

INVITATION OF EXPRESSION OF INTEREST FOR RESELLING OF

Product Suite for Efficient Screening of Cervical

Cancer

CerviSCAN



प्रगत संगणन विकास केंद्र

(संचार एवं सूचना प्रौद्योगिकी मंत्रालय के अधीन की वैज्ञानिक संस्था, भारत सरकार)

तिरुवनंतपुरम, केरल 695033

द्वारा जारी ।

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EoI No: EoI/HTG/2022/01/2022-23 dt 05-05-2022

Issued by

CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING

(A Scientific Society of the Ministry of Communications and Information Technology, Govt of India)

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Table of Contents

SL No.	Section	Page No.
1	Introduction	3
2	Brief about C-DAC	3
3	Brief description about the technology	4
4	Current status of the product/technology	4
5	List of Deliverables	5
8	General Terms and conditions of EXPRESSION OF INTEREST	5
9	Who can Apply	6
10	How to Apply	6
11	Annexure - I Eol Template	7
12	Annexure – II Specification	8

I. Introduction

Centre for Development of Advanced Computing (C-DAC) invites “**Expression of Interest**” (EOI) from interested companies for product/license procurement and to, market and sell “**Product Suite for Efficient Screening of Cervical Cancer (CerviSCAN)**” on a nonexclusive basis. This document gives details about the product and also the terms and conditions for companies to propose their Expression of Interest.

II. DISCLAIMER

1, Disclaimer

Centre for Development of Advanced Computing, Thiruvananthapuram (herein after called CDAC (T)) has prepared this Expression of Interest Document (“Eol Document”) solely to invite interested companies to license products. While C-DAC (T) has taken due care in the preparation of information contained herein and believes it to be accurate, neither C-DAC or any of its Authorities or Agencies nor any of their respective officers, employees, agents or advisors give any warranty or make any representations, express or implied as to the completeness or accuracy of the information contained in this document or any information which may be provided in association with it.

2. This information is not intended to be exhaustive and interested parties are required to make their own inquiries in order to submit the Eol. The information is provided on the basis that it is non-binding on C-DAC, any of its authorities or agencies or any of their respective officers, employees, agents or advisors.

3. C-DAC reserves the right not to proceed with the Eol process at any stage without assigning any reasons thereof, or to alter the time table reflected in this document or to change the process or procedure to be applied. It also reserves the right to decline to discuss the Eol further with any party submitting an Eol.

4. C-DAC will not be liable to pay/reimburse any cost/losses/expenses/penalties/damages of whatsoever nature to any person (s)/entity (ties) submitting the Eol.

5. This Eol Document is neither an agreement nor an offer and is only an invitation by C-DAC (T) to the entities that are qualified to submit their Expression of Interest Proposal as stated in the Notice Inviting Eol.

6. The purpose of this Notice Inviting Eol Document is to provide interested applicant’s with information to assist the formulation of their Proposal.

7. The issue of this Eol does not imply that C-DAC (T) is bound to select an agency.

III. Brief about C-DAC

Centre for Development of Advanced Computing, is a Scientific Society of the **Ministry of Electronics and Information Technology, Government of India**. It is a national Centre of Excellence, pioneering application oriented research, design and development in Electronics and Information Technology.

The Centre has contributed significantly to the growth of the industry in general and the electronics sector in particular through the indigenous development of commercially viable systems and products, foreign technology absorption, adaptation and upgrades, consultancy and training and turnkey implementation of contract projects. The Centre has several firsts to its credits and is the recipient of prestigious national level awards for excellence in application- oriented R & D.

The technology themes of the centre are Health Informatics, Control & Instrumentation, Power electronics, Hardware Design, Broadcast & Communication, Strategic Electronics, and Software Development and Training.

IV. Brief description about the product

In India, one woman dies of cervical cancer every eight minutes, contributing to one fifth of global mortality caused by the disease. Cervical cancer is one of the few types of cancers that can be detected, treated, and cured before progressing to invasive cancer.

CerviSCAN automates manual operations followed in traditional cytology such as smear preparation, staining and diagnosis under the microscope by adopting robotic lab automation techniques. Moreover, AI assisted cloud based interface provided by CerviSCAN improves efficiency and accessibility of cytology services in comparison with traditional cytology.

