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DEPARTMENT OF
SCIENCE & TECHNOLOGY
GOVERNMENT OF INDIA

DST NIDHI
START-TO-SCALE STARTUP SUPPORT

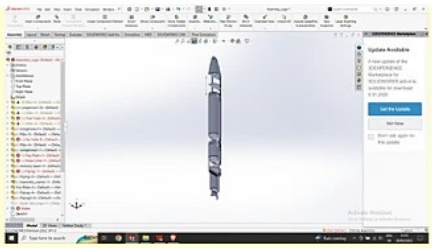
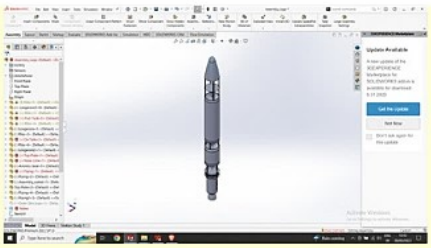
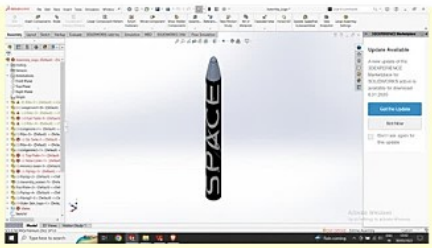
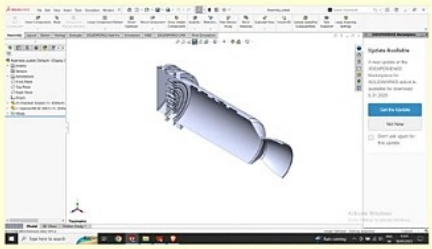
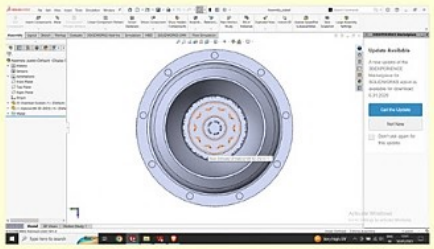
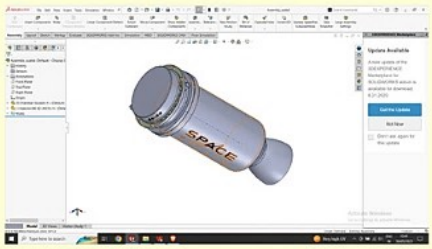
NIDHI PRAYAS

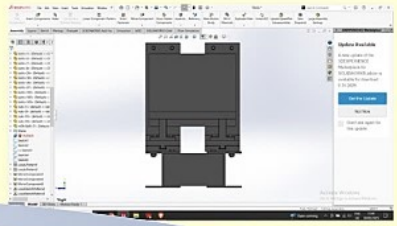
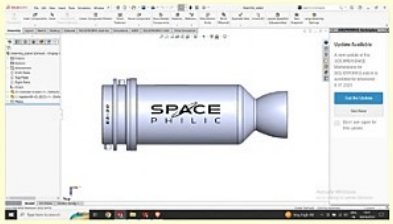
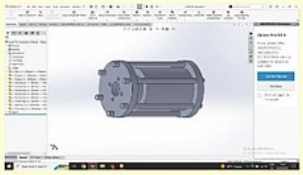
SPTBI
SARDAR PATEL TECHNOLOGY BUSINESS INCUBATOR

RUPAK LAUNCH VEHICLE (ENGINE SHAKTI - 1)

Space Philic Private Limited

SPACE PHILIC

Problem Statement

The satellite manufacturing market is growing at a fast pace than launch services. There is a dearth of launch service providers for small payloads. The satellite manufacturers must wait for several months to years to launch their payload in the orbit. We aim to capture this market segment of smallsat manufacturers and decrease their launch time. Also, the space tech industry is not sustainable as it consumes a lot of resources and capital.

Technology

RUPAK will be a two-stage launch vehicle: both stages having bi-propellant, semi-cryogenic along with electric pump-feed system.
RUPAK will be capable of launching small payloads up to 250kg into the LEO (500 -700 km).
RUPAK will have the use of Green Propellant.
RUPAK will have use of 60% additive manufacturing, 30% carbon composites, 10% classical manufacturing and will follow horizontal manufacturing & integration, which reduces cost.

Applications

1. Reduction of mission cycle time from several years to months
2. Easily customizable according to customer requirements
3. The launch vehicle is reusable, sustainable thereby reducing the carbon footprint
4. Serviceability & Maintenance will be much more easier, cheaper due to horizontal integration when compared to traditional methods
5. Used by Satellite manufacturer, Telecom operators, Governments and Universities

Indra Narayan Chaudhary

Omkar Deshmukh

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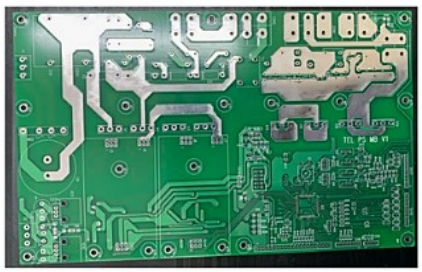
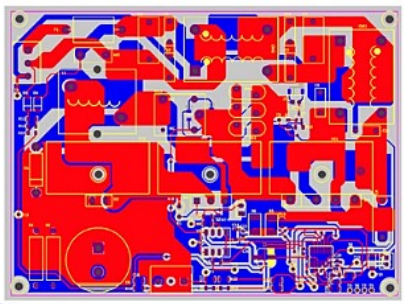
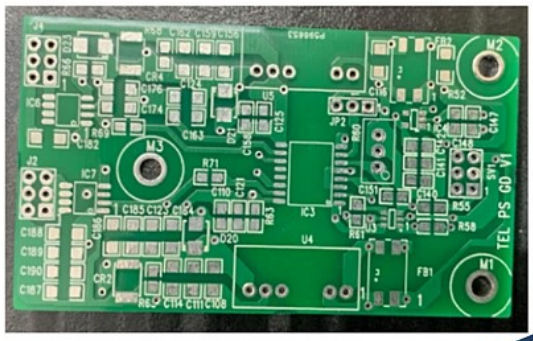
NIDHI PRAYAS

SPTBI
SARDAR PATEL TECHNOLOGY BUSINESS INCUBATOR

DESIGN AND DEVELOPMENT OF TELECOM POWER PLANT FOR 5G NETWORKS



Problem Statement

To develop indigenous technology to build Power Plants for 5G Telecom Networks. It will be Low-cost Indigenous product with high Efficiency, better Reliability with Fully digital controlled system and Intelligent remote monitoring feature, and compatible with Industry 4.0.

Dr. Darshana Sankhe

Technology

The power plant contains front-end Power Factor correction unit with boost converter and resonant inverter-based DC-DC converter.
The resonant converter's soft switching action reduces losses across active devices and minimises switching stress on active devices. This improves the efficiency and reliability of this power plant.
It also includes battery charger for redundancy wherein CC-CV mode is continuously maintained.

Dr. Rajendra Sawant

Applications

Telecom services comes under emergency services thus needs reliable power supply & battery chargers. All Telecom infrastructure service provider & maintenance companies like; Indus Towers, Bharti Infratel, American Tower Company, Tower Vision India, Suyog Telematics etc. will be using our product. This will be indigenous, Make in India product for Telecom Sector with high Reliability, Fully digital control & Intelligent remote monitoring.

Dr. Shrihari Gaikwad

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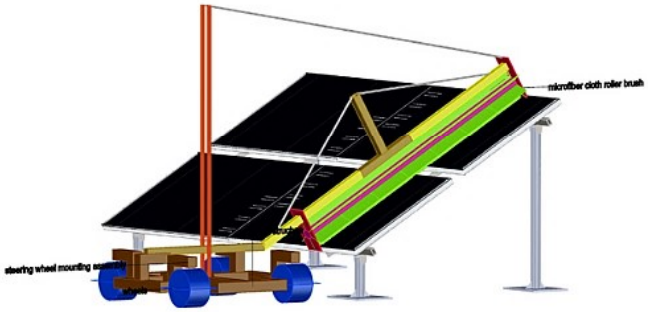
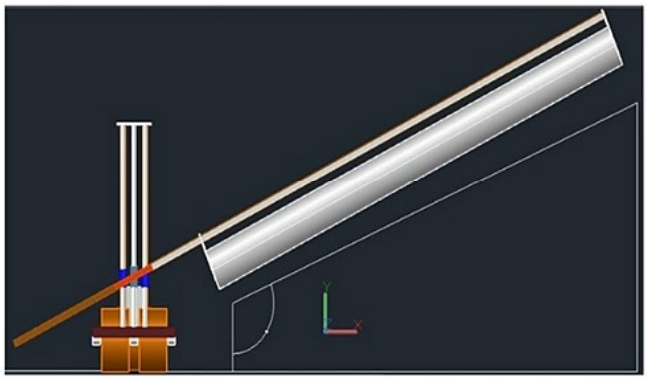
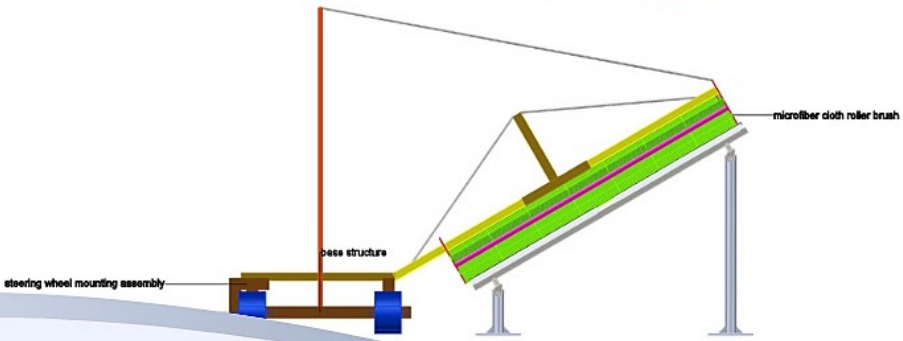
SARDAR PATEL TECHNOLOGY BUSINESS INCUBATOR

SEMI-AUTOMATIC SOLAR PV PANEL CLEANING MACHINE

Amarx Automation







Problem Statement

Solar panels are a crucial source of green energy. One of the weaknesses of solar panels is the fact that they are placed outdoors in warm often dusty areas. This cause dust, pollution, bird droppings and the like to settle on them and reduce their efficiency causing substantial energy loss. If panels are not cleaned, the dust can cause energy losses of up to 35%. Currently, there is no one solution-fits-all to the problem of soiling.

Founder:
Rohan Kaundal

Technology

My innovative all terrain vehicle based semi automatic solar PV panel cleaning machine provides dry and wet cleaning function to ground mounted solar installation.

Co-Founder:
Umang Gajera

Applications

With the use of interchangeable roller brush cleaning filaments it can provides site specific cleaning function. The machine weight is not placed on the PV panels provides safest cleaning function. The entire machine runs on Lithium Ion battery pack which can be easily charged using a solar PV panels makes its energy independent. One machine and one worker can clean up to 3 to 5 MW solar power plant.

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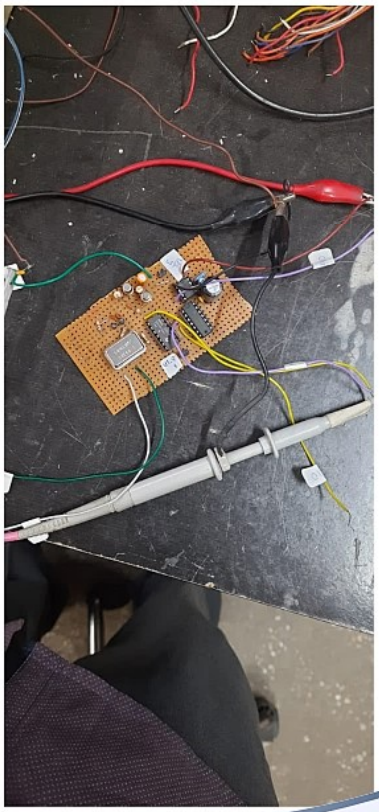
ELECTROMAGNETIC BEACON LOCATOR



Problem Statement

Our Electromagnetic Beacon Locator which will help locate/identify people buried under avalanche/ snow. This beacon locator acts as a transmitter and a receiver which will work on 475 kHz frequency.

Lakshmi A Gharpure

Technology

Electromagnetic Transmission & Reception.

Applications

The Electromagnetic Beacon Locator will be used by Army personnel, skiers, and mountaineers to save lives faster/in an effective manner. This Indian made device will help in reducing forex and making India Atmanirbhar.

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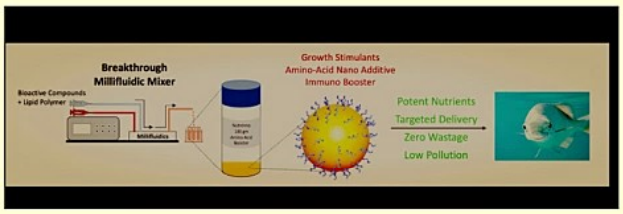
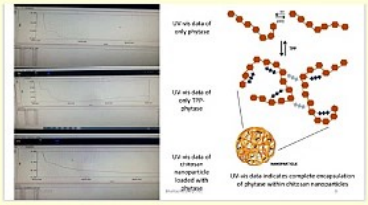
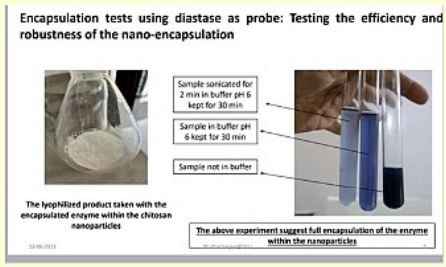
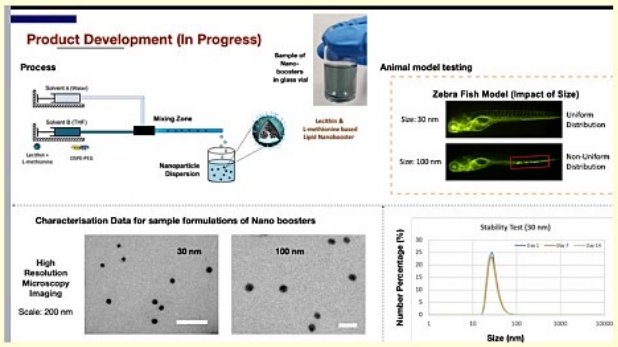
NUTRENO

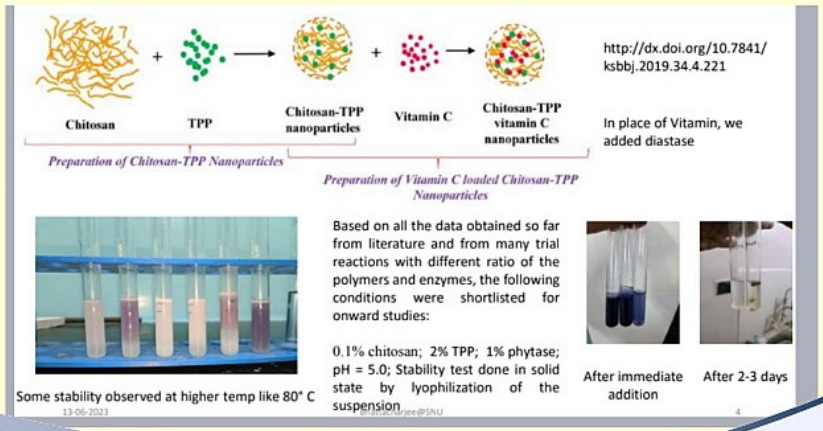
Nutricape private limited











Problem Statement

Due to traditional methods of feed processing, there is poor bio-availability of critical nutrients to the animal causing its poor growth low immunity and this coupled with nutrient leaching leads to algal blooms and disease outbreaks causing yield losses worth $6B annually.

Rishika.D

Technology

We are transforming the nutrient delivery mechanism through size optimised bio-encapsulation causing targeted delivery of the critical nutrients.

Applications

Bio-encapsulation has numerous applications in industries where there is a need for dose optimisation, thermal stability, targeted delivery. It includes the animal and human nutraceuticals sector, agriculture, therapeutics among many others. Our focus is currently on the aquafeed segment.

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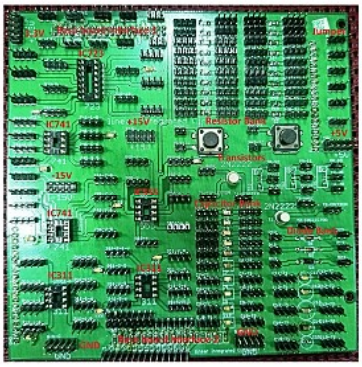
IOT BASED ANALOG, DIGITAL ELECTRONICS, AND EMBEDDED MOBILE LAB

YERRAMREDDY'S GO-GREEN TECHNOLOGIES PRIVATE LIMITED



Problem Statement

For a single circuit to be verified in the analog and digital electronics laboratory, several major testing and measuring equipment is required. If a single student wishes to experiment at home, this is a highly expensive choice, and there is also the issue of room and availability. A conventional lab setup requires a power supply, function generator, Digital Storage Oscilloscope (DSO), cables, connectors, and components, all of which increase the cost and space for conducting laboratory experiments. There is a requirement to simplify this process and offer a cost-effective solution to enable students and instructors to use electronic equipment without having to set up a large workbench.

Dr Yerramreddy Srinivasa Rao

Technology

The proposed solution for the above problem is introducing a platform called Mobile Lab. The Mobile Electronics Lab simplifies the experiment design process by eliminating the need for soldering. Placing the components into the well-designed piggyback board allows students to experiment with a wide range of electronic circuits. All connections and controls are clearly labeled and easily accessible. It's also handy for building and testing analog and digital electronics mini projects. It includes an in-built clock, LEDs, Seven-segment displays, a Graphics LCD for showing the output, and several IC sockets.

Dattatray Surykant Sawant

Applications

- To build a system that is focused on academics and is cost-effective and versatile. Also, supposed to be reconfigurable and multilayered such that it can be used for a variety of different subjects.
- To build an IoT-based system capable of communicating with other platforms such as a PC or Smartphone with the help of Wi-Fi or Bluetooth. This will facilitate the creation of a Learning Management System (LMS) that will improve the teaching-learning process for students and instructors
- To create a compact and cost-effective data acquisition system to design an electronics-related experiment setup without any soldering so that the circuitry is simplified.

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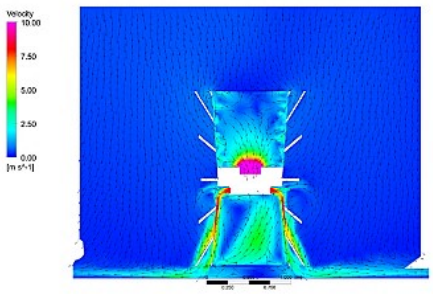
NATURAL AIR PURIFICATION SYSTEM

Anoma Greens

Anoma Greens



Problem Statement

Air Pollution, Major metropolitan cities are suffering from Poor Air quality. Continuous exposure to deteriorated air quality leads to poor health conditions. Existing air purifying technologies are not sustainable.

Sagar Ganvir

Technology

We developed air filters using natural biodegradable materials that leave no carbon footprint. Based on water scrubbing principle for effective filtration and space cooling by harnessing natural cooling abilities of terracotta clay tiles.

Applications

The system is designed for Ambient outdoor conditions which will be powered by solar for operations as well as in indoor conditions. Depending on the use case, the size and configuration can be varied. its has low life cycle cost as well as effective comprehensive filtration.