

**Request for Expression of Interest (EOI) for Development of
Real Time Strategic Technology Applications**

REF:

DATED: 01.08.2014

1. PREAMBLE:

ECIL:

ECIL, A Public Sector Undertaking (PSU), fully owned by Government of India, established in 1967 to create a strong indigenous base in Electronics Industry. Since then, it has played a pioneering role in spurring the growth of electronics industry in India. Over the years, ECIL has evolved into a multi product, multi disciplinary organization. The current focus is on increasing contributions to Atomic Energy, Space, IT, Defense Space, Electronic Security Applications, Communications & Networks, e-Governance Applications and Exports. The Company has experienced human resource pool of around 5000 Engineers / Technicians and the current turnover is around Rs.1800 Crores.

ECIL is an Electronics Equipment Manufacturer and also a solution provider for a number of prestigious projects for different Government departments. ECIL is having Head Office & Manufacturing plant at Hyderabad, 6 Regional Maintenance Centers and 84 Service Centers round the Country for supply, Installation, Commissioning and Maintenance.

ECIL is currently involved with the development of several real-time command and control solutions in different fields. It seeks technology partners with domain expertise, amongst Indian companies with indigenous solutions in the fields of Algorithm development, Mathematical modeling, System design, System Architecture development, Integration, Simulation, Evaluation and Testing in the fields of strategic technologies. There is a need to find solutions in diverse sectors of Power Management, Disaster Management, Transport modernization, automation of heavy engineering industries/plants applying command and control and information management techniques. Willingness to work in different parts of the country and more specifically in the North East of India would be a mandatory criterion. It is proposed to select firms with personnel having such background and technical/development expertise to shape plans for effective marketing, system development, production and implementation of such systems.

2. EXPRESSION OF INTEREST (EOI):

ECIL invites EXPRESSION OF INTEREST (EOI) from Technology partners /OEMs for the development of real-time command and control systems and strategic applications. The development activities include Design, Development, Integration, Production of systems / sub systems, software with continued upgrades and maintenance during the life cycle of each Project. The current EOI is invited to select technology partners/OEMs amongst individual Indian companies who possess Domain Expertise, Development and Field

experience in realization of command and control systems across a range of strategic technologies/applications. Partners must be willing to work on identification of the opportunities, development of core modules, system engineering, deployment, commissioning and post production maintenance of systems across sectors ranging from Aerospace to Water management. Partners must also be willing to invest in project identification, required marketing effort and Research and Development required to realize such projects.

1. Companies / Technology providers interested to associate with ECIL for the development of above-mentioned technologies and systems shall have specialization and experience on each of the following areas:-

- a) Conceptualization of Large multi-node, pan-Indian, multi-disciplinary, real-time heterogeneous systems.
- b) Experience in conceptualizing large control centers and creating control mechanisms including GIS based displays.
- c) Possess expertise in system integration across legacy and state of art systems, including networking of system of systems.
- d) Capable of providing Detailed Design support for realizing network enabled distributed hard real-time applications.
- e) Experience in development of Algorithms and Mathematical models for real-time strategic applications.
- f) Experience of successful operational deployment of systems developed.
- g) Development of simulation software using Monte-Carlo techniques for testing system applications and operational training.
- h) Capable of deploying on live projects both Domain and Technical experts, with a minimum experience of 15 years of command and control system development. Experts must have mandatorily overseen development and implementation of at least two generations of command and control systems.
- i) Adequate Capability and competence to work with key technology areas such as sensor data processing, data acquisition, data fusion and data distribution.
- j) Capability to develop decision support algorithms and use of core technologies such as estimation theory, Kalman filters, IMM, blackboard architecture and pattern recognition techniques, OR techniques and Monte Carlo analysis.
- k) Capability for deep requirement analysis, system analysis, test planning, simulation, system Interface, system architecture design, design of data walls and DBM.

2. The companies interested to associate with ECIL for the development of such technologies and systems shall provide compliance to all the clauses of this EOI

3. The Companies should not have been blacklisted by any Government Department / Govt. PSU in India in the last three years or barred from participating in government projects due to security reasons.

2.1 Eligibility Criterion for Companies

1. Companies having products/ solutions, willing to meet the Eol requirement of 'MAKE' India of DPP 2011 and collaboration with ECIL on long term basis.
2. Companies registered in India
3. Companies with FDI not exceeding 26%.

3. NON DISCLOSURE AGREEMENT (NDA):

NDA shall be signed with ECIL as per the format provided.

4. EVALUATION CRITERIA:

1. The competence in design of key technologies mentioned above (at least three) would be evaluated.
2. Capability demonstration/ simulation in the core areas of technologies on NCNC basis
3. The shortlisted companies must make a technical presentation of mathematical models and associated software to the evaluation team.
4. Willingness to invest on project identification, requisite research, product and technology development towards realization of mutually agreed programmes/projects.
5. The respondent would be subject to disqualification if they make false or incorrect or misleading claims in their response to this Eol.