CerviSCAN product suite contain following products

1. **DigiSmearAS20x** - used to digitize cervical smears. DigiSmear has precise robotic control movement of slides in X, Y & Z direction with –micro-metre precision. High throughput imaging integrated with AI based auto-focus modules ensures that high quality images are acquired within a short span of time.
2. **Digital Cytology Framework** –Cloud based Digital Cytology interface provides smart workflow with dashboard services, visualization of digitized slides and Reporting. Visualization of Virtual Whole Slide with pan, zoom, annotation and share to peer features enables diagnosis anywhere anytime. The workflow completes with Digitized Bethesda Reporting.
3. **AI-PAP** – Employs state-of-the-art Deep learning pipeline for pre-selecting relevant microscopic areas further improving diagnostic performance.
4. **RotoStainer** –automates the resource intensive Slide Staining procedure thereby standardizing staining output. It improves lab efficiency by staining 96 slides in one batch. It has the provision for running water and User configurable staining parameters. Audio indications for specific functionalities and touch Screen display are other features of RotoStainer.
5. **KytoSpin** – Cervical smears collected from population screening programs or from hospitals shall be stored in vials and centrifuged using KytoSpin to prepare a mono-layered specimen.
6. **KytoFunnel**-Indigenised mega funnel for preparing monolayer slides.
7. **KytoClip** - Indigenised Clip for preparing monolayer slides

Product Specification is mentioned in Annexure - II

V. Current status of the product/technology

Fully deployable prototype model available which had deployed in 4 apex cancer institutes of the country which are ICMR-National Institute of Cancer Prevention and Research (Noida) Regional Cancer Centre (Thiruvananthapuram), Dr. Bhubaneswar Borooah Cancer Institute (Guwahati) and Atal Bihari Vajpayee Regional Cancer Centre (Agartala) and undergone validation on over 10,000 cervical smears

VI. List of Deliverables

Sl. No.	Product	Deliverables
1	DigiSmear AS20x	<ul style="list-style-type: none"> Fabricated Unit with control software User manual
2	Digital Cytology Framework	<ul style="list-style-type: none"> Software Installer and libraries User manual
3	AI assisted PAP smear analysis	<ul style="list-style-type: none"> Software Installer and libraries
4	RotoStainer	<ul style="list-style-type: none"> Fabricated Unit with control software User manual
5	KytoSpin	<ul style="list-style-type: none"> Fabricated Unit with control software User manual
6	KytoFunnel	<ul style="list-style-type: none"> Fabricated Unit with control software User manual
7	KytoClip	<ul style="list-style-type: none"> Fabricated Unit with control software User manual

VII. General Terms and conditions of EXPRESSION OF INTEREST

- C-DAC invites “Expression of Interest” (EOI) in the format given in Annexure-1.
- This invitation of EOI will be open till 31st October 2022. Interested parties can submit Expression of Interest any time during this period and submitted EOI will be evaluated within 30 days of receipt of the same.
- CDAC will respond to the EOI by submitting cost details, terms of engagement and product documents like brochures, videos to the interested party.
- CDAC may invite the party for discussions and technical presentations as required during the evaluation time.
- Once CDAC and the party agree on terms of reference, CDAC’S willingness to supply to the party will be given in writing after the evaluation process.
- Selected parties will be given training on the product and its use cases. Party shall market the product and try to get orders from prospective customers in the name of the party. Party can then place order on CDAC for acquiring the product and licenses. CDAC will supply the items to the party as per the cost and the terms of reference already agreed upon.
- Installation of the item on site, commissioning, testing etc. will be the sole responsibility of the party.

