SECTION III
GENERAL (COMMERCIAL) CONDITIONS OF CONTRACT

1. APPLICATION

The general condition shall apply in contracts made by IIT KGP-SRIC for the procurement of goods/services.

2. PERFORMANCE SECURITY

2.1 The successful bidder shall be required to deposit 3% of the total value of the order as performance security, within 14 days of issue of Purchase Order /letter of intent in the form of D.D*/Pay Order*/Fixed Deposit Receipt* / Bank Guarantee (performance security bond prescribed in Section VIII) from commercial bank drawn in favour of “IIT Kharagpur, payable at Kharagpur” and the bank guarantee shall remain valid for 60 days beyond the date of completion of all contractual obligation of supplier including warranty obligation for the equipment/goods.

2.2 The amount of performance security so withheld will be discharged after the warranty period is over.

2.3 If the contractor fails or neglects any of the bid obligations under the contract it shall be lawful for IITKGP-SRIC to forfeit either whole or any part of performance security furnished by the bidder as penalty for such failure.

2.4 The proceedings of performance security shall be payable to IITKGP-SRIC as compensation for any loss resulting from Supplier/Agency’s failure to complete its obligation under the contract.

2.5 The performance security bond shall be extended suitably in the event of extension of period of contract or till all obligations under the contract has been satisfied.

*Performance Security will not be carrying any interest.

3. PAYMENT TERMS

100% Payment will be made on submission of all required documents by the supplier/contractor after receipt and satisfactory installation (as certified by the concerned PI) of the store at the designated place in IITKGP.

4. PRICES

4.1 The rates quoted for the equipment shall be for free delivery and installation at IITKGP-SRIC (designated Laboratories/Department/Centre/Schools)

4.2 Prices charged by the supplier for goods delivered and services performed under the contract shall not be higher than the price quoted by the supplier in his bid.

4.3 Prices will be fixed at the time of issue of purchase order as per taxes and statutory duties applicable at that time.
4.4 In case of reduction of taxes and other statutory duties during the scheduled delivery period, purchaser shall take the benefit of decrease in these taxes/duties for the supplies made from the date of enactment of revised duties/taxes.

4.5 In case of increase in duties/taxes during the scheduled delivery period, the purchaser shall revise the prices as per new duties/taxes for the supplies, to be made during the remaining delivery period as per terms and conditions of the purchase order.

4.6 Any increase in taxes and other statutory duties/levies after the expiry of scheduled delivery date or award of contract/work order shall be to the supplier account. However, benefit of any decrease in these taxes/duties shall be passed on to the purchaser by the supplier.

5. **CHANGES IN PURCHASE ORDERS**

5.1 SRIC, IIT KGP may, at any time, by a written order given to a Supplier/Agency, make changes within the general scope of the contract related to terms & references, enlarging the scope, analysis or specifications.

5.2 If any such change causes an increase or decrease in the cost of, or the time required for the execution of the contract an equitable adjustment shall be made in the contract price or delivery schedule, or both, and the contract shall accordingly be amended. Any proposal by the Supplier/Agency for adjustment under this clause must be made within thirty days from the date of the receipt of the change in order.

6. **Liquidated Damage Clause**

The Liquidated Damages shall be levied, for delay in supply beyond the contractual delivery date at the rate 0.5% per week subject to maximum of 5% of contract value of the stores the delivery of which is delayed, for each month or part of a month.

7. As per Ministry of Finance, Deptt. of Expenditure, Public Procurement Division Order (Public Procurement No.1) issued from file No.6/18/2019-PPD dated 23rd July, 2020 regarding Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs) 2017, it is directed that any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority i.e. the Deptt. for Promotion of Industry and Internal Trade (DPIIT). The said order will not apply to bidders from those countries (even sharing a land border with India) to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects (updated lists of the countries are given in the Ministry of External Affairs)

“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, participated in a procurement process.
“Bidders from a country which shares a land border with India” for the purpose of this Order means:
i. An entity incorporated, established or registered in such a country; or
ii. A subsidiary of an entity incorporated, established or registered in such a country; or
iii. An entity substantially controlled through entities incorporated, established or registered in such a country; or
iv. An entity whose beneficial owner is situated in such a country; or
v. An Indian (or other) agent of such an entity; or
vi. A natural person who is the citizen of such a country; or
vii. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

The beneficial owner for the purpose of above will be as under:
1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercise control through other means.
   
   Explanation-
   a. “Controlling ownership interest” means ownership of or entitlement to more than twenty-five per cent of share or capital or profit of the company;
   b. “Control” shall include the right to appoint majority of the directors or to control the management of policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;

2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

An agent is a person employed to do any act for another, or to represent another in dealings with the third person.

For Works contracts, including Turnkey contracts, the successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

A certificate shall be submitted by bidders in the tender documents regarding their compliance with the said order. If the certificate submitted by a bidder whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law. **Section XIII** (For Goods/ Services contracts)/ **Section XIV** (For Works contracts, including Turnkey contracts)
8. It is mandatory for bidders to quote items having local content more than 20%. Refer revised Public Procurement (Preference to Make in India), Order 2017 P-45021/2/2017-B.E-II dated 04.06.2020 issued by DPIIT, Ministry of Commerce and Industry, Govt. of India. (Submit duly filled Section-XI for the same)

9. **FORCE MAJEURE**

9.1 If, at any time, during the continuance of this contract, the performance in whole or in part by either party of any obligation under this contract is prevented or delayed by reasons of any war, or hostility, acts of the public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts, or act of God (hereinafter referred to as events) provided notice of happenings of any such eventuality is given by either party to the other within 21 days from the date of occurrence thereof, neither party shall by reason of such event be entitled to terminate this contract nor shall either party have any claim for damages against other in respect of such non-performance or delay in performance, and deliveries under the contract shall be resumed as soon as practicable after such an event come to an end or cease to exist, and the decision of SRIC, IIT KGP as to whether the deliveries have been so resumed or not shall be final and conclusive. Further that if the performance in whole or part of any obligation under this contract is prevented or delayed by reasons of any such event for a period exceeding 60 days, either party may, at its option, terminate the contract.