5. TERMS AND CONDITIONS:

- 1. Authorized Signatory:** All certificates and documents received as part of the offer shall be signed by the Authorized Representative (not mandatory for technical manuals). The power or authorization, or any other document consisting of adequate proof of the ability of the signatory to bind the Company shall be submitted when demanded by ECIL. The compliance to the EOI clauses shall be signed by an authorized person of the Company.
- 2. Cost of Eol:** The Companies shall bear all costs associated with the preparation and submission of offer against this Eol, including cost of presentation for the purposes of clarification of the offer.
- 3. Amendment of Eol:** At any time prior to the last date for receipt of offers, ECIL may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective companies, modify the Eol document by an amendment. In order to provide prospective companies reasonable time to take the amendment into account in preparing the offer, ECIL may, at its discretion, extend the last date for the receipt of offers and/or make other changes in the requirements set out in the Invitation for Eol.

4. Accessibility of EOI Document: Complete Eol document with terms and conditions is provided in the following website for

- (i) <http://www.ecil.co.in>
- (ii) <http://www.tenders.gov.in>

Interested Companies are requested to send their proposals in sealed envelope super-scribing the envelope as “Expression of Interest (Eol) for selection of partners for the development of command and control systems for strategic applications” on or before **01-09-2014** to the address provided.

In case the offer is submitted as soft copy, the same can be sent through E-mail. in a file with password protection and the password shall be sent to us separately after our request only. Also, one set of hard copy shall be sent within 7 days from the Eol due date.

The offer has to contain the following information:

- a. The area(s) of specialization (from the list mentioned above)
- b. Technical Details of the above said areas of specialization in the form of a capability matrix as attached
- c. Clause by clause compliance to the clauses of this Eol

5. General Conditions

- a) All the terms & conditions of the “ECIL customer’s EOI “ have to be complied in back to back basis in totality.
- b) The short listed Bidders shall give a Technical Presentation and demonstration of their product for technical evaluation at ECIL at their own cost.
- c) ECIL shall have the right to accept / reject any/ all of the EOIs without assigning any reason, at its own discretion.
- d) ECIL shall have the right to cancel/ re-float the EOI at its discretion.
- e) Based on the recommendation of the Technical Evaluation Committee, the successful bidder will be selected for EOI partner.

6. Documentation/information to be submitted as part of response to EOI.

- 1. Comprehensive details of registration/ Incorporation of the company.
- 2. The complete address of the registered office of the company.
- 3. Acceptance of ALL Terms and Conditions given in this Eol.
- 4. Technical design details in the form of a document, of software developed and deployed, by company experts, for various strategic applications with respect to command and control systems, thus far.

7. DELIVERABLES:

The Bidder shall comply to adhere to deliverables along with their relevant documentation. The bidder should submit :-

1. Compliance statement for all the terms of this EOI.
2. Attached capability matrix, indicating capability and experience.
3. Draft of the Proposed MOU between ECIL and the company, after short-listing the company.

8. CONTACT ADDRESS:

Interested Parties may please submit their response to the EOI to the following address latest by **01-09-2014**

Senior Deputy General Manager (Marketing)
Strategic Electronics Division
Electronics Corporation Of India Limited.
Hyderabad - 500062
Phone: +91 40 27182781
Fax: +91 40 27122561
Mail; sedmktg@ecil.co.in,

9. DISCLAIMER:

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10. Validity

Period of Validity of offers: The offer shall remain valid for a period of at least one year from the due date of offer submission. Offers valid for a shorter period shall be rejected.

11. Late offer: Any offer received after the prescribed timeline shall be rejected and shall be returned unopened to the Companies.

Capability Matrix : Summary of Company Expertise							
Expertise	C2 System : Role	Project Name	Sponsor/Client	Total exp with dates	Exp in years	Details as applicable	Current System Status
<u>Domain Expertise</u>							
Operational Experience	Providing User related domain Inputs						
	Requirement Qualification						
	Functional Requirement Analysis						
	Simulation and Testing, Test Planning						
	Conceptualization of geographically Distributed Systems						
<u>Design Experience</u>							
Design level							
	Design of C2 System Architecture : details thereof						
	Design of Data Structures for C2 systems						

	Design of algorithms and mathematical modelling for C2 systems: types of models and algorithms developed, details thereof						
	Design of Interfaces : Heterogenous systems, Legacy systems, distributed systems, preparation of ICDs						
	Design of large display walls, Vector displays, GIS based displays, User Interfaces (MMI) for C2 systems						
<u>System Engineering</u>	Experience of the following in developing strategic applications and C2 systems						
	Communication Engineering						
	Load Processing						
	Topology and Networking						
	Data base definition, management						
	Information assurance						

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