

SAE GALGOTIAS CHAPTER



WHAT IS SAE?

- ▶ The SAE stands for 'Society Of Automotive Engineers'
- ▶ SAE International is a global association of more than *128,000 engineers and related* technical experts in the aerospace, automotive and commercial-vehicle industries. SAE International's core competencies are life-long learning and voluntary consensus standards development.
- ▶ The division of SAE international in India known as SAE India was established in the year 1994 . Then the western section of SAE India was established appointing Dr. P V Goenka as Advisor .
- ▶ The SAE India organises various collegiate design events every year for the students of mechanical engineering as well as for students of various other branches with the aim of providing them with a platform to showcase their inner talent and APPLY their knowledge to form vehicles having potential to be a part of future automotive industry of world.

ABOUT US

The sae collegiate club of Galgotia's was formed in the year 2011 by the students of mechanical engineering . The members of the club then formed an All-Terrain Vehicle, for an intercollegiate design competition named as BAJA. The vehicle successfully completed all the dynamic events.

The SAE collegiate club is formed every year under SAE INDIA. The aim of is to participate in various SAE as well as in various NON-SAE events , to make vehicle with sound engineering and at the same time learning through this practical experience.

Formation

- ▶ Formed in 2011
- ▶ Our club has been active in national level events like Baja, Effi-cycle, Go-kart and off road battle.
- ▶ Notable alumni
 - ▶ Manjul Vashisth (Dialmer AG)
 - ▶ Pulkit Shresth (SeaRay)
 - ▶ Ayush Srivastava (ARAI)
 - ▶ Akarsh gupta (michigan state university)
 - ▶ Ravi singh (north Carolina university)
 - ▶ Paras sharma (texas a&m university)

SAE EVENTS

The following events are organised by SAE India every year:

1. EFFI-cycle (organised by the SAE India Northern Section)
2. BAJA (organised by Mahindra and SAE India)
3. SUPRA (organised by Maruti Suzuki and SAE India