9.2 Provided, also that if the contract is terminated under this clause, SRIC, IIT KGP shall be at liberty to take over from the contractor at a price to be fixed by SRIC, IIT KGP, which shall be final, all unused, undamaged and acceptable materials, bought out components and stores in course of manufacture which may be in possession of the contractor at the time of such termination or such portion thereof as SRIC, IIT KGP may deem fit, except such materials, bought out components and stores as the contractor may with the concurrence of SRIC, IIT KGP elect to retain.

10. **TERMINATION FOR DEFAULT**

10.1 SRIC, IIT KGP may, without prejudice to any other remedy for breach of contract, by written notice of default, sent to the Supplier/ Agency, terminate this contract in whole or in part,

(a) If the Supplier/ Agency fails to deliver satisfactorily any or all of the goods & services within the time period (s) specified in the contract, or any extension thereof granted by IIT KGP-SRIC.

(b) If the Supplier/ Agency fails to perform any other obligation(s) under the Contract; and

(c) If the Supplier/ Agency, in either of the above circumstances, does not remedy his failure within a period of 15 days (or such longer period as SRIC, IIT KGP may authorize in writing) after receipt of the default notice from SRIC, IIT KGP.

10.2 In the event SRIC, IIT KGP terminates the contract in whole or in part to SRIC, IIT KGP may procure, upon such terms and in such manner as it deems appropriate, services similar to
those undelivered and the Supplier/Agency shall be liable to SRIC, IIT KGP for any excess cost for such similar supplies. However, the Supplier/Agency shall continue the performance of the contract to the extent not terminated.

11. **REJECTION:**

In the event that any of the stores supplied by the Contractor is found defective in material or workmanship or otherwise not in conformity with the requirements of the Contract specifications, the purchaser shall either reject the stores or request the Contractor, in writing, to rectify the same. The Contractor, on receipt of such notification, shall either rectify or replace the defective stores free of cost to the purchaser. If the Contractor fails to do so, the purchaser may at his option either –

   (a) replace or rectify such defective stores and recover the extra cost so involved from the Contractor, or
   (b) terminate the Contract for default as provided under clause 8 above, or
   (c) acquire the defective stores at a reduced price considered equitable under the circumstances. The provision of this article shall not prejudice the Purchaser's rights.

12. **REPLACEMENT:**

If the stores or any portion thereof is damaged or lost during transit, the Purchaser shall give notice to the Contractor setting forth particulars of such stores damaged or lost during transit. The replacement of such stores shall be effected by the Contractor within a reasonable time to avoid unnecessary delay in the intended usage of the Stores. In case the purchaser agrees, the price towards replacement items shall be paid by the purchaser on the basis of original price quoted in the tender or as reasonably worked out from the tender.

13. **TERMINATION FOR INSOLVENCY**

SRIC, IIT KGP may at any time terminate the Contract by giving written notice to the Supplier/Agency, without compensation to the Supplier/Agency. If the Supplier/Agency 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 SRIC, IIT KGP.
SECTION - IV

Special conditions of the Contract:

1. The special conditions of the contract shall supplement the `Instructions to the Bidders’ as contained in Section II & "General Conditions of the Contract" as contained in Section III and wherever there is a conflict, the provisions herein shall prevail over those in Section II and Section III.

2. If the date fixed for opening of bids is subsequently declared as holiday by the Government of India, the revised schedule will be notified. However, in absence of such notification, the bids will be opened on next working day, time and venue remaining unaltered.

3. Purchaser reserves the right to disqualify such bidders who have a record of not meeting contractual obligations against earlier contracts entered into with the purchaser.

4. Any clarification issued by purchaser in response to query raised by prospective bidders shall form an integral part of bid documents and it may amount to amendment of relevant clauses of the bid documents.

5. Purchaser reserves the right to blacklist a bidder for a suitable period in case he fails to honour his bid as per bid declaration form.

6. The bidder has to arrange demonstration of the product to be supplied at his own cost.

7. The Agency shall be responsible for compliance of all applicable laws, codes, statutory Regulations & established practice as required for performance of services under this contract. Whether now in force or which may hereinafter come in force during the currency of the contract and or extension thereof.

8. Invoices should be in the name of The Dean (SRIC), IIT Kharagpur, Kharagpur-721302, Dist: Paschim Medinipur, West Bengal, India.
SECTION – V

DETAILED TECHNICAL SPECIFICATIONS

Intrinsically safe, Compact Multi-channel Interface, Real Time Shield Pressure and Shearer position monitoring and analysis system in underground Longwall Mines

Quantity – 01 No.

The main objective of the real time shields pressure and shearer position monitoring system is to collect data from the networked nodes of underground longwall mines, feeding data to surface workstation computer and subsequent upload to cloud based web server for storage, distribution, analysis and providing web based & mobile data display interface.


The system should comprise of an intrinsically safe compact waterproof hardware which can read
(a) Four intrinsically safe Pressure Sensors having 0-20 mA /4-20 mA outputs,
(b) Four intrinsically safe IR Proximity sensors having digital output,
(c) One intrinsically safe SSI device
and send the data to a central data collection Hub through various mediums.

Features:
Input/ Output Ports:

(a) 16 Bit Analog 0-20 mA/4-20 mA current input – Minimum 4 Nos.
   With reverse input protection for each port up to 30 V
(b) Galvanically Isolated SSI Input – Minimum 1 No.
(c) NAMUR Input with 12V Supply (2/3 Wire) – Minimum 2 Nos.
   With reverse input protection for each port
(d) Digital Input – Minimum 4 Nos.
   With reverse input protection for each port up to 30 V
(e) USB I/O for Configuration – 1 No.
(f) Galvanically Isolated RS485 connectivity – 1 No.
   Up to 256 nodes without active repeater
Input Protection:
IEC 61000-4-2 (ESD): ±30kV (Air), ±30kV (Contact)
IEC 61000-4-4 (EFT): 40A (5/50ns)
(g) Optical Fibre RX/TX Connectivity capable up to 100 Mtrs. Comm. – 1 Pair
(h) Galvanically Isolated Ethernet Connectivity RJ45 Connector – 1 No.
(i) Zigbee-3 2.4 GHz Wireless connectivity up to 256 nodes – 1 No.
System health of the main circuit: supply voltage, current and board temperature should be digitised and available for continuous monitoring remotely through all selected interfaces.

All input parameters and power states of all sections should be available remotely in digitized form through any one/or multiple selected interfaces.

At least 128 x 64 Graphics low power LCD for system information and profile data.
On board switch array for system configuration.
On board settings without PC software for selection of Node ID for Modbus address/IP Address/Zigbee Address etc.

Power: 9-36V DC (nominal 24V DC) 1.5 KV Galvanic Isolated input. All circuit and sensors power should be isolated and the main circuit should operate below 6V DC
  Input short circuit protection, surge protection
  Output short circuit protection

The system should be fabricated based on SMD technology upon a single multilayer printed circuit board (preferable in minimum four layers having separate power and ground planes to eliminate any ground loop and current clogging) with required masking and conformal coatings. All the connectors should be mounted on the main board and connected firmly with appropriate connector/wires for output/input ports to withstand vibrations.

Power distribution of all sections in the system should be as per guidelines of electronic systems suitable for hazardous area under mines. All sections of the system should be configurable for activation/ deactivation of power for reducing current consumption as per user’s choice.

A Windows based configuration software is to be supplied for setting different parameters of the nodes. It is preferable to use a PC/Laptop for running the configuration software through USB/Ethernet port.

2. Intrinsically safe digital high-pressure sensors for monitoring shield legs having staple locking arrangement:  - 45 Nos.

  Intrinsically safe digital mountable Pressure sensor for hydraulic oil
  Robust stainless steel housing
  Intrinsically safe version (LCIE 02 ATEX 6133X compliance)
  Measuring range: up to 0 ... 600 bar
  Output signal: 4-20 mA
  Power supply: 10-30 VDC
  Long term stability 0.2% FS / Year or better
  Measuring principle: Thick film on ceramic
  Type of pressure: Relative / Absolute
Accuracy (20 °C) (linearity, hysteresis and repeatability according Best Fit Straight Line):

≤ ± 0.3% FS (BFSL)
≤ ± 0.6% FS (BFSL) for P ≤ 60 mbar and P = 600 bar

Error of zero point: ≤ ± 1% FS
Error of span: ≤ ± 1% FS

Zero thermal drift: ≤ ± 0.25% FS/10 K (P > 1 bar)
≤ ± 0.60% FS/10 K (P ≤ 1 bar)

Span thermal drift: ≤ ± 0.15% FS/10 K (P > 1 bar)
≤ ± 0.15% FS/10 K

Response time (10 to 90%): ≤ 3 ms

Operating Temperature range:
Compensated range: -10 to + 55°C
Medium: -25 to +100°C
Ambient: -25 to +70°C

Protection rating: IP65 (EN 60529) up to IP67

Vibration: IEC60068-2-6> 1.5 mm p-p (10 – 55 Hz), 20 g (55 Hz – 2 KHz)
Shock: IEC60068-2-27> 25 falls from 1 m on concrete ground

Robust stainless steel housing

Intrinsically safe (LCIE 02 ATEX 6133X compliance)

Process connection: Staple Lock

Certification: Sensors must be certified as intrinsically safe by the manufacturer for use in hazardous conditions

3. Intrinsically safe proximity sensor for monitoring shearer position from shields:
   - 20 Nos.

   Effective detection range: 0 to 3 m
   Reflector distance: 3 cm to 3 m
   Threshold detection range: 3 m
   Reference target: H85 reflector
   Light source: LED
   Light type: modulated visible red light, 660 nm
   Polarization filter: yes
   Ambient light limit: ≤ 10000 Lux sun light ≤ 7500 Lux halogen light

   MTTFd: 1319 a
   Mission Time (TM) 20 a
   Diagnostic Coverage (DC): 0 %
   Function indicator: LED for indicating switching state
Control elements: sensitivity adjustment
Operating voltage: 6 to 15 V DC
Ripple: 5%

Power consumption: P0 max. 64 mW
Time delay before availability: tv 20 ms
Switching type: light/dark on, programmable
Signal output: 1 NAMUR output NC/NO programmable
Switching voltage: 8 V DC (Ri approx. 1 kΩ)
Switching frequency: f ≤ 100 Hz

Current consumption
Reference target detected/ not detected: connection less than 5 mA

Response time: 5 mS
Product standard: EN 60947-5-2
Operating temperature: -25 to 70 °C (-13 ... 158 °F)
Degree of protection: IP67
Approvals and certificates:
Certification: Sensors must be certified as intrinsically safe by the manufacturer for use in hazardous conditions.

4. Intrinsically Safe, Compact, Universal Interface, Intelligent, Programmable Data Collector HUB and long-distance Fibre Optic Transceiver having integrated dual CPU redundancy with necessary Panel and integrated Intrinsically Safe Redundant Power Supply:
   - 1 Set

   a. Programmable Data Collector HUB

   The system should comprise of an intrinsically safe compact hardware which is capable of collecting data from distributed nodes through user programmable wired/wireless interfaces and send the consolidated data to a Data Converter on mine surface through long distance optical fibre medium for subsequent processing by computer software.

   Redundancy: The system should be facilitated with two built-in identical CPU units having all interfaces to enable a failsafe data collection & transmission system. In case of failure of one CPU unit, other unit should take over the responsibility of data collection and transmission to the surface equipment.
Features of each CPU unit:

Input/ Output Data Collection Ports for each controller:
(a) Galvanically Isolated RS485 connectivity having 256 nodes – 1 No.
   Up to 256 nodes without active repeater
   Input Protection:
   IEC 61000-4-2 (ESD): ±30kV (Air), ±30kV (Contact)
   IEC 61000-4-4 (EFT): 40A (5/50ns)
(b) Optical Fibre Transceiver(1) TX/RX (Up to 100 mtrs. length) – 1 No.
(c) Galvanically Isolated Ethernet Connectivity – 1 No.
(d) Zigbee-3 2.4 GHz Wireless connectivity up to 256 nodes – 1 No.

Input/Output Data Transmission Ports for each controller:
(e) Optical Fibre Transceiver (2) TX/RX (Up to 5000 mtrs. length) – 1 No.

Configuration Port:
(f) USB input for Configuration – 1 No.

System health of the main circuit: supply voltage, current and board temperature should be digitised and available for continuous monitoring remotely through all selected interfaces.

At least 128 x 64 Graphics low power LCD for system information and profile data. Required switch array for configuration.

Power: 9-36V DC (nominal 24V DC) 1.5 KV Galvanic Isolated input. All circuit and sensors power should be isolated and the main circuit should operate below 6V DC
Input short circuit protection, surge protection
Output short circuit protection

Each unit of the system should be fabricated based on SMD technology upon a single multilayer printed circuit board (preferable in minimum four layers having separate power and ground planes to eliminate any ground loop and current clogging) with required masking and conformal coatings. All the connectors should be mounted on the main board and connected firmly with appropriate connector/wires for output/input ports to withstand vibrations.

Power distribution of all sections in the system should be as per guidelines of electronic systems suitable for hazardous area under mines. All sections of the system should be
configurable for activation/deactivation of power for reducing current consumption as per user’s choice.

A configuration Windows software is to be supplied for setting different parameters of the nodes. It is preferable to use a PC/Laptop for running the configuration software through USB/Ethernet port.

b. Intrinsically Safe Dual Redundant power supply:

The system panel should also comprise of a dual redundant power supply system for the distributed nodes.

Features of each part:

AC input voltage range: 85 to 277 V AC
Connection system: Push in or other better option

Preferred Current consumption in relation to the input voltage:
- Voltage type AC: Input voltage 100 V, Input current 6 A
- Voltage type DC: Input voltage 120 V, Input current 6 A
DC input voltage range: 80 to 410 V DC
Dielectric strength: max. 300 V AC ≤ 15 s
Frequency range: AC 45 to 65 Hz
Input fuse (internal): Yes
Inrush current: max. 5 A
Rated input voltage: 100 - 240 V AC / 120 - 340 V DC
Recommended back-up fuse: 8 A (DI) / 10 A (Char. B), 8 A (Char. C)
Surge protection: Varistor

Output
- DCL - peak load reserve: 150 % (5 s); 500 % (15 ms)
- Mains failure bridge-over time: > 20 ms @ 115V AC/ 230 VAC
- Output power: 480 W
- Output voltage: 22.5 to 28.8 V
- Protection against inverse voltage: Yes
- Rated output voltage: 24 V DC ± 1 %
- Residual ripple, breaking spikes: < 50 mVss @ UNenn, Full Load

Connection system: Push in or better option
Nominal output current for Unom: 20 A @ 60 °C
Output voltage: 24 V
Parallel connection option: yes, max 10
Ramp-up time: ≤ 100 ms
Reserve capacity @ UNominal: 130% permanent at ≤40°C, 150 % (5 s)
Triggerable circuit breakers: C2, C4, C6, B6, B10, B16

General Spec.
AC failure bridging time @ Inom: > 20 ms @ 230 V AC / > 20 ms @ 115 V AC
Degree of efficiency: 93%
Earth leakage current, max.: 3.5 mA
MTBF: > 1.000.000 h according IEC 1709 (SN29500)
Operating temperature: -25 °C...70 °C
Power loss: idling 10 W, nominal load 36.1 W
Protection degree: IP20
Short-circuit protection: Yes, internal
Surge voltage category: III, II
Derating: > 60°C (2.5% / 1°C)
Housing version: Metal, corrosion resistant
Mounting position: Horizontal on DIN rail TS 35, top and bottom 50 mm clearance for free air flow, 10 mm clearance to neighbouring active subassemblies with full load, 5 mm with passive neighbouring subassemblies, direct row mounting with 90% rated load
Power factor (approx.): > 0.9
Series switching capability: Yes
Start-up ≥ -40 °C:
Redundant connection without any external diodes.

5. Compact, Universal, Intelligent, Programmable Consolidated Data Receiver with Ethernet Bridge and long distance Fibre Optic Transceiver having integrated dual CPU redundancy:
   - 1 Set

The system should comprise of a sturdy hardware which can collect data from Redundant Data Collector HUB undermine through optical fibre medium for subsequent processing by computer software.

Redundancy: The system should have facilitated with two built-in identical CPU units having all interfaces to enable a failsafe data collection & transmission system. In case of failure of one CPU unit, other unit should take over the responsibility of data bridging.
Features of each CPU unit:

Input/output Ports:
Optical Fibre Transceiver (5000 mtrs transceiver capacity) – 1 No.
Galvanically Isolated Ethernet Connectivity – 1 No.
USB input for Configuration – 1 No.

At least 128 x 64 Graphics LCD for system information and profile data.
Required switch array for configuration.

Power: 220V AC with all surge protections

Each unit of the system should be fabricated based on SMD technology upon single multilayer (preferable with minimum four layers having separate power and ground planes to eliminate any ground loop and current clogging) printed circuit board with required masking and conformal coatings. All the connectors should be mounted on the main board and connected firmly with appropriate connector/wires for output/input ports.

A configuration software is to be supplied for setting different parameters of the equipment. It is preferable to use a PC/Laptop for running the configuration software for upload/download through USB/Ethernet port.

6. Customized Windows based Software for data collection from underground nodes via Consolidated Data Receiver with Ethernet Bridge, storing, analysis, local display and transmission to Cloud Web Server - 1 Lot

The GUI software should be capable of fetching data from the redundant Consolidated Data Receiver and store in internal database for subsequent transmission to cloud based data server.

a) Data storage & Transmission
   The collected data should be stored in local RDBMS (MSSQL/MySQL) and subsequent transmission to cloud server with time stamp and network failure intelligent resending.

b) System Mimic display interface
   The software will have necessary interface to mimic the overall system. It will represent the shield pressure connected to the system through network as well as the cutter position throughout the process operation. Required colour will be changed of the parameter according to the programmable level to visualise the healthiness of the system.
The software also shows the healthiness of each field controller with its enable/disable status and power consumption.

c) Login facilities
The login authentication will be there to register the user database.
There will be supervisor login and user login.
The supervisor will have all the facilities of the user and additionally can create the user and have the facilities to set the alarm level, production details, addition or deletion of field node and can manage the cloud upload/download timing control.
The user can only monitor the trending, alarm and can print the daily report.

d) Trending
The software will show the trending of the shield pressure connected to the system in real time. User can choose the graph for a particular shield or in collective way. This trending will help to visualise the healthiness of the shield.

e) Alarm
Alarms were used to tell an operator to go look at a page he was not viewing. Every mal operation is usually resulted in a new alarm. The software will automatically monitor whether the value of shield pressure lies outside high and low- limit values associated with that point.

f) Report
The consolidated day-wise report can be generated in pdf or print format from this software for MIS.

In addition to the above mentioned points, necessary customization is to be done from time to time.

4. Customized Cloud based storage, analysis and data view through web pages. - 1 Lot
The cloud system should have separate computing module, database server module with proper backup model.

The Central Web Database Server Software will be developed on PHP & MYSQL /ASP & MSSQL or any other latest robust platform.

The database server should be configured to accommodate all data received from Remote Wireless Data Acquisition unit located at coal mine located at Jhanjra, West Bengal representing the Longwall monitoring system.
Indian Institute of Technology Kharagpur
Sponsored Research and Industrial Consultancy

The configuration, programming and uploading of the database server application for validating and storing all data received from each Remote Wireless Data Acquisition units should be within the scope of the supply for the warranty period.

Proper security should be provided through specific passwords for preventing unsolicited update of Database for each Remote Wireless Data Acquisition unit. Each set of data should be stored local date & time stamp received from Wireless Remote Data Transmitter cum Logger. No direct access to the database by any logger or application should be there.

Provision for downloading data based on various filter criteria (for specific period/node basis) in Excel/Pdf format will be included in the application.

The web application should be protected with proper password authentication. Separate forms will be incorporated for showing instant data, historical data (in tabular format) and graphical representation of system parameters.

The web application should be able to provide raw data of the MySQL/MSSQL data base to other servers.

The web server space, database space and associated domain should be allocated distinctly for the purpose of 3 years. The services may be extended for availing continuous service.

In addition to the above mentioned points, necessary customization is to be done from time to time.

5. Android App

The app should be compatible to Android version 4.00 or latest.

The app should retrieve process data of the Longwall operations from the web data base server through WiFi/3G/2G connectivity.

The App will be menu based well-structured graphical interface for formatted display of current process parameters.

Warranty: The entire system including hardware, firmware & software should carry onsite comprehensive warranty for three years from the date of successful installation. Any fault should be rectified within 24 hours. If any module could not be rectified within 24 hours, it should be replaced with a similar one to ensure hassle-free system operation.
Terms and Conditions:

1. If required, any modules of the system may be asked for live technical performance demonstration at the time of technical evaluation of the system using the actual instruments.

2. Any modules of the system will be asked to clarify technical design aspects to satisfy the desired functionality during the evaluation process.

3. The vendor should have the experience of supplying and successfully executing of Real Time data Acquisition system used in underground coal mines.

4. The vendor should have experience to deal with real time data communication system through fibre optic network.

5. The vendor should have the experience of supplying and executing of SCADA application with instrumentation for remote monitoring of process automation

6. Company’s own registered office should be situated within 250 Km radius of the designated mine to provide 24x7 services and maintenance for 3 years for installed products, when required.

7. Vendor must demonstrate the efficacy and intrinsic behaviour of data acquisition system and sensors to the Directorate General of Mines Safety (DGMS), if required.

Annexure-A

Technical Compliance sheet of Intrinsically Safe Integrated Universal Intelligent Power optimized Programmable Data Transmission Node for 4-20mA, Digital Input, SSI Input:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Complied (Yes/No)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Minimum 4 Nos.16 Bit Analog 0-20 mA/4-20 mA current input With reverse input protection for each port up to 30V</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>Galvanically Isolated SSI Input</td>
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<tr>
<td>3</td>
<td>Minimum 2 Nos. NAMUR input with 12V Supply (2/3 Wire) With reverse input protection for each port</td>
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<tr>
<td>6</td>
<td>Galvanically Isolated RS485 connectivity Up to 256 nodes without active repeater Input Protection: IEC 61000-4-2 (ESD): ±30kV (Air), ±30kV (Contact) IEC 61000-4-4 (EFT): 40A (5/50ns)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Optical Fibre RX/TX Connectivity capable up to 100 Mtrs. Comm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Requirement</td>
<td></td>
<td></td>
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<tr>
<td>---</td>
<td>-----------------------------------------------------------------------------</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Galvanically Isolated Ethernet Connectivity RJ45 Connector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Zigbee-3 2.4 GHz Wireless connectivity up to 256 nodes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>System health of the main circuit: supply voltage, current and board temperature should be digitised and available for continuous monitoring remotely through all selected interfaces.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>All input parameters and power states of all sections should be available remotely in digitized form through any one/or multiple selected interfaces.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>At least 128 x 64 Graphics low power LCD for system information and profile data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>On board settings for selection of Node ID for Modbus address/IP Address/Zigbee Address etc. without PC software.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Power: 9-36V DC (nominal 24V DC) 1.5 KV Galvanic Isolated input. All circuit and sensors power should be isolated and the main circuit should operate below 6V DC Input short circuit protection, surge protection Output short circuit protection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>The system should be fabricated based on SMD technology upon a single multilayer printed circuit board (preferable in minimum four layers having separate power and ground planes to eliminate any ground loop and current clogging) with required masking and conformal coatings. All the connectors should be mounted on the main board and connected firmly with appropriate 4connector/wires for output/input ports to withstand vibrations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Power distribution of all sections in the system should be as per guidelines of electronic systems suitable for hazardous area under mines. All sections of the system should be configurable for activation/deactivation of power for reducing current consumption as per user’s choice.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>A Windows based configuration software is to be supplied for setting different parameters of the nodes. It is preferable to use a PC/Laptop for running the configuration software through USB/Ethernet port.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Intrinsically safe design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Waterproof cabinet</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Technical Compliance sheet of Intrinsically Safe digital high-pressure sensors for monitoring shield legs having staple locking arrangement

