CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING (C-DAC), KOLKATA
Plot No. E-2/1, Block-GP, Salt Lake Electronics Complex, Bidhannagar, Sector-V, Kolkata – 700 091
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C-DAC(K)/CPS/SWASTHA/366/09/ *Date: 10.09.2026*

EXPRESSION OF INTEREST (EoI)

for

SELECTION OF TECHNOLOGY DEVELOPMENT PARTNER(S) (TDP) FOR SHAKTI DEVICE DEVELOPED BY C-DAC KOLKATA

(Under the MeitY-sponsored SWASTHA Programme)

Centre for Development of Advanced Computing (C-DAC), Kolkata, an autonomous Scientific Society functioning under the administrative control of the Ministry of Electronics and Information Technology (MeitY), Government of India, hereby invites Expression of Interest (EoI) from eligible and interested organizations desirous of being engaged as a Technology Development Partner (TDP) for further product refinement, clinical validation, regulatory certification, manufacturing scale-up of the technology indicated below, developed under the MeitY-sponsored *Smart Wearable Advanced nanoSensing Technologies in Healthcare Applications* (**SWASTHA**) Programme for the already developed device named **SHAKTI** (*Serum-based High-sensitivity Allergen Kinetics Tracking Instrument*), a portable point-of-care calorimetric bio sensing device for rapid detection of food allergens.

Project Title	Development of Field Portable Sensing System Towards Allergen Detection
Principal Investigator (PI)	Dr Subhankar Mukherjee, Project Manager, C-DAC Kolkata
Technology Area	Point-of-Care Biosensing / Food Allergen Detection
Sponsoring Programme	Smart Wearable Advanced nanoSensing Technologies in Healthcare Applications (SWASTHA)

The technology developed by C-DAC Kolkata has already received necessary clinical validation support from the Institute of Child Health (ICH), Kolkata. The developed technology is proposed for the next Technology Readiness Level (TRL) in the SWASTHA 2.0 proposal prepared by IIT, Guwahati, for a test license and CDSCO approval through MeitY, Government Of India.

1. A technical abstract of the aforesaid technology is placed at **Annexure I**. Organizations requiring further technical clarification regarding the technology may correspond directly with the Principal Investigator at the e-mail address indicated therein.

2. Interested parties are further requested to submit a Letter of Interest (LoI), in the format at **Annexure II**, on the applicant's Company Letterhead, along with the Company Profile and Eligibility particulars in the format at **Annexure III**.

3. The LoI shall be addressed to the Ministry of Electronics and Information Technology (MeitY), with a copy endorsed to the Executive Director, C-DAC Kolkata, and to the Principal Investigator concerned, and shall be accompanied by the applicant's Company Profile and Eligibility Declaration in the format at **Annexure III**, including particulars of CIN/GST/PAN/TAN, DPIIT recognition, MSME/Udyam registration and other applicable statutory certifications.

4. **The completed EoI, comprising the duly filled Annexures II and III together with all relevant supporting documents, shall be submitted by e-mail to the Principal Investigator concerned, with a copy to the Executive Director, C-DAC Kolkata, on or before 30.09.2026.**

GENERAL TERMS AND CONDITIONS

A. C-DAC Kolkata reserves the right to extend the aforesaid submission deadline at its discretion; any such extension shall apply uniformly to all prospective applicants and shall not alter the rights and obligations otherwise applicable under this EoI.

B. C-DAC Kolkata reserves the right to amend, modify or withdraw any part of this EoI document at any stage prior to finalization of the selection process. C-DAC will notify any such amendment through its official website (www.cdac.in), and it will be binding on all applicants.

C. C-DAC Kolkata may, during the course of evaluation, seek written clarification from an applicant in respect of its submitted EoI. Requests for clarification and the corresponding responses shall be exchanged in writing; no clarification or modification offered at the applicant's own initiative after submission shall be entertained.

D. Applicants may be called upon to make a presentation of their technical and business plan before the Technology Transfer Committee constituted by C-DAC Kolkata for this purpose.

E. Representatives of C-DAC Kolkata may, with prior intimation to the applicant, visit the applicant's premises and facilities for the purpose of assessment relevant to the EoI submitted.

F. C-DAC Kolkata reserves the right to accept or reject any or all EoIs received, in part or in full, without assigning any reason whatsoever.

