INVITATION FOR EXPRESSION OF INTEREST (EOI)
FOR
TRANSFER OF TECHNOLOGY (TOT)

Tender No: CDAC(K)/MMG/PUR/38/EOI/AEE/2022-23

C-DAC Kolkata has developed a product, namely, "AI based Air Quality Monitoring System (AQAIMS) –V1.0" – an Electronic Device to measure and display monitor environmental pollutants like PM1, PM2.5, PM 10, SO2, NO2, CO, O3, ambient temperature, and relative humidity. Brief write-up of "(AQAIMS) –V1.0" is given below in this document.

Applications for Expression of Interest (EoI) are invited for the purpose of Transfer of Technology (ToT) / commercialization of the above mentioned product from the organizations with relevant experience.

1. Interested bidders are requested to provide necessary information in a format mentioned under Annexure-I (Part-A and Part-B) below as part of their EoI bid/application along with all relevant supporting documents.

2. EoI bids need to be submitted in a sealed envelope with marking on top "**EoI for ToT of (AQAIMS)-V1.0**" and it should reach the following address on or before **07 November 2022** by **5:00 P.M.**:

   The Centre Head
   Centre for Development of Advanced Computing (C-DAC), Kolkata
   Plot - E 2/1, Block - GP, Sector - V, Salt Lake Electronics
   Complex, Bidhan Nagar, Kolkata – 700091.
   Phone No: 033 2357 3581 / 5989 / 9846

   EoI bids shall be opened on **09 November 2022** at **11:30 a.m**.

3. C-DAC Kolkata reserves the right to extend above mentioned bid submission deadline, in which case all rights and obligations of C-DAC Kolkata and the bidders relevant to the previous bid submission deadline shall remain same for the extended deadline.

4. C-DAC Kolkata also reserves the right to amend the EoI bid documents already published which would be binding on all the interested bidders. The amendment will be made available on C-DAC's website, i.e., www.cdac.in well in advance.

5. During evaluation process of the submitted EoI bids, C-DAC Kolkata may ask the concerned bidder to provide clarifications, if any, on its submitted EoI bid. The request for clarification

from C-DAC Kolkata and the response from the bidder/s shall be in writing. No postsubmission of EoI bids and/or clarification/s at the initiative of the bidder shall be entertained.

6. Bidders of the received EoI bids may be called for making a presentation before C-DAC Kolkata's ToT Committee of the product.

7. Representative/s of C-DAC Kolkata may visit bidder's premises, with prior information, to inspect and assess their facilities mentioned in their EoI bids.

8. After evaluation process of the received EoI bids, C-DAC Kolkata will invite submission of sealed **Financial Bids** from the technically selected bidders only.

9. C-DAC Kolkata reserves the right to reject all or any application without assigning any reason thereof.

10. EoI bids that are incomplete in any respect or those that are not consistent with the requirements as specified in this EoI document or those do not adhere to the format given below under Annexure-I (Part-A and Part-B), may be liable for rejection and no further correspondences will be entertained with such bidders.

11. Those who have responded to our previous EoI, if any, need not apply again.

12. Canvassing in any form would summarily disqualify the bidder.

13. All cost and expenses associated with submission of EOI bids shall be borne by the bidders while submitting the EOI; and C-DAC Kolkata shall have no liability, in any manner in this regard, or if it decides to terminate the process of short listing for any reason whatsoever.

14. Contact person on behalf of C-DAC Kolkata for any clarifications on the above mentioned EoI bid document:

Dr. Hena Ray
Joint Director
Agri and Environment Electronics (AEE)
Centre for Development of Advanced Computing (C-DAC), Kolkata
Plot - E 2/1, Block - GP, Sector - V, Salt Lake Electronics Complex,
Bidhan Nagar, Kolkata – 700091.
Mobile: +91 9830764590
Email: hena.roy@cdac.in

Mr. Sangit Saha
Senior Technical Officer
Agri and Environment Electronics (AEE)
Centre for Development of Advanced Computing (C-DAC), Kolkata
Plot - E 2/1, Block - GP, Sector - V, Salt Lake Electronics Complex,
Bidhan Nagar, Kolkata – 700091.
Mobile: +91 8667726087/7639811569
Email: sangitsaha@cdac.in

Competent authority
C-DAC Kolkata

Technical Information

1.0 About C-DAC

Centre for Development of Advanced Computing (C-DAC) is the premier R&D organization of the Ministry of Electronics & Information Technology (MeitY), Government of India for carrying out R&D in IT, Electronics and associated areas. Different areas of C-DAC, had originated at different times, many of which came out as a result of identification of opportunities.

C-DAC is working on strengthening national technological capabilities in the context of global developments in the field and responding to change in the market need in selected foundation areas. In that process, C-DAC represents a unique facet working in close junction with MeitY to realize nation's policy and pragmatic interventions and initiatives in Information Technology. As an institution for high-end Research and Development (R&D), C-DAC has been at the forefront of the Information Technology (IT) revolution, constantly building capacities in emerging/enabling technologies and innovating and leveraging its expertise, caliber, skill sets to develop and deploy IT products and solutions for different sectors of the economy, as per the mandate of its parent, the Ministry of Electronics and Information Technology (MeitY), Government of India and other stakeholders including other funding agencies, collaborators, users and the market-place.

C-DAC, Kolkata is one of the 12 Centres of C-DAC in India and situated at most privileged and strategic location at Kolkata, India for pursuing R&D activities in the area of electronics & IT.

C-DAC Kolkata's laboratory infrastructure and manpower have got unique strength of pursuing R&D activities in the fields blended with electronics & sensing system, machine olfaction, advanced instrumentation, software development and soft computing.

2.0 Brief Description of the Product to be transferred

AI based Air Quality Monitoring System (AQ-AIMS) is a hybrid sensor array(s) with appropriate signal conditioning and data acquisition electronics to acquire real time air quality data. The acquired data will be processed through AI enabled pattern recognition engine to signal air quality status on temporal basis. In addition to monitoring individual pollutants, overall air quality index will be estimated. The Cloud/PC based software will have analytics built in to forecast trends of air quality.

Unique Features:

- An Outdoor Air Quality Monitoring Station to monitor environmental pollutants PM1, PM2.5, PM 10, SO2, NO2, CO, O3, ambient temperature, and relative humidity.

- Monitors particle concentration of ambient air in PM1, PM2.5, PM5, PM10
- Pre-calibrated gas sensor modules for different gases including O3, SO2, CO, NO2.
- Integrated web server for visualization, configuration, data logging, and remote maintenance.
- Compact in size and easy for deployment and reallocation. Enabled with GSM communication for seamless Data transmission Water Resistant Enclosure for outdoor deployment.

Prospective End Users:

- Cement Industries
- Mine Industries
- Thermal Power Plants Other Government Agencies Educational Institutions etc.

Present Day Technological Relevance:

Measurement of environmental contaminants is done on quarterly basis by various types of instruments which are imported, very costly and technology of measurement is guarded. Also measurement of these parameters in real time and on continuous basis is not possible with such quarterly intervention. Also analysis of trends in air quality status cannot be done

with such proprietary systems. Therefore, there is an emergent need to develop sensor based air quality monitoring system for appropriate air quality management.

To address the problem, C-DAC Kolkata took the initiative to develop an air quality monitoring instrument with hybrid sensor array to measure different air pollutants for outdoor environment. The user can visualize live and accurate data through a web based application.

Present Status of the Product:

The instrument has been successfully field tested during the month of June-July 2022.

3.0 Scope of the ToT Process

The Transfer of Technology (ToT) would be made on non-exclusive basis and on sole discretion of C-DAC Kolkata. C-DAC Kolkata's ToT package may contain following:

- Technical Documentation of the product (including mechanical design)
- Bill of Materials of the total system
- Test plan and procedure
- User manual
- Signing of ToT Agreement
- Provision for imparting training to the technology recipients
- Handholding support following ToT

ANNEXURE- I (EoI of AQ-AIMS) –V1.0 for ToT)

The following details should be submitted along with EoI.

(Part-A)

A.	**Company Profile**	
1.	Name of the Organization: Website:	

2.	Details of Contact Person: Name: Address: Telephone: Fax: E-Mail:	
3.	Year of Incorporation:	
4.	Type of Organization: A. Public Sector/Limited/Private Limited/Partnership/Proprietary/Society/Any other B. Whether Foreign Equity Participation (Please give name of foreign equity participant and percentage thereof) C. Names of Directors of the Board/Proprietors D. Name and address of NRI(s), if any	
5.	Category of the firm: Large/Medium/Small scale unit	
6.	Address of the Registered	
	Office:	

7.	Number of Offices with address (Excluding Registered Office): India Abroad	
8.	Certificate of registration as a manufacturing unit	
9.	Permanent Account Number	
10.	GST No	
11.	Status of ISO9001 Certification	
12.	Annual Turnover for last 3 years:	

Part-B

B.	**ESSENTIAL REQUIREMENTS**	
1.	The organization must be a reputed firm/Company/SME/ Start-up/R&D company incorporated in India with standing of at least 3 years.	
2.	The turnover is to be a supported by financial statements of accounts/Annual reports duly certified by a Chartered accountant/Balance sheets of last 3 years/Income tax returns for the last 3 years period.	

3.	Company profile, giving details of current activities and management/personnel structure including evidence of incorporation. The company should be registered and ISO 9001 or equivalent certified.	

4.	Details of absorption of technology for a product/ knowhow that has been taken up on production scale in the past may also be given.	
5.	The manpower strength (Technical: Mechanical, Electrical, Electronics, Software & Non-Technical etc.) at various levels to be furnished. Technical: A. B.E./B. TECH/PhD B. DIPLOMA C. SKILLED TECHNICIANS D. UNSKILLED Non-technical:	
6.	The list of machine tools/equipments/software/facilities available related with work to be furnished.	
7.	The in-house technological expertise available to be furnished.	
8.	The list of equipments available for inspection and quality control to be furnished.	

9.	The industry should have adequate space for undertaking this work. Available space - Covered & Open to be furnished.	
10.	List of products/technologies worked with as regular activity in last 3 years. Give the list of products/technologies with general specifications and the customers.	
11.	List of PSUs/Govt. Customers – with contact details (Address, Telephone no., Contact Person).	
12.	The details of sales, marketing and maintenance network to be	
	furnished.	
13.	The list of technical collaborations for various ongoing products may be furnished.	
14.	The bidder shall provide details of the sub-vendors in case they propose to employ for Partwork.	
C.	**Expression of Interest: Spell out the extent of interest**	
D.	**The ToT will be done stagewise: The preferred stages may be furnished.**	

Note:

Data furnished above is by no means a qualification or disqualification. These are meant to facilitate technical comparison of the EoI bids. “NIL” entries against any particular row can also be given and will be considered.

I hereby declare that the above information is true to the best of my knowledge.

Signature with Name & Seal:

Place:

Date: