

# My contribution to Team Eta

## (Co-curricular activities)

### Composite team member (Shell Eco-Marathon 2015 ):

- In 2014, the car's outer shell was made of a glass fiber and epoxy-based resin composite. Played a key role in the Composites Team, achieving a 30% weight reduction in the new prototype by replacing glass fiber with carbon fiber using an in-house vacuum bagging process (Picture 4).
- Worked on manufacturing planning, material selection, and sourcing advanced materials globally.
- We created the pattern by splitting the design into 50mm sections and CNC machining these sections from 50 mm-thick MDF sheets. The pieces were then stacked and assembled using glue and screws to form the final shape, followed by the addition of a finishing touch of PU paint (Pictures 1 & 2).
- Manufactured the mould using glass fiber and polyester resin (Picture 3). The outer shell was made from two layers of 100GSM carbon fiber and ROHACELL foam to ensure stiffness (Picture 5).

**1) Pattern Machining from MDF:**



**2) Fixing patten parts and finishing the pattern:**



**3) Glass fiber Mold Making:**



**4) Vacuum bagging for the final Carbon fiber part:**



**5) Carbon fiber Car shell for Shell Eco Marathon 2015:**

