प्रौद्योगि की स्थानांतरण केलिए पसंदकी अभिव्यक्ति

EXPRESSION OF INTEREST for TRANSFER OF TECHNOLOGY

"Single Phase 7kW and Three Phase 22kW AC Electric Vehicle Supply Equipment for EVs"

Document No: *CDAC(T)/PEG/NaMPET-03-EVSE/EOI-A2-002/2025*

प्रगतसंगणन विकास केंद्र
(इलेक्ट्रॉनिकी और सूचना प्रौद्योगिकी मंत्रालय, **भारत सरकार**)
तिरुवनंतपुरम, केरल 695033
द्वारा जारी।
टेलीफोन: 098470 69184 फैक्स: 0471 2723456 ईमेल: **tpc@cdac.in**
वेबसाइट: **www.cdac.in**

Issued by

CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING

(The Premier R&D organization of the Ministry of Electronics and Information Technology (MeitY), Govt. of India)
Thiruvananthapuram, Kerala, 695033
Phone: 098470 69184/04712723333(450) Fax: 0471 2723456 Email: **tpc@cdac.in**
Website: www.cdac.in

Published in April 2025

Table of Contents

1. Introduction

Centre for Development of Advanced Computing (C-DAC) invites "**Expression of Interest**" (EOI) from Indian companies for transfer of technology (ToT) from C-DAC to manufacture, market, sell and deploy **Single Phase 7kW and Three Phase 22kW AC Electric Vehicle Supply Equipment** for charging electric vehicles.

This document details on

- → The developed product
- → The terms and conditions for companies to propose their Expression of Interest and
- → How to enter into Transfer of Technology (ToT) agreement based on the terms given herein.

2. Brief about C-DAC

Centre for Development of Advanced Computing (C-DAC) is the premier R&D organization of the Ministry of Electronics and Information Technology (MeitY), Govt. of India for carrying out R&D in IT, Electronics and associated areas. It is a national Centre of Excellence, pioneering application-oriented research, design and development in Electronics and Information Technology.

The Centre has contributed significantly to the growth of the industry in general and the electronics sector in particular through the indigenous development of commercially viable systems and products, foreign technology absorption, adaptation and upgrades, consultancy and training and turnkey implementation of contract projects. The Centre has several firsts to its credits and is the recipient of prestigious national level awards for excellence in application- oriented R & D.

The Mission mode programmes of C-DAC include High performance computing, grid and cloud computing, Multilingual computing & Heritage Computing, Professional Electronics, VLSI and Embedded systems, Software technologies, Cyber Security & Cyber Forensics, Health Informatics, Intelligent Transportation Systems and others.

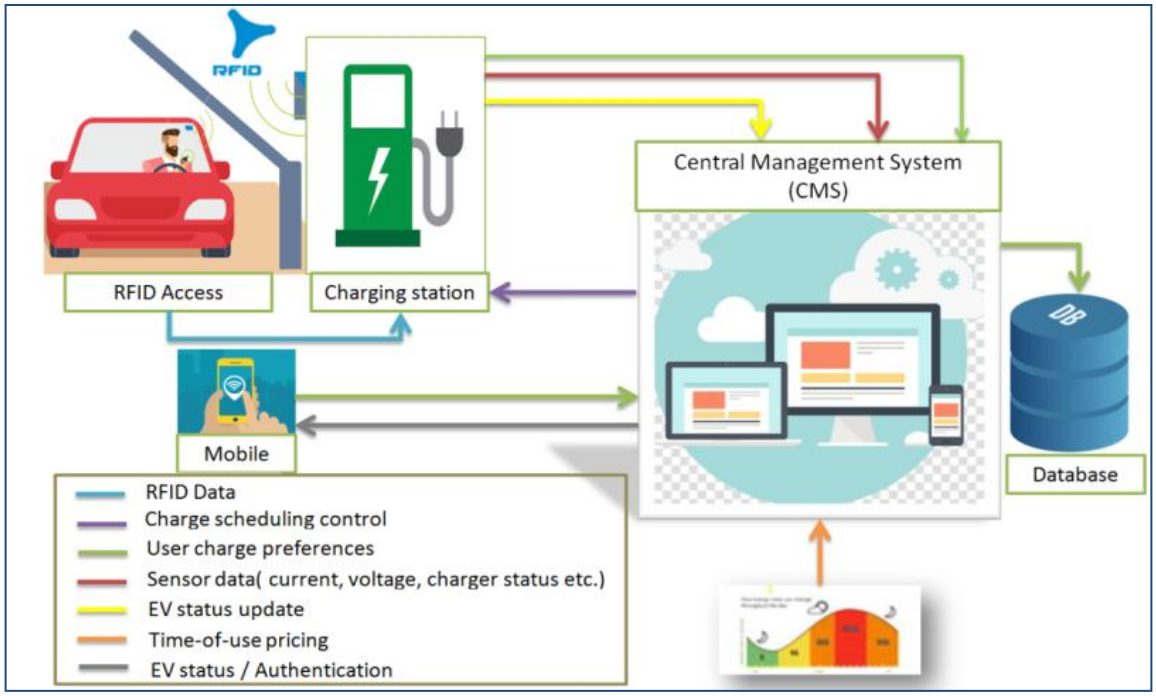
3. Brief description about the technology to be transferred