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Complied (Yes/No)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Robust stainless steel housing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Intrinsically safe version (LCIE 02 ATEX 6133X)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Measuring range: up to 0 to 600 bar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Output signal: 4 to 20 mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Power supply: 10 to 30 VDC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Long term stability 0.2% FS / Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Measuring principle: Thick film on ceramic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Type of pressure: Relative / Absolute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Accuracy (20 °C) (linearity, hysteresis and repeatability according Best Fit Straight Line):</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>≤ ± 0.3% FS (BFSL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>≤ ± 0.6% FS (BFSL) for P ≤ 60 mbar and P= 600 bar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Error of zero point: ≤ ± 1% FS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Error of span: ≤ ± 1% FS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Zero thermal drift: ≤ ± 0.25% FS/10 K (P &gt; 1 bar)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>≤ ± 0.60% FS/10 K (P ≤ 1 bar)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Span thermal drift: ≤ ± 0.15% FS/10 K (P &gt; 1 bar)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>≤ ± 0.15% FS/10 K</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Response time (10 ... 90%): ≤ 3 ms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Operating Temperature range:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compensated range: -10 to + 55°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medium: -25 to +100°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient: -25 to + 70°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Protection rating: IP65 (EN 60529) up to IP67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Vibration: IEC60068-2-6&gt; 1.5 mm p-p (10 – 55 Hz), 20 g (55 Hz – 2 KHz)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Shock: IEC60068-2-27&gt; 25 falls from 1 m on concrete ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Intrinsically safe (LCIE 02 ATEX 6133X)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Process connection: Staple Lock</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Technical Compliance sheet of Intrinsically Safe proximity sensor for monitoring shearer position from shields:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Complied (Yes/No)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Effective detection range: 0 to 3 m</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Reflector distance: 3 cm to 3 m</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Threshold detection range: 3 m</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Reference target: H85 reflector</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Light source: LED</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Light type: modulated visible red light, 660 nm</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Polarization filter: yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Ambient light limit: ≤ 10000 Lux sun light ≤ 7500 Lux halogen light</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>MTTFd: 1319 a</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Mission Time (TM) 20 a</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Diagnostic Coverage (DC): 0 %</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Function indicator: LED for switching state</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Control elements: sensitivity adjustment</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Operating voltage: UB 6 to 15 V DC Ripple: 5 %</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Power consumption: P0 max. 64 mW</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Time delay before availability: tv 20 ms</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Switching type: light/dark on, programmable</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Signal output: 1 NAMUR output NC/NO programmable</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Switching voltage: 8 V DC (Ri approx. 1 kΩ)</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Switching frequency: f ≤ 100 Hz</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Current consumption Reference target detected/ not detected: less than 5 mA</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Response time: 5 ms</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Product standard: EN 60947-5-2</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Ambient temperature: -25 to 70 °C</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Degree of protection: IP67</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
Technical Compliance sheet

Part-a

Intrinsically Safe, Compact, Universal Interface, Intelligent, Programmable Data Collector HUB and long distance Fibre Optic Transceiver having integrated dual CPU redundancy with necessary Panel:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Complied (Yes/No)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The system should be facilitated with two built-in identical CPU units having all interfaces to enable a failsafe data collection &amp; transmission system. In case of failure of one CPU unit, other unit should take over the responsibility of data collection and transmission to the surface equipment.</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Galvanically Isolated RS485 connectivity Up to 256 nodes without active repeater Input Protection: IEC 61000-4-2 (ESD): ±30kV (Air), ±30kV (Contact) IEC 61000-4-4 (EFT): 40A (5/50ns)</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Optical Fibre Transceiver (1) TX/RX (Up to 100 mtrs. length)</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Galvanically Isolated Ethernet Connectivity RJ45 Connector</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Zigbee-3 2.4 GHz Wireless connectivity up to 256 nodes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Optical Fibre Transceiver (2) TX/RX (Up to 5000 mtrs. length)</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>USB input for Configuration</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>System health of the main circuit: supply voltage, current and board temperature should be digitised and available for continuous monitoring remotely through all selected interfaces.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>At least 128 x 64 Graphics low power LCD for system information and profile data.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Power: 9-36V DC (nominal 24V DC) 1.5 KV Galvanic Isolated input. All circuit and sensors power should be isolated and the main circuit should operate below 6V DC Input short circuit protection, surge protection Output short circuit protection</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
The system should be fabricated based on SMD technology upon a single multilayer printed circuit board (preferable in minimum four layers having separate power and ground planes to eliminate any ground loop and current clogging) with required masking and conformal coatings. All the connectors should be mounted on the main board and connected firmly with appropriate connector/wires for output/input ports to withstand vibrations.

Power distribution of all sections in the system should be as per guidelines of electronic systems suitable for hazardous area under mines. All sections of the system should be configurable for activation/deactivation of power for reducing current consumption as per user's choice.

A Windows based configuration software is to be supplied for setting different parameters of the nodes. It is preferable to use a PC/Laptop for running the configuration software through USB/Ethernet port.

Intrinsically safe design

Waterproof cabinet

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Complied (Yes/No)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AC input voltage range: 85 to 277 V AC</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Preferred Current consumption in relation to the input voltage: Voltage type AC: Input voltage 100 V, Input current 6 A Voltage type DC: Input voltage 120 V, Input current 6 A</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>DC input voltage range: 80 to 410 V DC</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Dielectric strength: max. 300 V AC ≤ 15 s</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Frequency range: AC 45 to 65 Hz</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Rated input voltage: 100 - 240 V AC / 120 - 340 V DC</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>DCL - peak load reserve: 150 % (5 s); 500 % (15 ms)</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Output power: 480 W</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Output voltage: 22.5 to 28.8 V</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Rated output voltage: 24 V DC ± 1 %</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Residual ripple, breaking spikes: &lt; 50 mVss @ UNenn, Full Load</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

Part-b

Intrinsically Safe Redundant Power Supply
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Complied (Yes/No)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The system should have facilitated with two built-in identical CPU units having all interfaces to enable a fail-safe data collection &amp; transmission system. In case of failure of one CPU unit, other unit should take over the responsibility of data bridging.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Optical Fibre Transceiver (5000 mtrs transceiver capacity)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Galvanically Isolated Ethernet Connectivity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>USB input for Configuration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>At least 128 x 64 Graphics LCD for system information and profile data. Required switch array for configuration.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Power: 220V AC with all surge protections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Each unit of the system should be fabricated based on SMD technology upon single multilayer (preferable with minimum four layers having separate power and ground planes to eliminate any ground loop and current clogging) printed circuit board with required masking and conformal coatings. All the connectors should be mounted on the main board and connected firmly with appropriate connector/wires for output/input ports.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sl. No.</td>
<td>Application Type</td>
<td>Client: Contact person: Ph. No.</td>
<td>Purchase order no &amp; Date</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>---------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>1.</td>
<td>Supply order of real time data acquisition system used in underground coal mines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Supply order of real time data communication system through fibre optic network.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Supply order of SCADA application with instrumentation for remote monitoring of process automation</td>
<td></td>
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<tr>
<td>4.</td>
<td>Supply order of real time data communication system through wireless communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Supply order of cloud based monitoring system for real time application in any process industry</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Indian Institute of Technology Kharagpur
Sponsored Research and Industrial Consultancy

