Perancangan Strategi untuk Mereduksi Six Big Losses Menggunakan Pendekatan Overall Equipment Effectiveness (OEE) pada Proses Dry Battery Assembly di PT Yuasa Battery Indonesia = Designing Strategy to Reduce Six Big Losses Using Overall Equipment Effectiveness (OEE) Approach in The Dry Battery Assembly Process at PT Yuasa Battery Indonesia

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Abstrak

Pertumbuhan tahunan gabungan manufaktur diberbagai sektor khususnya sektor otomotif di ASEAN terus meningkat menyebabkan tingginya produksi dan pasar industri otomotif di Indonesia. Meningkatnya sektor industri otomotif di Indonesia tentunya juga menuntut perusahaan supplier material-material otomotif untuk meningkatkan produksinya dan menghasilkan material secara efektif dan efisien. Salah satu material yang paling krusial adalah aki kendraan. PT Yuasa Battery Indonesia merupakan perusahaan manufaktur yang memproduksi aki kendaraan di Indonesia. Dalam proses produksinya khususnya proses dry battery assembly, selama tahun 2021 belum pernah mencapai target produksi karena adanya permasalahan secara internal dan eksternal menyebabkan nilai OEE pada lini mesin M6 (54,65%), M13 (45,71%), M15 (55,28%), dan M14 (60,19%) masih jauh dibawah nilai OEE standar kelas dunia. Hal tersebut terjadi karena adanya breakdown losses, setup and adjustment loading losses, idling and minor stoppage losses, reduced speed losses, dan defects or rework losses. Losses-losses tersebut dianalisis akar masalahnya dengan menggunakan fishbone diagram. Setelah itu dilakukan analisis FMEA (Failure Mode and Effect Analysis) untuk mengidentifikasi prioritas terhadap perancangan strategi untuk mencegah kegagalan dan mengevaluasi detection yang sudah dilakukan. Rancangan strategi diestimasikan mampu meningkatkan nilai OEE lini mesin M6 (79,00%), M13 (72,31%), M15 (87,79%), dan M14 (95,73%). Selain itu, berkurangnya losses juga akan mempengaruhi saving dari biaya buruh sebesar Rp 7.283.380 /minggu / lini mesin dan saving dari biaya utilitas sebesar Rp 9.209.878 / minggu / lini mesin.

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Compound Annual Growth Rate (CAGR) of manufacturing in various sectors, especially the automotive sector in ASEAN continues to increase, causing high production and the automotive industry market in Indonesia. The increasing automotive industry sector in Indonesia also requires automotive material supplier companies to increase their production and produce materials effectively and efficiently. One of the most crucial materials is vehicle batteries. PT Yuasa Battery Indonesia is a manufacturing company that produces vehicle batteries in Indonesia. In the production process, especially the dry battery assembly process, during 2021 it has never reached the production target due to internal and external problems causing the OEE value on the machine line M6 (54,65%), M13 (45,71%), M15 (55,28%), and M14 (60,19%) are still far below the world-class standard OEE value. This is due to breakdown losses, setup and adjustment losses, idling and minor stoppage losses, reduced speed losses, and defects or rework losses. The losses were analysed using fishbone diagram to know root causes of the problem. After that, FMEA (Failure Mode and Effect Analysis) analysis was carried out to identify priorities for strategy design to prevent failure and evaluate the detection

that had been done. The strategic design is estimated to be able to increase the OEE value of the machine line M6 (79,00%), M13 (72,31%), M15 (87,79%), and M14 (95,73%). In addition, reduced losses will also affect saving from labor costs of IDR 7.283.380 / week / machine line and saving from utility costs of IDR 9.209.878 / week / machine line.