

## Abstrak

Kontes Mobil Hemat Energi (KMHE) merupakan salah satu perlombaan mobil listrik skala nasional yang diikuti oleh UNISSULA Molex Renewable Team (MRT) sejak tahun 2017. *Molex Renewable Team* (MRT) merupakan salah satu organisasi dari UNISSULA tepatnya fakultas teknologi industri yang bergelut pada energi terbarukan khususnya energi listrik. Agar mobil *Prototype* sesuai dengan peraturan dari KMHE, tentunya membutuhkan kerangka mobil dan kursi pengemudi yang sesuai. Masalah yang ada dalam tim MRT selama ini yaitu belum pernah membuat kerangka dan kursi pengemudi mobil *Prototype* pada ajang perlombaan.

Penelitian ini bertujuan untuk mendapatkan desain kerangka mobil *Prototype* yang baik sesuai dengan ketentuan lomba dan untuk mendapatkan perancangan kursi pengemudi yang sesuai dengan pengemudi agar nyaman saat digunakan. Jumlah sampel yang digunakan sebanyak 30 responden pada tim mobil listrik. Metode analisis data dalam penelitian ini menggunakan pendekatan antropometri yaitu pendekatan dengan mengukur dimensi tubuh manusia.

Berdasarkan hasil penelitian dapat diperoleh bahwa desain kerangka mobil prototype pada kursi pengemudi dapat digukan secara baik dengan panjang pantat popliteal (PPP) dimana P50 = 42,567 sehingga panjang alas kursi 43 cm, lebar pinggul (LP) dimana P95 = 37,169 sehingga lebar alas kursi 38 cm, tinggi bahu duduk (TBD) dimana P50 = 62.633 sehingga tinggi sandaran 62 cm, lebar bahu (LB) dimana P95=50,001 sehingga lebar sandaran 50 cm, lebar kepala (LK) dimana P95 = 20,008 sehingga lebar sandaran kepala 20 cm, berat badan (BB) dimana P95 = 76,626 sehingga berat badan 77kg.

**Kata Kunci :** *Perancangan Design, Kerangka dan Kursi Pengemudi, Ergonomi, Antropometri*



## *Abstract*

Kontes Mobil Hemat Energi (KMHE) is one of the national scale electric car races which has been participated in by the UNISSULA Molex Renewable Team (MRT) since 2017. Molex Renewable Team (MRT) is one of the organizations from UNISSULA, to be precise, the industrial technology faculty that deals with renewable energy, especially electrical energy. In order for the Prototype car to comply with the regulations from KMHE, of course, it requires an appropriate car frame and driver's seat. The problem that exists in the MRT team so far is that they have never made the frame and driver's seat of a Prototype car in a competition.

This study aims to get a good prototype car frame design in accordance with the provisions of the race and to get a driver seat design that suits the driver so that it is comfortable to use. The number of samples used was 30 respondents on the electric car team. The data analysis method in this study used an anthropometric approach, namely an approach by measuring the dimensions of the human body.

Based on the results of the research, it can be found that the design of the prototype car frame in the driver's seat can be used well with the length of the popliteal buttocks (PPP) where P50 = 42.567 while the length of the seat base is 43 cm, hip width (LP) where P95 = 37.169 so that the width of the seat base is 38 cm. , sitting shoulder height (TBD) where P50 = 62,633 so that the height of the backrest is 62 cm, shoulder width (LB) where P95 = 50,001 so that the back width is 50 cm, head width (LK) where P95 = 20,008 so that the headrest width is 20 cm, weight (BB) where P95 = 76.626 so that the body weight is 77kg.

**Keywords:** *Designing the design, The Framework and The Driver's Deat, Ergonomics, Anthropometry*

