

Sonae E-Bike Design Challenge

At E-Cell, IIT Bombay's E-Summit 2022

❖ Design Submission Details

Design Specification Sheet

Teams should prepare a design specification sheet including the following data of vehicle:

- Vehicle Dimensions and weight
- Wheel and tire specs
- Suspension specs
- Brake specs
- Electric Powertrain specs
- Chassis specs
- Vehicle Ergonomics data
- Other additional features in the vehicle

Design Report

Teams should prepare a detailed design report of your vehicle which will include the following data:

- Electric Power train
 - Objective
 - Flow chart of Electric Powertrain
 - Explain the functioning of your electric power train
 - Battery, Motor, and range calculations
- Chassis
 - Objective
 - 2D sketch and approx. dimensions (Front view, Top View, and side view)

- Material Specification and reasoning for selecting a particular material
- Pipe and tube size data and reasoning for selecting a particular size
- Brakes
 - Objective
 - The reasoning for selecting a particular type of brakes
- Suspension
 - Objective
 - The reasoning for selecting a particular type of suspension
- Body Panels
 - Objective
 - Material Specification and reasoning for selecting a particular material
- 2D sketch layout of your vehicle including all components with the appropriate position
(Without body panels)
- Design Innovations if any

Concept Design and Sketch

Teams should draw concept sketches of your vehicle including **Front view, Side view, top view, and Isometric view**

- Masters Layout & Design Report.
- Powertrain Simulations.
- Dimension calculation, CAE Drawings, and Reports.
- Aesthetic Drawings
- Brakes, Suspension, Cluster working.