



Under #AatmaNirbharBharat Abhiyan, there is a growing need for Swadeshi Compute Hardware, which shall be part of every Smart Device deployed in different domains, including Electronics for public utility services such as Transportation, Environmental condition monitoring, to commodity appliances like smart fans/ locks/ washing machines. In addition, the need for Swadeshi Compute Hardware is crucial.

To provide further impetus to the strong ecosystem of start-ups, innovators & researchers in the country, MeitY announced **Swadeshi Microprocessor Challenge** to touch base with all young innovators, students & entrepreneurs and facilitate them tinkering with MeitY supported Swadeshi Microprocessors developed by IIT Madras (शक्ति processors) and C-DAC (वेगा processors) made available on Xilinx FPGA Hardware Boards.

The contestants of the challenge are offered by MeitY a slew of benefits and Hardware & Software resources to promote a culture of innovation and entrepreneurship by taking up complex designs in the country and innovate frugal solutions around home-grown Microprocessor ecosystem, catering to both global and domestic requirements. Above all, contestants will get an opportunity to translate their innovations around Swadeshi Processors, showcase them at a higher viewership platform and facilitate them to scale from ideation to marketplace, thereby standing a chance to contribute to the overall mission of #AatmaNirbharta of Government.

Following is the list of **30 Finalist Teams** short-listed for the Swadeshi Microprocessor Challenge amongst the 6,169 Teams that participated in the Challenge (with over 10,000 participants). These 30 Finalist Teams will now further develop their Hardware Prototypes using Swadeshi Microprocessors ( शक्ति processors and वेगा processors) to demonstrate their innovative solutions in the Final round.

## Announcement of Finalist Teams under Swadeshi Microprocessor Challenge

Rank	Registration #	Organization Type	Organization Name	Name of Team leader	Processor Type*	FPGA Board Type <sup>#</sup>	Project Title
1	8841823	Start-up	SandLogic Technologies Pvt. Ltd, Bangalore	Darshan C Ganji	SHAKTI Vajra (C64-A100)	Diligent Nexys Video(Artix-7 C7A200T)	Bring Deep learning and Computer vision capabilities to Shakti Vajra SoC by adding Neural processing engine, MIPI-CSI2 interface and Video processing pipeline.
2	8866873	Start-up	Avrio Energy Private Limited,Gurgaon	Ankit Chouhan	VEGA AS1061	Artix7-100T	Next-generation AI Smart Meter with Energy Intelligence at Edge
3	8808293	Start-up	Astrek Innovations, Kannur	Robin Kanattu Thomas	VEGA ET1031	Artix7-35T	Rehabilitation Exosuit with Motion transferring Mechanism
4	8865523	Educational Institute	Rajiv Gandhi University of Knowledge Technologies, East Godavari, AP	Ogireddy Naga Ramya	SHAKTI Pinaka (E32-A35)	Artix7-35T	SMART IRRIGATION USING FPGA
5	8812513	Start-up	Neoperk Technologies Pvt. Ltd.,Thane, Mumbai	Satyendra Gupta	VEGA ET1031	Artix7-35T	An IoT device for rapid in-situ agricultural soil testing
6	8812453	Educational Institute	L.D. College Of Engineering, Ahmedabad	Rudri Pandya	VEGA AS1061	Artix7-100T	IoT based STP with Remote Water Quality Monitoring Using Data Science and Machine Learning with Wireless Communication Methods between nearby Nodes.
7	8856743	Start-up	Evyug Technology Pvt. Ltd. Aurangabad	Harita Uppal	SHAKTI Pinaka (E32-A35)	Artix7-35T	Automatic Water Quality Monitoring for Consumers and Enterprises.
8	8294023	Start-up	HW Design Labs Pvt Ltd, Kochi	Jayakrishnan A L	SHAKTI Pinaka (E32-A35)	Artix7-35T	FM RDS Utilities
9	8859673	Educational Institute	Indian Institute of Technology Indore	Gopal R Raut	VEGA AS1061	Artix7-100T	Semi-Autonomous Drones for Terrain Monitoring and Identification of Terrain Modifying Actors
10	8840003	Others	Individual Innovator, Bangalore	Sreekanth Nayak	VEGA ET1031	Artix7-35T	Affordable and accessible Healthcare solutions
11	8854473	Others	MicroX Labs, New Delhi	Harpreet Singh	SHAKTI Vajra (C64-A100)	Kintex-7 KC705	HomeCyte- At home solution for monitoring infections and internal bleeding in chemotherapy patients
12	8899543	Others	Individual Innovator, Gautam Buddha Nagar	Soumitra dey	SHAKTI Parashu (E32-A100)	Artix7-100T	SWADESHI CUBE SATELLITE (CubeSat) - DESIGN & DEVELOPMENT OF 1U – CubeSatellite ( LoRa based IOT) Callsign: SHAKTISAT-1
13	8807633	Start-up	Digi2O Information Solutions Pvt Ltd, Chennai	Dipankar Ghosh	SHAKTI Parashu (E32-A100)	Artix7-100T	DIDA: Digital Information for Diagnostics and Analytics as applied to electrical and electronic circuits of automobile vehicles
14	8813713	Others	Innovator - Team, Nagpur	Krunal Rajendra Bhongade	VEGA ET1031	Artix7-35T	Automatic Tracking System for Concentrated Reflectors and Photovoltaic Array
15	8856373	Others	Sevenkey Technologies Pvt Ltd, Visakhapatnam	Venkat Bokka	VEGA ET1031	Artix7-35T	IoT-based low-cost 12-lead precision ECG instrument
16	8859923	Educational Institute	Vivekanand Education Society Institute of Technology, Thane	Asma Parveen I Siddavatam	SHAKTI Parashu (E32-A100)	Artix7-100T	Calibration System for Nuclear Spectroscopy Applications
17	8808013	Educational Institute	Indian Institute of Technology Hyderabad	Rashi Dutt	SHAKTI Vajra (C64-A100)	Artix7-100T	IoT oriented Battery Management System for real- time and accurate Battery State and Health Monitoring targeting renewable energy applications.
18	8815523	Others	Individual Innovator, Kangra	Prabhat Thakur	SHAKTI Pinaka (E32-A35)	Artix7-35T	Multirole UAV for surveillance and small cargo delivery
19	8860793	Educational Institute	KLE Technological University, Dharwad	Saroja V Siddamal	VEGA ET1031	Artix7-35T	IoT based Smart Power Monitoring and Controlling Plug
20	8799113	Others	Mindgrove Technologies Pvt Ltd, Chennai	Sharan Srinivas J	SHAKTI Vajra (C64-A100)	Artix7-100T	Software-Defined Ground Penetrating Radar
21	8782153	Start-up	InstantPost Printers and Scanners Private Limited, Lucknow	Akhil Mohan	VEGA AS1061	Artix7-100T	AutoMagic
22	8816553	Educational Institute	Dayananda Sagar College of Engineering, Bangalore	Chirag Chinvar	VEGA AS1061	Artix7-100T	Fleet Monitoring System
23	8156663	Educational Institute	Shri Ramdeobaba College of Engineering and Management, Nagpur	Sangeeta Dnyaneshwar Palekar	SHAKTI Parashu (E32-A100)	Artix7-100T	Design and development of SpectroProcessor for Biomedical Applications
24	8863803	Educational Institute	Vellore Institute of Technology, Chennai	Shwetha S	SHAKTI Parashu (E32-A100)	Artix7-100T	Wireless Maternal Health Monitoring
25	8861333	Educational Institute	Visvesvaraya National Institute of Technology, Nashik	Mayank Bumb	SHAKTI Vajra (C64-A100)	Artix7-100T	Anti-Theft GeoFencing based Locking system(ATGLS)
26	8801853	Start-up	AiDrone Pvt. Ltd., Pathanamthitta	Ani Sam Varghese	VEGA AS1061	Artix7-100T	Fault Tolerant Reliable Integrated Avionics System for Drones
27	8817933	Start-up	Xfinito Biodesigns Private Limited, Bangalore	Nair Siddharth Shivakumar	VEGA ET1031	Artix7-35T	A Smart Footwear & Insole System for Preventing Diabetic Foot Ulcer & Support Monitoring Progression of Diabetic Neuropathy
28	8896933	Start-up	Maitri Innovation Lab, Ambala	Prateek Chopra	VEGA ET1031	ARTIX-35T	Digitisation of Water Supply Infrastructure
29	8793013	Start-up	Revoh Innovations Pvt Ltd, Chennai	Vignesh Durai	SHAKTI Pinaka (E32-A35)	Artix7-35T	BLDC Controller
30	8838983	Educational Institute	Faculty of Technology and Engineering, Vadodara	Toms Jiji Varghese	SHAKTI Pinaka (E32-A35)	Artix7-35T	Emerging Technologies

\* SHAKTI Processor By IIT Madras and VEGA Processor by C-DAC  
# ARTIX7-100T and ARTIX7-35T FPGA Board by Xilinx