(Techno-Commercial Terms and Conditions to be submitted by the vendor/firm on its official letter head)

Techno-Commercial Terms & Conditions:

1. Prices (quoted in INR) : FOR IIT Kharagpur
2. Payment : Should be clearly mentioned, as per payment terms
3. Validity of the quotation :
4. Delivery Period :
5. Warranty :

Signature__________________________  
Name______________________________  
Designation________________________  
Seal of the firm/organization

Indian Institute of Technology Kharagpur invites online Bids (Technical bid and Commercial bid) from all domestic manufacturer having registered office in India and experienced OEM (Original Equipment Manufacturer) OR OEM Authorized Dealer

A complete set of tender documents may be Download by prospective bidder free of cost from the website http://eprocure.gov.in/eprocure/app.
## Technical Bids

Specification of the equipment / item (in detail) to be purchased

<table>
<thead>
<tr>
<th>Details of Technical Specifications</th>
<th>Whether complied with YES/NO</th>
<th>If yes, please attach Tech literature of the equipment duly printed &amp; clearly specify page No of Bulletin which specifically confirm this</th>
<th>If no, attach deviation statement</th>
<th>Remarks (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Please indicate the page numbers where documents uploaded /attached. The entire tender document should be serially page numbered including enclosures.

**N.B.:**
1. All the bidders are requested to provide true statement in the columns. Concealing of facts will liable to be rejected the tender completely. No communication will be made in this regard.

2. Category of classification of the goods in its packing as per IATA definition inclusive of nature of sensitivity and volume of cargo.

3. Separate page, if required may be used for the stated information with same format.

Signature of Tenderer with office seal

Signature of the Tenderer
Date with Seal
SECTION - VII

Price BID DECLARATION

No. IIT/SRIC/MIN/IOL/DD/21-22/EQ-2 Date: 22/06/2021

To

Prof. Debasis Deb,

Department of Mining Engineering

Indian Institute of Technology Kharagpur

P.O.: Kharagpur, Dist: Medinipur (West)

Kharagpur - 721302

Dear Sir,

Having examined the conditions of contract and specifications including addenda Nos. (If any) the receipt of which is hereby duly acknowledged, we, undersigned, offer to provide as per tender terms and conditions in conformity with the supply of the equipment, conditions of contract and specifications for the sum shown as per Section V, Section VI and price as per BOQ.xls format under Financial Cover and made part of this Bid.

We undertake, if our Bid is accepted, to commence deliveries within schedule time frame and to complete delivery of all the supplies specified in the contract within as per schedule calculated from the date of issue of your purchase order/RO.

If our Bid is accepted, we will obtain the performance guarantees of a Scheduled Bank for 3% of the cost of equipment.

We agree to abide by this Bid for a period of 90 days from the date fixed for Bid opening and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Purchase Order of Contract is prepared and executed, this Bid together with your written acceptance thereof in your notification of award shall constitute a binding contract between us.

We understand that you are not bound to accept the lowest or any bid, you may receive.

We have applied and have submitted required bid security as per clause 8, section II of tender document.

Dated this ......................... day of ...................... 2021

Name and Signature ..............................

In the capacity of ..............................

Duly authorized to sign the bid for and on behalf of ..............................

Signature of the Tenderer

Date with Seal
SECTION - VIII

PERFORMANCE SECURITY GUARANTEE BOND

In consideration of Indian Institute of Technology Kharagpur, (SRIC) (herein after called the “SRIC, IIT KGP”) having agreed to exempt ___________________ (hereinafter called “the said contractor(s)’) from the demand under the terms and conditions of an agreement/(Purchase Order) No ________________ dated __________ made between ___________________ and ________________ for ________________, (hereinafter 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, on production of the bank guarantee for ________________, we, (name of the bank) ________________ (hereinafter refer to as “the bank”) do hereby undertake to pay to SRIC, IIT KGP an amount not exceeding ________________ against any loss or damage caused to or suffered or would be caused to or suffered by the government by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement or any reason of the contracts failure to perform said Agreement.

2. We (name of the bank) ___________________ do hereby undertake to pay the amounts due and payable under this guarantee without any demure, merely on a demanded from SRIC, IIT KGP stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by SRIC, IIT KGP by reason of breach by the said contractor(s)’ of any of the terms or conditions contained in the said Agreement or by reason of the contractors(s)’ failure to perform the said Agreement or roll out the supply as per schedule V & parameters for failure of compliance of intellectuels property rights. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee where the decision of SRIC, IIT KGP in these counts shall be final and binding on the bank. However, our liability under this guarantee shall be restricted to an amount not exceeding ________________.

3. We undertake to pay to SRIC, IIT KGP any money so demanded not withstanding any dispute or disputes raised by the contractor(s)/Supplier/ Agency(s) in any suit or proceeding 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 valid discharge of our liability for payment there under and the contractor(s)/Supplier/ Agency(s) shall have no claim against us for making such payment.

4. We (name of the bank) __________________ further agree that the guarantee herein 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 SRIC, IIT KGP under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till expiry of 90 days beyond the date on which the warranty period of the equipment(s) expire.

5. We (name of the bank) __________________ further agree with SRIC, IIT KGP that SRIC, IIT KGP shall have the fullest liberty without our consent and without affecting in any manner our
obligations there under to vary any of the terms and conditions of the said Agreement or to extend
time of performance by the said contractor(s) from time to time or to postpone for any time or from
time to time any of the powers exercisable by SRIC, IIT KGP 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 being granted to the said
Contractor(s) or for any forbearance, act or omission on the part of SRIC, IIT KGP or any indulgence by
IIT KGP-SRIC 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.

6. We (name of the bank) ________________ lastly undertake not to revoke this guarantee
during its currency except with the previous consent of SRIC, IIT KGP in writing.
Dated the ________________ day of _______ for __________________________________

(Indicate the name of bank)
SECTION - IX

Bid Security Self Declaration Form

Date: 22/06/2021

To
The Dean (SRIC)
Indian Institute of Technology Kharagpur
Sponsored Research and Industrial Consultancy
P.O.: Kharagpur, Dist: Medinipur (West)
Kharagpur - 721302

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

I/We accept that I/We may be disqualified from bidding for any contract with the Indian Institute of Technology Kharagpur for a period of 1 (one) year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

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

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

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

IN WITNESS WHEREOF, I/We have hereunto set my/our hand/s this ____ day of [month] [year] at [place of execution].

