



CENTRAL MANUFACTURING TECHNOLOGY INSTITUTE
Tumkur Road, Bangalore - 560 022

Invitation of Expression of Interest (Eoi) for Consultancy services for High purity Gas Distribution Project for Sensor Technology Development centre at CMTI, Bangalore.

Eoi No. CMTI/ESD/Eoi/01/2021-22

CENTRAL MANUFACTURING TECHNOLOGY INSTITUTE**INVITES EXPRESSION OF INTEREST (EOI) FOR CONSULTANCY SERVICES FOR
HIGH PURITY GAS DISTRIBUTION PROJECT FOR SENSOR TECHNOLOGY
DEVELOPMENT CENTRE AT CMTI, BANGALORE****DISCLAIMER**

This request for Eoi contains brief information about the Project, Qualification Requirements and the Selection process for the successful proponent.

This document is not an agreement and is not an offer or invitation by CMTI to any parties. The purpose of this document is to provide the proponent with information to assist the formulation of their proposals. This document does not purport to contain all the information each proponent may require. This document may not be appropriate for all reasons, and it is not possible for the CMTI Representatives, their employees or advisors to consider the investment objectives, financial situation and particular needs of each proponent who reads or uses this document. Each proponent should adopt its own methodology and should check the accuracy, reliability and completeness of the information in this document and wherever necessary obtain independent advice from appropriate sources including CMTI. CMTI, their employees and advisors make no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of the document.

CMTI and its representatives may in their absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this document.

CMTI reserves the right to accept or reject any or all Eois without giving any reasons thereof. CMTI will not entertain any claim for expenses in relation to the preparation of Eoi submissions

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CENTRAL MANUFACTURING TECHNOLOGY INSTITUTE

Tumkur Road, Bangalore - 560 022

Telephone :080 22188247 / 71 / 262

No. **CMTI/ESD/EoI/01/2021-22**

Date:01/07/2021

EXPRESSION OF INTEREST

Expression of Interest (EoI) are invited from experienced Consultant / Agencies / Firms executing similar nature of works:

Name of work	Invitation of Expression of Interest (EoI) for Consultancy services for High purity Gas Distribution Project for Sensor Technology Development centre at CMTI, Bangalore.
Earnest Money Deposit (EMD)	Nil
Tender document fee	Nil
Date of publishing proposal Notice	01/07/2021 at 10:00hrs
Tender documents	Can be downloaded from the CMTI website www.cmti-india.net or www.eprocure.gov.in/epublish or collected from the office of the Group Head (Engg Services), CMTI from 01/07/2021 10:00hrs to 20/07/2021 12:00 hrs.
Last Date & Time of online Submission of Proposal document	20/07/2021 17:00 hrs.
Prebid meeting on	14/07/2021
Opening of proposal	21/07/2021 .
Nature of Award	Lumpsum.
Proposal Validity Days	90 Days
Completion period	Till physical completion of the works.

Proposal opening place	Central Manufacturing Technology Institute, Tumkur road, Bangalore.
Inviting Officer Designation, Address Phone/email:	The Group Head(Engineering Services), Central Manufacturing Technology Institute, Bangalore

Intending proponents should submit their proposals on or before the time and date specified in the EoI to CMTI.

The proposal shall be opened at Central Manufacturing Technology Institute, Bangalore on the date and time mentioned above in the presence of the proponents / their representatives who wish to attend. The tender details will be available in the website 'www.cmti-india.net or www.eprocure.gov.in/epublish or collected from the office of the Group Head(Engg Services), CMTI. The details of proponents/ its representatives who wish to attend the tender opening would intimate at least 2 days in advance to the email id mentioned below.

If any of the dates mentioned above happens to be a holiday, the actual dates for the same will be the next working day. No separate intimation in this regard will be issued.

The inviting authority reserves the right to modify /cancel any or all proposals without assigning any reasons. CMTI will not be responsible for any errors like missing of schedule data while downloading by the proponent/ non receipt of document / delay if any.

Further details can be had from

- 1) The Group Head(Engineering Services),
CMTI, Bangalore
- 2) Executive Engineer/ Scientist-C
Engineering Services, CMTI, Bangalore
tpm@cmti.res.in/ aruncj@cmti.res.in 08022188262/271

Sd/-

Group Head

(Engineering Services)

SECTION 2 : INTRODUCTION & BACKGROUND

Central Manufacturing Technology Institute', CMTI, is a Research & Development organization focusing on providing 'Technology Solutions' to the manufacturing sector and assisting technological growth in the country. CMTI plays a key role in applied research, design and development (RD&D), technology forecasting, assimilation and dissemination of manufacturing technology to Indian industries.

