

DEPARTMENT OF MECHANICAL ENGINEERING

January 2022–December 2022

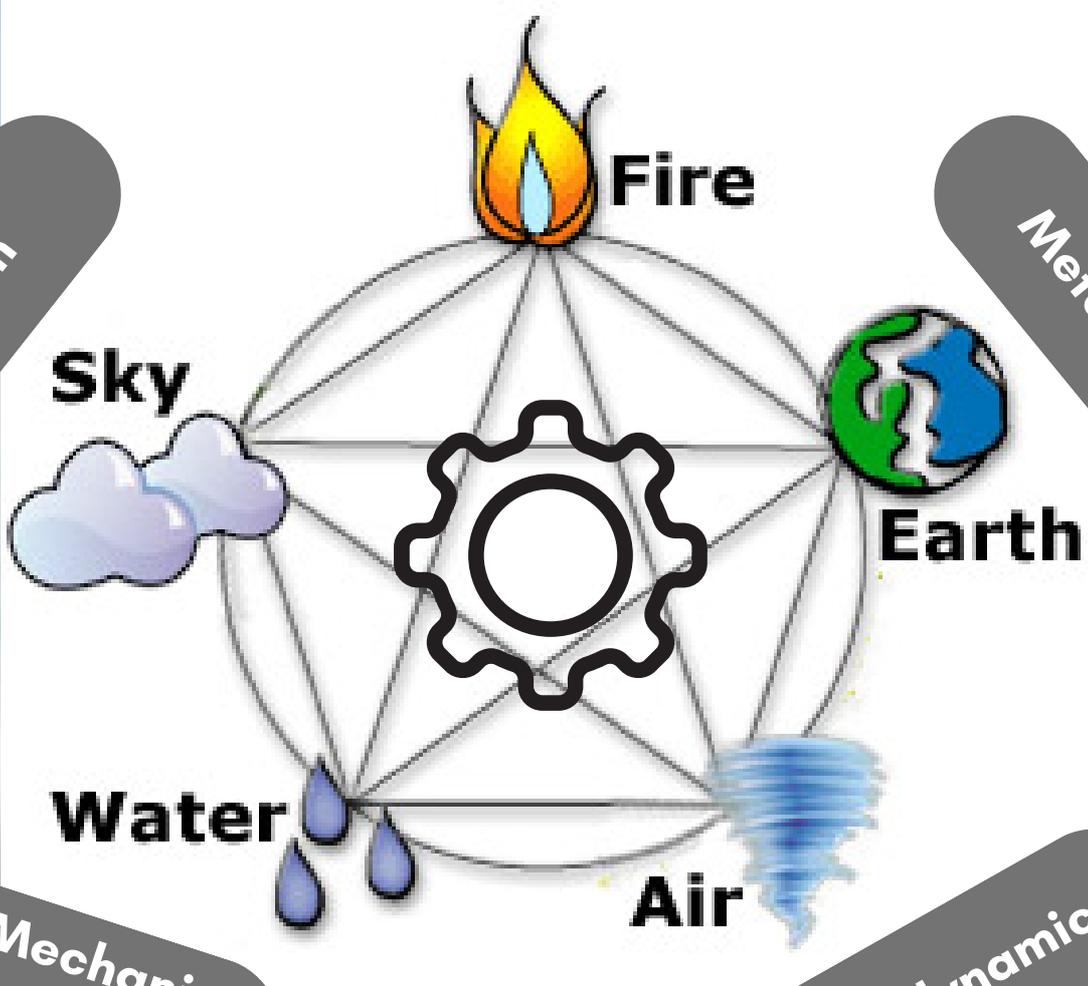


**SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY
(SV NIT), SURAT -395007, GUJARAT,
INDIA**

**Thermodynamics,
Heat Transfer**

Vacuum

Metallurgy



**Fluid Mechanics,
Dynamics**

Aerodynamics

TABLE OF CONTENTS



- 01 ABOUT DEPARTMENT
- 02 OUR VISION AND MISSION
- 03 FACULTY STAFF
- 04 INDUSTRIAL COLLABORATION
- 05 GIAN WORKSHOP
- 06 CONFERENCES/WORKSHOPS
- 07 EXPERT LECTURES
- 08 ONGOING SPONSORED RESEARCH PROJECTS
- 09 YANTRIK - TECH FEST & ASHINE
- 10 ACHIEVEMENTS
- 11 PLACEMENT



ABOUT DEPARTMENT



Prof. Jyotirmay Banerjee

The Department of Mechanical Engineering came into existence in the year 1961. The department has a team of 55 qualified and dedicated faculty members having specialization in various areas. At present the department is conducting a UG program (Mechanical Engineering), five PG programs (Mechanical Engineering, Turbo-machines, Manufacturing, CAD/CAM, and Thermal System Design) and a research program leading to M. Tech (Research) and Ph.D. degree.

Head of Department
Department of Mechanical Engg.
Email: hod@med.svnit.ac.in
Mobile No: +91 9879277675

DEPARTMENT HISTORY

Programme	Year
UG in Mechanical Engineering	Started in 1961
PG in Mechanical Engineering	Started in 1974
PG in Turbo Machines	Started in 1984
PG in CAD - CAM	Started in 2007-08
PG in Thermal System Design	Started in 2007-08
PG in Manufacturing Engineering	Started in 2013-14
Ph. D.	Started in 2004-05

OUR VISION AND MISSION



Vision

Department of Mechanical Engineering, Sardar Vallabhbhai National Institute of Technology, Surat perceives to be globally accepted center of quality technical education based on innovation and academic excellence.

Mission

Department of Mechanical Engineering, Sardar Vallabhbhai National Institute of Technology, Surat strives to disseminate technical knowledge to its undergraduate, post graduate and research scholars to meet intellectual, ethical and career challenges for sustainable growth of humanity, nation, and global community.

FACULTY STAFF



DEPARTMENT OF MECHANICAL ENGINEERING, SVNIT

THERMAL AND FLUID ENGINEERING

MANUFACTURING ENGINEERING

DESIGN ENGINEERING

Faculty members are listed in rows under their respective sub-departments, each with a portrait and name.

Disseminating Technical Knowledge for Sustainable Growth of Humanity, Nation, and Global Community

“The duties of a teacher are
neither few nor small, but they
elevate the mind and give
energy to the character.”
-Dorothea Dix

INDUSTRIAL COLLABORATION

Morris Garage (MG) Motors

Morris Garage Motor India on Apr 14, 2022 signed a MoU with Sardar Vallabhbhai National Institute of Technology (SVNIT) here for skill development and to bridge the gap between industry and academia of the auto-tech industry. The student chapter SAE SVNIT along with the Mechanical Department (DoME SVNIT) heartily welcomed the MG motors team and represented our college in the conference.



“The partnership will help to make the students job-ready and prepare them for better industry prospects.”

The partnership will introduce students to vehicular systems and help them understand how to perform basic inspection procedures on cars. It will expose students to hands-on research on various electrical and electronic systems of technologically advanced vehicles.

- Prof. R. V. Rao
Director In charge



Global Initiative of Academic Networks (GIAN)

WORKSHOP

1 Week Workshop
(30 Jan – 03 Feb 2023)

Course coordinator: Dr. V. D. Kalyankar

International faculty: Prof. Jose Maria Cabrera Marrero
Professor
Department of Materials Science and Engineering,
The Polytechnic University of Catalonia
[The Universitat Politecnica de Catalunya • Barcelona Tech (UPC)]
Barcelona, Spain

Total participants: 40

Chief Guest for the Inaugural function: Mr. Himanshu Bodawala,
President, The Southern Gujarat Chamber of Commerce and
Industry (SGCCI), Surat.

“Microstructural control and advanced metallurgical characterization: Application to thermomechanical processing, welding and severe plastic deformation”



1 Week Workshop
(09 - 13 Jan 2023)

Course coordinators: Dr. V. D. Kalyankar / Dr. Mukund Bade

International faculty: Dr. Kartik Jamadar,
Product Readiness Manager, Technology Developer and
Planner,
Volkswagen, Germany

Total participants: 52

Chief Guest for the Inaugural function: Mr. Nitin Amte,
General Manager (Research and Development), ArcelorMittal
Nippon Steel, Hazira.

“Lightweight materials for automotive applications: Fundamentals, recent developments and challenges in manufacturing”



Conferences / Workshops

JANUARY 2022 - DECEMBER 2022

- **International Conference** on Advanced Engineering Optimization Through Intelligent Techniques (AEOTIT), 28-30 January 2022 (online mode), organized by Dr. R. V. Rao and Dr. Pallvita Yadav.
- **STTP** on Research Methodology: Tools and Techniques, 1-5 February 2022 (online mode), organized by Dr. Ravi Kant and Dr. Dinesh Singh.
- **High-End workshop** on Advances in Welding and Additive Manufacturing, 18-24 July 2022, organized by Dr. Krishna K Mugada and Dr. Raju Prasad Mahto.
- **One-week workshop** on Computational Analysis on Mechanical and Electronics Systems using ANSYS, 7-11 July 2022, organized by Dr. Pallvita Yadav Dr. Biranchi Narayan Sahoo, and Dr. Amrut Srikant Mulay.
- **One-week workshop** on Hands-on Training on Material Processing and Characterization MPCT-2022, 10-14 December 2022 organized by Dr. Pallvita Yadav Dr. Biranchi Narayan Sahoo, and Dr. Amrut Srikant Mulay



Expert Lectures

INDIAN INSTITUTION OF INDUSTRIAL ENGINEERING STUDENT CHAPTER



November 2022

PROF. PRATIK PARIKH

Professor and Chairperson of the
Department of Industrial Engineering,
University of Louisville,
USA

" The aspects of Industrial
Engineering and Career
Guidance for higher studies
abroad "

January 2023

**MR. ANAND
MISTRY**

Sr. DGM Defence, L&T Ltd
Hazira, Surat

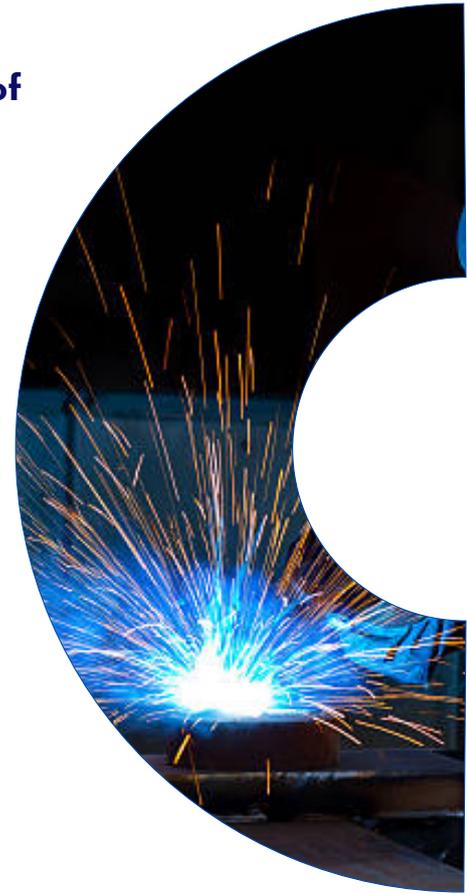
" Designing Inclusive and
Sustainable Work
Systems "



ONGOING SPONSORED RESEARCH PROJECTS

Development, Characterization and performance evaluation of multi-phase composite panels

- **Investigator:**
 - Dr. Achchhelal
 - **Funding Agency :**
 - SERB
 - **Sanctioned Amount:**
 - ₹ 14,22, 283.00
-



Development of multi-material welding approach for ultrahigh - strength steel and 7xxx aluminium alloys to promote light-weighting and green mobility in the automobile sector

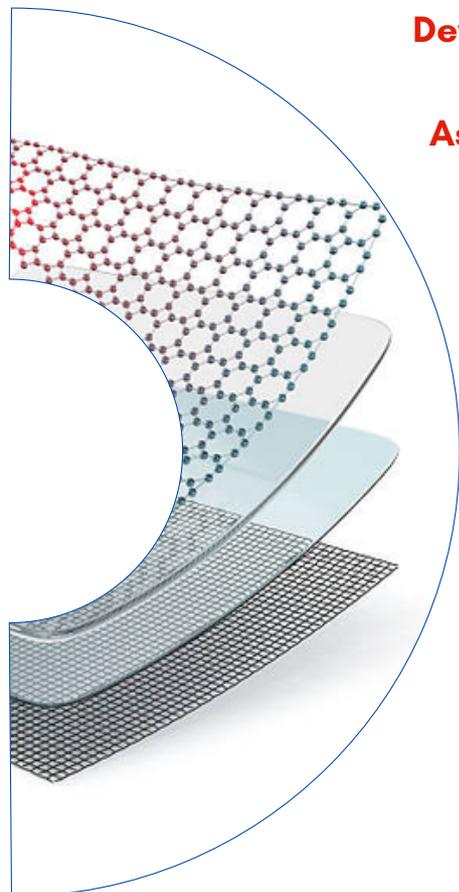
- **Investigator:**
 - Dr. V. D. Kalyankar
 - Dr. Bade Mukund
 - **Funding Agency :**
 - GUJCOST
 - **Sanctioned Amount:**
 - ₹ 15,70,000.00
-

Development of a Novel High Entropy Alloy Reinforced Magnesium Matrix Composites to Reduce Tension Compression Yield Asymmetry Through Ultrasonic Assisted Liquid State Processing Route

- **Investigator:**
 - Dr. B. N. Sahoo
 - **Funding Agency :**
 - SERB
 - **Sanctioned Amount:**
 - ₹ 28,64,340.00
-

Industrial Suitability and Commercialization of novel SPIF process for DC04 steel and Ti Gr. 2 materials

- **Investigator:**
 - Dr. Amrut Mulay
 - **Funding Agency :**
 - SERB
 - **Sanctioned Amount:**
 - ₹ 16,74,240.00
-



ONGOING SPONSORED RESEARCH PROJECTS

FIST Programme to Strengthen the research facilities in the Department (Laser Camera with Synchronization & Accessories)

- **Investigator:**
 - Dr. Jyotirmay Banerjee, Head of Department
- **Funding Agency :**
 - DST FIST
- **Sanctioned Amount:**
 - ₹ 1,02,00,000

Development Of Hybrid Plasma Gasification Technology for MSW Management

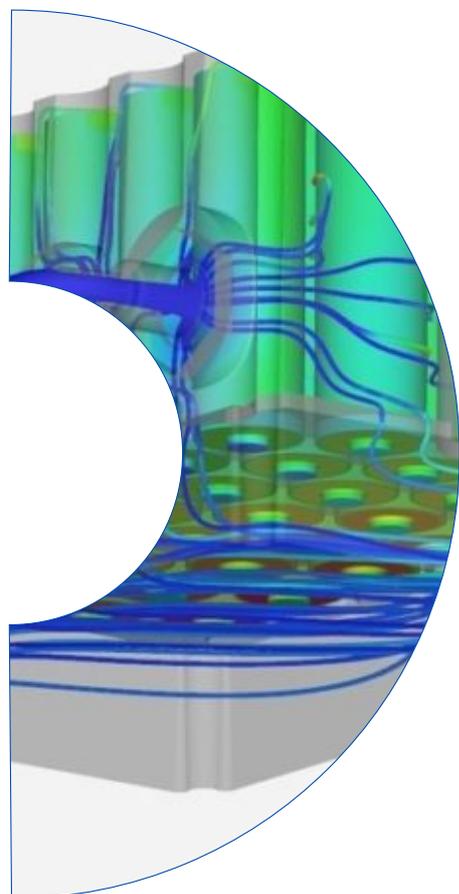
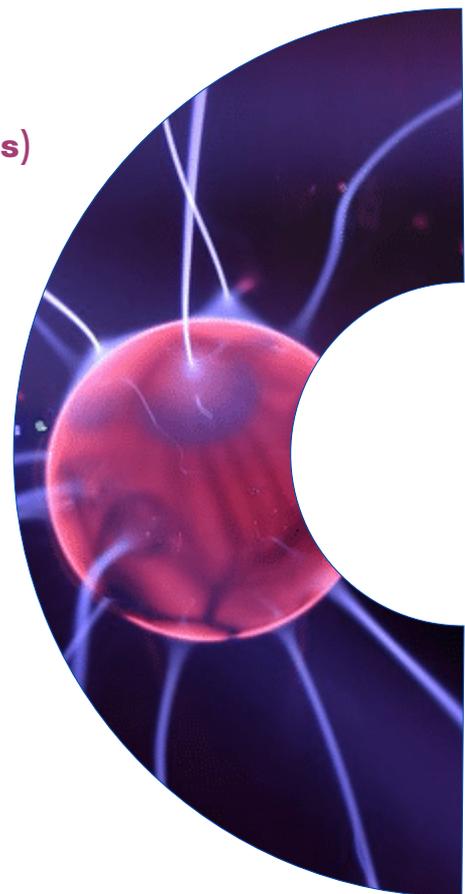
- **Investigator:**
 - Dr. S. A. Channiwala
- **Funding Agency :**
 - CSIR
- **Sanctioned Amount:**
 - ₹ 60,00,000.00

A Loop Heat Pipe based Novel Battery Thermal Management System for Hybrid Electric Vehicle / Electric Vehicle

- **Investigator:**
 - Dr. H. B. Mehta
 - Dr. Vipul M. Patel
 - Dr. Naresh Yarramsetty
- **Funding Agency :**
 - SERB
- **Sanctioned Amount:**
 - ₹ 36,44,696.00

Design and Development of PCM based Passive Cooling System of E-House

- **Investigator:**
 - Dr. M. K. Rathod
 - Dr. J. Banerjee
- **Funding Agency :**
 - GUJCOST
- **Sanctioned Amount:**
 - ₹ 32,09,200.00



ONGOING SPONSORED RESEARCH PROJECTS

Performance Optimization of Air Conditioning System for Automotive Sector using new low GWP-R1234yf refrigerant

- **Investigator:**
 - Dr. A. D. Parekh
- **Funding Agency :**
 - SERB
- **Sanctioned Amount:**
 - ₹ 21,45,000.00

Design and Development of Solar Driven Water Generation System based on Desiccant Wheel

- **Investigator:**
 - Dr. Amit Kumar
- **Funding Agency :**
 - SERB
- **Sanctioned Amount:**
 - ₹ 20,54,840.00

Investigation on Flow Deflection About Savonius Hydrokinetic Turbines and its Design Evolution with Core Technical Concepts

- **Investigator:**
 - Dr. V. K. Patel
 - Dr. V. P. Rathod
- **Funding Agency :**
 - SERB
- **Sanctioned Amount:**
 - ₹ 20,24,000.00

Investigation of Thermal and Emissions and Characteristics With Multi-tube Inverse Diffusion Flame Burner

- **Investigator:**
 - Dr. R. D. Shah
 - Dr. Nikhil Baraiya
- **Funding Agency :**
 - GUJCOST
- **Sanctioned Amount:**
 - ₹ 7,95,000.00



Yantrik

TECH-FEST

ORGANIZED IN
APRIL 2022 CONSIST
OF 7 EVENTS:

- City on Venus
- Technical Debate
- Quiz
- Best out of waste (Workshop)
- Mechathon
- CAD competition
- Interactive talk by Alumni



CITY ON VENUS

Students were supposed to do brainstorming to solve issues that were creating obstacles for permanent residency of humans over Venus.

BEST OUT OF WASTE

Students were given hands on practice on several manufacturing process and were judged based on their performance.



INTERACTIVE TALK BY ALUMNI

Talk is delivered by Mr. Moiz Ezzy & Mr. Surindren



ORGANIZING TEAM



ASHINE

EVENT



ASSOCIATION FOR HARNESSING INNOVATION AND ENTREPRENEURSHIP

ASHINE is a Technology Business Incubator located at the centre of Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat spread across 250 acres of lush-green campus having all the modern educational and recreational facilities for students. With an infrastructure that can support 30+ tech and non-tech startups and 200 startup enthusiasts from across the nation.

SVNIT STARTUP EXPO

February 2023

It was a two-day event that brought together entrepreneurs, investors, and industry leaders from all over the world. The expo aimed to provide a platform for startups to showcase their ideas, network with potential investors and partners, and gain valuable insights into the latest trends and developments in the startup ecosystem.



RESEARCH & INNOVATION DAY

The goal of this one-day event is to provide a platform for students' innovative projects, recognize their efforts, provide them with industry exposure, and to inspire other students to come up with innovative solutions for society.

Projects Displayed from Mechanical Engineering Department

1. Sunny Bagde & Mohammad Aman Siddiqui
Vertical Axis Storm Proof Wind Turbine
2. Harsh Patel
 - 1) E-Go Kart;
 - 2) E-Formula Student Vehicle

Achievements

INDIAN INSTITUTE OF WELDING, STUDENT CHAPTER



WELDED MARVELS 2021-22

Project Trash to Treasure

First ever national competition on welded marvels, and 9 sculptures were shortlisted from the entries. Akshay B. Patel, Gautam P. Chudasama & Sachin P. Wanare of Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat on the theme 'Peacock' is shortlisted.

WELDED MARVELS 2022-23

Project Trash to Treasure

National competition on welded marvels, Students of Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat on the theme 'Unity & Collaboration' is shortlisted.



Achievements

SOCIETY OF AUTOMOTIVE ENGINEERS, STUDENT CHAPTER



THE PI-EV COMPETITION

June 2022

First year students from Department of Mechanical Engineering of SVNIT, developed a Formula Electric car and secured a 12th rank in the PI-EV competition.

FORMULA BHARAT ELECTRIC VEHICLE (CLASS-I)

October 2022

Students participated with the improved vehicle design in formula Bharat electric vehicle (Class-I) and secured 3rd place overall and 1st place in the Concept Goals Management Event.



Achievements

SOCIETY OF AUTOMOTIVE ENGINEERS, STUDENT CHAPTER



IIT BOMBAY TECHFEST

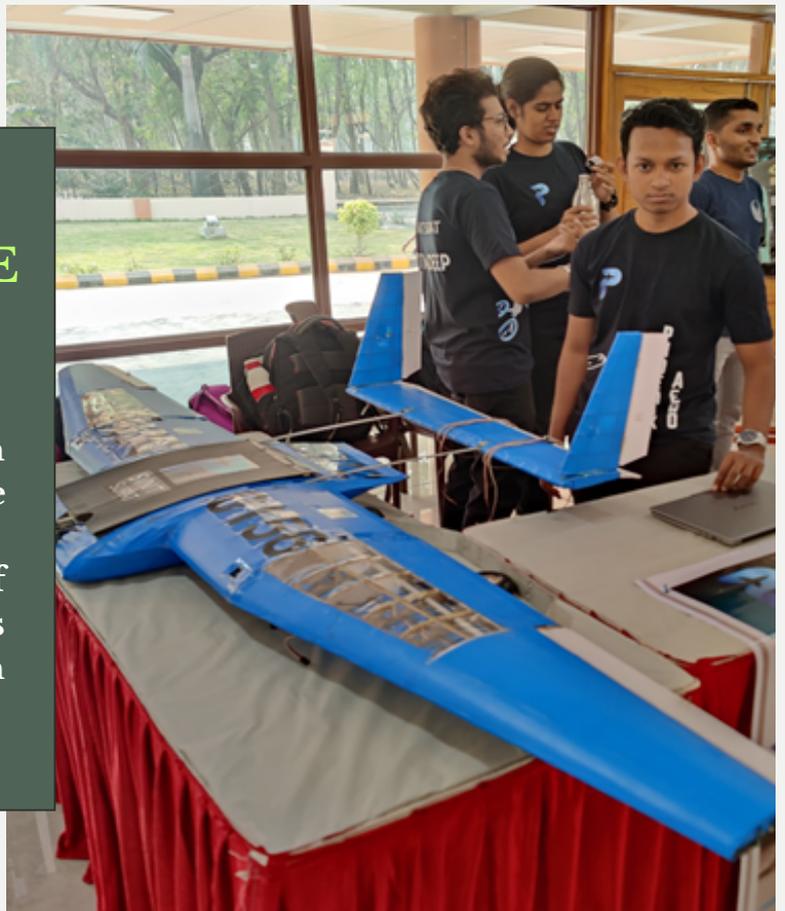
2022

One of the Top 15 teams, all over Asia at IIT Bombay Techfest's AL-VTOLA 2022.

SAEISS AERO DESIGN CHALLENGE

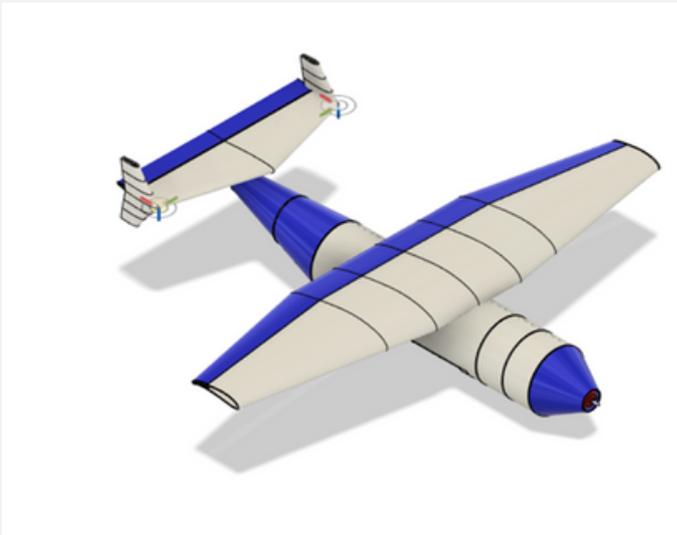
2022

Secured 9th all over India in SAEISS Aero Design Challenge 2022 under Regular Class. One of the intriguing features of this Radio controlled aircraft is its self lifting fuselage. The wingspan of this aircraft is 2.4 metres.



Achievements

SOCIETY OF AUTOMOTIVE ENGINEERS, STUDENT CHAPTER



BOEING NATIONAL AERO MODELLING COMPETITION

2022

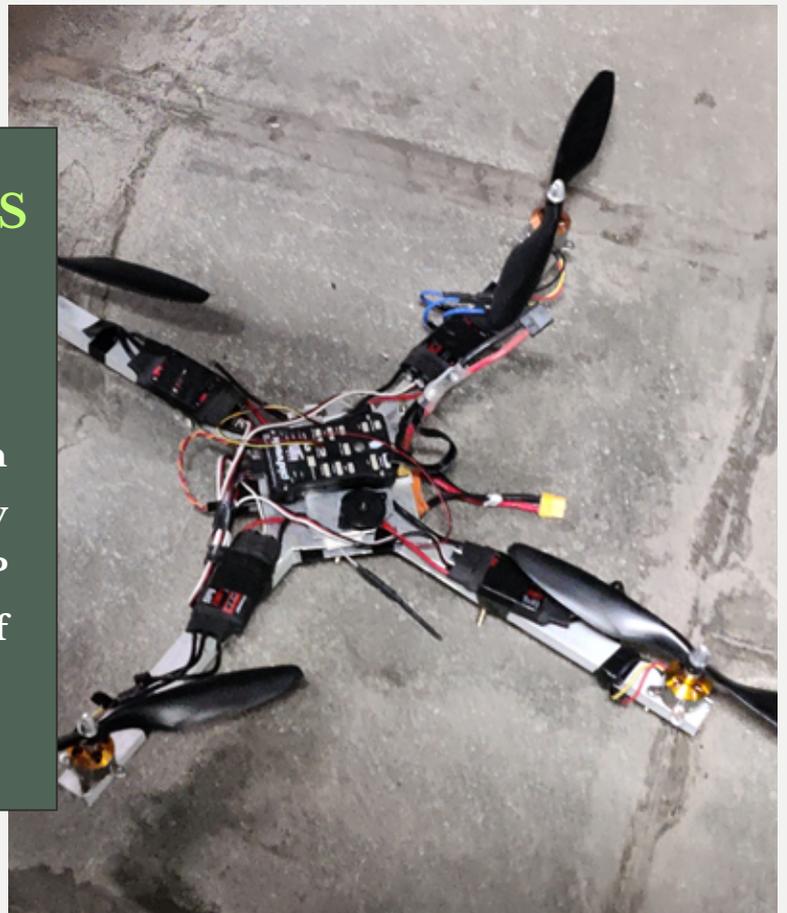
One of the Top 20 teams, Nationally, in Boeing National Aeromodelling Competition at IIT Bombay, Techfest 2022.

The wing span is approximately 1.2 metres.

SEMI-AUTONOMOUS QUADPLANE

2023

Grabbed 1st position in research and innovation day organised by RIAC in collaboration with SSIP and Ashine for the project of semi-autonomous Quadplane.



Achievements

SPORTS

INTER- NIT SWIMMING

Rourkela, February 2023

SVNIT Surat stood as runners-up in Inter NIT Swimming (Men) among all NITs. The swimming team of SVNIT consisted of 7 members out of which 5 were from the Department of mechanical Engineering.



MCT CRICKET TOURNAMENT



February 2022

The tournament was organized by the Department of Mechanical Engineering of SVNIT Surat. It was specifically designed for UG & PG students, Ph.D. scholars, and faculty members of Mechanical engineering with the intention to provide an opportunity to come together and participate in a competitive and fun-filled sporting event.

Placement

2022-23

B. TECH - 184 OUT OF 223

M. TECH - 43 OUT OF 83



MERCEDES BENZ

Student Placed : 3
Avg. Package:
14 LPA



LARSEN &
TOUBRO

Student Placed : 14
Avg. Package:
12 LPA



RELIANCE
INDUSTRIES LTD

Student Placed : 17
Avg. Package:
14 LPA



JOHN DEERE

Student Placed : 25
Avg. Package:
12 LPA



ARCELOR MITTAL
NIPPON STEEL

Student Placed : 15
Avg. Package:
10 LPA



BAJAJ AUTO

Student Placed : 11
Avg. Package:
11 LPA



BALCO MEDICAL
CENTRE

Student Placed : 21
Avg. Package:
10 LPA



TCS NINJA

Student Placed : 19
Avg. Package:
9 LPA



ADANI GROUP

Student Placed : 13
Avg. Package:
10 LPA



JSW GROUP

Student Placed : 5
Avg. Package:
13 LPA



EXL ANALYTICS

Student Placed : 9
Avg. Package:
9 LPA



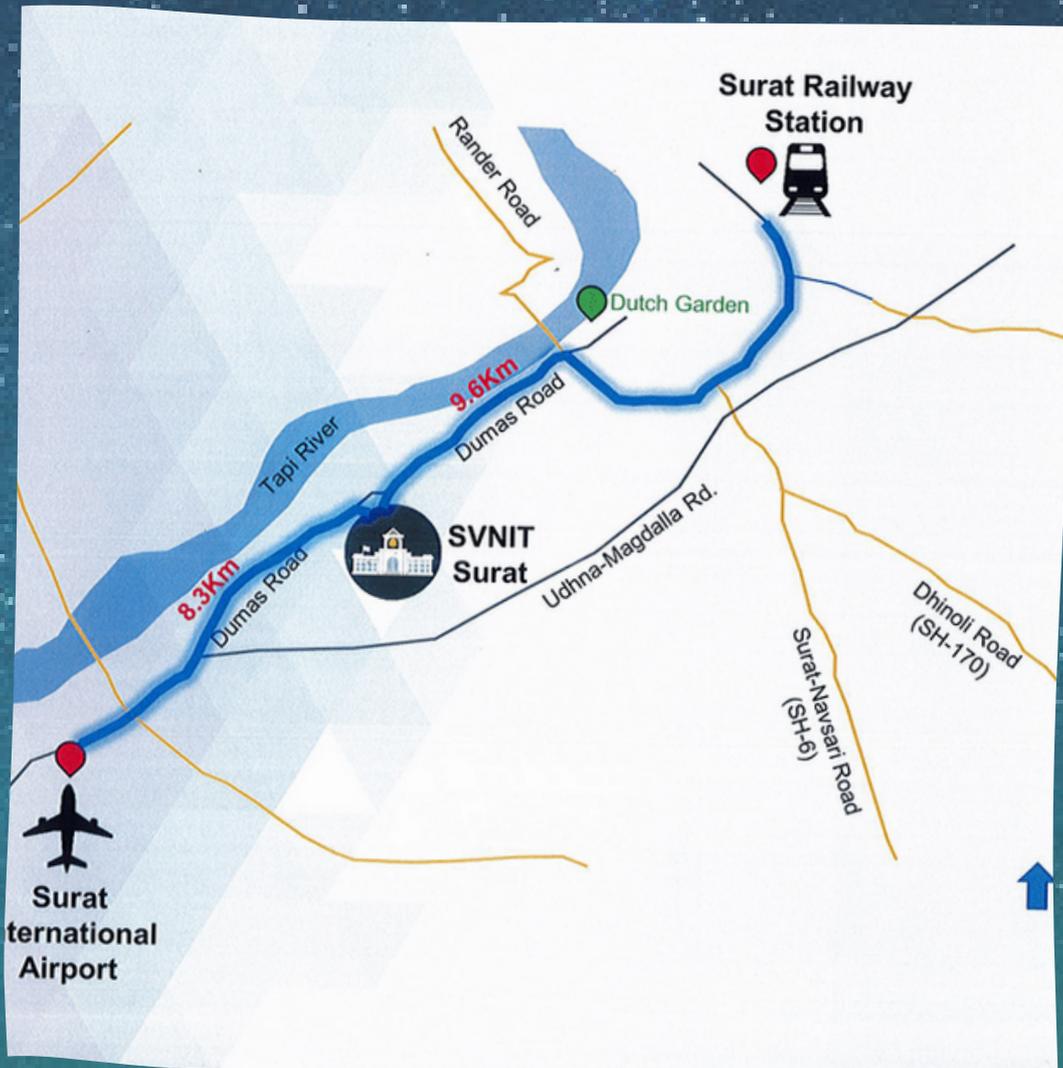
MG MOTORS

Student Placed : 3
Avg. Package:
14 LPA



**"TO THE OPTIMIST, THE GLASS IS HALF FULL.
TO THE PESSIMIST, THE GLASS IS HALF
EMPTY. TO THE ENGINEER, THE GLASS IS
TWICE AS BIG AS IT NEEDS TO BE."**

**"MECHANICAL ENGINEERS DO THINGS WITH
LESS POWER AND GREAT EFFICIENCY"**



CONTACT US

Department of Mechanical Engineering,
Sardar Vallabhbhai National Institute of Technology,
Ichchhanath, Surat - 395007, Gujarat, India
Email: hod@med.svnit.edu.in
office@med.svnit.edu.in
Phone: 02612201751