7kW AC fast charger

22kW AC fast charger

As a part of NaMPET Phase III initiative from MeitY, the Power Electronics Group at CDAC Thiruvananthapuram developed AC fast chargers as part of the project titled "Development of WBG based EV Supply Equipment for Charging-WBG-EVSE". These products were designed in accordance with ARAI standards and the Indian Standard IS 17017 to facilitate the Transfer of Technology (ToT).

The architecture of EV charger infrastructure is shown in the figure below.



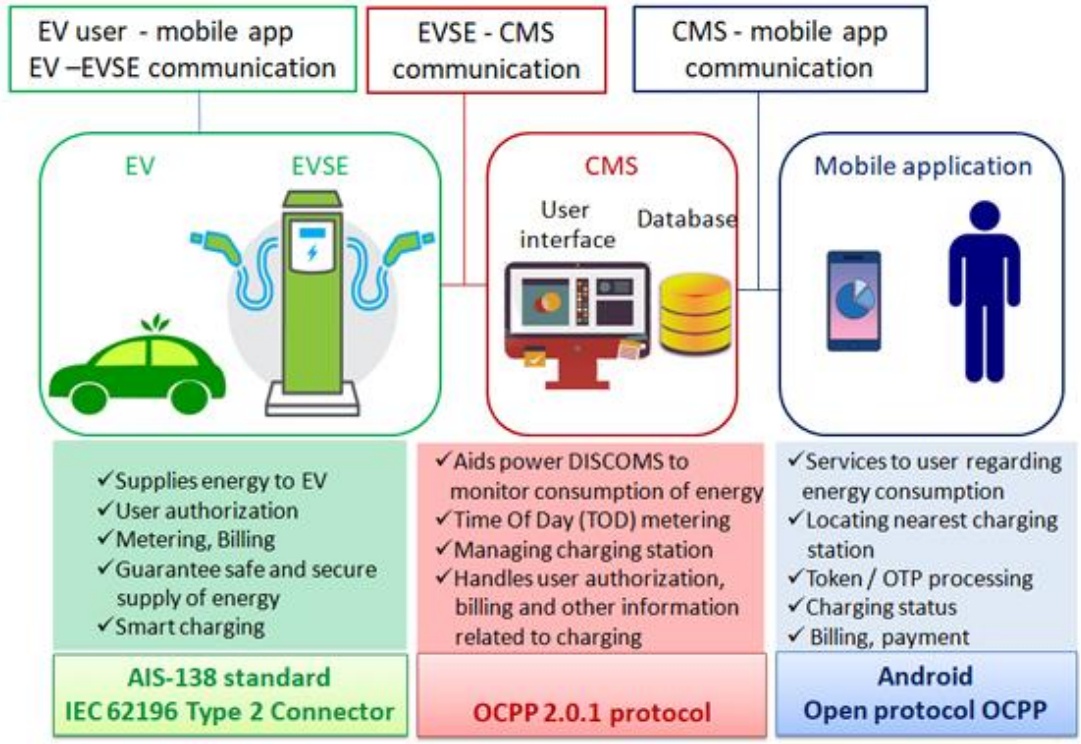
The ToT package includes

- ✓ Networked single phase 7kW and three phase 22kW AC charger features OCPP compliance.
- ✓ Standalone single phase 7kW AC charger, standalone three phase 22kW AC charger
- ✓ Central Management System (CMS)
- ✓ Mobile application.

