

Expression of Interest

CDACP/LED/2014/162 DATED APRIL 25, 2014

C-DAC invites proposals to undertake collaborative work with C-DAC for development of Lighting Control Framework



Centre for Development of Advanced Computing
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SECTION I: INVITATION FOR PROPOSAL

1. LED lighting is one of the most significant changes the lighting industry has seen since the invention of electric light bulb. LEDs are changing the nature of lighting by opening up new possibilities for how artificial light is used to improve the human experience. LED lighting is known to be not only energy efficient but it can be controlled in a much better way to make optimum use of ambient light, as well. A lighting solution based on LED needs, LED drivers, intelligent controllers, control network, remote switches, servers etc. C-DAC wishes to develop a lighting control framework based on industry standard components and technologies. In this regard, C-DAC wishes to collaborate with Industry partners who are willing to share their expertise, technologies and provide hardware and software subsystems for development of this framework as outlined in Section IV.
2. C-DAC invites sealed proposals from interested parties in collaborating with C-DAC for developing Lighting Control Framework as per details given in Section – IV: Schedule of Requirements. It is expected that this association will mutually benefit the participating vendors and C-DAC by means of making a lighting control solution available for sale in the market.

3. Contact information -

Materials Management Group
Centre for Development of Advanced Computing (C-DAC)
Pune University Campus, Ganeshkhind
Pune 411007, Maharashtra, INDIA
Tel No.: +91-20-25694015
Fax No.: +91-20-25694004
E-mail: mmg@cdac.in

4. Submission of Proposal

The interested party must submit the proposal in a sealed envelope along with the documents as explained below:

- a. Duly filled-in Proposal giving details of expertise available, brief technologies used, items / materials involved etc, with proper seal and signature of authorized person on each page of the proposal.
- b. Self Attested copy of ST / VAT / Service Tax Registration certificate, as applicable.
- c. Copy of latest balance sheet or certificate from Chartered Accountant certifying annual sales turn over for last financial year.
- d. The principal manufacturer of Automated LED Lighting System or part thereof or authorized technical partners of OEMs only are eligible to submit the proposal. The copy of Authorization Certificate from the principal manufacturer or from OEM to this effect should be submitted along with the proposal. (Annexure – I).

- e. This invitation for proposals is open to all parties who are engaged in the similar activity as described in Section – IV: Schedule of Requirements, for at least **Three** years.
- f. The relevant documents supporting eligibility criteria, as described under Point 3.0 of Section – IV.

The proposal should be addressed to:

*The Executive Director
Centre for Development of Advanced Computing (C-DAC)
Pune University Campus, Ganeshkhind
Pune 411007, INDIA*

5. Date of submission of proposals and opening of the technical proposals

Last date for submission of proposals is **May 2, 2014 up to 1500 Hrs at:**

*Centre for Development of Advanced Computing (C-DAC)
Pune University Campus, Ganeshkhind
Pune 411007, INDIA*

The proposals will be opened on **May 2, 2014 at 1530 Hrs.**

The proposal can be submitted in person or through post/ courier (C-DAC shall not be responsible for any postal delays resulting in disqualification/ rejection of any proposal) so as to reach on or before the due date and time.

The representative(s) of vendors may choose to attend the opening of the technical proposals. In case vendor requires any clarifications / information they may contact C-DAC address given above.

The proposals will be evaluated to shortlist the eligible vendors. The proposals of only the short listed eligible vendors shall be considered for further evaluation.

END OF SECTION I

SECTION II: INSTRUCTIONS TO VENDORS

1. Amendment to Proposal Documents

1.1. At any time prior to the deadline for submission of proposals, C-DAC may, for any reason, whether on its own initiative or in response to the clarification request by a prospective vendor, modify the proposal document. The modification/s may be pertaining to technical specifications and /or quantities and /or commercial terms and conditions.

1.2. The amendments, if any, will be notified by publishing a corrigendum and such amendments/ modifications will be binding on vendors.

1.3. C-DAC at its discretion may extend the deadline for the submission of proposals if the proposal document undergoes changes during the proposal period, in order to give prospective vendors time to take into the consideration the amendments while preparing their proposals.

A. PREPARATION OF PROPOSALS

Vendor should avoid, as far as possible, corrections, overwriting, erasures or postscripts in the proposal documents. In case however any corrections, alterations, changes, erasures, amendments and/or additions have to be made in the proposals, they should be supported by dated signatures of the same authorized person signing the proposal documents.

2. Period of validity of proposals

2.1. Proposals shall be valid for minimum 120 days from the date of submission. A proposal valid for a shorter period shall stand rejected.

2.2. C-DAC may ask for the vendor's consent to extend the period of validity. Such request and the response shall be made in writing only.

B. SUBMISSION OF PROPOSALS

The proposal should be neatly arranged, pages numbered and secured properly. Each page of the proposal should be signed by the authorized representative. They should not contain any terms and conditions, printed or otherwise, which are not applicable to the proposal. The conditional proposal will be summarily rejected. Insertions, postscripts, additions and alterations shall not be recognized, unless confirmed by vendor's signature.

3. Deadline for Submission of Proposals

3.1. Proposals must be received by C-DAC before the due date and time at the address specified in the tender document. In the event of the specified date for the submission of proposals being declared as a holiday for C-DAC, the proposal-closing deadline will stand extended to the next working day up to the same time.

3.2. C-DAC may extend this deadline for submission of proposals by amending the proposal documents and the same shall be suitably notified in the media.

4. Late Proposals

4.1. Any proposal inadvertently received by C-DAC after the deadline for submission of proposals, will not be accepted and returned unopened to the vendor.

C. PROPOSAL OPENING AND EVALUATION OF PROPOSALS

5. Opening of Proposals

5.1. The technical proposals will be evaluated by the Technical Evaluation Committee (TEC) constituted for this purpose to shortlist the eligible & qualifying vendors.

5.2. During the evaluation process, C-DAC may seek clarifications from the vendor, if required. The vendor may submit clarifications as required and / or submit the documents, catalogs, literature etc in response to the clarifications. However, any changes in make/ model quoted, quantity offered, configuration, capacity, speed etc will not be permitted.

D. Shortlisting of Vendors

6. Shortlisting Criteria

6.1. C-DAC shall enter into MoU on non-exclusive basis with the eligible & qualified vendor(s) whose technical proposal has been accepted by TEC.

6.2. C-DAC may enter into MoU with multiple vendors to incorporate products offered by multiple vendors, into its framework.

6.3. The MoU will not have any financial consideration from either side.

6.4. The MOU will enlist the mutually agreeable terms which will help both the parties to use each other's products and subsystems to offer a complete solution

7. Purchaser's Right to amend / cancel

7.1. If, for any unforeseen reasons, C-DAC is required to change/reduce the Scope of Supply, this change shall be acceptable to the vendor without change in the unit price quoted.

7.2. C-DAC reserves the right to cancel the tender without assigning any reasons there for.

8. Corrupt or Fraudulent Practices.

8.1. It is expected that the vendors who wish to proposal for this project have highest standards of ethics.

8.2. C-DAC will reject proposal if it is revealed that the vendor has engaged in corrupt and /or fraudulent practices while competing for this contract;

8.3. C-DAC may also declare a vendor ineligible, either indefinitely or for a stated duration, for participating in C-DAC's tender process, if it is revealed that the vendor has engaged in corrupt and /or fraudulent practices while competing for this contract

9. Interpretation of the clauses in the Tender Document / Contract Document

9.1. In case of any ambiguity/ dispute in the interpretation of any of the clauses in this tender document, interpretation of Director General, C-DAC shall be final and binding on all parties.

