

**NOTICE INVITING EXPRESSION OF INTEREST
FOR
TRANSFER OF TECHNOLOGY FOR “SMART ENERGY METER”**

EoI No: NaMPET-III/SEM/EoI/2022

EoI release date: 09/05/2022



**Centre for Development of Advanced Computing (CDAC)
Thiruvananthapuram**

1. Introduction

National Mission on Power Electronics Technology (NaMPET) is a programme launched by the Ministry of Electronics and Information Technology (MeitY), Govt. of India in 2004, with a vision to provide the country with capability to become a dominant player in Power Electronics Technology. Through this programme, Research, Development, Deployment and Commercialization of Power Electronics Technology is envisaged by enhancing the indigenous R&D expertise and infrastructure in the country with active participation from academic institutions and industries. Centre for Development of Advanced Computing (CDAC), Thiruvananthapuram, a premier R&D organization under MeitY, is the Nodal Centre for coordinating the activities of NaMPET. Two phases of this National level program each with 5-year duration has been successfully completed. MeitY initiated the third phase of NaMPET (NaMPET Phase-III) in January 2019 for five years aiming further strengthening of the power electronics technology base in the country. The Smart Energy Meter technology is developed by CDAC, Thiruvananthapuram under National Mission on Power Electronics Technology (NaMPET) Phase II program funded by Ministry of Electronics and Information Technology (MeitY) with a duration of 18 months (completed in December 2016) and project cost of 150.46 lakhs rupees.

2. About Smart Energy Meter

The electricity business segment is witnessing a change from traditional Electro-mechanical energy meters and standard electronic meters, to electronic meters with automated meter reading (AMR) and to Advanced Metering Infrastructure (AMI), in the way by which meter data is being collected and used for billing. In order to implement this change, the metering segment must be upgraded to a smart meter which can be simply depicted as energy meters with many enhanced features.

The Smart Energy Meter developed by CDAC is strictly adheres to the standards specified in IS16444-(2015), IS15959-(Part I, 2011), IS15959-(Part II, 2016).

Technology features

- **Two chip architecture** for metering and communication
- **Forwarded metering / Net metering** – paid for energy generation through solar power plants or other distributed generation methods
- **Open communication protocol (DLMS) stack** - In-house development
- **Algorithms** – Contains algorithms for energy calculation and management, theft detection, data logging, encryption algorithm based on standard NIST 800-38D (Mechanism ID 5)
- **Pluggable Network Interface Card (NIC):** - Interfacing multiple wireless communication technologies like 2G, 3G, 4G, WIFI, Bluetooth, LoRa, RF, IrDA etc.
- **FOTA technology** - Remote firmware upgrades over the air
- **Remote load connect / disconnect** facility
- **A dedicated communication port for Home Area Network (HAN)** for interfacing smart devices

3. Application Areas

The technology can be readily deployed in utility metering. This indigenous solution is suitable for turnkey implementation of Smart city and other utility level smart grid projects. The business opportunities in India are as follows.

- India requires more than 25 crore smart meters
- MoP plans to deploy AMI smart meters for all customers (monthly consumption over 200 kWh), under UDAY scheme
- SEM works on DLMS (Device Language Message Specifications -IEC62056) and hence the same device shall serve as a gateway for metering of other utilities like Gas, Water etc.

4. Technology Transfer

This technology was transferred to six Indian industries and one academic institution. The technology will be transferred on non-exclusive basis. The technology fee will be finalized at a later stage.

The ToT package contains the following

1. Document(s) for technology know-how and fabrication, schematics of the system
2. Training and user's manual
3. Technical support for a period of 12 months
4. Bill of Materials of the system

5. General terms and conditions

1. An expert committee constituted by MeitY/C-DAC will scrutinize the applications for follow-up action.
2. The applicants may be called for a presentation regarding their strengths and business proposals
3. All incidental expenditure incurred in preparation/ submission or presentation of the EoI shall be borne by the participating agency
4. Participation in this EoI does not guarantee any association with C-DAC unless notified by MeitY/C-DAC in writing.
5. MeitY/C-DAC reserves the right of rejecting any offer without assigning reasons.
6. There is neither a business guarantee nor any commitment for funding support from MeitY/C-DAC to the appointed/ empaneled agencies.
7. A Committee of experts constituted by MeitY/C-DAC will assess capabilities and strengths of the industry before finalizing the technology partners.
8. The industry willing to take technology for commercial production will be required to enter into a ToT agreement with C-DAC as per the terms and conditions approved by the competent authority in the MeitY in the prescribed format.

6. Eligibility

Companies/organizations with expertise in mass manufacturing of electronics equipment especially energy meter manufacturing or having good knowledge in utility metering business willing to take up the production and deployment of Smart Energy Meter technology as per the ToT guideline agreement of C-DAC are eligible to apply. Professionally managed companies, corporates and startups are also welcome to apply for the technology.

7. How to apply

Interested companies/industries may send expression of interest with their details by filling the EoI form as per Annexure – I to the following address.

JIJU K
Scientist E/ Joint Director
Power Electronics Group
CDAC Thiruvananthapuram
Kerala 695033
Ph: 0471-272 33 33 -365(extn)
Email : jijuk@cdac.in

Please follow the below link for product brochure

https://nampet.in/images/technology_available/SmartEnergyMeter.pdf

Annexure-I

Details of Expression of Interest

(To be filled by the organization interested in technology transfer from C-DAC(T))

Sl No.	Description of Items	Details from Organisation
1	Name of the Organisation Address of registered office with telephone no. & fax	
2	Contact Details Name Designation Address for Comm. Email & Phone	
3	About Organisation Website if available	
4	Any Additional Technology development request	
5	Readiness level to take the technology	
6	Any other information request	
7	Feedback on the information shared by C-DAC(T)	
Declaration I/We hereby confirm that I/we are interested in the above technology and would productionise it as per terms and conditions. All the information provided above is genuine and accurate. Authorized Person's Signature. Name and Designation: Date of Signature:		