4. Know-how involved in the ToT:

The AC fast EVSE is designed in compliance with AIS138 (part 1), IS 17017 standards and OCPP 2.0.1 protocol with Real-time application (RTA), Communication application and User Interface (CUI) application, Central Management System (CMS) and mobile application. 7kW AC fast charger supports charging with single phase, 32 A outlet with IEC 62196 connector and related safety interlocks while, 22kW supports charging with three phase, 32 A Outlet with IEC 62196 connector. The functionalities of Control pilot and proximity pilot are incorporated through communication interlocks between EVSE and EV. RTA handles metering, protection and safety functions.The GUI at EVSE

provides EV user interface to input charging requirements. Data/signals exchanged between EV and EVSE is optimized for smart charging capability.



The main components of charging infrastructure and its functionalities are shown in the above figure.

The technologies involved in the system include:

1. Networked Three Phase 22kW AC EVSE: as per IS 17017 standards and OCPP compliance including protection schemes, metering, billing, QR code authentication, and CMS connectivity
2. Networked Single Phase 7kW AC EVSE: as per IS 17017 standards and OCPP compliance including protection schemes, metering, billing, QR code authentication, and CMS connectivity
3. Standalone Three Phase 22kW AC EVSE: with protection schemes, metering, billing, RFID authentication for local use.
4. Standalone Single Phase 7kW AC EVSE: with protection schemes, metering, billing, RFID authentication for local use.
5. Mobile Application: searching charging stations, booking, monitoring & controlling charging session and bill payments.
6. OCPP compliant Central Management System software: for registering users, and monitoring & controlling charging stations.

5. Advantages of AC Fast Charger:

AC fast charger offers several advantages, particularly for electric vehicle (EV) owners and Businesses

1. *Moderate Charging Speed*
   AC fast chargers(7kW&22kW) provides faster charging compared to standard 3.3kW chargers, reducing the time needed to fully charge an EV.
2. *Convenient for Home Charging*
   Ideal for overnight charging at home, as most EV cars can be fully charged within 5–8 hours using a 7kW EVSE. Compatible with single-phase power supplies commonly used in residential buildings.
3. *Smart charging*: Smart charging or V1G can be implemented using AC fast chargers by utilising the communication interface between EV and EVSE. Charging current can be controlled using control pilot signal, considering the status of available grid.
4. *Cost-Effective Installation*
   Installing a 7kW charger is generally less expensive than installing higher-capacity chargers (e.g., DC fast chargers), as it doesn't require significant upgrades to standard residential electrical infrastructure.
5. *Widespread Compatibility*
   Suitable for most EVs, as almost all modern EVs support AC charging at 7kW or higher. Uses a Type-2 connector, which is standard in many regions.
6. *Energy Efficiency*
   AC chargers like the 7kW model are energy-efficient, with minimal energy loss during the charging process compared to some high-power DC chargers in typical cases.
7. *Scalable for Businesses*
   Ideal for businesses providing charging facilities for employees or customers, as it offers a balance between charging speed and cost. Multiple 7kW chargers can be deployed to serve more EVs simultaneously.

6. Applications of AC Fast Charger:

A 7kW AC fast charger is mainly used for EV cars and 22kW three phase chargers are used for EV buses/trucks.

The primary application of fast chargers are

1. Unmanned Public Charging Stations
2. Manned Charging Stations
3. Residential Charging Stations

7. Invitation for Expression of Interest

7.1. C-DAC invites “Expression of Interest” (EOI) in the format given in Annexure-1 (Part A & Part B). Companies/ Institutions can become C-DAC partners for the ToT based on the information furnished in Annexure – I, subject to the assessment by the C-DAC.

7.2. Expression of Interest (EOI) also seeks from interested industry vendors to offer the best price for onetime ToT license subscription cost for the listed items followed by royalty.