G. An EoI that is incomplete in any material respect, or that does not conform to the format prescribed under this document, shall be liable to summary rejection, and no further correspondence shall be entertained with the applicant concerned in that regard.

H. Any attempt at canvassing, in whatever form, by or on behalf of an applicant shall render such applicant liable to disqualification from the selection process.

I. All costs and expenses incurred towards the preparation and submission of the EoI shall be borne solely by the applicant. C-DAC Kolkata shall bear no liability whatsoever in this regard, including in the event the selection process is terminated at any stage for any reason.

ABOUT C-DAC

The Centre for Development of Advanced Computing (C-DAC) is the premier Research and Development organization of the Ministry of Electronics and Information Technology (MeitY), Government of India, engaged in carrying out R&D in Information Technology, Electronics, and associated frontier areas. C-DAC, Kolkata, one of the constituent centres of C-DAC, has built domain strength in electronics and sensing systems, advanced instrumentation, and biomedical/healthcare technologies, and pursues translating laboratory-validated research into deployable, market-ready solutions consistent with MeitY's mandate for indigenous technology development.

ABOUT THE SWASTHA PROGRAMME

The Smart Wearable Advanced nanoSensing Technologies in Healthcare Applications (SWASTHA) Programme is an initiative sponsored by MeitY for the development of affordable and field-deployable sensing solutions towards healthcare diagnostics. Under this Programme, C-DAC Kolkata has developed the technology described at Annexure I, which is now being placed before industry for partnership towards its further refinement, validation, and translation into a deployable product.

5. SUBMISSION OF EoI AND CONTACT DETAILS

EoI submissions and any queries in connection with this invitation may be addressed to:

The Executive Director
Centre for Development of Advanced Computing (C-DAC), Kolkata
Plot No. E-2/1, Block-GP, Salt Lake Electronics Complex, Bidhannagar, Sector-V, Kolkata, West Bengal – 700 091
Phone: 033-2357 9846/5989/4764/3581
E-mail: ed-kol@cdac.in

Copy to: subhankar.mukherjee@cdac.in, hena.roy@cdac.in, souvik.pal@cdac.in

Last date for submission of EoI: 30.09.2026

For and on behalf of
Centre for Development of Advanced Computing (C-DAC), Kolkata

Sd/-
Executive Director
C-DAC, Kolkata

ANNEXURE I

TECHNICAL ABSTRACT

Project I: Serum-based High-sensitivity Allergen Kinetics Tracking Instrument (SHAKTI) Device

Technology Overview

SHAKTI is a portable, point-of-care colorimetric diagnostic device developed for the rapid detection of food allergens in human serum, based on an enhanced ELISA colorimetric detection approach. The system identifies specific IgE antibodies associated with milk, egg, peanut and wheat allergens, and generates automated digital and printed test reports.

Key Features

- Portable, field-deployable colorimetric biosensing platform.
- Detects four common food allergens – milk, peanut, egg and wheat.
- Based on the ELISA antigen–antibody detection principle.
- Mobile-camera-based image capture with RGB value analysis.
- Dedicated Android application for device operation and result interpretation.
- Automated hard-copy and SMS/e-mail based reporting.
- Self-contained, battery-operated design requiring no external PC or UPS.

Working Principle

A patient's blood sample is collected and serum separated using a portable centrifuge. The separated serum is introduced into allergen-coated ELISA microwells and subjected to the requisite incubation, washing and colour-development steps. The SHAKTI device captures the resulting colour output, processes it through RGB-based image analysis within the companion mobile application, and generates the test result as a printed report and/or an SMS/e-mail alert.

Present Technology Status

The SHAKTI device has been developed by C-DAC Kolkata and validated by the Institute of Child Health (ICH), Kolkata. The technology is accordingly with the objective of enabling industrial absorption, product refinement, manufacturing scale-up, regulatory advancement and eventual market deployment.

Expected Role of the Technology Development Partner (TDP)

Area	Expected Industry Role
Product Refinement	Industrial design, form-factor and usability refinement.
Manufacturing	Product engineering, component sourcing and manufacturing scale-up.
Regulatory	Support for applicable testing, licensing, certification and regulatory documentation.
Validation	Support for further analytical/clinical and field validation, as required.
Service Support	Installation, maintenance, training and post-deployment support.