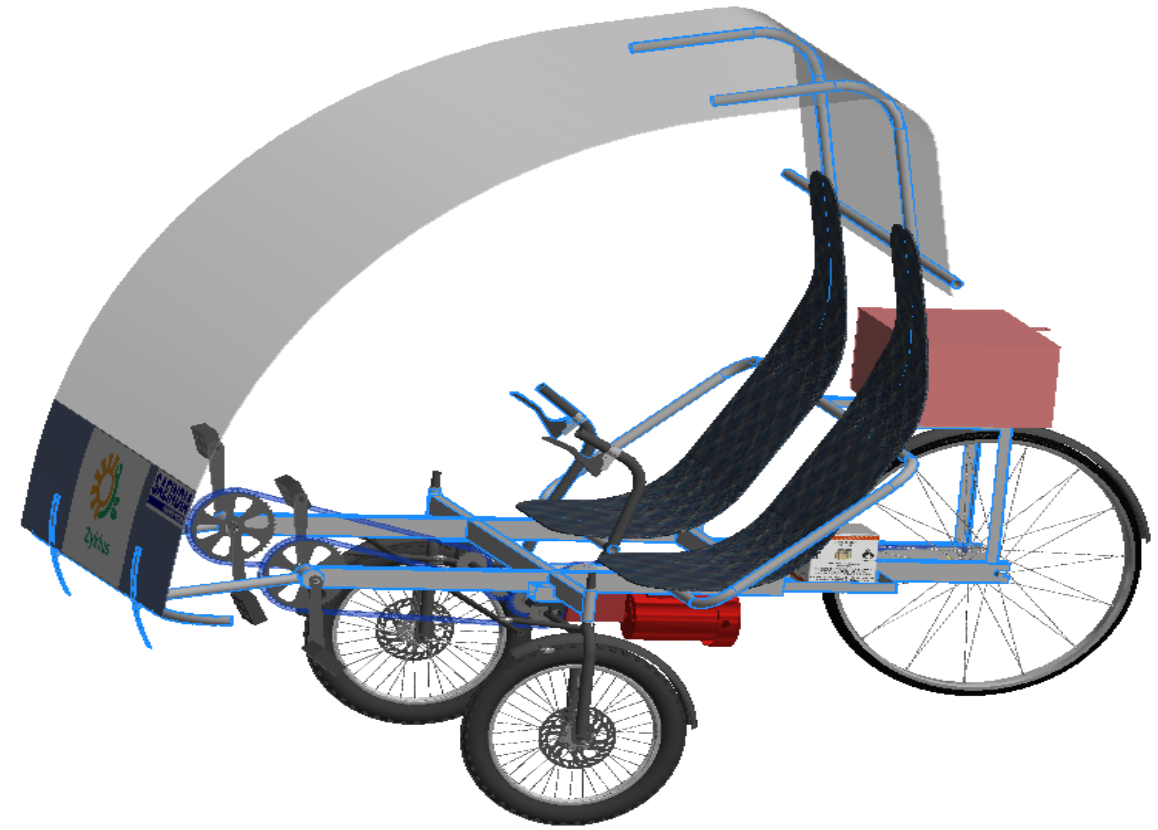
ABOUT EFFICYCLE

- ▶ “EFFI-CYCLE” derived from Efficient-Cycle promote the objective of providing opportunity to the students to conceive, design and fabricate a three wheel configuration vehicle powered by human-electric hybrid power and capable of seating two passengers catering to the day to day mobility needs. The vehicle must be aerodynamic, engineered for performance & safety and ergonomically designed. The objective is to promote innovation and generate consciousness amongst the young engineers towards environment friendly mobility solution.

ACHIEVEMENTS

- ▶ 1st prize Maneuverability in 2015.
- ▶ 23rd position overall
- ▶ Third lightest vehicle in overall competition.
- ▶ AIR 5 in 2016.
- ▶ Marketing 2nd position.
- ▶ 3rd in acceleration

EFFI-CYCLE 2015



EFFI-CYCLE 2015
winning team

EFFI-CYCLE 2016



- ▶ Air 5th
- ▶ 3rd in acceleration.
- ▶ Completed 1.25 hour endurance run without failure.
- ▶ Most famous vehicle for steering design.

Human drive Electric Drive

Powertrain

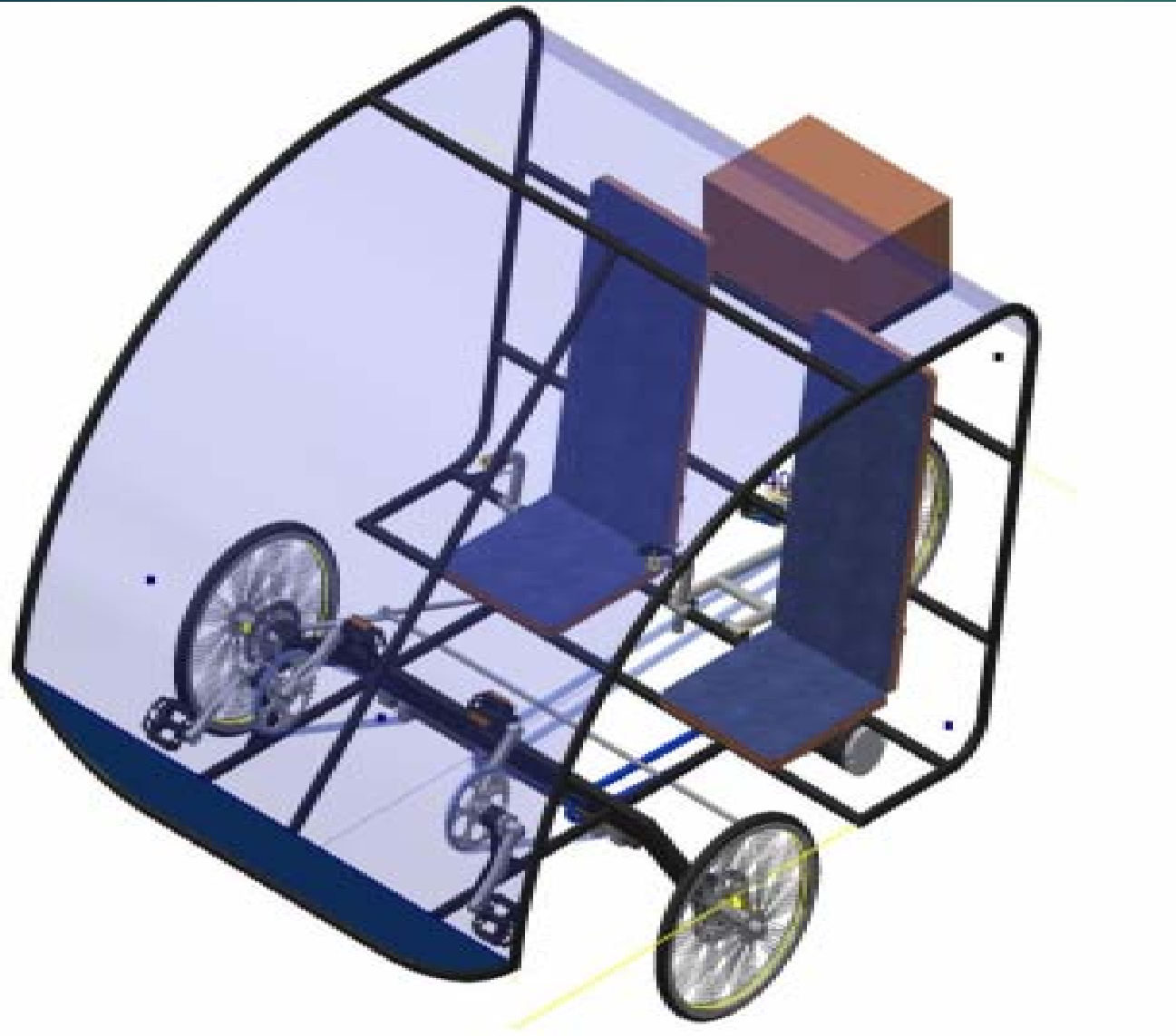
Disc Brakes

Telescopic and
Pneumatic
suspension
system

Steering



EFFI-CYCLE 2017



TARGET SPECIFICATIONS OF VEHICLE

- Lightest vehicle among all participant teams.
- 35 km/h top speed
- Hybrid vehicle (electric driven human assist).
- Around 300 kg load carrying capacity.
- Steer control camber to maintain traction results in better performance

ABOUT BAJA

The Baja SAE **Competition** originated at the University of South Carolina in 1976, under the direction of Dr. John F. Stevens. Since that time, the Baja SAE Series has grown to become a premier engineering design series for university teams.

Baja SAE is an intercollegiate engineering design competition for undergraduate and graduate engineering students. The object of the competition is to simulate real-world engineering design projects and their related challenges. Each team is competing to have its design accepted for manufacture by a fictitious firm. The students must function as a team to design, engineer, build, test, promote and compete with a vehicle within the limits of the rules. They must also generate financial support for their project and manage their educational priorities.

ACHIEVEMENTS

- ▶ 53rd overall rank in virtual round out 412 teams from various parts of india.
- ▶ 40th overall rank among 185 teams in Main Baja event.
- ▶ 17th rank in sales presentation main baja event
- ▶ 7 students shortlisted for top automobiles companies of world . Eg: General Motors ,Mahindra , ARAI, Endurance, Jhon Deere, lear corp. , Anand group and Delphi. 2 got placed
- ▶ Design and durability of vehicle appreciated by leading

TEAM CHASSIS Z

BAJA 2015



ESI2017



BAJA 2017



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BAJA 2017 FEATURES

- ▶ Custom made gearbox.
- ▶ All wheel independent suspension.
- ▶ Roll-over alarm.
- ▶ Temp. dependent dynamically cooled CVT.
- ▶ Inboard braking system
- ▶ Ergonomically designed



Custom Casing

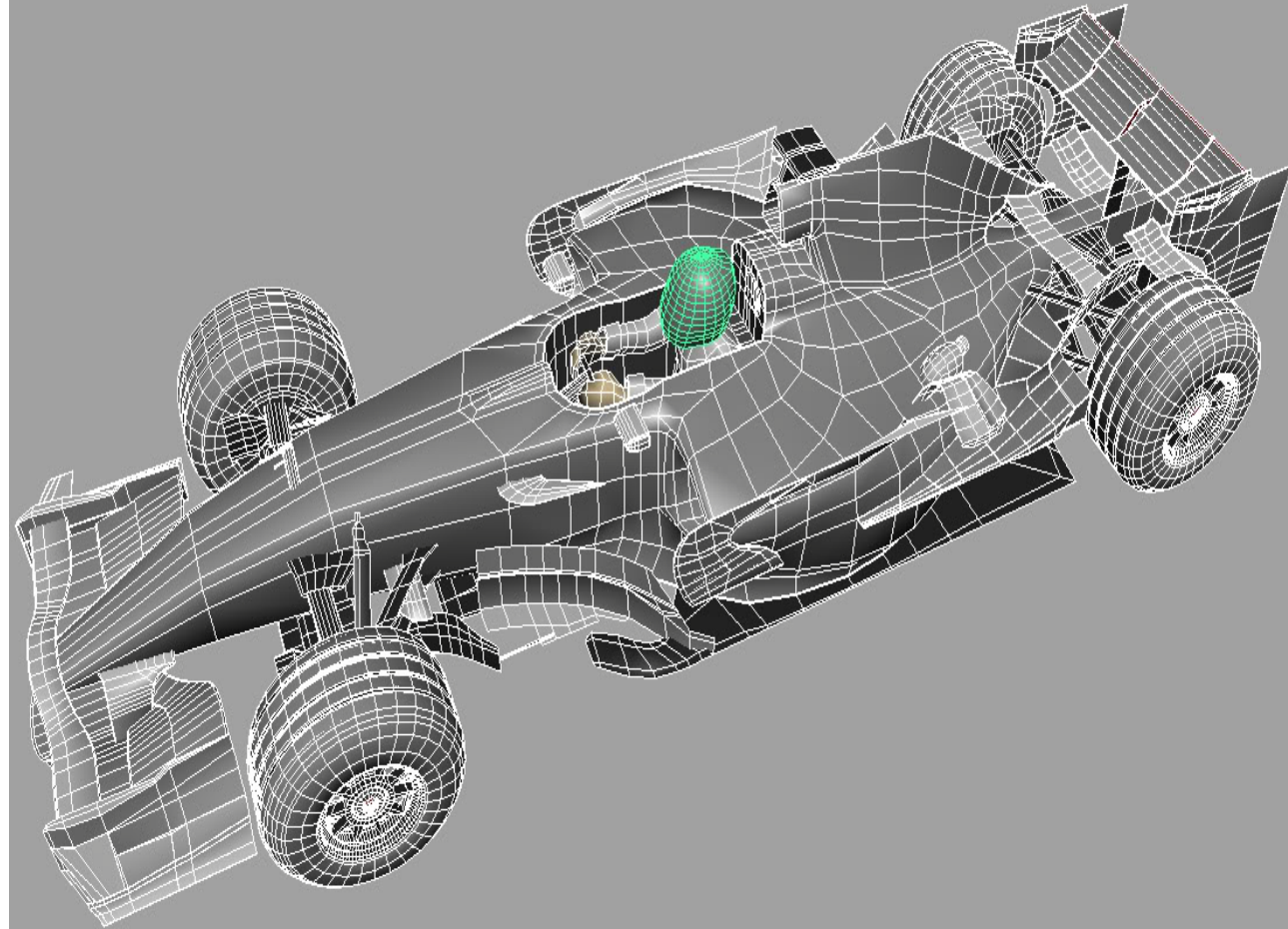
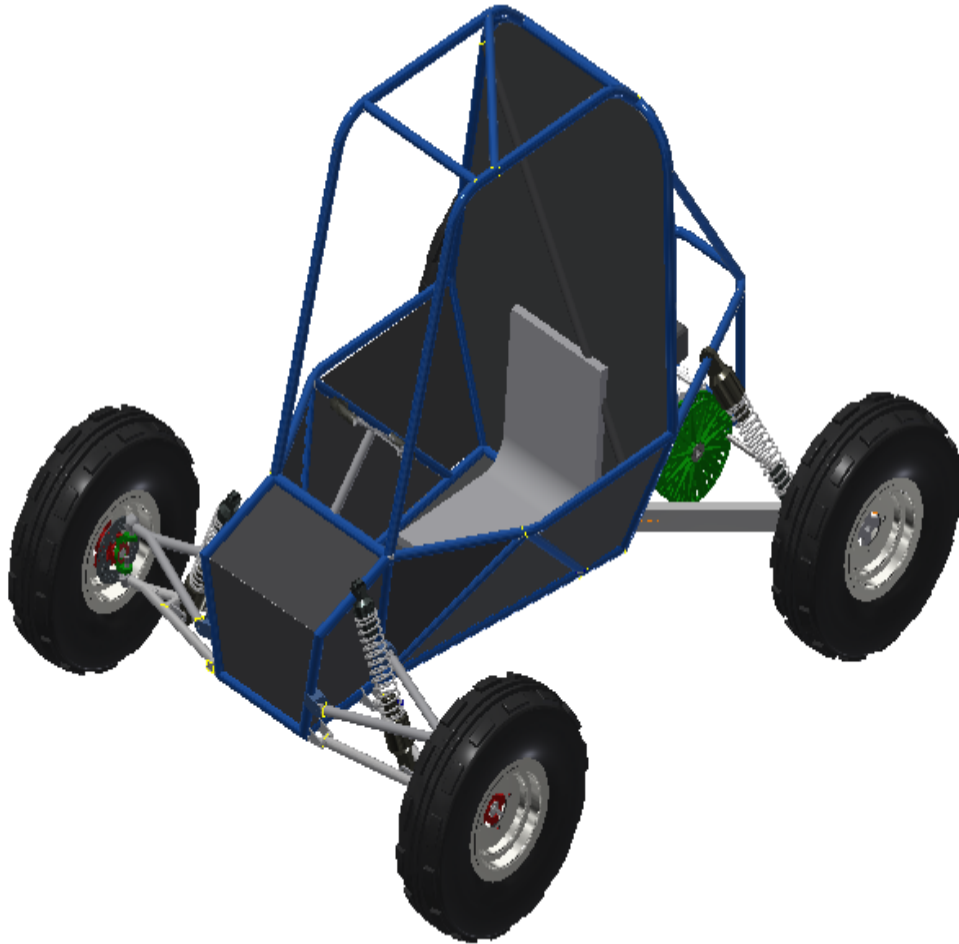


Vehicle in technical inspection bay.

WHAT'S NEXT ?

BAJA 2018

SUPRA 2018



Future plans

Efficycle

- Event in Mid Oct 2017.
- Team formation and target specification done.
- Targeted to achieve top 3 teams in event nationally.

BAJA

- Event date Jan 24-28 2018
- Team formation in progress.
- Reduction in weight targeted.

Supra

- Conceptualization in progress.
- Will present detail design and fabrication plan.
- Requires funding from college.