7.3. The minimum base price for the ToT of AC fast chargers has been finalised by the ToT Committee (constituted by the Competent Authority) as per the terms of reference finalised by C-DAC. The vendor offering the highest price in a category shall be designated as H1 price. If the value of H1 price is more than the minimum base price finalised by C-DAC, then H1 bid shall be considered as the final price under that category. If the value of H1 bid is less than the minimum base price finalised by C-DAC, then the base price finalised by C-DAC shall be considered as the final price under that category. Committee will finalize this price based on the bids received and considering the market potential.

7.4. This invitation of EOI will be **open till 30th April 2025**. Companies can offer the price for this product in this EOI invitation on or before the EOI closure date. The financial bids received till the last date of EOI shall only be evaluated to arrive at the final cost of ToT license.

7.5. If there are no respondents to the EOI, the base cost already finalised by the ToT Committee shall be fixed as the license cost for the ToT.

7.6. Interested companies may submit the expression of interest (see section 5.0 and section 6.0)

7.7. The EOI bids received from the vendors shall be evaluated to arrive at the best H1 bid.

7.8. After the evaluation, the cost finalised by C-DAC for the ToT will be informed to all the bidders who have participated in the EOI.

7.9. After the evaluation, the draft ToT agreement will be shared with the eligible company. If the company agree to the terms and conditions, the agreement can be executed as per terms and conditions. The company then becomes eligible for obtaining the know-how of '**AC Fast Chargers**' for the prescribed period from C-DAC.

7.10. Once price is finalised EOI (EOI-2) will again be floated for a specific period, inviting other companies who were not able to participated in the initial EOI, based on T & C. The companies who have participated in EOI-1 need not participate in EOI-2.

7.11. Participation in this EOI does not guarantee any association with C-DAC, unless the agreement is signed.

7.12. The technology is offered on non-exclusive basis as per T & C.

7.13. The submission of the EOI shall include all such documents that are specified herein to prove the authenticity of their offer and any claim made therein. All cost and expenses associated with submission of EOI shall be borne by the bidder while submitting the EOI. C-DAC reserves all rights in the shortlisting for any reason whatsoever.

7.14. C-DAC reserves the right of rejecting any offer without assigning any reasons.

7.15. There is neither a business guarantee nor any commitment for funding support from C-DAC to the selected ToT partner. The ToT is pertaining to the deliverables as per this document and any additional requirements will be dealt with separately with applicable T&C.

8. Who can Apply

8.1. Any Indian Company or Start-Ups willing to acquire ToT licenses, manufacture, market, sell and deploy 'AC Fast Chargers' can apply.

9. How to Apply

Interested companies may send expression of interest by filling the template as per Annexure – I, II, and III along with supporting documents to

The Section Head, Technology Promotion Centre
(KA: Power Electronics Group)
Centre for Development of Advanced Computing (C-DAC)
Vellayambalam, Thiruvananthapuram, Kerala, India, 695033
Phone: 098470 69184/04712723333(450) Fax: 0471 2723456
Email: **tpc@cdac.in** Website: **www.cdac.in**

10. ToT Agreement

10.1. Direct Offer of Product (DoP) for popularization.
The DoP does not include full transfer of the technology rather consists the use/evaluation of developed sample EVSE. It consists of one set of the engineered proto for continuous use. The maximum number of units that can be purchased directly from CDAC by each party is limited to 2 Nos. for ToT partners and 10 Nos. for any Govt. Organisations.

10.2. Transfer of Technology (ToT)
Technology transfer (ToT) consisting of design files, application software and training, testing and validation

10.3. The ToT partner is selected based on the expression of interest submitted by the interested companies.

10.4. On selection, the company shall pay a one-time ToT license subscription fee and sign the ToT agreement to become ToT partner of C-DAC. One time ToT license subscription fee finalised by C-DAC shall be informed to all the bidders who have participated in the EOI.

10.5. C-DAC shall sign the technology transfer agreement with the company on receiving the one time ToT fee.

10.6. The license will be granted on Non-Exclusive basis.

10.7. Provision for instalment payment for ToT fee is as given below.

1. Fixation of Direct Offer of Product (DoP) charges (for, C-DAC(T) and T&C apply)

a. 1st installment on signing of MoA between CDAC & ToT partner (80%)
b. 2nd installment (20%) before despatch of the product from C-DAC(T) One time installation support either at C-DAC(T) or in online mode. (Standard minimum production lead time is 8 weeks)
c. The product carries a standard warranty for a period of *one year* from the date of delivery. The option of AMC is available separately for the required customers with T&C.

2. Fixation of Transfer of Technology (ToT) charges
   a. 1st installment (40%) on signing of MoA between CDAC and ToT partner
   b. 2nd installment (30%) on completion of training session-1 and handing over of detailed ToT documents by CDAC (T)
   c. 3rd Installment (30%) on completion of testing of the first Proto unit made by ToT partner or completion of 12 months from the date of signing of MoA (whichever is earlier)
   d. Post ToT Technical/development support shall be extended as per separate terms and conditions based on the customer requirements.
   e. Application software shall be shared only after making 100% payment of the ToT fee.

10.8. The Total ToT payment from the ToT partner is mandatory to have the right to produce, market, distribute, and deploy " **AC Fast Chargers"** deliverables.

10.9. In addition to the ToT fee, there will be a royalty for all the '**AC Fast Chargers'** products sold or deployed by the ToT partner based on the technology transferred for a period of 10 years.

Royalty (<=3% based on volume of business)

Sl. No.	Volume of business	Royalty as Percentage of selling product cost
	<5000	2%
	<3000	2.5%
	<2000	3%

10.10. A Benefit of 40% discount for the 7kW and 22kW respectively will be considered for the existing EVSE ToT partners on participation in this ToT.

10.11. No ToT partner will be allowed to offer / quote for '**AC Fast Chargers' with CDAC Technology** unless they enter into an agreement and pay the ToT fees to CDAC. The ToT fees are non-refundable and non-transferable. CDAC will neither honour the rates nor consider for ToT if the company quotes for CDAC Technology without entering into the ToT process.

11. Validity & Renewal of TOT agreement

11.1. For continued support beyond 3 years the partner shall be required to renew the ToT agreement by paying the renewal charges plus applicable taxes before the expiry of valid ToT license, which will be valid for a further extended period of two years. The renewal charges shall be informed appropriately before expiry of existing license.

11.2. If the renewal is initiated after the expiry period, a fresh TOT agreement needs to be signed by the company based on the prevailing EoI conditions.

11.3. The partner should have a valid ToT subscription license for providing any technical support on the ToT deliverables made by C-DAC.

11.4. After five years (from the date of signing the ToT agreement) a new ToT agreement need to be signed by the company based on the prevailing EoI conditions.

11.5. Any customisation requirements of the ToT partner shall be entertained by C-DAC only if a valid ToT subscription exists. Such customisations shall be undertaken by C-DAC at cost basis on mutually agreed terms and conditions.

12. Deliverables

On payment of one-time license fee and signing of ToT agreement, the following items shall be provided by C-DAC to the TOT partner for production, product marketing support and PoC demonstration. Depending on the application implementation, multiple options for the ToT packages are envisaged.

12.1. Deliverables for DoP

1. Networked AC EVSE (Three Phase 22kW or Single Phase 7kW) Engineered Proto with standard enclosure :
   - ✓ Digital controller card
   - ✓ AC Peripheral Interface card
   - ✓ EVSE-EV communication card
   - ✓ Firmware for Digital controller card
   - ✓ Graphical LCD with touch screen (5” std) and GUI software
   - ✓ Android mobile application
   - ✓ OCPP compliant Central Management System software
   - ✓ User manual (with fault diagnosis and first-hand repair instructions)
2. Standalone AC EVSE (Three Phase 22kW or Single Phase 7kW) Engineered proto with standard Enclosure
   - ✓ Digital Controller card
   - ✓ AC Peripheral Interface card
   - ✓ EVSE-EV communication card
   - ✓ Firmware for Digital controller card
   - ✓ Graphical LCD with touch screen (5” std) and GUI software
   - ✓ User manual (with fault diagnosis and first-hand repair instructions)

12.2. Deliverables for ToT

1. Networked AC EVSE (Three Phase 22kW or Single Phase 7kW)

   Design files:

   - ✓ PCB fabrication files and part list of the Peripheral Interface card , EVSE- EV communication card and details of controller card
   - ✓ System part list, electric wiring diagram (including protection schemes) and Mechanical assembly files of EVSE (C-DAC proto)

   Software

   - ✓ GUI software
   - ✓ Executable charger firmware and OCPP compliant network application
   - ✓ Image of OS and its related documents

   Document

   - ✓ Technical manual (with software installation guidelines, fault diagnosis and first-hand repair instructions)

2. Standalone AC EVSE (Three Phase 22kW or Single Phase 7kW)

   → All components of item1 of 12.2, excluding OCPP compliant network application

3. Mobile Application

   Software

   - ✓ Source code of Android mobile application

4. OCPP compliant Central Management System software

   Software

   - ✓ Source code of OCPP compliant Central Management System software

12.3. Training as part of ToT shall be carried out in online mode or at C-DAC (T) campus.

1. Training Session 1
   - ✓ One-day training detailing hardware design files and technical documents
2. Training Session 2
   - ✓ One-day training for verifying the modules developed by the ToT partner (modules w.r.t C-DAC part list)

13. Terms for Training to TOT Partners

13.1. C-DAC shall arrange the training for the ToT partner in online mode or at C-DAC(T) campus for which all expenses shall be borne by the ToT partner.

13.2. Additional training at the premises of ToT Partner or at the client location shall be done on payment basis. For training requested outside C-DAC(T) premises, air travel, boarding and lodging charges of C-DAC trainers shall be borne by the ToT partner. C-DAC will charge manpower as per C-DAC rules prevailing at the

time of training for outstation training. For such outstation trainings nomination of trainers and period of stay at the designated training location will be decided by C-DAC(T) on mutual consultation, depending on the type of training requested.

13.3. Additional training may also be given by C-DAC either at the premises of C-DAC(T) or at the location identified by the ToT partner on payment basis at mutually agreed terms and conditions.

14. Field implementation and Qualification testing support

14.1. C-DAC(T) shall provide remote support to the ToT partner for design / testing/ qualification testing of '**AC Fast Chargers'** during the ToT period on case-to-case basis upon mutually agreed terms and conditions.

14.2. If any onsite support is requested by the ToT partner, C-DAC shall support on mutually agreed terms and conditions.

14.3. For onsite support outside C-DAC premises travel, boarding and lodging charges of C-DAC(T) officials shall be borne by the ToT partner. C-DAC shall also charge manpower as per C-DAC rules prevailing at the time of support request for outstation support. Size of the C-DAC(T) team and period of stay for outstation support shall be decided by C-DAC(T) on mutual consultation, depending on the type of support requested.

For any queries please contact:

Section Head ,Technology Promotion Centre
(KA: Power Electronics Group)
Vellayambalam, C-DAC, Thiruvananthapuram
Contact: 098470 69184/04712723333(450),
email: **tpc@cdac.in**

Annexure –I (Part-A)

Company Profile of the bidder:

A.	Company Profile
1.	Name of the Organization: Website:
2.	Name of the Contact Person: Address: Mobile: Landline: Fax: E-Mail:
3.	Year of Incorporation:
4.	Type of Organization a. Public Sector/ Limited/Private Limited/ Partnership/Proprietary/ Society/ Any other b. Whether 'Foreign Equity Participation (Please give name of foreign equity participant and percentage thereof) c. Names of Directors of the Board/ Proprietors d. Name and address of NRI(s), if any
5.	Category of the firm: Large/Medium/Small scale unit / Others
6.	Address of the Registered Office: (Include Certificate of Registration)
7.	Number of Offices with addresses (Excluding Registered Office): India, …… Abroad:…….
8.	Certificate of registration as a manufacturing unit
9.	Permanent Account Number
10.	GST Reg. No.
11.	ISO or any equivalent Certification
12.	Any additional information can be provided as attachments