ANNEXURE II

FORMAT FOR LETTER OF INTEREST (LoI)

(To be submitted on the Applicant's Company Letterhead)

To,
The Ministry of Electronics and Information Technology (MeitY)
Electronics Niketan, 6, CGO Complex, Lodhi Road, New Delhi – 110 003

Ref. No.: ——————————— Date: ———————————

Subject: Expression of interest to participate as Technology Development Partner for the project titled "Development of Field Portable Sensing System Towards Allergen Detection".

Dear Sir/Madam,

With reference to the Expression of Interest issued by C-DAC Kolkata vide Ref. No. ——————————— dated 08.09.2026, we have examined the Project Proposal titled *"Development of Field Portable Sensing System Towards Allergen Detection"*, undertaken at the Centre for Development of Advanced Computing, Kolkata under the guidance of Dr Subhankar Mukherjee, for consideration of MeitY funding/support.

We hereby confirm that M/s ——————————————————— is desirous of participating in the above project as a Technology Development Partner and undertakes to contribute towards the scope, roles and responsibilities set out in the Project Proposal. During the course of the project, M/s ——————————————— ——————————— proposes to invest an amount of approximately INR ——————————— (Rupees ——— ——————————————————— Only) towards activities including, but not limited to clinical validation, regulatory approvals and product development, in furtherance of the stated objectives of the project.

No.	Industry Partner	Contribution towards consumables (₹ crore)	Contribution towards field trials, clinical validation and regulatory approvals (₹ crore)	Contribution towards manpower and salary (₹ crore)	Total Contribution (₹ crore)
1.					
2.					

We look forward to a productive collaboration with C-DAC Kolkata and other stakeholders concerned, towards the successful execution and market translation of the above technology. This letter is furnished in support of the said project for submission to MeitY.

For and on behalf of
M/s ———————————————————

———————————
Authorised Signatory
Name:
Designation:

Place:
Date:
Copy to:

The Executive Director
Centre for Development of Advanced Computing (C-DAC), Kolkata
Plot No. E-2/1, Block-GP, Salt Lake Electronics Complex, Bidhannagar, Sector-V, Kolkata,
West Bengal, PIN – 700 091
Phone: 033-2357 9846/5989/4764/3581 | E-mail: ed-kol@cdac.in
Copy to: hena.roy@cdac.in; subhankar.mukherjee@cdac.in; souvik.pal@cdac.in

ANNEXURE III
APPLICANT / COMPANY PROFILE AND ELIGIBILITY DECLARATION

PART A – COMPANY PROFILE

1. Name of the Organization/Company:
2. Website:
3. Registered Office Address:
4. Details of Contact Person (Name, Designation, Address, Phone, E-mail):
5. Year of Incorporation:
6. Type of Organization (Public Sector Undertaking/Private Limited/LLP/Partnership/Proprietorship/Startup/Society/Other – please specify):
7. Category of the Firm (Large/Medium/Small/Micro):
8. CIN / GST / PAN / TAN:
9. DPIIT Recognition Number, if applicable:
10. MSME (Udyam) Registration Number, if applicable:
11. Status of ISO 9001, ISO 13485 or other applicable Quality Certifications:
12. Annual Turnover for the last three (3) Financial Years (₹ in Lakh):
13. Existing Regulatory Approvals held, if any (CDSCO/BIS/NABL or equivalent):

PART B – ELIGIBILITY AND CAPABILITY DECLARATION

(i) Brief description of the Organization's current activities and its management/technical personnel structure:
(ii) Details of prior experience, if any, in the absorption of technology or commercialization of a comparable product:
(iii) Manpower strength available (Technical – Engineers/ Scientists/Diploma holders/ Technicians; Non-Technical):
(iv) In-house facilities available (manufacturing, testing, quality control, R&D):
(v) List of relevant products/technologies handled by the Organization during the last three years:
(vi) Details of existing regulatory, manufacturing or distribution network relevant to healthcare/diagnostic devices:
(vii) Proposed plan for regulatory certification of the technology on offer:
(viii) Extent of interest in the technology and the envisaged market potential thereof:

Note: Furnishing of the above particulars shall not, by itself, constitute qualification or disqualification of an applicant; the particulars are sought solely to facilitate technical comparison among the EoIs received. A "Nil" entry against any specific field may also be furnished and shall be duly considered.

I/We hereby declare that the information furnished above is true and correct to the best of my/our knowledge and belief, and that no material fact has been concealed or misrepresented herein.

Authorised Signatory
with Name, Designation & Company Seal

Place:
Date: