

ANNEXURE-A

Expression of Interest for Engaging Industrial Partners Towards Involvement in activities related to the Design and Development of Hydrogen Fuel Cell E-Tractor

A. Introduction:

CSIR-CMERI, a constituent laboratory of the Council of Scientific & Industrial Research (CSIR), intends to undertake activities related to the design and development of Hydrogen Fuel Cell powered Electric Tractors for agricultural applications. It is looking for industrial partners interested towards involvement in activities of different stages of design and development as mentioned in the "Detailed Scope of Work" (Section-B). The Industrial partner could be any OEM/Industry/Firm/Company etc. with experience in design, manufacturing and sale of agricultural tractors (>30HP category) for at least last five years.

B. Detailed Scope of Work:

Overall objective of the activity is to design and develop Hydrogen Fuel Cell E-Tractor prototype. Envisaged scope of work from the industrial partner is as follows:

1. Assistance in identification and selection of a tractor platform (>30HP Category), suitable for the development of Hydrogen Fuel Cell E-tractor, from among the variants already commercially marketed by the participating industrial partner.
2. Estimation of load profile (speed, torque, lift capacity, etc.) for the shortlisted tractor platform.
3. Active involvement in system level architecture design in the following aspects:
 - a. Identification of different sub-systems associated with the Hydrogen Tractor prototype.
 - b. Identification of components associated with each of the sub-systems.
 - c. Preparation of conceptual layout through simulation and analysis of the system level architecture of the Hydrogen Tractor prototype by including all the selected sub-systems/components.
 - d. Preparation of detailed technical specifications of all the selected sub-systems and components.
4. Providing the standard mechanical components along with their respective technical details (transmission system, front axle, steering assembly, seat assembly, hydraulics, wheels, chassis and other related components) of the shortlisted tractor platform (ref: section C point 3).

5. Assistance towards design and analysis of mechanical interfaces for integration of sourced components of the tractor with the Hybrid E-drive Train components like Hydrogen tanks, PEM Hydrogen Fuel Cell Engine, Battery bank, Hybridization Converter, Motor Controller and Motor.
6. Involvement during integration of all the sub-systems into the Hydrogen Tractor prototype at CSIR-CMERI, Durgapur.
7. Assistance towards testing of different subsystems and final prototype.

C. IPR:

1. Any product, technology, process, or service developed—either directly or indirectly—based on the results, data, findings, or intellectual know-how generated by CSIR shall be considered the exclusive intellectual property of CSIR. The industrial partner will not cause any objection or impediment to the securing of such Intellectual property by CSIR.
2. Intellectual property generated through joint development will be the joint property and securing of such intellectual property will be done jointly. However, the percentage sharing of the IP will be decided based on the actual contributions made by each party preferably through a separate agreement.
3. The intellectual property related to all the standard components of the shortlisted tractor platform will remain with their respective manufacturers/owners.

D. Pre-Qualification Criteria:

| S.No. | Pre-Qualification Criteria | Supporting /Compliance Documents |
|--------------|---|---|
| 1. | The participating Industrial partner could be any OEM/Industry/Firm/Company etc. | Certificate of Registration and/or GST certificate of the OEM/Industry/Firm/Company |
| 2. | The participating industrial partner should have experience in design, manufacturing and sale of agricultural tractors (>30HP category) during last five years. | Certificate by the competent authority / authorized signatory of the participating entity. |
| 3. | The participating industrial partner should not be blacklisted by any Central/ State body or Financial institution/ Bank. | Undertaking signed by the competent authority / authorized signatory of the participating entity. |

E. Evaluation and Qualification Criteria

The proposals submitted by qualified firms towards involvement in activities related to the Design and Development of Hydrogen Fuel Cell E-Tractor shall be evaluated by an Expert Committee constituted by CSIR-CMERI. The evaluation will be based on the following weighted criteria:

| Sl. No. | Criteria | Weightage (%) |
|----------------|--|----------------------|
| 1 | Technical Design Capability, Qualifications including Team Competence | 35 |
| 2 | Experience in manufacturing and sales of >30 HP category agriculture tractors | 35 |
| 3 | R&D, Manufacturing and Testing Infrastructure related to agricultural tractors | 30 |
| Total | | 100 |

Participants will have to submit relevant documents, as per the above mentioned evaluation and qualification criteria, and the evaluation will be done based on the parameters listed in table-01. In case, any additional documents are required for evaluation purpose as deemed necessary by the expert committee of CSIR-CMERI, the applicant will be notified and shall produce them within the stipulated time period. The minimum qualification mark is 60, however the highest scoring qualified participant will be considered for involvement in the said activity. CSIR-CMERI's decision regarding shortlisting and/or selection will be final. Any discrepancies, if found in the submitted information and documents will result in disqualification of the respective participant.

Table-01: Evaluation Parameters & Scoring Basis

| Sl. No. | Evaluation Parameter | Sub-Criteria / Description | Maximum Marks | Evaluation Basis* |
|---------|--|--|---------------|---|
| 1 | Technical Design Capability, Qualifications including Team Competence | Qualification & experience of the team in the field of design of agricultural tractors including system level architecture design, mechanical component design and manufacturing of tractors, providing cost optimized commercial solutions for the market, handling of simulation, design and analysis software etc. | 35 | Committee scoring based on Team Competency [Information to be provided as per Annexure-3] |
| 2 | Experience in manufacturing and sales of >30 HP category agriculture tractors | Average yearly number of agricultural tractors (>30 HP category) manufactured and sold during the last 05 years | 35 | 0-30000: 10 30001-50000: 15 50001-100000: 25 >100000: 35 [Information to be provided as per Annexure-4] |
| 3 | R&D, Manufacturing and Testing Infrastructure related to agricultural tractors | <u>Software infrastructure:</u> simulation, design and analysis software <u>Manufacturing infrastructure:</u> agricultural tractor component manufacturing facilities, assembly and integration facilities <u>Testing infrastructure:</u> R&D facilities and equipment related to agricultural tractor design, development and testing | 30 | Committee scoring based on infrastructural facilities [Information to be provided as per Annexure-5] |

***Evaluation basis will be based on the submitted documents (as per the prescribed Annexures and any other relevant documents) and CSIR-CMERI's expert committee's comments. CSIR-CMERI's decision regarding shortlisting and/or selection will be final. Any discrepancies, if found in the submitted information and documents will result in disqualification of the respective participant.**

F. EOI Processing Fee: NIL

G. Last Date of Submission: 09.03.2026

H. Venue & Timeline for Submission of Proposal

The proposal, complete in all respects and submitted in accordance with the requirements of this EOI, must be sent to the following address:

The Head

Business Development Unit (BDU)

CSIR-CMERI, Durgapur.

M. G. Avenue, Durgapur – 713209

E-mail:bdg.cmeri@csir.res.in

Phone: +91 9474546419

The EOI must reach the above address on or before 5:00 PM on the last date of submission, during working days and within official working hours. Proposals may be submitted via e-mail or courier. In exceptional circumstances and at its sole discretion, CSIR-CMERI may extend the deadline for submission of proposals. Any such extension shall be communicated through an amendment notification, which will be made available on the official website of the institute.

Annexure -1

APPLICANT'S EXPRESSION OF INTEREST

To
The Head,
Business Development Unit (BDU),
CSIR-CMERI Durgapur,
M. G. Avenue, Durgapur-713209

Date:

Reg. Submission of Expression of Interest Towards Involvement in activities
related to the Design and Development of Hydrogen Fuel Cell E-Tractor

Dear Sir,

In response to the Invitation for Expression of Interest (EOI) published on _____ for the above purpose, we would like to express interest to carry out the above proposed task. As instructed, we have attached the following documents in a sealed envelope:

- i) Organizational Details: Annexure-2;
- ii) Qualification & Experience of Key Personnel: Annexure-3
- iii) Past sales record: Annexure-4;
- iv) Infrastructural facilities: Annexure-5
- v) Declaration: Annexure-6.

Yours Truly,

Signature of the Applicant
{FullName of the Applicant} Stamp.
Encl. As above
Note: The application is to be submitted on the letterhead of the organization/firm/entity.

Annexure -2

| <u>S. No.</u> | <u>Organizational Details</u> | |
|----------------------|---|--|
| 1. | Name of the Organization | |
| 2. | Main areas of Business/Activity | |
| 3. | Type of Organization : OEM/Industry/Firm/ Company | |
| 4. | Whether the entity/firm has been blacklisted by any Central Government/ State Government/ PSU / Bank/ Financial Institution/ others. If yes, details thereof. | |
| 5. | Address of registered office with contact numbers and contact persons and email address/es | |
| 6. | Address of Office/s in India | |

Signature of the Applicant
{FullName of the Applicant} Stamp.

Enclosures:

- i) Copy of the Certificate of Registration and/or GST certificate of the OEM/Industry/Firm/Company

Annexure-3

Qualification & Experience of Key Personnel

Overview of the qualification and past experience of the key personnel

Name:

Designation:

Qualification:

Experience:

(Activities carried out in last 5 years)

Note: Information regarding more than one key personnel may be provided. They should be on the payroll of the applicant. Separate sheet may be used for each individual.

Signature of the Applicant
{FullName of the Applicant} Stamp.

Annexure -4

Past sales record

| S. No. | <u>Financial Year</u> | <u>Sales of agricultural tractors (>30 HP category) (in number of units)</u> |
|-------------------|------------------------------|--|
| 1. | 2024-25 | |
| 2. | 2023-24 | |
| 3. | 2022-23 | |
| 4. | 2021-22 | |
| 5. | 2020-21 | |

Signature of the Applicant
{FullName of the Applicant}
Stamp.

Annexure -5

List of infrastructural facilities

| S. No. | <u>Software infrastructure</u> | <u>Manufacturing infrastructure</u> | <u>Testing infrastructure</u> |
|-------------------|---|--|--------------------------------------|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |

SignatureoftheApplicant
{FullNameoftheApplicant} Stamp.

Annexure-6

Declaration

We hereby confirm that we are interested to work with CSIR-CMERI through involvement in activities related to the Design and Development of Hydrogen Fuel Cell E-Tractor as per the defined scope of work and all the information provided herewith is genuine and accurate to the best of our knowledge.

We hereby confirm that we have experience in design, manufacturing and sale of agricultural tractors (>30HP category) during last five years.

We also confirm that our firm has not been blacklisted or has any litigation or any conflict of interest that may impact on any collaborative activities.

Authorized Person's Signature

Name & Designation

Date:

Stamp

Note: The declaration is to be furnished on the letterhead of the organization.