Annexure – I (Part B)
Technical Collaborations of the bidder

B.	**ESSENTIAL REQUIREMENTS**
1.	The organization must be a reputed firm/company/SME/startup/R&D company incorporated in India.
2.	The turnover is to be supported by financial statements of accounts/ Annual reports duly certified by a Chartered accountant/ Balancesheets of last 3 years/ Income tax returns for the last 3 years period.
3.	Company profile, giving details of current activities and management/ personnel structure including evidence of incorporation. The company should be registered and ISO orequivalent certified.
4.	Details of absorption of technology for a product/knowhow that has been taken up on production scale in the past may also be given
5.	The manpower strength (Technical:Mechanical, Electrical, Electronics, Software & Non-Technical etc.) at various levels to be furnished Technical: a. B.E./ B.Tech / M.Tech / PhD b. DIPLOMA c. SKILLED TECHNICIANS d. UNSKILLED
6.	The list of machine tools /equipment/software/facilities available related with work to be furnished.
7.	The in-house technological expertise available to be furnished
8.	The list of equipment available for inspection and quality control to be furnished.
9.	The industry should have adequate space for undertaking this work. Available space - Covered & Open and location details to be furnished.
10.	List of products/technologies worked with as regular activity in last three years. Give the list of products/technologies with general specifications and the customers.
11.	List of PSUs/Govt..customers – with contact details (Address,Telephone no., Contact Person)
12.	The details of sales, marketing and maintenance network to be furnished
13.	The list of technical collaborators for various ongoing products may be furnished
14.	The bidder shall provide details of the sub-vendors in case they propose to employ for Part-work.
C.	**Expression of Interest: Spell out the extent of interest and envisaged market potential**

I hereby declare that the above information is true to the best of my knowledge.

Signature with Name & Seal:

Place: Date:

Annexure-II Financial Bid Format

(To be submitted in sealed envelope / by mail)

Price bid One Time TOT License subscription cost

Sl. No.	Product	Company status	ToT Partnership licence cost for 3 years in Rs. (excluding taxes)	ToT Partnership licence cost for the extended period (4^{th}& 5^{th} year)in Rs. (excluding taxes)
1				

Indicative royalty fees (Based on the Product sales cost) = x %

AC EV FAST CHARGERS

7kW AC Fast chargers as per IS17017 standards. Chargers are customizable to address various customer requirements

AC CHARGER-EVC-1P-7-1P

Key Features

- Single phase output of 7kW
- RFID based user authentication (Stand-alone)
- Wired/wireless connectivity for integration with CMS
- IEC 60309 output connector compatibility
- Ground and Temperature fault detection
- Ingress Protection: IP54

Applications

- Residential Charging Stations
- Manned and Unmanned Public Charging Stations

ToT Packages

- 7kW single phase AC fast charger with/without OCPP based network connectivity

AC CHARGER-EVC-3P-22-3P

22kW AC fast chargers as per IS17017 standards. Chargers are customizable to address various customer requirements

Key Features

- Three phase output of 22kW
- RFID based authentication (Stand-alone)
- Wired/Wireless connectivity for integration with CMS (Networked)
- IEC 62196 Type II output connector compatibility
- Ground and temperature fault detection
- Ingress Protection: IP54

Applications

- Residential Charging Stations
- Manned and Unmanned Public Charging Stations

ToT Packages

- 22kW three phase AC fast charger with/without OCPP based network connectivity

प्रगत संगणन विकास केंद्र
CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING

AC CHARGER-EVC-1P-7-1P

7kW AC Fast chargers as per IS17017 standards. Chargers are customizable to address various customer requirements

Key Features

- Single phase output of 7 kW
- RFID based user authentication
- Wired/wireless connectivity for integration with CMS
- IEC 60309 output connector compatibility
- Ground and Temperature fault detection
- Ingress Protection: IP 54

Applications

- Unmanned Public Charging Stations
- Manned Charging Stations
- Residential Charging Stations

ToT Packages

- 7kW single phase AC fast charger with/without OCPP based network connectivity

NaMPET
National Mission on Power Electronics Technology

rEVamp
Mobile Application

CMS
Central Management System

Product Specification

Energy Transfer Mode	Conductive
Input Requirements	
AC Supply System	Single-Phase, AC system
Nominal Input voltage	230V (+10% and -10%)
Input Frequency	50Hz, ±3Hz
Environmental	
Ambient Temperature Range	0 to 55°C
Mechanical	
IP Ratings	IP 54 for outdoor and IP23 for indoor
Mounting options	Wall/Pole/Pedestal
Output	
Number of outputs	1
Type of output	230V (+10% and -10%) single phase
Output Current	32A
Output Connector Compatibility	IEC 62196 Type II
EV- EVSE communication	Basic Signaling (BS) -Control Pilot(CP) and Proximity Pilot(PP) function
User Interface & Display	
Switches	ON- OFF (Start-Stop) switches, Emergency stop switch
Display	5 inch display, 800*480 pixels (Touch Screen)
Visual Indicators	LED: Presence of input /output supply indication, Charge process indication , Fault status
Display messages	• Authentication • Vehicle plugged in/Vehicle plugged out • EV ready • Idle/Charging in progress • Fault conditions • Ventilation requirements • Load current and Maximum allowable current • Metering information • Billing and payment
Safety	
Safety mechanisms	Safety and protection for Indian specific environment (As per AIS 138 Part1 and IS17017) Temperature sensor to avoid burning of connectors Information regarding maximum allowable current
Communication	
Interface between charger and central management System(CMS)	Ethernet /Wi-Fi
Authentication	
Authentication schemes	RFID / Mobile application
Protection	
Fault conditions detected	• Over current protection • Short circuit protection • Leakage current • Over voltage • Under voltage • Earth presence detection • Connector presence & locking • Emergency stop

Centre for Development of Advanced Computing
P.B.NO:6520, Vellayambalam, Thiruvananthapuram - 695033, Kerala (India)
Phone: +91-471-272-3333, email:peg@cdac.in

AC CHARGER-EVC-3P-22-3P

22kW AC fast chargers as per IS17017 standards. Chargers are customizable to address various customer requirements

Key Features

- Three phase output of 22kW
- RFID based authentication (Stand-alone)
- Wired/Wireless connectivity for integration with CMS (Networked)
- IEC 62196 Type II output connector compatibility
- Ground and temperature fault detection
- Ingress Protection: IP54

NaMPET
National Mission on Power Electronics Technology

Applications

- Unmanned Public Charging Stations
- Manned Charging Stations
- Residential Charging Stations

ToT Packages

- 22kW three phase AC fast charger with/without OCPP based network connectivity

Product Specification

Energy Transfer Mode	Conductive
Input Requirements	
AC Supply System	Three-Phase, AC system
Nominal Input voltage	415V (+10% and -10%)
Input Frequency	50Hz, ±3Hz
Environmental	
Ambient Temperature Range	0 to 55°C
Mechanical	
IP Ratings	IP 54 for outdoor and IP23 for indoor
Mounting options	Wall/Pole/Pedestal
Output	
Number of outputs	1
Type of output	415V (+10% and -10%) three phase
Output Current	32A
Output Connector Compatibility	IEC 62196 Type II
EV- EVSE communication	Basic Signaling (BS) -Control Pilot (CP) and Proximity Pilot (PP) function
User Interface & Display	
Switches	ON- OFF (Start-Stop) switches, Emergency stop switch
Display	5 inch display, 800*480 pixels (Touch Screen)
Visual Indicators	LED: Presence of input /output supply indication, Charge process indication , Fault status
Display messages	• Authentication • Vehicle plugged in/Vehicle plugged out • EV ready • Idle/Charging in progress • Fault conditions • Ventilation requirements • Load current and Maximum allowable current • Metering information • Billing and payment
Safety	
Safety mechanisms	Safety and protection for Indian specific environment (As per AIS 138 Part1 and IS17017) Temperature sensor to avoid burning of connectors Information regarding maximum allowable current
Communication	
Interface between charger and central management System(CMS)	Ethernet /Wi-Fi
Authentication	
Authentication schemes	RFID / Mobile application
Protection	
Fault conditions detected	• Over current protection • Short circuit protection • Leakage current • Over voltage • Under voltage • Earth presence detection • Connector presence & locking • Emergency stop

rEVamp
Mobile Application

CMS
Central Management System

Centre for Development of Advanced Computing
P.B.NO:6520, Vellayambalam, Thiruvananthapuram - 695033, Kerala (India)
Phone: +91-471-272-3333, email:peg@cdac.in