# National Mission on Power Electronics Technology (NaMPET-Phase-III)

## Notice Inviting Expression of Interest (EoI) for Startup Promotion Scheme

(Code: NaMPET-III/ Startup Promotion Scheme /EoI/2021)

### 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.

### Startup Promotion Scheme

Promotion of Startups is one of the thrust areas being addressed in NaMPET phase-III. Many Power Electronics technologies developed under NaMPET are ready to be translated into products for commercialization. India has immense opportunity to focus on Power Electronics Startup companies as we have got academic research excellence and some of the finest academicians working in this field. The domestic market potential itself is very huge that companies can flourish if innovative and cost-effective Power Electronics products pertaining to renewable energy, power system, motor drive system, e-mobility sub systems, custom power solutions, defense products etc. are brought out at appropriate time. NaMPET, being a project of MeitY facilitating collaboration of industry, R&D and academics, can play a vital role in developing a Startup ecosystem in the field of power electronics. It is proposed to support the Startup entrepreneur for proto development in terms of technology, consultancy and testing facility from NaMPET-III.

### Objectives of the Scheme

1. Promotion of Startups in the field of Power Electronics and associated areas
2. Propagation of technologies developed under NaMPET through engagements with Startups
3. Initiation of product-oriented configurations and incremental developments with Startup support through Intent of Association (IoA)
4. Technical Support and training to build and test initial proto models
5. Support to Startups for marketing their products through NaMPET forums

## Modes of Engagement of Startups

1. Technology Transfer (ToT)

Technologies developed under NaMPET which is matured enough to be deployed or ready for production, will be offered on ToT basis. Relevant technologies ready for production under NaMPET are listed in **Annexure-A.**

2. Intent of Association (IoA)

Startups may associate with CDAC through an IoA before a technology becomes ready for production. The association will be for additional technology developments, configurations, validation etc. Once the technology becomes ready for production after the involvement of Startup, an IP sharing scheme may be formulated.

## Support to the Startups

The following technical supports will be given to the Startups selected for association with NaMPET-III.

- Training to the Startups in the technologies identified for association, so as to enable them to build and test initial proto models
- Providing documents and guidelines required for production with essential design knowhow
- Facility for testing the proto models in the Technology Transfer Lab at the NaMPET Nodal Center, if required, shall be provided (essential requirements and terms will be mutually discuss and incorporate in the agreement of startup selected for association)

Technical support will be provided for Startups for one year from the date of agreement to help them to come out with the product/proto model / value added technology.

The following product marketing support will be given

- Advertisement shall be given through NaMPET website, CDAC website etc. for the products developed by the Startups in association with NaMPET.
- The Startups may be linked with the other partners of CDAC to sell their product in a more effective way.

## Financial Support

There is no financial support proposed to the Startups.

## Eligibility

- The Startups should be engaged in Power Electronics and other related areas
- Research/industry background of the technical lead/manpower associated with the startup will be considered while shortlisting.
- The Startup should get registered in recognized Incubation centres before entering into technical associations. The selected Startups shall be approved by the National Steering Committee (NSC) of NaMPET-III.

**Submission Guidelines**

- ✓ Submit Expression of Interest along with format provided in Annexure-B
- ✓ The EoI and the proposal should be addressed to

**NaMPET Nodal Centre**
Power Electronics Group
CDAC, Vellayambalam
Thiruvananthapuram, Kerala-695 033

- ✓ The envelope should be marked

"*EoI/NaMPET/Startup promotion Scheme / Name of Industry / date of Submission*"

- ✓ All communications should be addressed to

Dr. Subhash Joshi T.G.
Scientist F, Power Electronics Group
CDAC, Thiruvananthapuram
Ph : 0471 – 2723333 extn. 232 Mob : 9446577247
E-mail : subhashj@cdac.in

Annexure-A

## NaMPET Technologies for Startups

The following technologies developed under NaMPET are readily available for offering to the Startups

### I. High Speed Reconfigurable Power Electronics Controller (HSRPEC)

Re-configurable controller hardware based on FPGA and can replace the conventional Microcontroller /DSP based design for real time control and monitoring of Power Electronic systems. Application areas include design of drives, converters, inverters etc.

### II. Grid Interactive Solar Photo Voltaic Systems (GISPV)

Scalable system with advanced DSP-FPGA controllers, Intelligent Power Modules etc. and has advanced features and monitoring facilities. The system is designed in accordance with the IEEE standards, applicable for Solar Photovoltaic Systems.

### III. Miniature Model of Full Spectrum Simulator (FSS Mini)

Indigenously developed system that provides both off-line and real-time simulation capabilities and is easily configurable for custom applications. The system is designed for educational applications and small system simulation.

### IV. Static Compensator (STATCOM)

Digitally controlled compensators to solve power quality issues and designed for both single phase and three phase applications. Designed as per IEEE standards and are suitable for IT parks, WEG systems etc.

### V. Smart Energy Meter (SEM)

Indigenously designed meters based on latest Indian Standards and suitable for Advanced Metering Infrastructure implementation. They are also compatible with Smart Grid communication technologies and support Distributed Generation.

### VI. Low Voltage Direct Current (LVDC) systems

48V DC architecture with dedicated controller for integration of sources, subsystem and loads via wired and wireless communication. Suitable for Smart Home applications and setting up labs in academic institutions.

### VII. Dynamic Voltage Restorer (DVR)

Power electronic controller based custom power device which protects critical loads from all supply-based disturbances. Can be used in process industries, textile industries etc.

## Technologies expected in NaMPET Phase III

The following technologies are selected for development during NaMPET Phase III and will be available for Startups after completion

1. SiC based Converters
2. Planar Magnetic Products
3. EV Charging Solutions
4. EV Drive-train systems
5. Active Gate Drivers for SiC Devices

More technologies will be added to the list as and when the developments are completed by the Nodal center/ Participating Institutes and are available for Technology Transfer

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**Startup Promotion Scheme NaMPET-III**

Annexure-B

| **To be filled and submit along with the EoI** | |
|---|---|
| **A** | **Basic Information** |
| | Name of the Applicant:<br>Designation:<br>Address:<br>Email:<br>Mobile No: |
| | |
| **B** | **Company Profile** |
| 1 | Name of the organization:<br>Website: |
| | |
| 2 | Year of Incorporation: |
| 3 | Type of Organisation<br><br>a. Public Sector/Limited/Private Limited/Partnership/Proprietary/Society/ Any other<br><br>b. Whether foreign Equity Participation( Please give name of foreign Equity Participant and percentage thereof )<br><br>c. Name and address of Directors of the Board/ Proprietors/CEO<br><br>d. Name and address of NRIs, if any |
| 4 | Category of the Firm: Large/Medium/Small scale Unit |
| 6 | Address of Registered Office: |
| 7 | Number of Offices with address ( Excluding Registered office)<br>a. India:<br>b. Abroad: |
| 8 | Certificate of Registration as a Startup:<br>(provide copy of registration) |
| 9 | Permanent Account Number: |
| 10 | Manpower Strength<br><br>a. Technical ( BE/B.TECH/ Diploma/ Technician with area of specialisation (Bio data of the technical lead to be provided)<br><br>b. Non Technical |
| 11 | In-house Technological Expertise available : |
| 12 | Infrastructure and equipment available : |
| | |
| **C** | **Technical** |
| 1 | Technical Competence and Research Background: |
| 2 | Product/Technology interested for startup: |
| 3 | Type of support expected from NaMPET: |

| | |
|---|---|
| 4 | Specify the technology support required from NaMPET<br><br>(a) Through Technology transfer (TOT)<br><br>(b) Through Intent of Association (IoA) |
| C | Any other information |

**Declaration**

I/We……representing…….
…….. in the capacity of …….. hereby declare that all the particulars given above are true and correct to the best of our knowledge and belief.

On selection for association, I/we agree to sign an MOA/ agreement with CDAC Thiruvananthapuram

Signature
Name & Designation
(With date and seal )

Download Word Format of Annexure-B from the below link

| | |
|---|---|
| **Word Format** | ***https://www.nampet.in/startup/Annexure-B.docx*** |