



NOTICE FOR INVITING

Expression of Interest (Eoi)

for

**Identification of Digital Technologies in emerging business
areas and Implementation Partners**

Issued by:

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Corporate Digital Transformation
भारत हेवी इलेक्ट्रिकल लिमिटेड
Bharat Heavy Electricals Limited,
Regd. Office: BHEL House, Siri Fort New Delhi-110049



DISCLAIMER

All information contained in this Eol provided / clarified are in good interest and faith. The information contained in this Expression of Interest document or subsequently provided to Applicant(s), whether verbally or in documentary or any other form, by or on behalf of BHEL, is provided on the terms and conditions set out in this Eol and such other terms and conditions subject to which such information is provided.

The purpose of this Eol is to provide interested parties with information that may be useful to them in the formulation of their application for qualification and subsequent selection pursuant to this Eol. This Eol is not an offer by BHEL to the prospective Applicant(s) or any other person. This Eol is neither intended nor shall it be construed as creating or requiring any ongoing or continuing relationship or commitment with any party or person. This is not an offer or invitation to enter into an agreement of any kind with any party.

Though adequate care has been taken in the preparation of this Eol document, the interested firms shall satisfy itself that the document is complete in all respects. The information is not intended to be exhaustive. Interested Agencies are required to make their own enquiries and assumptions wherever required. Intimation of discrepancy, if any, should be given to the specified office immediately. If no intimation is received by this office by the date mentioned in the document, it shall be deemed that the Eol document is complete in all respects and firms submitting their interest are satisfied with the Eol Document in all respects.

The issue of this Eol does not imply that BHEL is bound to select and shortlist Applicant(s) for next stage or to enter into any agreement(s) with any Applicant(s). BHEL reserves all right to reject any applications submitted in response to this Eol document at any stage without assigning any reasons thereof. BHEL also reserves the right to withhold or withdraw the process at any stage. Neither BHEL nor its employees and associates will have any liability any loss, expense or damage which may arise from or be incurred or suffered in connection with anything contained in this Eol document or any matter deemed to form part of this Eol document, the information and any other information supplied by or on behalf of BHEL. BHEL accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance/use of any statements/information contained in this Eol by the Applicant. BHEL is not making any representation or warranty, express or implied, as to the accuracy or completeness of any information/statements made in this Eol.

The Applicant shall bear all its costs associated with or relating to the preparation and submission of its Application including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by BHEL or any other costs incurred in connection with or relating to its Application. All such costs and expenses will remain with the Applicant and BHEL shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an Applicant in preparation or submission of the Application, regardless of the conduct or outcome of the Eol.



1. Introduction

As part of the increasing focus on Digital Transformation, BHEL is enhancing its business opportunities, by imbibing the latest digital technologies. This endeavor is in pursuit of new business areas and also to further strengthen the operational efficiency & process competencies.

BHEL invites Expression of Interest (Eoi) from prospective partners for **“Identification of Digital Technologies in emerging business areas and Implementation Partners”** with broad scope of work as indicated in this document.

2. About Bharat Heavy Electricals Limited

Bharat Heavy Electricals Limited (BHEL) is a Central Public Sector Enterprise, wherein Government of India is holding 63.06% of its equity. It is an integrated power plant equipment manufacturer and one of the largest engineering and manufacturing companies of its kind in India having a turnover of about USD 4.1 billion. The company is engaged in the design, engineering, manufacture, construction, testing, commissioning and servicing of a wide range of products and services for the core sectors of the economy, viz. Power, Transmission, Industry, Transportation, Renewable Energy, Oil & Gas and Defence with over 180 product offerings to meet the needs of these sectors.

Since its inception in 1964, BHEL has been the solid bedrock of evolution of India’s Heavy Electrical Equipment industry. BHEL has a mammoth 20,000 MW per annum capability for manufacturing of power generation equipment. A widespread network of 17 manufacturing units, 2 repair units, 4 regional offices, 8 service centers, 1 subsidiary, 3 overseas offices, 5 joint ventures, 15 regional marketing centers and current project execution at more than 150 project sites across India and abroad corroborates the humongous scale and size of its operations.

With key focus on project execution, the worldwide installed base of power generating equipment supplied by BHEL has exceeded 180 GW. BHEL’s 54% share in India’s total installed capacity and 58% share in the country’s total generation from thermal utility sets (coal based) as of March 31, 2018 stand a testimony to its valuable contribution towards nation building. BHEL’s global competitiveness has established its footprint in all the inhabited continents with references in 82 countries.

The high level of quality & reliability of BHEL products is a testimony to its adherence to international standards by acquiring and adapting some of the best technologies from leading companies in the world including General Electric, Siemens AG, Mitsubishi Heavy Industries Ltd. etc., together with



technologies developed in its own R&D centers. BHEL invests more than 2.5% of turnover on R&D and innovation.

BHEL has been designing and manufacturing rolling stock for rail and urban transportation. BHEL has also been manufacturing Motors, Power electronics and Controllers for various transportation applications at its various factories. BHEL also has a Battery Packaging facility for space applications.

More details about the entire range of BHEL's products and operations can be obtained by visiting our web site www.bhel.com.