CMTI is a registered Government of India Society, an autonomous institution under the administrative control of the Ministry of Heavy Industries & Public Enterprises, Government of India, governed by a Governing Council which has representation from the machine tool manufacturing and user industries, the Union Government and the Government of Karnataka. The Governing Council evolves Policies and monitors policy deployment. A Research Advisory Board (RAB), a Technical Committee with representatives from industries and academia, assists the institute on matters relating to technology advancement.

CMTI over the past five decades has executed multi-domain, complex projects with predominant R&D content giving technology thrust to industries. Eco-system of Pre-competitive RD&D projects has created a pool of multi-disciplined, skilled, experienced and knowledgeable human resource with an R&D inclination. Knowledge and Skill sets of scientific community are upgraded continuously to meet the challenges of manufacturing industries.

SECTION 3: GENERAL CONDITIONS

2.1 STANDARD TERMS AND CONDITIONS

This EoI is subject to the Terms and Conditions mentioned therein.

3.2 MANDATORY REQUIREMENTS

Proposals not meeting all mandatory requirements will be rejected.

3.3 RIGHT TO AMEND CONDITIONS

The GH(ES) on behalf of CMTI reserves the right to amend or supplement the EoI, giving equal information and cooperation by way of issued addendum to all proponents, as a result of any such amendment. The GH(ES) will notify any changes made to the EoI or to any appendices or any change in the closing date or time through web site. When these changes occur within **five (5)** CMTI working days of the close of the proposal, the EoI closing date may be extended to allow for a suitable number of proposal preparation days between the issuance of the change and the closing date.

3.4 EoI INFORMATION

Material, information and data accessed or provided by CMTI and used in the preparation of the proposals is confidential and the property of the KSEBL.

3.5 CHANGES TO PROPOSAL WORDING

Proponents will not be allowed to amend their proposal after submission. However, the CMTI, reserves the right to seek clarification on a submitted proposal.

3.6 PROPONENT INCURRED COSTS

All costs incurred in the preparation and presentation of the proposals shall be wholly absorbed by the Proponent.

3.7 INDEMNITY, INSURANCE AND LIABILITY REQUIREMENTS

The Proponent will indemnify(in standard format) and save harmless CMTI from and against any claims, demands, losses, damages, costs and expenses made or incurred, suffered or sustained by CMTI at any

time or times (either before or after the expiration or sooner termination) where the same or any of them are based upon or arise out of or from anything done or omitted to be done by the Proponent or by any servant, employee, officer, of the proponent.

The consultant shall indemnify and hold harmless CMTI, their employees, from any and all claims, demands, actions and costs whatsoever for which the Consultant is legally liable that may arise, directly or indirectly out of any negligent act or omission of the Consultant, Sub-consultants, or their employees or agents, in the performance by the consultant of the work identified in the proposal.

The Consultant shall at their cost maintain insurance and pay assessments as will protect the Consultant and CMTI from any claims and from any other claims for bodily injury, personal injury or property damage which may arise from operations resulting from contract entered into.

During the course of the work, the Consultant must carry a minimum level of Professional Liability, insuring liability for errors and omissions in the performance of professional services including all consultants.

3.8 CONFIDENTIALITY AND SECURITY

This document, or any portion thereof, may not be used for any purpose other than the submission of proposals.

These include strict control of access to data and maintaining confidentiality of information gained while carrying out their duties as per the contract.

Information pertaining to any department obtained by the proponent as a result of participation in this project is confidential and must not be disclosed without written authorization from CMTI

3.9 LIABILITY FOR ERRORS

Considerable efforts to ensure the accuracy of the information in this EoI have been made. The information contained in this EoI is supplied solely as a guideline to Proponents. The information is neither guaranteed for accuracy, nor is it necessarily comprehensive or exhaustive.

3.10 ACCEPTANCE OF TERMS AND CONDITIONS

Unless otherwise stated by the Proponent, all terms and conditions of this EoI document are to be accepted and incorporated in the Proponent's submission of proposal.

3.11 ACCEPTANCE OF PROPOSALS

CMTI is not bound to accept a proposal with the lowest price or any proposal of those submitted. Proposals will be assessed in light of the evaluation criteria.

Subsequent to the submission of the Proposals and the Proponent interviews (if needed), negotiations may be conducted with one or more of the Proponents, but there shall be no obligation to receive further information, whether in writing or oral, from any of the Proponents. CMTI shall not be obligated in any manner to any Proponent whatsoever until a written agreement has been duly executed relating to an accepted proposal.

3.12 VALIDITY PERIOD

Proposals must be open for acceptance for at least **Nintey (90)** days after the closing date. Upon acceptance, prices will be firm for the entire contract period unless otherwise specified.

3.13 EVALUATION OF PROPOSALS

A committee constituted by CMTI will evaluate all acceptable proposals. Director reserves the right to select the Consultant based on the evaluation criteria as fixed by CMTI.

3.14 NEGOTIATION DELAY

If an agreement cannot be negotiated / executed within **Thirty (30)** days of notification to the selected consultant, CMTI may, at any time thereafter, terminate negotiations with the selected consultant and reserves the right to negotiate a contract with another Proponent of its choice or choose to terminate the EoI process.

3.15 PROPOSALS SELECTION

Once a decision has been made, CMTI will notify the successful Proponent. CMTI will treat all proposals with strict confidentiality and any information on proposals will not be divulged except where required. An agreement in non judicial stamp paper **worth Rs. 200/-** will have to be executed with CMTI once final acceptance of the proposal is determined and work order is

issued. The stamp paper should be brought in favour of the selected consultant and should have been procured only after the date of issuance of work order.

3.16 CONTRACT CANCELLATION

The contract may be cancelled as determined by the Director CMTI, but not limited to, the following reasons. If the Consultant:

- Defaults in the observance of any of the conditions contained in the contract or specification;
- Has become insolvent; and /or
- Has committed an act of bankruptcy,
- Assigns the work of this contract to another consultant without written consent of the CE(C-I&P)

3.17 LIQUIDATED DAMAGES FOR DELAY IN COMPLETION

For any delay attributable to the consultant, beyond the scheduled/period of completion of various activities as per relevant clauses in the work order, a penalty worked out at the rate of 1% (one percent) on an amount of uncompleted activities of the contract value, for each calendar month of delay or part thereof. However total liability of the consultant under this clause shall not exceed 5% (five percent) of the total contract value as awarded.

3.18 DISPUTE RESOLUTION

All matters in dispute under the contract developed from this EoI with CMTI may be submitted to Director, CMTI and the decision of Director, CMTI will be final.

SECTION 4: SUBMISSION OF PROPOSALS

4.1 INTRODUCTION

Tenders/proposals shall be accepted through offline mode.

The proponents are advised to carefully examine all instructions, conditions, terms, specifications, drawings if any etc. in the proposal documents and details regarding the facilities at work site, approaches, obstacles etc. The proponents are advised to visit the site, before submitting the proposal documents. In case of any doubt or issue, the proponent may collect whatever information required from the bidding authority.

The rates shall be quoted after precisely considering all aspects that may be encountered during entire duration of the work. The quoted rates shall be on the proponents' risk and remain firm during the period of contract. The Proponent is not entitled for any claim other than that agreed to in the contract.

Intending proponents should submit their proposals offline directly to CMTI on or before the time and date specified in the EoI notice.

4.2 SUBMISSION

The Proponent shall sign the Proposals wherever required as mentioned in the EoI document. No joint venture/ partnership firms are permitted to participate in this EoI

COVERS

Cover No.1

This cover shall contain

- i. Scanned copy of certificates in proof of experience and any other documents specified, an attested copy of PAN /TAN card of the Authorized Signatory / Firm shall be uploaded as a single pdf.
- ii. Scanned Signed copy of downloaded Conditions of Contract, Specifications and Schedule (this tender document including Annexure documents as a single pdf.

Cover no.2 shall contain

- i. Only Quoted Price bid (BOQ) in price bid format

Both the covers should be submitted in a single cover mentioning the name of works and Eol reference number

All proposals must be submitted before closing date and time mentioned in the notice.

The Eol opening will be held at on 21-07-2021 at, CMTI.

Late proposal will not be accepted.

All proposals shall acknowledge any addenda, which have been issued. It is the responsibility of the Proponent to determine if there were any addenda.

The Proponent shall not change the wording of his proposal once submitted.

SECTION 5: PREBID MEETING & QUERRIES AND CLARIFICATIONS

Pre-bid meeting:- A pre bid meeting shall be held with the interested parties at Central Manufacturing Technology Institute ,Tumkur road, Bangalore-560022 at 11:00 Hrs on 14/07/2021 to clear the doubt of interested parties, if any. Parties should send by email, all their queries, before pre-bid conference, latest by 13.00 hrs of 11/07/2021 to the GH(ES), CMTI Email id: aruncj@cmti.res.in . As a result of pre-bid conference, certain modifications may be issued to the Eol conditions, if felt necessary as corrigendum. The service provider should get acquainted with themselves the conditions under which the work need to be designed and no claims against site familiarization will be entertained. All interested vendors are requested to visit the site prior to submission of quotes. The outcome of the pre-bid conference will become part of contract document.

All enquiries related to this Eol are to be made in writing to the Group Head, Engineering Services, CMTI at the following address, Seven days before the closing date:

The Group Head(Engineering services)

CMTI, Tumkur road, Bengaluru-560022

Email: aruncj@cmti.res.in

Responses to enquiries will be made in writing; therefore the Proponent must include a contact name, a mailing address and Landline & mobile number on all correspondence.

All enquiries and responses thereon will be made available to all Proponents **Three days before** the closing date through email or thru CMTI website. Therefore, further questions made after the day prescribed will not be entertained.