[Insert NAME OF BIDDER'S AUTHORIZED REPRESENTATIVE]
[Insert signatory's legal capacity] Affiant

Signature of the Tenderer
Date with Seal
SECTION X
UNDEARTAKING

I hereby undertake and declare that the agency M/S...................................................... have not been black listed by any Government Organizations, autonomous bodies, Department of Government of India and Department of Government of West Bengal and any others State Government in India.

Signature of the Authorized Persons...........................................
Name & Seal of the Company

Date:
Place:
SECTION XI

Self-Certificate for Local Content

A. *We [name of manufacturer] hereby confirm in respect of quoted item(s) that Local Content is equal to or more than 50% and come under ‘Class-I Local Supplier’ Category. The percentage of local content is______. As being ‘Class-I Local Supplier’, we are eligible for Purchase Preference under ‘Make in India’ Policy vide GoI Order no. P- 45021/2/2017-PP (B.E.-II) dated 16th September, 2020. The stated local content shall not include the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition.

OR

*We [name of manufacturer] hereby confirm in respect of quoted item(s) that Local Content is more than 20% but less than 50% and come under ‘Class-II Local Supplier’ Category. The percentage of local content is______. The stated local content shall not include the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition

* Strike out whichever is not applicable

B. The details of the location(s) at which the local value addition made is/are as under:

1. ........................................................................................................

2. ........................................................................................................

3. ........................................................................................................

C. Country of Origin ____________________________

Date: Seal & Signature of the Bidder

Note: Clarification for local content calculation as per OM No. P-45021/102/2019/BE-II-Part (1) (E-50310), dated March 4, 2021 of Government of India, Ministry of Commerce and Industry, Department of Promotion of Industry and Internal Trade, Public Procurement Section.
Tender No. :- .................................  

Date:-  ..................

To
The Dean (SRIC)
Indian Institute of Technology Kharagpur
Sponsored Research and Industrial Consultancy
P.O.: Kharagpur, Dist: Medinipur (West)
Kharagpur - 721302

Dear Sir,

We manufactures of original equipment at (...........................address of factory.............................) do hereby authorize M/s (Name and address of Agent) to submit a bid, negotiate and receive the order format against your tender enquiry.

M/s. .............................................. is authorized to bid and conclude the contract in regard to this business.

We hereby extend our full guarantee and warranty as per clause ............................. of the terms and conditions NIQ for the goods and services offered by the above firm.

Yours Faithfully,

(Name)

(Name & Seal of Manufactures)

Note: -

1. **In cases of agents quoting in offshore procurements**, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. **One manufacturer can also authorize only one agent/dealer**

2. The letter of authority should be on the letterhead of the manufacturer and should be signed by a person competent and having the power of attorney to bind the manufacturer. The same should be included by the bidder in its techno-commercial unpriced bid.
CERTIFICATE

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and hereby certify that this bidder is not from such a country.

OR (whichever is applicable)

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and hereby certify that this bidder is from _______________ (Name of Country) and has been registered with the Competent Authority. I also certify that this bidder fulfills all the requirements in this regard and is eligible to be considered.

(Copy/ evidence of valid registration by the Competent Authority is to be attached)

Signature of Bidder/ Agent

Name: ______________________________

Designation: ______________________________

Organization Name: ______________________________

Contact No. : ______________________________
CERTIFICATE

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries and hereby certify that this bidder is not from such a country and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority.

OR (whichever is applicable)

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries and hereby certify that this bidder is from _______________ (Name of Country) and has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I also certify that this bidder fulfills all the requirements in this regard and is eligible to be considered.

(Copy/ evidence of valid registration by the Competent Authority is to be attached)

Signature of Bidder/ Agent

Name: ______________________________
Designation: _________________________
Organization Name: __________________
Contact No. : ________________________
SECTION XV

TENDER DOCUMENT FOR PURCHASE OF Intrinsically safe, Compact Multi-channel Interface, Real Time Shield Pressure and Shearer position monitoring and analysis system in underground Longwall Mines

TENDER NO. IIT/SRIC/MIN/IOL/DD/21-22/EQ-2

<table>
<thead>
<tr>
<th>Name and Address of the Tenderer:</th>
<th>List of Equipment Quoted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid Security Self Declaration Form</td>
<td>Yes/ No</td>
</tr>
</tbody>
</table>

CHECKLIST FOR THE TENDERER

*Supportive Documents must enclose for fulfilling Eligibility criteria, to be submitted by the Tenderer

<p>| 01 | Minimum Five (5) years’ experience in the field of supply of laboratory equipment | Yes/No |
| 02 | Average Annual Turnover of at least 32,00,000 INR during last 3 financial years i.e. 2017-18, 2018-19 and 2019-20 is required | |
| 03 | A bid form at a prescribed Format | |
| 04 | Bid Security Self Declaration Form | |
| 05 | Audited Financial Statement for last three financial years (i.e. 2017-18, 2018-19 and 2019-20) | |
| 06 | Copy of IT Return Acknowledgement for the preceding three financial years (i.e. 2016-17, 2017-18 and 2018-19) | |
| 07 | Registration Certificate/Certificate of incorporation, if any | |
| 08 | Must have supplied similar equipment to laboratories of State or Central Government Institutions or reputed Educational or Research Institution and proof of such supplies should be produced | |
| 09 | GST Registration Certificate | |
| 10 | Copy of PAN./CIN No. of the Company | |
| 11 | Authorized dealer Certificate from Manufacturer | |
| 12 | Lists of clients with reference in minimum five firms with name, designation and contact details | |
| 13 | Brief on supply of laboratory equipment handled during last five years | |
| 14 | List of offices/branches in India, with address and contact details | |
| 15 | Contact Person Mobile No. &amp; Land Line | |
| 16 | Self-Certificate for Local Content | |
| 17 | OEM Authorization | |
| 18 | (For Goods/ Services Contracts) | |</p>
<table>
<thead>
<tr>
<th>Certificate - Bidder Not from/ from Country sharing Land border with India &amp; Registration of Bidder with Competent Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 (For Works Contracts, including Turnkey Contracts) Certificate – Bidder Not from/ from Country sharing Land border with India, Registration of Bidder with Competent Authority &amp; not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority</td>
</tr>
</tbody>
</table>

Signature of the Tenderer  
Date:  
Date with Company Seal