ABSTRAK

PT Mega Andalan Kalasan merupakan perusahaan yang bergerak dibidang pembuatan alat kesehatan rumah sakit. Proses produksi di PT Mega Andalan Kalasan terdiri dari proses pengelasan (*welding*), pemolesan (*polishing*), pelapisan (*treatment*), pengecatan (*painting*), perakitan (*assembling*), dan pengemasan (*packing*). Proses pengelasan (*welding*) dilakukan dengan menggunakan las manual dan las robot (*robotic welding*). PT Mega Andalan Kalasan dalam produksinya menggunakan las robot agar proses produksi dapat berjalan lebih optimal, sehingga jumlah produksi dapat terpenuhi.

Berdasarkan hasil dari data, mesin las robot yang memproduksi Manual Lovina Bed pada bulan Desember 2022 hingga Februari 2023 jumlah komponen yang dapat diproduksi sebanyak 5579 komponen produk. Hal ini masih berada dibawah kapasitas mesin yaitu sebesar 7280 komponen produk yang dapat diselesaikan. Setiap mesin las robot rata-rata hanya mampu memproduksi komponen produk sebanyak 78% dari target yang ditetapkan. Hal ini memperlihatkan bahwa mesin belum dapat bekerja secara efektif.

Metode yang digunakan dalam penelitian ini adalah metode *Overall Equipment Effectiveness* (OEE), *six big losses*, dan diagram *fishbone*. Hasil menunjukkan bahwa mesin las robot 5 memiliki nilai *Overall Equipment Effectiveness* (OEE) terendah yaitu 72,958%. Mesin yang memiliki *availibility* paling rendah yaitu mesin 6, *performance efficiency* paling rendah yaitu mesin 11, dan *rate of quality* paling rendah yaitu mesin 8. Setelah diperoleh hasil dari perhitungan OEE maka selanjutnya dianalisis *six big losses* yang terdiri dari *downtime losses, speed losses,* dan *defect losses*. Berdasarkan analisis *six big losses* tersebut diperoleh hasil bahwa *speed losses* menjadi faktor yang paling signifikan memberi dampak pada besarnya nilai OEE yang belum sesuai dengan standar. Lalu dilakukan analisis penyebab dan akibat terjadinya *speed losses* tertinggi menggunakan diagram *fishbone* dengan menganalisis penyebab terjadinya *speed losses*. Dari faktor-faktor yang telah didapatkan menggunakan diagram *fishbone,* maka diberikan usulan-usulan yang diharapkan dapat meminimasi terjadinya *speed losses.*

Kata kunci: OEE, *Six Big Losses, Fishbone Diagram, Speed Losses*

ABSTRACT

PT Mega Andalan Kalasan is a company that produces hospital medical devices. The production process at PT Mega Andalan Kalasan consists of welding, polishing, treatment, painting, assembling, and packing. The welding process is carried out using manual welding and robotic welding. PT Mega Andalan Kalasan in its production uses robotic welding so that the production process can be more optimal, so that the production volume can be met.

Based on the results of the data, the robotic welding machine that produces the Manual Lovina Bed in December 2022 to February 2023, the number of components that can be produced is 5579 product components. This is still below the machine capacity of 7280 product components that can be completed. Each robotic welding machine is only able to produce 78% of the product components on average from the set target. This proves that the machine has not been able to work effectively.

The methods used in this reserch are the Overall Equipment Effectiveness (OEE) method, six big losses, and fishbone diagrams. The results show that the robot welding machine 5 has the lowest Overall Equipment Effectiveness (OEE) value, which is 72.958%. The performance efficiency rate value of the robot welding machine 5 has the lowest value, which is 85.623%. The machine that has the lowest availability is machine 6, the lowest performance efficiency is machine 11, and the lowest rate of quality is machine 8. After obtaining the results of the OEE calculation, the next step is to analyze the six big losses consisting of downtime losses, speed losses, and defect losses. Based on the analysis of the six big losses, it was found that speed losses are the most significant factor that has an impact on the magnitude of the OEE value which is not in accordance with the standard. Then an analysis of the causes and effects of the highest speed losses was carried out using a fishbone diagram by analyzing the causes of speed losses. From the factors that have been obtained using the fishbone diagram, suggestions are given that are expected to minimize the occurrence of speed losses.

Keyword: OEE, *Six Big Losses, Fishbone Diagram, Speed Losses*