END OF SECTION II

SECTION III: SPECIAL CONDITIONS OF CONTRACT (SCC)

1. Completeness Responsibility:

Notwithstanding the scope of work, engineering, supply and services stated in proposal document, any equipment or material, engineering or technical services which might not be even specifically mentioned under the scope of supply of the vendor and which are not expressly excluded there from but which – in view of the vendor - are necessary for the performance of the equipment in accordance with the specifications are treated to be included in the proposal and has to be performed by vendor. The items which are over & above the scope of supply specified in the Schedule of Requirements may be marked as “Optional Items”.

2. Jurisdiction:

The disputes, legal matters, court matters, if any shall be subject to Pune jurisdiction only.

3. Force Majeure:

C-DAC may consider relaxing the penalty and delivery requirements, as specified in this document, if and to the extent that, the delay in performance or other failure to perform its obligations under the contract is the result of an Force Majeure. Force Majeure is defined as an event of effect that cannot reasonably be anticipated such as acts of God (like earthquakes, floods, storms etc.), acts of states / state agencies, the direct and indirect consequences of wars (declared or undeclared), hostilities, national emergencies, civil commotion and strikes at successful Vendor’s premises or any other act beyond control of the vendor.

4. IPR:

Prior IP, if any, used within the said project, will vest with the respective parties. Any IP generated under this project will be jointly owned by CDAC and the participating agency. Business, if any arising out of such joint IP will be shared between the parties on mutually agreed terms and conditions. In case, where the technology is exclusively developed for CDAC and development expenses borne by CDAC, the IP will vest fully with CDAC.

5. Arbitration:

In case any dispute arises between the Parties with respect to this tender, including its interpretation, implementation or alleged material breach of any of its provisions both the Parties hereto shall endeavor to settle such dispute amicably. If the Parties fail to bring about an amicable settlement within a period of 30 (thirty) days, dispute shall be referred the sole arbitrator appointed by C-DAC. Arbitration proceedings shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996 and Rules made there under, or any legislative amendment or modification made thereto. The venue of the arbitration shall be Pune. The award given by the arbitrator shall be final and binding on the Parties. The language of arbitration shall be English. The

common cost of the arbitration proceedings shall initially be borne equally by the Parties and finally by the Party against whom the award is passed. Any other costs or expenses incurred by a Party in relation to the arbitration proceedings shall ultimately be borne by the Party as the arbitrator may decide. Courts in Pune only shall have the exclusive jurisdiction to try, entertain and decide the matters which are not covered under the Arbitration and conciliation Act.

6. Indemnity

The parties shall indemnify, protect and save each other from/against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any law pertaining to intellectual property, patent, trademarks, copyrights etc. or such other statutory infringements in respect of all the equipments, technology supplied by vendor and /or collaborative activities

7. Assignment:

Selected vendor/ Party shall not assign, delegate or otherwise deal with any of its rights or obligation under this Contract without prior written permission of C-DAC.

8. Severability:

If any provision of this Contract is determined to be invalid or unenforceable, it will be deemed to be modified to the minimum extent necessary to be valid and enforceable. If it cannot be so modified, it will be deleted and the deletion will not affect the validity or enforceability of any other provision.

END OF SECTION III

SECTION – IV- Schedule of Requirements

The details about features of the framework, communication protocol to be supported, hardware subsystems, software subsystems and criteria for qualification of vendors are as follows. Of the protocols mentioned below, support for Wi-Fi and DALI is mandatory, while support for Ethernet and Zigbee is optional

1.0 Features of the framework

- Suitable for Enterprise-wide deployment.
- Support for following communication media
 - o Wi-fi
 - o DALI
 - o Ethernet
 - o Zigbee

1.1 Communication Protocol

- Control of nodes should be possible through Wi-Fi, Ethernet, ZigBee , DALI protocols.
- All the communication between the Servers, Wall switches, Access Points etc. should be secured using latest security standards.

1.2 Hardware Subsystems

1.2.1 Intelligent Wall Switches:

- Should support the following physical layer and corresponding control layer protocols
 - o Wi-fi
 - o DALI
 - o Ethernet
 - o Zigbee
- Support for reconfiguration (lighting nodes to be controlled) through software.
- Support for Auto & Manual configuration of lighting nodes.
- Support for Scheduling & Zone creation.
- Ability for bi-directional communication with Lighting Manager software.

1.2.2 Sensor Coupler:

- Should support the following physical layer and corresponding control layer protocols
 - o Wi-fi
 - o DALI
 - o Ethernet
 - o Zigbee
- Support for connecting to off-the-shelf occupancy & day light sensors.
- Support for generating appropriate commands for lighting nodes.
- Ability for bi-directional communication with Lighting Manager Software.

1.2.3 LED Drivers:

- Should support the following physical layer and corresponding control layer protocols
 - o Wi-fi
 - o DALI
 - o Ethernet
 - o Zigbee
- Support for Single driver to control multiple lighting fixtures.
- Provision for setting current rating to support different fixtures for a certain DC voltage range.
- UL, CE, RoHS compliant.
- Ability to provide energy consumption related information
- Ability for bi-directional communication with Lighting Manager Software.

1.2.4 Remote Control Device:

- User to control lighting using any Smart Phone, Tablet, Laptop using Wi-Fi or Ethernet connection.
- Control can be through a web-browser on the Remote Control Device or through an Application downloaded on the Remote Control Device.
- Two broad categories of user access control must be provided
 - o Administrators – Full control of lighting network, including configuration, control and maintenance.
 - o End-user control – Control of certain lighting nodes only.

1.2.5 Access Points:

- Recommend Off-the-shelf Enterprise grade Wi-Fi Access Point supporting WPA2 Enterprise security.

1.2.6 Server(s):

- Linux machine with Radius server for WPA2 enterprise authentication in case of Wi-Fi enabled Lighting.
- Linux machine for hosting Lighting Manager

1.3 Software Subsystem

1.3.1 Lighting Manager

- This will include Lighting control software stack, communication layer support (Wi-Fi, Ethernet, ZigBee, DALI), web application running on web server. This is to enable communication between Lighting Network & Remote Control Devices.
- Authentication server for carrying out device authentication.
- For DALI solution the relevant DALI protocol (IEC 62386 – 101, 102, 103, 207, 209) need to be implemented on Lighting Manager.

2.0 Qualification of vendors

Qualification of the vendor will be based on the following criteria:

- Adherence to/support for features mentioned in “Features of framework” above (section 1.1 through 1.3.1)
- Willingness to share the software API information
- Active participation by vendor in development of technology used in this lighting control solution.
- Field upgradability of the firmware used in hardware devices

END OF SECTION IV

ANNEXURE 1 – MANUFACTURER AUTHORISATION FORMAT

(on manufacturer's letterhead)

Date:

**The Executive Director
Centre for Development of Advanced Computing
Pune University Campus, Ganesh Khind
Pune – 411 007**

Subject: Manufacturer authorisation against EoI no. CDACP/LED/2014/162 for
Development of Lighting Control System at C-DAC, Pune.

Dear Sir,

We, M/s _____ (*Name of the manufacturer*) having registered office at
_____ (*address of the manufacturer*) by virtue of being manufacturer for
_____ (*Name of the product/s*), hereby authorise M/s _____ (*Name of
the vendor*) having their office at _____ (*Address of vendor*) to submit proposal
for development of Lighting Control System using our range of products and /or
technologies to meet the requirements of above referred EoI.

WE have read the terms and conditions of EoI and have no objection if our range of
products and /or technologies are used by M/s -----(*Name of Vendor*) and C-DAC for
development of Lighting Control System, as stipulated in EoI.

The undersigned is authorised to issue such authorisation on behalf of M/s
_____ (*Name of the manufacturer*).

The certified copy of the board resolution to that effect is attached hereto
For M/s _____ (*Name of the manufacturer*)

Signature & company seal

Name
Designation
Email
Mobile No.