

## INTISARI

### **ANALISA ERGONOMI UNTUK *SINGLE SEAT* PADA *ELECTRICAL ROAD SWEEPER VEHICLE***

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Masalah pengelolaan sampah di daerah perkotaan belum terselesaikan karena tingginya populasi dan meningkatnya jumlah masyarakat konsumtif Indonesia. Sisa konsumsi manusia dalam bentuk limbah organik dan anorganik menjadi masalah serius bagi hampir semua kota besar di Indonesia. Saat ini Indonesia adalah penyumbang kedua untuk sampah plastik dengan 1,39 juta metrik ton per tahun setelah China (Jambeck, 2015). Masalah yang disebabkan oleh sampah organik dan anorganik sangat beragam, beberapa contoh di antaranya mengganggu keindahan dan kebersihan kota dan masalah kesehatan di masyarakat. Electric Road Sweeper Vehicle adalah kendaraan yang memanfaatkan listrik sebagai energi utama untuk mengoperasikan kendaraan. Kendaraan listrik terdiri dari dua bagian utama yaitu baterai sebagai sumber energi dan motor listrik sebagai operator.

Analisis untuk meningkatkan nilai ergonomi menggunakan metode Rapid Upper Limb Assessment (RULA). Data RULA diperoleh berdasarkan data antropometrik orang Asia, khususnya Indonesia. Nilai RULA yang lebih kecil menunjukkan bahwa hasil nilai ergonomis semakin baik dan sebaliknya. Berdasarkan hasil penelitian pada 2 responden yang memiliki varietas berbeda, ditemukan hasil RULA yang sama, yaitu skor 7. Dimana hasil RULA pada skor 7 menunjukkan bahwa penyelidikan dan peningkatan lebih lanjut juga diperlukan. karena perubahan desain secara keseluruhan.

## ***ABSTRACT***

### **THE ANALYSIS OF ERGONOMIC FOR *SINGLE SEAT OF PROTOTYPE ELECTRICAL ROAD SWEEPER VEHICLE***

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The waste management problem in urban areas has not been resolved because of the high population and the increasing number of the consumptive society of Indonesia. The residual of human consumption in the form of organic and inorganic waste becomes a serious problem for almost all major cities in Indonesia. Nowadays Indonesia is the second contributor to plastic waste with 1.39 million metric tons per year after China (Jambeck, 2015). The issue caused by organic and inorganic waste is very diverse, some examples of which are disrupting the beauty and cleanness of the city and the health problems in society. Electric Road Sweeper Vehicle is a vehicle utilise electricity as the main energy to operate the vehicle. Electric vehicle consists of two main parts which is battery as the source of the energy and the electric motor as the operator.

The analysis for improving the value of ergonomics is using the Rapid Upper Limb Assessment (RULA) method. RULA data is obtained based on anthropometric data of Asian people, especially Indonesia. The smaller RULA value indicates that the results of ergonomic values are getting better and vice versa. Based on the results of the research on 2 respondents who have different varieties, the results of the same RULA are found, which is score 7. Where the results of the RULA in a score of 7 indicates that further investigation and improvement are needed as well as overall design changes.

From the analysis results of the operation of the prototype Electrical Road Sweeper Vehicle prototype was obtained a data of the RULA were still high thus it needed redevelopment. The indications of the two respondents resulting from the analysis are an uncomfortable angle of bending, the knee touched to the dashboard panel, the angle of the foot when stepping on the pedal is too bent, non-leaning spine posture, head posture leaning forward. The indications mentioned above are the main causes of a quite high RULA result, so reparation and development are needed on these indications.