KPIT | SPARKLE
2022

Mobility & Energy
for the Future

What is the I-Innovate Contest?

i-Innovate has a systematic evaluation process laid out for the students to follow and learn through an experiential product or service building. This platform exposes them to test their hypothesis of entrepreneurship by validating the idea.
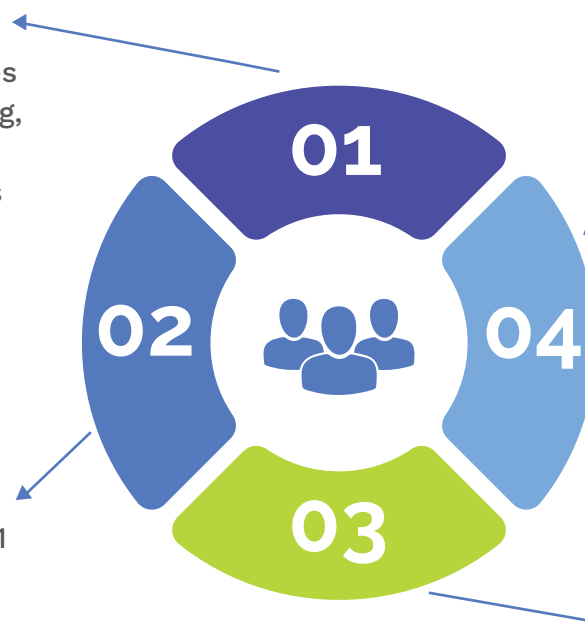
i-Innovate allows submitting innovative and valid ideas related to India's specific problems in the area of **"Mobility & Energy"**. You get a chance to select your problem statement, propose solutions and submit your innovation to this platform.

Theme:
Mobility & Energy for the Future

Who can Participate?

This innovation platform is for all students of Undergraduate, Post-graduate and PhD courses from Science, Engineering, Design and Management colleges, and universities across India.

Participants shall appoint a mentor to their project. The mentor can be a college professor or outside of the college.

Students can participate either as an individual (=1 member) or as a team (maximum team size: 5 members).

There is no restriction on team configuration; team members can be from the same or different department(s), branches, and colleges.

Mobility

Electric Vehicles
New Motor Designs, Motor Control Techniques, Electric Motor Efficiency Improvement, Efficient Thermal Management Techniques for EV components like Battery, Motor, 2/3-Wheeler EVs

Hybrid Electric
Supervisory Controls for HEVs, New transmission designs for HEVs

Hydrogen Fuel cell for Automotive
Integration of Fuel Cell Stack in Vehicle, Alternative to Nafion Membrane, Thermal management of Fuel Cell

Charging Infrastructure for Electric Vehicles
Smart Chargers, Fast Charging of EVs, Wireless Charging of EVs (IEC 61980) AC/DC Chargers (IEC 61851)

Machine learning/ Artificial Intelligence for Automotive
ML Based Diagnostics for EVs, Deep Learning for Vehicle Parking, Detecting Traffic Rule Violations

Telematics for 2/4 wheelers
In-Car Speech Recognition (Alexa Integration), Bike Navigation Systems, Telematics for Vehicle Fleet Operations (Goods Transport/Taxis)
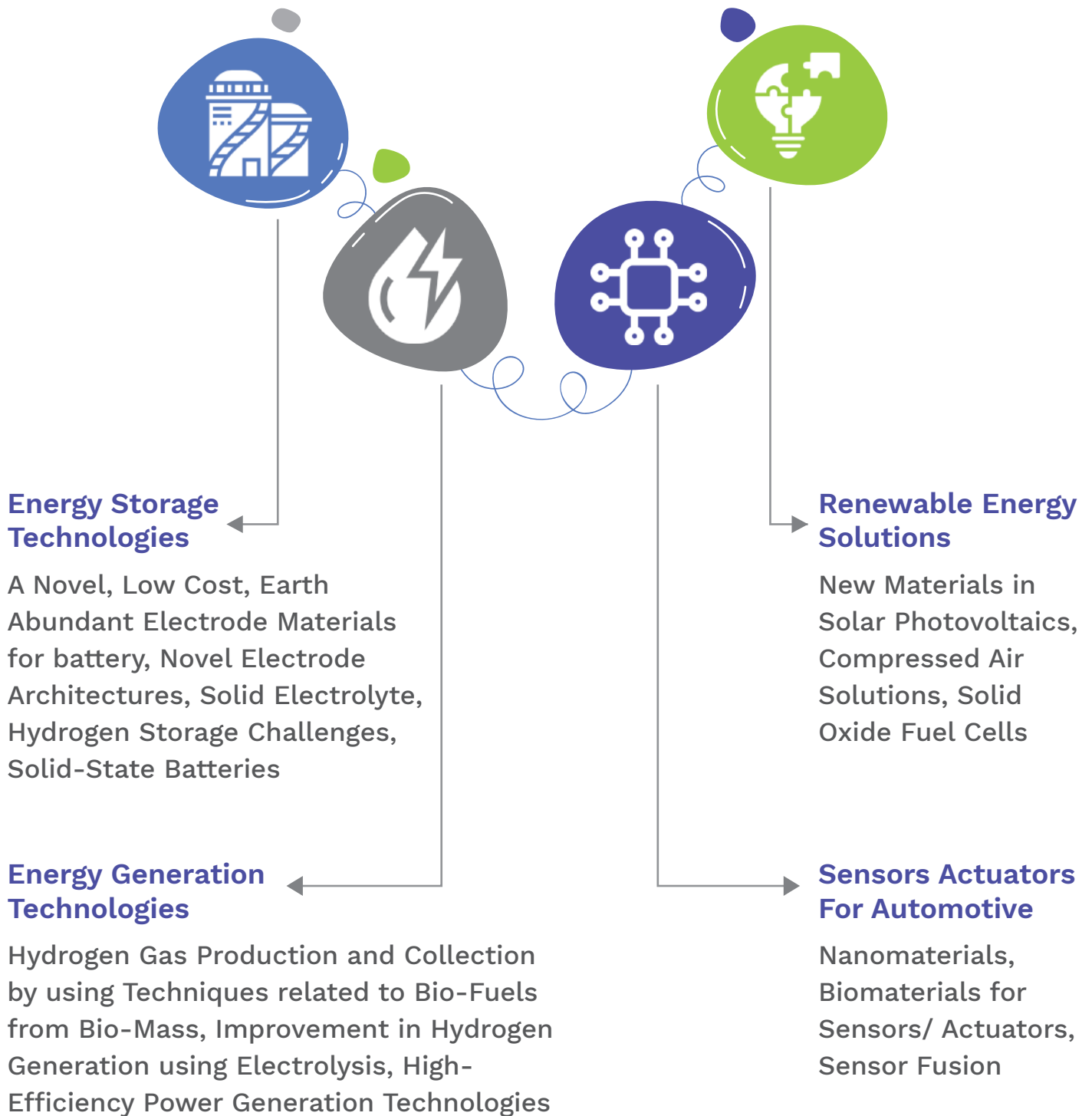
Road, Vehicle, Passenger safety, Shared Mobility
Smart Helmets, Reducing Tire Bursts, Better Visibility for Night Driving Accident Prevention, Platform for Multimodal Transport
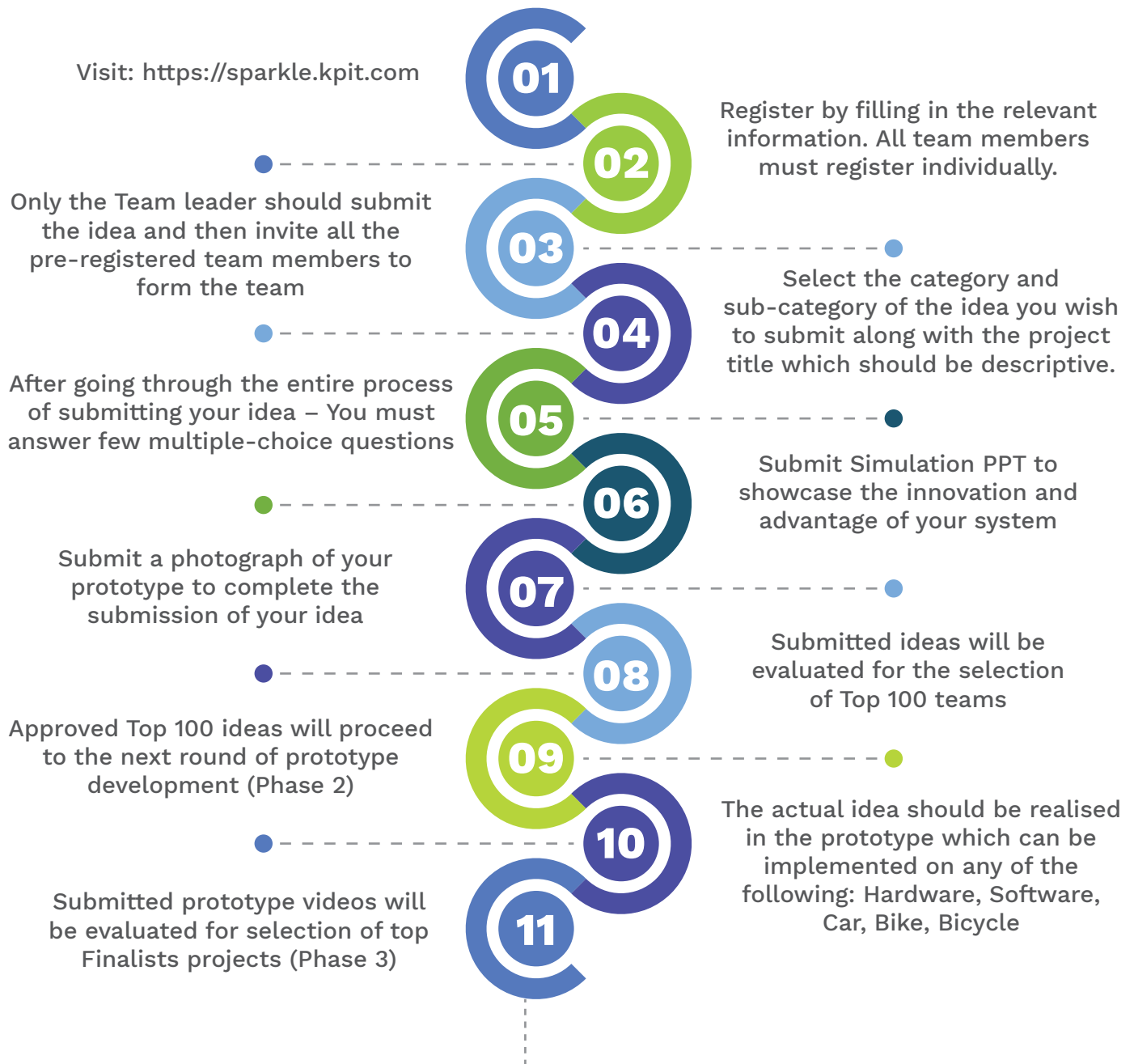
> Students can submit their innovations by choosing the above categories. Participants can submit more than one idea.

Energy

Energy Storage Technologies

A Novel, Low Cost, Earth Abundant Electrode Materials for battery, Novel Electrode Architectures, Solid Electrolyte, Hydrogen Storage Challenges, Solid-State Batteries

Renewable Energy Solutions

New Materials in Solar Photovoltaics, Compressed Air Solutions, Solid Oxide Fuel Cells

Energy Generation Technologies

Hydrogen Gas Production and Collection by using Techniques related to Bio-Fuels from Bio-Mass, Improvement in Hydrogen Generation using Electrolysis, High-Efficiency Power Generation Technologies

Sensors Actuators For Automotive

Nanomaterials, Biomaterials for Sensors/ Actuators, Sensor Fusion

Students can submit their innovations by choosing the above categories.
Participants can submit more than one idea.

Participation Process

01 Visit: https://sparkle.kpit.com

02 Register by filling in the relevant information. All team members must register individually.

03 Only the Team leader should submit the idea and then invite all the pre-registered team members to form the team

04 Select the category and sub-category of the idea you wish to submit along with the project title which should be descriptive.

05 After going through the entire process of submitting your idea – You must answer few multiple-choice questions

06 Submit Simulation PPT to showcase the innovation and advantage of your system

07 Submit a photograph of your prototype to complete the submission of your idea

08 Submitted ideas will be evaluated for the selection of Top 100 teams

09 Approved Top 100 ideas will proceed to the next round of prototype development (Phase 2)

10 The actual idea should be realised in the prototype which can be implemented on any of the following: Hardware, Software, Car, Bike, Bicycle

11 Submitted prototype videos will be evaluated for selection of top Finalists projects (Phase 3)

IMPORTANT NOTE:

- Due to the ongoing COVID-19 situation, students can also submit their virtual-based prototypes digitally with validated calculations against the physical prototype model assisted by softwares like MATLAB, ANSYS, AnyLogic, Simscale, Simulink, ARENA Etc.

- Small-scale models or toy mechanisms will not be accepted as prototypes.

Benefits

- Win Awards up to ₹ 21 Lakhs for Students & ₹ 60K for Mentors

- Opportunities to build alternate career path as a 'Future Entrepreneur'

- Getting funding & Incubation opportunities with our esteemed partners

- Continuous mentoring from Industry & Academicians

- IP ownership of the idea remains with Students

Timeline

March – 31st Aug 2021
Registration, Idea submission, Prototyping & Evaluation

July - Dec 2021
Guidance to Top 100 teams & Finalist Selection

Feb - March 2022
Grand Finale & Award Ceremony

Awards

Platinum
₹ 10 Lakhs
& ₹ 25K for Mentor

Gold
₹ 5 Lakhs
& ₹ 15K for Mentor

Silver
₹ 2.5 Lakhs x 2
& ₹ 10K for Mentor

Most Popular
₹ 1 Lakh

Important Rules

During registration:

- Register before the deadline

- Provide authentic information in the form

- Submit correct Email ID & Mobile Number for OTP verification

- Check your Emails & SMS regularly for notifications

- Follow our social media handles to get the latest updates about KPIT Sparkle

During Idea Submission:

- Go through all the theme categories wisely

- Think of an idea that aligns with any one category

- Discuss the idea with Mentor/Professor for better guidance & its further development

- Form a Multi-disciplinary team (Students from different year/branch)

- Submit your idea adhering to the guidelines

Glimpses of KPIT Sparkle 2021 Virtual Finale

We witnessed an enormous pool of talent and extraordinary ideas worth a success. Here's a glimpse of KPIT Sparkle Virtual Grand Finale 2021.

Watch them on the links provided below :

KPIT Sparkle 2021 – 4th March 2021, Day 1 of Virtual Grand Finale

https://www.youtube.com/watch?v=89o0Az8_n9w&authuser=4

KPIT Sparkle 2021 – 5th March 2021, Day 2 of Virtual Grand Finale

https://www.youtube.com/watch?v=ao7bkXk8Y8c&authuser=4

KPIT Sparkle 2021 – 6th March 2021, Day 3 of Virtual Grand Finale

https://www.youtube.com/watch?v=-UBdQNUNxfU&authuser=4

Successful Incubation Stories

Sparkle Edition: 2019

Name of the project : Democratising Cold
                          Storage Logistics
                          In India
College   : IIT Madras, Tamil Nadu
Incubated at   : CIIE – IIM Ahmedabad
Funding Amount   : More than ₹ 1 Crore

Sparkle Edition: 2020

Name of the project : Modified Vertical Axis
                          Wind Turbine
College   : Army Institute of
                          Pune, Maharashtra
Incubated at   : COEP'S Bhau Institute,
                          Pune
Funding Amount   : ₹ 10 L funded by DST

Name of the project : Vortex Energy
                          Generator
College   : IIT Kharagpur,
                          West Bengal
Incubated at   : COEP'S Bhau Institute,
                          Pune
Funding Amount   : ₹ 10 L funded by DST

Name of the project : Smart helmets to avoid road accidents

College : Vidya Pratishthan Kamalnayan Bajaj Institute of Engg. And Tech, Baramati, Maharashtra

Incubated at : COEP'S Bhau Institute, Pune

Funding Amount : ₹ 10 L funded by DST

Name of the project : Wheel chair attached electric hand bike

College : D. Y. Patil Eng. Kolhapur, Maharashtra

Incubated at : COEP'S Bhau Institute, Pune

Funding Amount : ₹ 10 L funded by DST

Name of the project : DbyT Dynamics

College : IIT Madras, Tamil Nadu

Incubated at : COEP'S Bhau Institute, Pune

Funding Amount : ₹ 10 L funded by DST

Name of the project	:	Two wheel cargo electric cycle with passive cold storage chamber on board
College	:	IIT Madras, Tamil Nadu
Incubated at	:	iCreate
Funding Amount	:	Upto ₹10 Lakhs under Nidhi-Prayas scheme

Name of the project	:	Electrical Vehicle using smart motor drive
College	:	Annasaheb Dange College of Engineering and Technology, Sangli
Incubated at	:	iCreate
Funding Amount	:	₹50K under Spark-Up Program

Name of the project	:	Smart Highway VAWT
College	:	JSS Academy of Technical Education Noida, Noida, Uttar Pradesh
Incubated at	:	iCreate
Funding Amount	:	₹50K under Spark-Up Program
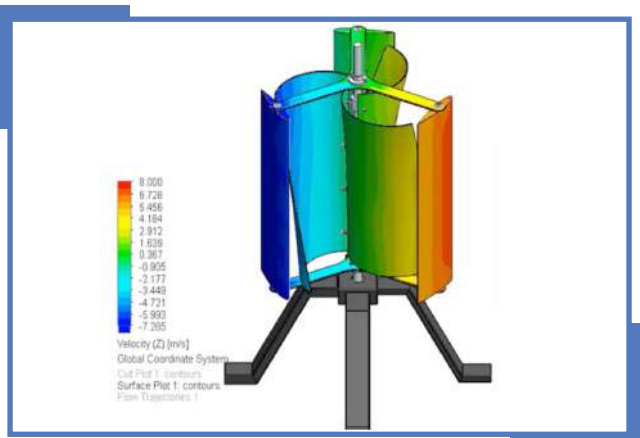
Sparkle Edition: 2021

Name of the project : Customised diesel oxidation catalyst

College : Veer Surendra Sai University Of Technology, Burla, Odisha

Incubated at : iCreate

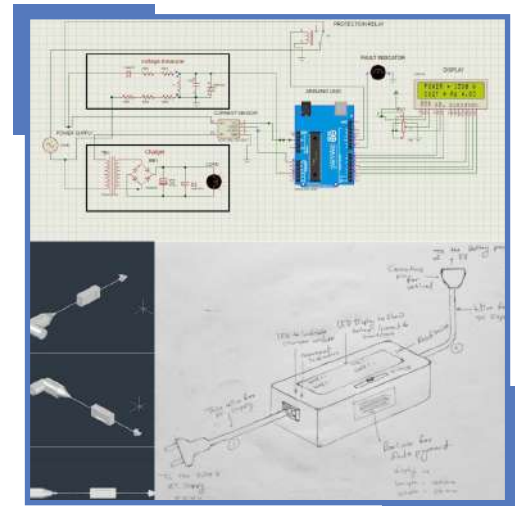Funding Amount : ₹ 50K under Spark-Up Program

Name of the project : Automated Tariff Smart Device & Fault protector for electric vehicles

College : Amrutvahini College of Engineering, Sangamner, Maharashtra

Incubated at : iCreate

Funding Amount : ₹ 50K under Spark-Up Program

Name of the project : Virtual Reality and IOT based Smart Helmet
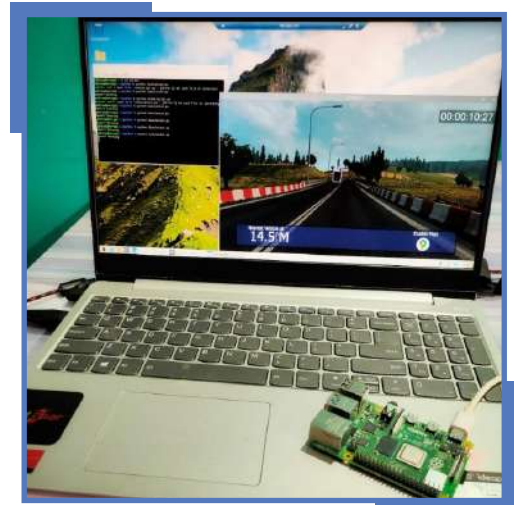
College : R. M. D. Engineering College, Thiruvallur, Tamil Nadu

Incubated at : iCreate
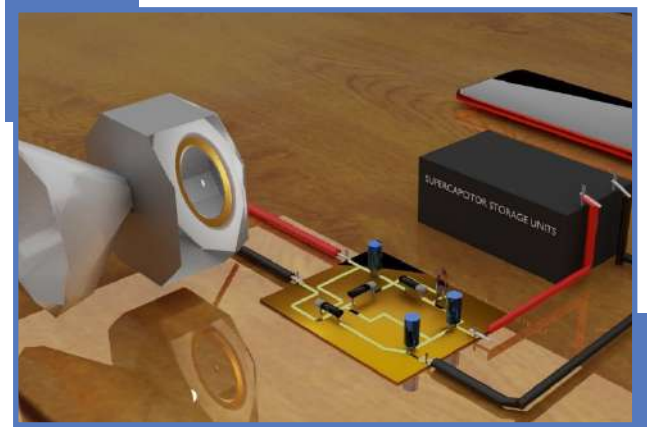
Funding Amount : ₹ 50K under Spark-Up Program

Name of the project : Deep vision
College   : Mangalore Institute of
                      Technology & Engineering,
                      Mangalore, Karnataka
Incubated at   : iCreate
Funding Amount   : ₹ 50K under Spark-Up
                      Program

Name of the project : Acoustic Energy Harvester
College   : KLE Dr. M. S. Sheshgiri
                      College of Engineering
                      and Technology,
                      Belgaum, Karnataka
Incubated at   : iCreate
Funding Amount   : ₹ 50K under Spark-Up
                      Program

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