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- h. CDAC will offer the product on direct selling basis to the end customer. But this sale price will be significantly higher than what is offered to the party selected for reselling. Details of these costing will be given as specified in clause c above.
 - i. Participation in this EOI does not guarantee any association with C-DAC, unless notified by C-DAC in writing.
 - j. The product/technology is offered on a nonexclusive basis. Any number of companies will be shortlisted for product procurement and licensing.
 - k. C-DAC reserves the right of rejecting any submitted EOI without assigning reasons.
 - l. There is neither a business guarantee nor any commitment for funding support from C-DAC to the appointed/ empanelled agencies.
 - m. Product Licensing partner shall not to effect any change in the software/hardware product configuration of CerviSCAN without prior permission from C-DAC.
 - n. For hardware products warranty, the vendor needs to make the system available at C-DAC, Thiruvananthapuram.
 - o. Software license fee is for one year with renewal required for software updates on yearly basis
 - p. Enhancement/customization charges required will be budgeted separately as per specific requirement raised
 - q. The entire Intellectual Property Rights, including trademarks, trade names, copyrights of this product belong to and exclusively owned by C-DAC. The Product Licensing partner shall protect the trademarks, copyrights and intellectual property rights, of C-DAC and shall not to tamper, or in any manner alter the trademark/logos or copyrights/patents of C-DAC and shall not manufacture/produce any products which infringe on the trademarks, copyrights or the intellectual property rights of C-DAC.

VIII. Who can Apply

Companies/firms willing to acquire the product from CDAC, market and sell products mentioned in section III of the EOI

IX. How to Apply

Interested companies/firms may send expression of interest as per Annexure – 1 format to

Section Head, Technology Promotion Centre

Centre for Development of Advanced Computing (CDAC)

Vellayambalam, Thiruvananthapuram, Kerala, India, 695033

Phone: 0471 2727508 Fax: 0471 2723456

Email: tpc@cdac.in Website: www.cdac.in

For any queries please contact: Section Head, Technology Promotion Centre, 98470 69184, 0471 2723333 (extn: 220/450), email: tpc@cdac.in

Annexure –I Eol Template

<Letter Head >

<No>

<date>

From

.....

.....

To

Section Head, Technology Promotion Centre
Centre for Development of Advanced Computing (CDAC)
Vellayambalam, Thiruvananthapuram, Kerala, India, 695033
Phone: 0471 2727508 Fax: 0471 2723456

Sub: Regarding Eol published for product Licensing of CerviSCAN – **Eol/HTG/2022/01/2022-23** dated **05/05/2022**

Sir,

<<About the organization, areas of work, products/technology/services offered etc. attach registration certificate, financial statements of last 3 years as applicable & GST Registration certificate>>

We are interested in engaging with C-DAC, Thiruvananthapuram and would like to procure products/software licenses of following products in the CerviSCAN product suite.

- | | |
|--------------------------------------|----------------|
| 1. DigiSmearAS20x | ... Nos |
| 2. Digital Cytology Framework | ... Nos |
| 3. AI-PAP | ... Nos |
| 4. RotoStainer | ... Nos |
| 5. KytoSpin | ... Nos |
| 6. KytoFunnel | ... Nos |
| 7. KytoClip | ... Nos |

Kindly share the cost details and terms of engagement and the product documents likes brochures, videos etc.

Thanking You

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Annexure II –Product Specifications

DigiSmear AS20x

- Dimension of Glass Slide : 75 x 25
- Smear Preparation : Monolayer smear
- Smear Dimension : 25mm x 15mm
- XY Travel Range : 50mm x 50mm
- Z Travel Range : 5mm
- Minimum X,Y Resolution : 5um
- Minimum Z resolution : 15nm
- Scan time : 14 minutes
- Illumination : White LED
- Magnification : 20x aberration corrected
- Communication Interface : USB
- Image Sensor : RGB
- Frequency : 40KHz
- External Power input (DC) : 3.5V DC to 6V DC (5V DC typical)
- Operating Temperature : 0°C to 70°C

Digital Cytology Framework

- Smart Workflow
- Whole smear visualization with Pan, zoom , annotation and Share features
- Share to peer
- Bethesda Reporting & Printing
- Diagnosis anywhere anytime

AI-PAP

- Scalable Deep Learning pipeline implementation

RotoStainer

- Compact 360° rotary table actuator with Repeatability of $\pm 0.03^\circ$
- Linear guided actuator with 150mm stroke length and Repeatability of $\pm 0.05\text{mm}$
- Load capacity of 50N
- Provision for running water.
- Aluminum 6061T6 alloy structure
- Clear Acrylic top cover
- Touch Screen HDMI display

KytoSpin

- Variable programming interface for RPM and time
- Balanced motor to centrifuge 8 KytoFunnels at a time

KytoFunnel & KytoClip

- Precision fabricated medical grade material with injection mould for production