SECTION 6: SCOPE OF WORK & SERVICES REQUIRED FROM THE SUCCESSFUL CONSULTANT

6. Objective

CMTI is planning to set up unique Sensor Technology Development Centre for its campus at Bangalore. CMTI, in this endeavor, intends to take the service of **an specialist Consultant/ Firm having expertise in planning, designing, execution and validation of High purity gas distribution system involving bulk & process gases, piping for 5N& 6N purity gases, extraction/ exhaust system, safety system, SCADA incorporation etc**

It is proposed that the **Consultants** will Prepare and submit a Detailed Design for the Gas distribution system along with technical specification, boQ, make list, identification of capable vendors, tender evaluation, execution monitoring, validation monitoring, certification of work completion etc acceptable to CMTI with the best in class safety and Building management system integration. The Designs once accepted by CMTI becomes the property of CMTI.

This is a Two part Evaluation

Part1- Technical Evaluation and Part-2- Financial Evaluation. The Quotation documents should be submitted in 2 covers as detailed in section above.

6.1 Scope of Work

1. Consultant shall provide Design, Detailed Engineering, Specifications, etc. and oversee the installation, testing, commissioning & validation of utilities comprising of High Purity Gas management systems for Microelectronic/ Nano fabrication/ MEMS facilities
2. Consultant shall associate with CMTI team for: (a) Finalization of layout drawings, Specifications, design, detailed BOQ, etc. and (b) Tendering, Tender Evaluation, Execution, Testing, Certification, Validation & Handing over of the project involving the following and also be associated with all necessary Meetings

- i) Gas Distribution Network and allied Safety systems e.g. Toxic Gas Monitoring system, etc.
 - ii) Fire Safety (Fire Hydrant & Fire Sprinkler)
 - iii) Gas Management system and its integration with BMS Controller
 - iv) Personal Protective Equipment (Suit, Self Contained Breathing Apparatus)
3. Consultant will review, study, analyse, correct/modify and update the briefs, designs, concepts, P&IDs, estimates, tender documents etc. for the gas management systems comprising of High purity distribution piping for Bulk & Process gases (Corrosive, Toxic and Pyrophoric gases), Cryo Tanks for storing Liquefied gases, Gas Cabinets, Gas Panels, Controllers, etc. and allied safety installations viz. TGM (Toxic gas monitoring) system, Exhaust system, Fire sprinklers, etc. mentioned in the Tender document and the technical submittals to be made by the selected contractor for approval of CMTI before commencing the work at site
 4. Consultant shall follow ASME design standards, NFPA standards & SEMI standards
 5. Consultant shall provide the requirements of Exhaust system, Electrical Works, Gas & Fire Detection & Protection system etc. from the Gas Management System point of view.
 6. Consultant shall provide the requirements of SCADA for Gas Management software involving emergency responses and shut down procedures using Cause Effect Logic. Consultant will assist in System configuration (Hardware and Software) SCADA and HMI based for Toxic Gas Monitoring and Control (PLC).
 7. Consultant will assist in evaluating the bids and put up detailed result of the bid/s scrutiny to the bid opening Committee to be nominated by Client.
 8. Consultant shall furnish the list of service providers for the utility & service facilities, safety and security systems to complete the project as per requirements of CMTI. The Consultant shall include names of highly experienced and reputed service providers in the list and relevant documents in support of such experiences in High Purity Gas Distribution Network for

Semiconductor/Microelectronic/ Nano fabrication/ MEMS facilities applications shall be enclosed.

9. Provide List of OEM's, Vendors for various components, equipment's required in the Project for Gas Distribution System
10. Provide quick clarifications to designs or details that have been provided vide drawings or immediate solutions to the clarifications sought by the Vendors/Firms.
11. Attend periodic meetings to review the progress of the project works. Such meetings shall be held with the Vendors, Firms, and Employer's Engineer in-charge.
12. Drawing up and putting in place a Quality Assurance Plan as well as a Safety Assurance Plan along with an appropriate and efficient mechanism to ensure their effective implementation at site.
13. Provide regular supervision, inspection / monitoring of works and during Defect Liability Period and initiate in issue of timely notice to vendors/agencies for rectification of defects, if observed.
14. Final inspection, supervision of testing and commissioning of Gas Distribution System and assisting the CMTI in taking over of various parts of works and of various systems and certify the same.
15. Consultant must assist and monitor in the Relocation and Reinstallation of existing gas panels, line items (regulators, Pressure Gauges, Filters, valves etc) with all the necessary safety measures to ensure the integrity of the panel. Supervise/Witness all the necessary tests performed and certified by the vendor for pressure lock, helium leak particle, purity tests, etc.
16. The consultant should prepare the BoQ meticulously to utilize the existing gas distribution installations available with CMTI to the maximum so that the lesser installation are to be provided afresh.
17. Any other activity that is deemed necessary for the project execution & completion, but not included in the above-mentioned list shall form the part of scope of work of the Consultant and the decision of CMTI shall be final in this regard.

18. The firms/ Individual has to give a presentation on the designs he is going to propose before CMTI. The date of presentation will be intimated separately. Technical evaluation will be carried out based as per the marks awarded by technical evaluation committee. Only those firms who scores 70 marks or above only will be eligible for financial evaluation.

Others

The technical proposal from the proponents should essentially include the proponents experience in carrying out similar assignments, individual CVs of key resource personnel proposed for the assignment, their role on the assignment etc. Methodology for successfully carrying out the assignment should be clearly mentioned..

SECTION 7: PAYMENT SCHEDULE & TERMS OF PAYMENT

7. PAYMENT SCHEDULE

Amount quoted must be in Indian Rupees and should include any applicable taxes including GST. All statutory recoveries shall be affected from the Consultant at the current rates.

Income tax deduction at source will be done by CMTI. If exempted from payment of Income tax, then necessary proof of Income tax exemption should be submitted along with the proposal.

No Advance payment will be made at any time to this Consultancy Agreement

No claim in terms of any taxes, surcharges or other duties will be entertained. The price quoted should be inclusive of all expenses from consultant side to complete the assignment.

All the statutory recoveries like IT and other deduction shall be made as per rules prevailing in CMTI and is applicable to this contract also.

No deviation from the **payment schedule & terms of payment** mentioned in the proposal document is permitted.

PAYMENT SCHEDULE

The split up of payment shall be as under

Stage No	Description of Activities	Price
I	Providing Draft Design and BoQ for approval	15% of the Quoted percentage of Estimated cost of Work
II	Providing Final designs and BoQ with technical specification for tendering and accepted by CMTI	25% of the quoted percentage of Estimated cost of Work
III	Tender evaluation , and works award and execution of works	40% of the quoted percentage of works awarded value on pro-rata basis as per the bill paid to execution vendor
IV	Completion of validation, preparation and submission of as built drawings and completion certificate	Balance payment will be 100% of the quoted percentage of works completion cost certified by CMTI minus(-) all the above payments made / all previous payments made.

TERMS OF PAYMENT:

I. Stage 1 should include :

- a. Data collection from CMTI/user department
- b. Preparing layouts and designing the tubing, and gas installation
- c. Preparing draft Bill of Quantities and Estimate

II Stage II should include

- a. Incorporating modifications suggested by CMTI
- b. Preparing final designs and layouts

- c. Preparing and submitting finalized BoQ, Technical specification, make list, SCADA incorporation, Testing and commissioning methods and standards.
- d. Assisting in Preparation of tender documents for calling tender for works execution.

III Stage III should include

- a. Technical Evaluation of bids submitted by vendors
- b. Material acceptance, Engineering details from vendor, Monitoring of works and assisting in verification of bills for works executed by vendors.

IV Stage IV should include

- a. Inspection and certification of works execution
- b. Monitoring of validation of Gas distribution system
- c. Issue of completion certificate and As built drawings of Gas Distribution system.

6.2 EXTRA WORK

No extra work is anticipated as the payment is based Lumpsum cost.

6.3 OTHERS

In addition to all the aspects mentioned above all other aspects/activities which may be required for successful completion/finalization of the Gas sidtribution system of STDF shall also be taken up together by the consultant in consultation with CMTI

SECTION 8: ELIGIBILITY & REQUIREMENTS

CMTI will use the submitted proposals & CREDENTIALS as the basis for selecting the successful consultant.

8.1 MANDATORY REQUIREMENTS:

- a) Submission must be received by the time and date indicated in the document.
- b) An official of the consultant who is authorized to sign on behalf of / and bind the proponent to statements made in the proponent's submission must sign the submissions.
- c) The Proponent must clearly demonstrate their experience in:
 - Project management, including scope, schedule and budget control.
 - Previous experience should be clearly brought out.
 - Obtaining statutory clearances from any statutory agencies of Gol/GoK
- d) The Proponent must demonstrate their understanding and knowledge of the:
 - All the gases involved for process including high purity gas distribution systems.
 - Knowledge in piping and routing works.
 - Extraction and exhaust systems
 - Safety systems
 - Knowledge on implementing SCADA system for total gas management
 - Knowledge on NFPA318 standards
 - Job safety Analysis(JSA), Major Accident Prevention Plan(MAPP), Pre startup safety review(PSR) knowledge.
 -

8.1.1 PROPONENT'S REFERENCES

Provide a minimum of one client reference (other than CMTI) for a project of similar scope and nature of this work which have been successfully completed. Include a description of the project, name of the client who had assigned the work, address, telephone and fax numbers, and contact person.

8.1.2 PROJECT LEADER

Name the employee who will be assigned to this project as Project Leader. Provide a detailed resume, which indicates with experience that particularly relates to their ability to effectively lead and manage a project of similar scope and nature, specifically their expertise with respect to high purity total gas management system. Indicate any factors, which would have a bearing on this person's ability to effectively undertake the role.

8.1.3 HEALTH AND SAFETY

Consultant is to be committed to safe work practices.

8.1.4 APPENDICES / ATTACHMENTS

If applicable, this section should contain any additional information pertinent to the Proponent's response.

All materials submitted as appendices / attachments to the proposal should be clearly indicated in the Table of Contents. Materials not so documented by the Proponent will be considered as extraneous information. This list of attachments should also contain a brief description of the attached material, including what information, CMTI from its examination of the material can gain.

SECTION 9: EVALUATION PROCEDURE

The Works committee or any other committee nominated by CMTI will evaluate the proposals on behalf CMTI by adopting QCBS methodology. The process will include a review and check of the information contained in the proposals and familiarity with the work of the Proponent.

Notwithstanding the technical /managerial and financial proposal, the Director, CMTI reserves the right to reject any proposal where prices are deemed unreasonable or not in line with the scope of work outlined by Engineering services as described in the proponent's submission.

8.1 EVALUATION CRITERIA

SCORE	POTENTIAL SCORE	DESCRIPTION
1.	100	TECHNICAL Evaluation (Total weight age – 70%)
1.1	60	Experience in Designing, installation and validation of Ultra high purity Gas distribution system
	(10)	a) A minimum Period of 15 years of experience in designing & execution of U.H.P. Gas distribution works.
	(15)	b) Design experience in SS316 L Electro- polished tubing/piping for 6N &5N purity gases.
	(10)	c) Experience in installation & Validation of toxic gas distribution network of Silane, Phosphine, Diborane, Ammonia & Hydrogen.
	(10)	d) Experience in installation & Commissioning of Cryo-tanks, Gas generators, Gas purification systems, Gas Cabinets, VMBs, etc

	(5)	e) Design experience in process extraction-exhaust system related with UHP gas distribution system.
	(10)	f) Design experience in safety systems (TGM, etc.) involved in high purity gas distribution system
1.2	30	Experience in monitoring and control of Toxic gases
	(10)	a) Design experience in controller hardware, software, logic control and control philosophy.
	(10)	b) Experience in designing & implementing SCADA/ Gas Management software, Gas Detection Sensor for the toxic gases.
	(10)	c) Experience in Life safety systems, (PPEs for handling Toxic gases, etc)
1.3	10	Experience in Equipment Qualification Testing, Inspection, Certification, Training
	100	Subtotal
2.		FINANCIAL COMPONENT
	100	Weightage – 30%
		<p>Pricing and Financial</p> <p>The Proponent with the lowest lump sum pricing will be awarded 100 out of 100, and the financial proposal of the remaining will be calculated as follows</p> $S_f = 100 \times F_m / F.$ <p>Where S_f is the financial score of the</p>

		Financial proposal evaluated F_m is the financial proposal (adjusted) to the lowest priced Financial proposal, F is the financial proposal (adjusted) to the Financial proposal under consideration

Final Ranking of the proposals will be determined by applying a weight of 0.70 (70%) and 0.30 (30% percent) respectively to the technical and financial scores of each of qualifying proposals.

Only those proposals achieving an aggregate score of 70% (i.e. 70 points out of 100) or greater for Technical and Managerial merit will have their financial proposal evaluated. Notwithstanding the technical/managerial and price scores, the CMTI reserves the right to reject any proposal where prices are deemed unreasonable relative to other prices proposal or to the scope of work as described in the Proponents submission.

Note: *Quality and Cost Based Selection (QCBS) is a method that takes into account the quality of the proposal and the cost of the services. This method is applied for Complex or highly specialized assignments for which it is difficult to define precise and required input from the consultants and where the quality of service is of great importance for the outcome of the project.*

An illustration of QCBS is appended as 3.

9.2 Presentation of Proposal:

The participating firms/ Individual has to give a presentation on the designs, operation methodology and safety aspects he is going to propose before CMTI. The date of presentation will be intimated separately. The marks for Technical evaluation shall be decided by a duly constituted Committee by CMTI on the basis of Judgment of Presentation given by the firm/ Individual and as per the Technical evaluation criteria. The Technical evaluation carried out by the said Committee shall be final and binding.

9.3 FURTHER INTERVIEWS

Subsequent to the submission of Proposals and the Proponent interview/ Presentation (if required and conducted), further interviews and negotiations may be conducted with the Proponent, but there shall be no obligation by the CMTI or its representatives to receive or provide further information, whether in writing or oral from or to any Proponent.

In the event that further interviews are a requirement, the proponents will be advised and where possible mutual convenient times and locations will be arranged. Expenses will not be reimbursed for time or travel to attend interviews or negotiation meetings.

