

## EXPRESSION OF INTEREST

### **Mahindra-TERI Centre of Excellence for Sustainable Habitats**

19<sup>th</sup> June 2017

#### **1.0 COMPANY BACKGROUND**

**1.1** Mahindra Lifespace Developers Ltd. (MLDL) is one of the leading real estate players in India with a presence in 9 major cities. MLDL operate in 3 distinct business segments: residential developments, integrated cities & industrial clusters and affordable housing.

MLDL forayed into real estate and infrastructure development in 1994. The company's mission of transforming urban landscapes by creating sustainable communities drives the spaces they operate in and the way they do their business and their responsibility to the larger society.

With a total of 16 million sq. ft. of registered green building footprint across world cities, residential developments and affordable homes – they are seeding sustainable urbanisation, which they call 'Urboonisation'.

As India's first Green Homes developer, they uphold Green Design and Healthy Living as the foundations of all their projects. They are committed to designing and constructing buildings which are green across their life cycle – from construction to use to end-of-life phase.

Mahindra Lifespaces' properties enhance a sense of well-being, its design maximizes sunlight and cross ventilation translating into lower energy consumption and the usage of building materials enhance temperature insulation. Some of their green initiatives include:

- Health-friendly indoors
- Energy- efficient lighting
- Water efficient plumbing fixtures
- Alternative building materials
- Sustainable location
- Rainwater harvesting
- Water recycling and re-use
- Organic waste treatment
- Energy- efficient building envelope
- Efficient daylighting and ventilation

- 1.2** The Energy and Resources Institute (TERI) is a leading think tank dedicated to conducting research for sustainable development of India and the Global South. TERI was established in 1974 as an information centre on energy issues. However, over the past decades, it has made a mark as a research institute whose policy and technology solutions transformed people's lives and the environment.

Within TERI the Centre for Research on Sustainable Building Science aims at facilitating development and mainstreaming of sustainable buildings; improving performance levels of existing buildings, and extensive outreach and capacity building. It provides environmental design consultancy, facilitates green rating projects, energy audit & management, and formulates norms, standards and studies on buildings related issues pertaining to climate change and GHG emission inventory. One of its key concerns is research on innovative solutions on the systems side for different applications, solar-passive buildings and low-energy cooling systems.

## **2.0 PROJECT BACKGROUND**

The Mahindra-TERI Centre of Excellence for Sustainable Habitats was established at TERI Gram at Gual Pahari, Gurgaon-Faridabad road in Haryana in September 2014 with the objective of investigating innovative, low-cost-high-impact materials tailored to suit the Indian building sector and climate for energy efficient building envelope design, and disseminate this knowledge to relevant stakeholders for lowering or removal of barriers to the same in the Indian market.

The research program consists of four major activities:

- 2.1** Standardization and measurement of building materials: aimed at measurement and creation of a database of thermo-physical properties, and reflectivity of paints and tiles, of opaque walling and roofing materials.
- 2.2** Building envelope studies: Assessment of impact of opaque walling and roofing materials on the cooling load of a space, in lab conditions. Some materials will be selected for testing in field conditions. In case the finished product is selected for testing in field conditions, supply for this testing shall be made to the CoE free of cost.
- 2.3** Comfort studies: Under thermal comfort studies the impact of walling and roofing materials, thermal mass and reflective technologies on the mean radiant temperature (MRT) inside the space, transient thermal behaviour of both the materials and space etc. will be studied.

- 2.4** Development of performance standard matrices, guidelines and numerical toolkits:
- 2.4.1 Performance standards and matrices for integrated envelope analysis, visual comfort and daylight analysis;
  - 2.4.2 Design guidelines for selected building materials based on wall assembly insulation, roof insulation, thermal mass, reflective properties, construction techniques for different climates and building types, site specific auditing, occupant behaviour model etc.;
  - 2.4.3 Numerical toolkits for selection and performance evaluation of high impact envelope materials and technology.
- 2.5** Numerical toolkits and material database formed from the outcomes of the research work performed under the Mahindra-TERI Centre of Excellence for Sustainable Habitats shall be made available in the public domain and will be disseminated amongst relevant stakeholders according to a dissemination plan agreed upon by Parties, viz. MLDL and TERI.

**Material testing will be carried out in phases over the complete duration of the project. Prior to the beginning of each testing phase the CoE will float an EoI to solicit intents for supplying finished products for testing during that phase.**

### **3.0 PURPOSE OF THIS EoI**

Mahindra-TERI Centre of Excellence for Sustainable Habitats (hereinafter referred to as “the CoE”) invites ‘expression of interest’ from manufacturers, developers, vendors and/or promoters registered in India (hereinafter referred to as “the supplier”) of building construction industry to supply innovative and low-cost walling, roofing and cladding material suitable for use in various climate zones of India, for the first phase of testing of thermo-physical properties and creation of a database of materials.

### **4.0 CRITERIA FOR SHORTLISTING**

- 4.1** Respondents shall express their intent to participate in this EoI by sending a ‘Letter of Intent’ to the CoE as given in Annex A, and a non-refundable fee of INR 1000 in the form of a demand draft in favour of The Energy and Resources Institute, payable at New Delhi.
- 4.2** Respondents shall express their eligibility to fulfil the obligations as given under paragraph 5.1 of this EoI in the format given in Annex B to this document, demonstrating the following:

- 4.1.1 Past experience of the respondent, if any, in manufacturing, developing, supplying or promoting innovative, low cost building materials along with relevant details,
- 4.1.2 Proof of registration in India/ incorporation of being a legal entity.
- 4.3 Any respondent found to be blacklisted by the Government of India, any State Government or State Government's department, shall not be considered.
- 4.4 The CoE reserves the right to accept or reject any intent without assigning any reason thereof.
- 4.5 The respondents shall furnish relevant documents and certificates in support of their claims at the time of submission of proposal.
- 4.6 If the respondent does not receive the RfP on the date of release of RfP as given in this document, it shall be assumed that their intent has been rejected.

## 5.0 SCOPE OF SERVICES

### 5.1 Obligations of the *Supplier*

- 5.1.1 Supply *at least* 30 samples of new and innovative, low-cost building materials, at the location of the CoE, for testing of thermo-physical properties like specific heat, thermal conductivity, thermal diffusivity, emissivity, density and any other thermo-physical property which the CoE might deem necessary for testing in lab and/or field conditions.
- 5.1.2 Supply *at least* 500g of each raw material used for manufacturing each of the finished product/s supplied at the location of the CoE. A summary of these raw materials and details regarding source of each raw material, and mode of transportation from source to location of manufacturing of the finished product shall be provided by the supplier.
- 5.1.3 The supplied building material shall be deemed to conform to all relevant codes and standards for strength, stability, safety etc.
- 5.1.4 The supplier shall furnish all documents in support of claims of mechanical and/or thermo-physical properties of the building material, issued by an NABL accredited laboratory, or any government approved laboratory.
- 5.1.5 The supplier shall provide to the CoE documentation related to the composition of the finished product supplied for testing.
- 5.1.6 A respondent may propose to supply more than one innovative material to the CoE for the purpose of testing.
- 5.1.7 The supplier shall bear the cost of transportation of the material to the location of the CoE.

## 5.2 Obligations of the *Centre of Excellence (CoE)*

- 5.2.1 The CoE shall not levy any fee or charge for conducting tests of thermo-physical properties on the supplier.
- 5.2.2 The CoE shall provide the supplier with the results of the tests.
- 5.2.3 Dimensions of the samples and specifications for the required finish shall be provided to the supplier by the CoE.
- 5.2.4 The outcomes of the research shall be made available in the public domain through a database of thermo-physical properties of all tested materials.
- 5.2.5 Unless specified by a supplier, the database of tested materials shall not disclose the identity of any supplier.
- 5.2.6 Unless specified by a supplier, the database shall also not disclose the raw materials used in manufacturing any finished product, or the design mix of any finished product.
- 5.2.7 The CoE is not liable to accept any or all of the materials that a respondent may propose.

## 6.0 SUMMARY SHEET

Serial No.	Subject	Particulars
1	Name of Project	Research on Energy Efficient Building Envelopes and Sustainable Water Use in Habitats
2	Last date/time for submission of intent	<b>18<sup>th</sup> August 2017</b> at 1500 hours
3	For clarifications on this EoI and submission of intent	info@mahindratericoe.com
4	Last date for seeking clarifications on this EoI	18 <sup>th</sup> August 2017 A-260 Defence Colony New Delhi 110024
5	Particulars for submitting non-refundable fee	Amount: INR 1000 Demand draft in favour of The Energy and Resources Institute, payable at New Delhi

- 6.1** The intent as well as all other correspondence between the CoE and the respondent shall be in English only.
- 6.2** In response to any query, or at its sole discretion, the CoE may issue addenda to this document at any time and date before the final date of submission of intent as given in this EoI.
- 6.3** The final date of submission of intent may be postponed if major modifications, subject to discretion of the CoE, are made to the existing document through addenda issued by the CoE, in consideration of due modifications that may be necessary in intents already submitted or in the process of being submitted by respondents.
- 6.4** Responding to this intent does not guarantee the award of services to any respondent. The final award of services for supplying walling, roofing and cladding material to the CoE is subject to the proposal submitted by a prospective supplier at the beginning of each testing phase.

## **Annex A**

### **Letter of Intent**

To  
Senior Director  
Sustainable Habitat Division  
The Energy and Resources Institute  
A-260  
Defence Colony  
New Delhi 110024

**Subject:** Letter of Intent for participation in Mahindra-TERI Centre of Excellence for Sustainable Habitats

Dear Sir

Having gone through the Expression of Interest (Eoi) for supplying new innovative and low-cost walling, roofing and cladding material for testing of thermo-physical properties, we hereby express our intent to participate in this program.

We hereby declare that all the information provided and statements made in this Eoi are acceptable to us and any misinterpretation contained in it may lead to our disqualification. We agree to adhere to the timelines laid down in this Eoi.

We understand that the CoE is not liable to accept any or all of the material we propose, and may accept or reject this Letter of Intent without assigning any reason thereof.

Yours sincerely,

Signature of Authorized signatory  
Name and Title of signatory  
Name and address of firm with seal:

## **Annex B**

**Form for summary of submittals**

<b>Serial No.</b>	<b>Submittal</b>	<b>Response</b>
1	Name of the firm	
2	Address of the firm (for correspondence)	
3	Contact person and information	<i>Please provide name, designation, telephone number and email address.</i>
4	Past experience in manufacturing, developing, supplying or promoting innovative, low-cost materials for any purpose on any scale (if any)	<i>Respondents may attach a separate sheet demonstrating relevant projects, cost of project, brief description of the respondent's role, date of completion. Please attach work orders of mentioned projects.</i>
5	Proof of registration in India/ incorporation of being a legal entity	<i>Please attach registration certificate.</i>
6	Has the firm been blacklisted by Government of India, any state government or any government agency?	<i>Kindly provide reasons given by the agency for blacklisting. The respondent may also provide their own response on a sheet.</i>
7	Particulars for submitting non-refundable fee	<i>Please provide details of the demand draft</i>

Signature of Authorized signatory  
Name and Title of signatory  
Name and address of firm with seal: