

## **ABSTRACT**

*PT. GMF AeroAsia is a company engaged in the MRO (Maintenance, Repair, and Overhaul). IGTE (Industrial Gas Turbine Engine) is one of the units that specifically provide repair services for Turbine Industrial Engine parts only. In the repair process, there are two main processes, namely the welding and coating processes. In the repair process, a high percentage of defective parts in the coating process of the part being analyzed is Nozzle, EV Burner, Blade, Transition Piece, and Stage Bucket because it is a part that is repaired many times in the period 2014. The target for the results of repair is 0% defect, so there is no tolerance for defective parts. Based on the analysis conducted, thickness defects in the coating process are the highest defects in the period in 2014, reaching 33% over the target that has been determined. This resulted in parts that must be repaired continuously until the repair is not disabled. Six Sigma is a quality management approach towards zero defects. So that the method used to overcome the problem of the high percentage of defects in the coating process is using Six Sigma with DMAI stages. In the Define phase, to identify CTQ that is part visual perfection, perfection part on the inside and conformity forms part. In the Measure phase, it is known that the average value of the coating process sigma is 3.285. In the Analyze phase, it is known that the root cause of the problem is analyzed using 5whys, the distance spraygun with the substrate, the movement speed inconsistent gun, powder feeder rate is high, the ability of different operators, gun difficult to reach certain areas, air compressors are often dropped. Once the root cause is identified and analyzed, the Improve stage given the proposal to address the underlying problems that occur based on the priority of using FMEA and journals, selected distance spraygun with the substrate to give the proposed improvement. Selection of the proposed improvement using the scoring method. Based on the calculation method was obtained scoring the highest score on the proposed 1 with a score of 3.30, which is proposed to design a conceptual model of optimal proximity sensor.*

**Keyword-** *Six Sigma, 5whys analyze, FMEA, Scoring Method*