3. Prospective areas of cooperation

Prospective partners should have capabilities/experience in development, implementation of Digital technologies including but not limited to data analytics, IIOT, Artificial Intelligence etc. in one or more of following areas :

- a. **Conventional Power Plants (Thermal, Hydro & Nuclear)** : Asset performance management system with condition based monitoring, prescriptive forecasting and risk based maintenance of power plant asset for improved operational efficiency and higher reliability through Remote Monitoring and Diagnostics.
- b. **Power Transmission & Distribution** : Advanced Distribution Management System for power distribution management with automatic outage restoration and performance optimization of distribution grid with smart grid solutions for Distribution system.
- c. **Solar & Wind Power Plants** : Centralized monitoring with Predictive analytics and big data analytics with Forecasting and scheduling solutions for increasing operational efficiency and for streamlining maintenance process in solar and wind power plants
- d. **Water & Sewage Treatment** : Digital solution for plant process optimization, output quality monitoring tool, Equipment data collection during O&M and similarly other tools which can help to optimally manage and operate these plants.
- e. **Smart City** : Design and Implementation of digital technology for water, sewage, lighting, Power distribution, Transportation, Energy storage systems etc. for smart city.
- f. **E-Mobility** : Centralized monitoring of e- vehicle readiness and status in open platform.



- g. **Battery Management System** : System for monitoring cells individually, equalizing its performance, ensuring safety and providing status and control information to central supervisor.
- h. **Industry 4.0 for BHEL Units** : Introduction of advanced manufacturing process and technologies like additive manufacturing, predictive maintenance, IIOT, Industry 4.0 etc. and upgradation of existing manufacturing technology in BHEL manufacturing units.

Based on the experience and competency Applicant can participate in one or more areas mentioned above.

4. Broad Scope

BHEL seeks complete IT solution including, Design, Engineering, Development, Installation, Implementation and Maintenance for one or more of above mentioned areas mentioned in 3a) to 3h)

5. Eol Process

- a) Through this Eol, BHEL intends to identify prospective partners in India and abroad.
- b) The process involves seeking willingness of Applicants who make an application in response to this Eol. At the end of this process BHEL may invite applicant for further deliberations, as deemed necessary.
- c) Responses to Eol are to be submitted in English language only.
- d) Notwithstanding anything contained in this Eol, BHEL reserves the right to accept or reject any Application and to annul the Eol Process in whole or part, at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons thereof.
- e) BHEL reserves the right to verify all statements, information and documents submitted by the Applicant in response to the Eol. Any such verification or lack of such verification by BHEL shall not relieve the Applicant of his obligations or liabilities hereunder nor will it affect any rights of BHEL.
- f) The Eol process shall be governed by and construed in accordance with the laws of India and the Courts at New Delhi shall have exclusive jurisdiction over all disputes arising under, pursuant to and/ or in connection with the Eol process.



- g) All costs incurred for participation in the EoI shall be borne by the Applicant(s).
- h) Further information can be obtained through email (cdt-tender@bhel.in)
- i) In case any amendment/corrigendum is issued to this EoI, it shall be notified only at www.bhel.com

6. Information to be submitted by Applicant along with EoI:

Interested parties are requested to submit, preferably by email[#] and otherwise in an envelope^{*}, their technical and financial credentials along with other relevant information in the form of documents listed below :

- a) Company Brochures
- b) Profile of company indicating type of business and experience
- c) Annual turnover of company for the last 3 years.
- d) Duly filled in EoI form (Annexure-A). Organizations / companies to indicate the experience in the areas referred in point 3, with supporting documents like work order, work completion certificate, performance certificate etc.
- e) Details document on the proposed solution(s), for the area(s) quoted, to inter alia include respective methodologies/architecture involved, technology proposed, references of implementation(s) thereof, experience sharing of past implementation(s), etc.
- f) The Applicant has to furnish complete information (Annexure-B) like detail specification of the items needed, e.g. server(s), client(s), network equipment(s), sensors, software platforms, application development tools etc., for successful implementation of the proposed solution(s) in the respective areas in which Applicant has quoted. [Applicant shall furnish the detailed information with specification for s.no. 3a) to 3h) individually, in which they are participating]

The details submitted by the Applicant(s) shall be complete in all respects and BHEL may seek clarifications / additional information as considered necessary. Such clarifications/ additional information must be provided within 7 days of BHEL request.



email to be sent to cdt-tender@bhel.in with “subject” as “Eol for Digital Technologies dated 26th October 2018”

* envelope to be superscribed “Eol for Digital Technologies dated 26th October 2018” and submitted at the following address :

Deputy Manager Corporate Digital Transformation Bharat Heavy Electricals Limited 2nd Floor, HRDI & PSNR Complex, Plot No. 25, Sector-16-A Distt. Gautam Budh Ngar NOIDA-201301 Uttar Pradesh. INDIA Tel: (Landline) : (Mobile) : +91 - 9811758691
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7. Eol information as called for in s.no. 6 shall reach BHEL, preferably by email or at the address as indicated in s.no. 6, on or before 30th Nov 2018, 2.00 PM local time.



Annexure-A

Brief about organisation

1.	Name of the Company :						
2.	Registered address of the Company :						
3.	Name of the Proprietor/ MD/ CEO :						
4.	Address						
5.	Contact Details:			Name & Designation			
				Mobile / Phone No.			
				Email id			
				Fax No.			
6.	Turnover in last 3 years:						
	Financial year	Turnover (in INR) for Corporate		Turnover (in INR) for the associated business area			
7.	Relevant experience						
	S. No	Name of Project	Location	Date of award	Date of Completion	Client Certificate	Area of work

Any Other information:

(Sign & Company Seal)
Authorized Signature



Annexure-B

Proposed solution for 3_ (a/b/c/d/e/f/g/h)

(please use separate sheet for individual areas and also separate sheet for multiple solution for same area)

S.no.	Component of the proposed solution	Details
1	Description	
2	Methodology	
3	Architecture*	
4	Technology	
5	References of implementation	
6	Experience sharing of past implementations	
7	Server(s)	
8	Client(s)	
9	Network equipment(s)	
10	Sensors	
11	Software platform	
12	Application development tools	
13	Timeline	

* Please enclose/mention configuration diagram

(Sign & Company Seal)
Authorized Signature