My contribution to Team Eta

(Co-curricular activities)

Transmission Design Lead (Shell ECO Marathon 2015):

- Designing a completely new drive train mechanism based on the planetary gearing & and timing belt system.
- Considering the motor torque output and torque required at the wheel designed a transmission with a reduction of 32:1
- Optimized Chassis Mounting to get accurate location of Transmission Components.
- Drive-train components were machined from solid aluminium.

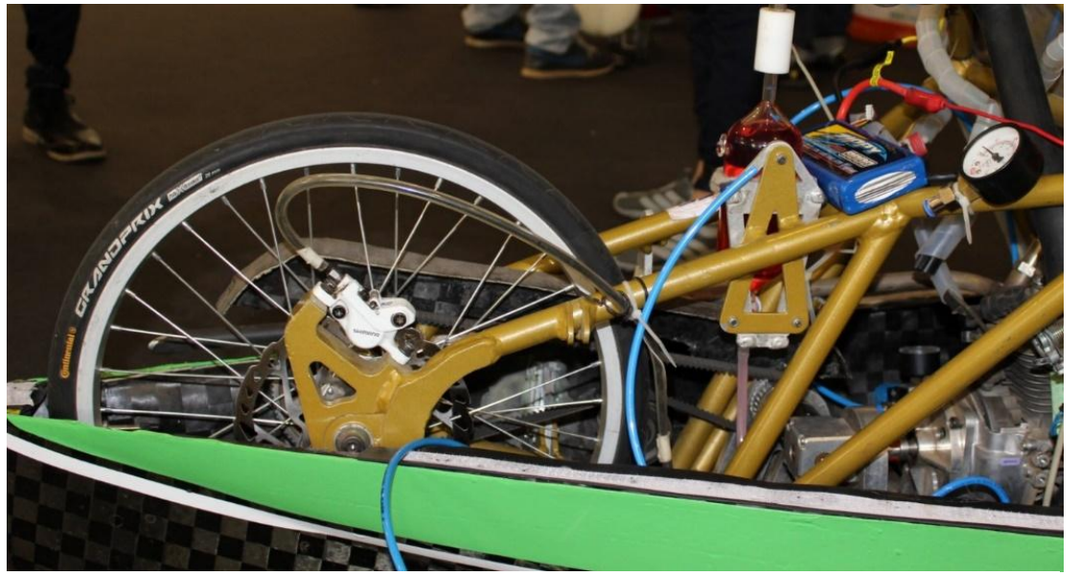
Conversion of crank start engine to Electric switch start (Shell ECO Marathon 2015):

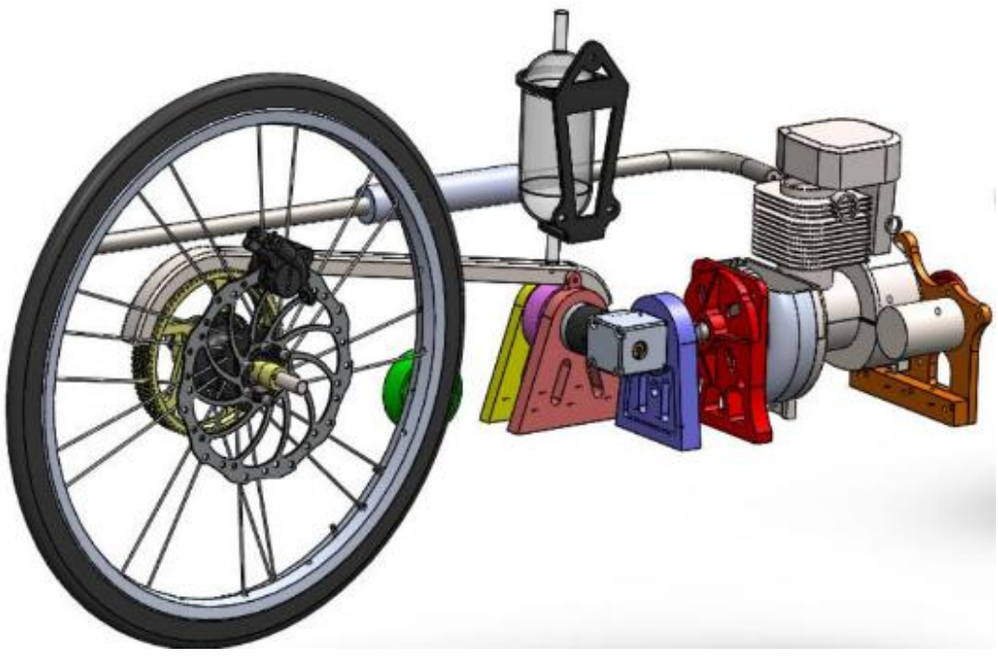
- We used a Honda GX35 engine for powering the car, The engine comes with a hand crank for starting the engine.
- I did a calculation of the starting torque required for the engine and designed a gear reduction powered by an electric motor to make it switch start**.**

Steering system Lead (Shell ECO Marathon 2013):

- Designed steering system for Shell Eco-Marathon 2013 Car, the main objective is to decrease the energy loss due to wear and sliding of tyres when cornering and also to design a responsive and smooth steering mechanism considering ergonomics.
- After calculation decided to go with Ackerman geometry with tie rod steering mechanism.

Transmission Design for Shell Eco-Marathon 2015:





Honda Engine with hand crank :

Engine with an electric start: