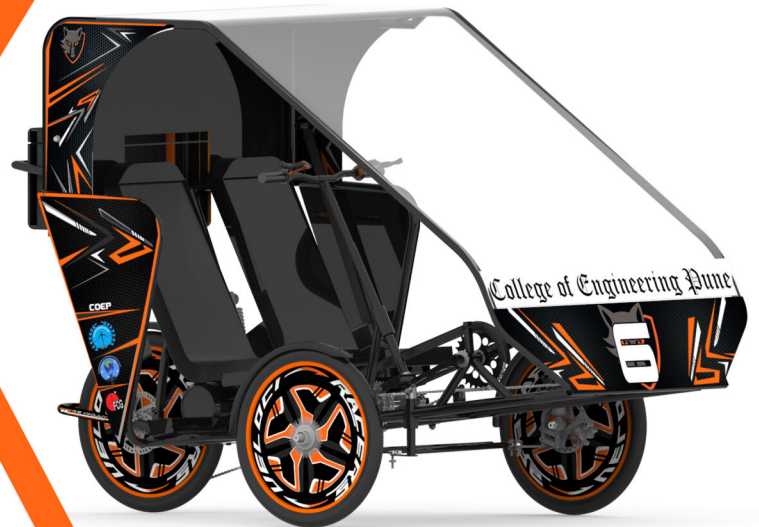


TEAM VELOCI RACERS

COLLEGE OF ENGINEERING, PUNE

2019 - 2020



PASSION WE
BREATHE...
INNOVATION WE
DRIVE...



College of Engineering, Pune

FOREWORD

DR. B. B. AHUJA
DIRECTOR , COEP.



"COEP's performance in SAE-NIS Efficycle 2018 is remarkable. The team retains the legacy of winning trophies at Efficycle. It is really amazing that our students are creating a vehicle of this magnitude. Team Velociracers 'Promises pace to lace' new records in time to come."

DR. P. R. DHAMANGAONKAR
FACULTY ADVISOR , COEP.



"The team is keen to impart their practical knowledge in real life engineering applications. The team is keen to learn, is hard working and has the zeal to win."

VAIBHAV GONDCHOR
CAPTAIN , 2019.



"To be able to lead a team, bring about the team spirit and guide it in right direction are the responsibilities of a capable team captain. I feel honoured to have been entrusted with these responsibilities. The new team will strive hard in it's upcoming season for even better achievements and make the college proud."



INTRODUCTION



ABOUT THE TEAM

Team Velociracers is one of the many successful SAE India Collegiate Clubs of COEP. Set up back in 2013, the team now consists of 30 motorheads inducted across various disciplines and years who aim to come up with innovative, eco-friendly practices in India, thus tackling real world engineering problems and manage a full product development cycle. The team participates in competition: SAE-NIS Efficycle. The recurring success of the team in this competition is the result of unconditional efforts taken by the team by burning the midnight oil. With the same enthusiasm and lust for learning, the team would go on adding feathers to the cap and move towards triumph.

EFFICYCLE

Efficycle, an initiative taken by Society of Automotive Engineers North India Section, promotes the objective of providing opportunity to the students to conceive, design and fabricate a three-wheeled configuration vehicle powered by human electric hybrid power and capable of seating two passengers catering to the day to day mobility needs.

ADVANCED EFFICYCLE FORMAT

This year we have a new format the Advanced Efficycle Format. This will include technology and features which are pragmatic enough to be introduced on road, having better stability, maneuverability and rider safety and comfort. Considering a real world application of efficycle on Indian roads, the engineering students are being given a challenge to conceptualize, design and fabricate a vehicle which is not restricted to bring a track prototype, but can be used for personal and commercial mobility.

REGULAR EFFICYCLE FORMAT

The aim is to promote innovation in technology and generate consciousness amongst the young engineers towards environmental friendly mobility solution.



TEAM VELOCI
COLLEGE OF ENGINEERING, PUNE

RACERS



2019 - 2020

VAIBHAV GONDCHOR (CAPTAIN)

**PURAB TAYDE
RUSHIKESH PATIL
PUSHKAR SHUKLA
SANKET JANGALE
VISHAKHA MANE
ARVIND RATHORE
NISHAD BHANAGE**

**VIVEK KATE
PRANOTI MALI
DIPAK KAMBLE
YASH CHANDEKAR
REVATHI BHANGALAY
VAISHNAVI SHIVRAMWAR**



**DR. P.R.DHAMANGAONKAR (F.A.)
DR.P.S.SHINDE (F.A.)**

**KAPIL DESHMUKH
ABHISHEK MISHRA
GAURAV KAPURKAR
PRATIKSHA CHAVAN
SUNILKUMAR RAJPUT
SARVESHA PALAMWAR**

**PARTH RATHI
AKSHAY PATIL
ROSHAN PATIL
ADITYA BABAR
NITIN RATHOD
MAHESH MANEKAR
SUSHANT DHINDALE**

EVOLUTION



TECHNICAL SPECIFICATIONS

VULCAN 5.0

TRANSMISSION

Chain drive for manual transmission
BLDC motor for electric Transmission



STEERING

Right pivot Ackermann Steering
with Adjustable handle



BRAKES

Front and Rear Mechanical Disc Brakes



SUSPENSION

Front Elastomeric Suspension
Rear maestro suspension



ELECTRICAL

Battery: 48V, 35Ah
BLDC Motor: 600W, 500rpm



WEIGHT

Kerb weight : 93 Kg
Gross Weight : 223 kg



ROLLCAGE

AISI 1020 Tubular Steel Frame



EVENT STRUCTURE

TECHNICAL INSPECTION:

Technical Inspection is carried out to ensure that the teams abide by the rules of competition and successfully clear the rulebook compliances, safety-check, Electric Drive Inspection, Brake Test, Figure of 8 test and Basic Report Submissions.

STATIC EVENTS:

1. Design Evaluation:

The team has to present all the design reports of the trike, on the basis of which the design of the vehicle is evaluated.

2. Cost Evaluation:

The team has to present an accurate cost of the vehicle in front of panel of judges.

3. Marketing Presentation/B-Plan:

The team has to prepare a business plan which aims to carry out mass production of vehicle and market it.

4. Light Weight Check:

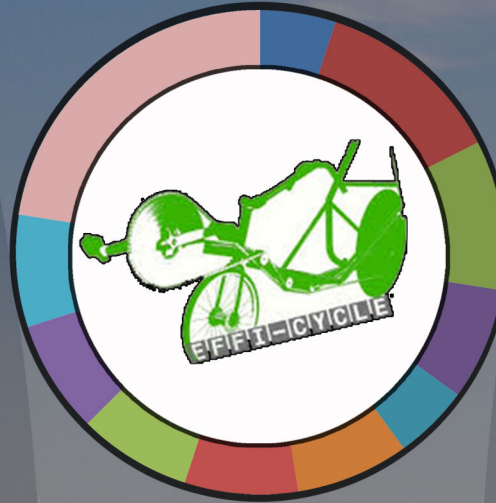
The vehicle is expected to be as light as possible which will give maximum points to team.

5. Build-Quality Check:

This check is done to ensure the strength of aesthetics of the vehicle.

6. Innovation Evaluation:

Teams are allowed to have any type of Mechanical as well as Electrical innovation. Practically working or theoretical Innovation system can be presented during evaluation.



EFFI-CYCLE

DYNAMIC EVENTS:

1. Acceleration Test:

The test decides the maximum acceleration and speed capability of the vehicle in non-race conditions.

2. Maneuver Test:

This test judges the maneuverability and handling ability of the trike in non-race conditions.

3. Utility Test:

This test checks the general utility capability of the trike in non-race condition.

4. Gradient Test:

Teams show the power of their electric drive while riding on the inclined roads.

5. Skid-Pad Test:

This test checks the control of skidding of the vehicle in circular area of flat pavement.

6. Rumble Strip:

This test evaluates the durability of the vehicle under vibrations and strokes under non-race conditions.

7. Endurance Run:

The teams have to prove durability of their trike in race-conditions in this event.



ACHIEVEMENTS

SAENIS EFFICYCLE

- Overall 1st Runner Up
- 1st In Durability Run

SILVER AWARD IN KPIT SPARKLE

SAENIS EFFICYCLE

- Overall Champions
- 2nd In Endurance Run
- 1st In Marketing Presentation
- 1st In CAD CAE Report
- 2nd In Drive Excellence Test

CROSS STRIKE

- Overall Champions
- 1st Design Report

VR1

VR3

VR5

VR2

VR4

SAENIS EFFICYCLE

- Most Promising Team Of Season

SAENIS EFFICYCLE

- Overall 1st Runner Up
- 1st In Endurance Run
- 1st In Technical Inspection
- 1st In Marketing Presentation
- Runner Up In Gradient Test
- Runner Up In Utility Test
- Dronacharya Award

SAENIS EFFICYCLE

- Overall 2nd Runner Up
- 1st In Design Report
- 1st In Marketing Presentation
- 2nd In Build Quality



SPONSORS

SUPPORT US

Finance is a crucial aspect of every team and will help the team to carry forward the legacy and achieve more laurels. The team relies on the provision of funds, material and expert advice to be able to represent COEP at Efficycle. Your sponsorship will provide for the purchase of various components used in the vehicle, event registration fee, shipment of the vehicle to & from the event sites, etc. We look forward to your association with our team.

MONETARY SPONSORSHIP

PART SPONSORSHIP

TITLE

INR 2,50,000

All of platinum & Seminar of your company at COEP by our Team.

Logo on vehicle, official website, social media & termly newsletter.

ELECTRICAL & ELECTRONICS

PLATINUM

INR 1,75,000

All of gold & Photoshoot of your company with our Team & vehicle.

Logo on vehicle, official website, social media & termly newsletter.

SHIPMENT

GOLD

INR 1,25,000

All of silver & Certificate of acknowledgement from COEP Team Velociracers.

Logo on official website & in termly newsletter.

PARTS & EQUIPMENT

SILVER

INR 75,000

All of bronze & Acknowledgement in all press and media releases.

Logo on team's apparel & publicity during events.

APPAREL

BRONZE

INR 50,000

Logo on team website, brochure, vehicle. Publicity at event site. Invitation to team events at COEP.



TEAM
Velociracers



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Pune_411005



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ULCAN S.O