9.4 ACCEPTANCE OF WORK ORDER AND EXECUTION OF AGREEMENTS

Within **seven days** from the date of issue of the Letter of Intent/ Work order, the successful Consultant shall accept the work order and return the duplicate copy of same to the Group Head(ES), CMTI. The successful proponent shall execute the **agreement** within **Fifteen days** of the issue of work order or within such further time frame as GH(ES), may agree to in its sole discretion.

The expenses for preparation and stamping of the contract agreement shall be borne by the successful proponent

9.5 PERFORMANCE GUARANTEE

Nil

SECTION: APPENDICES

1. LETTER OF APPLICATION

2. GENERAL INFORMATION OF THE PROPONENT /BIDDER
 - a) List of Annexure

3. ILLUSTRATION OF EVALUATION BY QCBS

APPENDIX 1

CENTRAL MANUFACTURING TECHNOLOGY INSTITUTE

Tumkur Road, Bangalore - 560 022

Invitation of Expression of Interest (EoI) for Consultancy services for High purity Gas Distribution Project for Sensor Technology Development centre at CMTI, Bangalore.

LETTER OF APPLICATION

(To be filled up by the bidder)

Name of work: Invitation of Expression of Interest (EoI) for Consultancy services for High purity Gas Distribution Project for Sensor Technology Development centre at CMTI, Bangalore

To

The Group Head
Engineering Services
CMTI,
Tumkur road, Bangalore-560022

Sir/Madam,

1. I/We have downloaded the Bid document from the web site www.cmti-india.net/ manually obtained and I/We have not tampered/ modified the Bid forms in any manner. In case, if the same is found to be tampered/modified at a later stage, I/We understand that my/our tender will be summarily rejected and full bid security will be forfeited.
2. Having examined carefully the specifications together with the conditions of bid & contract, Schedules, and the

accompaniments, /we hereby offer to carry out the works described in the said specifications, etc. at rates entered herein.

3. I/We hereby undertake to plan, organize, execute and complete the whole of the work entrusted to me / us strictly according to the conditions of contract and the specifications if the work is awarded to me/us.
4. If the work is awarded to me/us, I/we also undertake to execute Agreement and commence the work as directed by you.
5. I/We also undertake to abide by the instructions of CMTI in carrying out the work envisaged under this contract.

Yours faithfully,

Station:

Date:

Signature of the bidder)

Name of Firm/ Individual & address

Official seal

APPENDIX-2

GENERAL INFORMATION OF THE PROPONENT/ BIDDER

Note: Separate sheets may be used wherever necessary.

1. Name & Address of the Bidder. -
2. Name & Designation of the concerned officer -
to whom all references shall be made.
3. Fax nos.: -
4. Phone nos. / Mobile Nos.: -
5. E-Mail ID: -
6. Total No. of Employees/Manpower Strength: -
7. Type of the Organization (Public Sector /
Limited/Private limited/Partnership/
Proprietary /Society/Any other) -
8. No. of Offices/Centers (enclose the list): -

9. Any other information that bidder may -
like to give in order to highlight his bid.

10. Name & address of local representative, if any -

APPENDIX 3.

EVALUATION BY QCBS AN ILLUSTRATION

STAGE I : TECHNICAL PROPOSAL EVALUATION

Proponent details	Technical mark obtained
PROPONENT 1	92
PROPONENT 2	85
PROPONENT 3	55
PROPONENT 4	75

QCBS Grading system

GRADE	RANGE	MARK
OUTSTANDING	91-100	100
EXCELLENT	81-90	90
VERY GOOD	71-80	80
GOOD	61-70	70
VERY FAIR	51-60	60
FAIR	41-50	50
AVERAGE	31-40	40
BELOW AVERAGE	21-30	30
POOR	11-20	20
VERY POOR	1-10	10
ZERO	0	0

STAGE II; CONVERSION OF TECHNICAL MARKS TO TECHNICAL SCORE

Proponent details	Technical Score based on grading System
PROPONENT 1	100
PROPONENT 2	90
PROPONENT 3	*Rejected
PROPONENT 4	80

* Since the eligible technical score should be **70** and above, proponent 3 is rejected

STAGE III; FINANCIAL PROPOSAL EVALUATION

Proponent details	Financial proposal amount in lakhs
PROPONENT 1	4.00
PROPONENT 2	5.00
PROPONENT 4	3.50

STAGE IV; CONVERSION FINANCIAL PROPOSAL AMOUNT TO SCORE

Proponent details	Financial Score (LFB/F x 100)
PROPONENT 1	$(3.5/4.0) \times 100 = 87.5$
PROPONENT 2	$(3.5/5.0) \times 100 = 70.0$
PROPONENT 4	$(3.5/3.5) \times 100 = 100.0$

LFB – Lowest Financial PROPOSAL F – Quoted amount

CONSOLIDATED TECHNICAL AND FINANCIAL SCORE

Proponent details	Technical score	Financial Score
PROPONENT 1	100	87.5
PROPONENT 2	90	70.00
PROPONENT 4	80	100.00

STAGE V: COMBINED TECHNICAL AND FINANCIAL SCORE (CTFS) WITH
WEIGHTAGE 70 : 30

Proponent details	Applying weights for the Technical score and Financial score	CTFS	Rank of the Proponent
PROPONENT 1	$100 \times 70/100 + 87.5 \times 30/100$	96.25 (70 + 26.25)	1
PROPONENT 2	$90 \times 70/100 + 70 \times 30/100$	94.0 (63 + 31.0)	2
PROPONENT 4	$80 \times 70/100 + 100 \times 30/100$	86.0 (56 + 30)	3

LIST OF ANNEXURES

- | | |
|-------------------|--|
| Annexure 1 | Firms References |
| Annexure 2 | Description of methodology and work plan |
| Annexure 3 | Format of Curriculum Vitae (CV) for proposed professional staff |
| Annexure 4 | Assignment of similar nature successfully completed |

Annexure 1

CENTRAL MANUFACTURING TECHNOLOGY INSTITUTE

Tumkur Road, Bangalore - 560 022

**Invitation of Expression of Interest (Eoi) for Consultancy services for
High purity Gas Distribution Project for Sensor Technology
Development centre at CMTI, Bangalore.**

FIRMS REFERENCES

Relevant Services carried out in the Last 7 Years That Best Illustrate Qualifications

Using the format below, provide information on each reference assignment for which your firm/entity, either individually as a corporate entity or as one of the major companies within an association was legally contracted. (Separate pages for each assignments may be provided)

Assignment Name		
Location with Country		
Name of client		
Address		
Start Date (Month / Year)	Completion Date As per WO Actual (Month / Year)	Approx. Value of Service (in Current Indian Rs.)
Name of Associated Consultants, if any :		No. of months of Professional Staff Provided by Associated Consultants:
Name of Senior Staff(Project Director / Coordinator ,Team Leader) involved and functions performed		
Narrative Description of Project :		
Description of Actual Services Provided by Your Staff :		

Annexure 2

CENTRAL MANUFACTURING TECHNOLOGY INSTITUTE

Tumkur Road, Bangalore - 560 022

**Invitation of Expression of Interest (Eoi) for Consultancy services for
High purity Gas Distribution Project for Sensor Technology
Development centre at CMTI, Bangalore.**

DESCRIPTION OF THE METHODOLOGY AND WORK PLAN FOR
PERFORMING THE ASSIGNMENT(**attach separate sheets if required**)

Annexure 3**CENTRAL MANUFACTURING TECHNOLOGY INSTITUTE**

Tumkur Road, Bangalore - 560 022

**Invitation of Expression of Interest (Eoi) for Consultancy services for
High purity Gas Distribution Project for Sensor Technology
Development centre at CMTI, Bangalore.****FORMAT OF CURRICILUM VITAE (C V) FOR PROPOSED PROFESSIONAL
STAFF/S****(Attach separate sheets if required)**Proposed Position:

Name of Firm:

Name of Staff:

Profession & Qualification

Date of Birth:

Years with Firm / entity: Nationality:

Membership in Professional Societies:

Detailed Tasks Assigned :

Key Qualifications:

(Give an outline of staff member's experience and training most pertinent to tasks on assignment. Describe degree of responsibility held by staff member on relevant previous assignments and give dates and locations. Used about half a page .)

Education:

(Summarize college / University and other specialized of staff member giving names of schools , dates attended , and degrees obtained . Use about one quarter of a page.)

Employment Record:

(Starting with present position, list in reverse order every employment held. List all positions held by staff member since graduation ,giving dates, names of employing organizations, titles of positions held , and locations of assignments, For experience in last five years , also give types of activities preformed and client references, where appropriate. Use about two pages)

Languages:

(For each language indicate proficiency: excellent, good, fair, or poor in speaking, reading and writing)

Certification:

I , the undersigned , certify that to the best of my knowledge and belief , these date correctly describe me , my qualifications , and experience.

Date: -----

(Signature of staff member and authorized representative of the Firm)

Day / Month / Year

Full name of staff member: -----

Full name of authorized representative: -----

Annexure 4

CENTRAL MANUFACTURING TECHNOLOGY INSTITUTE

Tumkur Road, Bangalore - 560 022

Invitation of Expression of Interest (Eoi) for Consultancy services for High purity Gas Distribution Project for Sensor Technology Development centre at CMTI, Bangalore.

ASSIGNMENTS OF SIMILAR NATURE SUCCESSFULLY COMPLETED in last seven years(attach separate sheets if required)

1. Brief description of the Firm / Organization
2. Outline of the recent experience on assignments of similar nature

Sl No	Name of assignment	Name of Project	Client	Cost of assignment	Date of completion	Date of commencement	Was assignment satisfactorily completed
1	2	3	4	5	6	7	8

(Note : Please attach certificates from the client by way of documentary proof, Please attach separate sheets if required)

