

## ABSTRAK

Penelitian ini membahas perancangan system monitoring motor induksi melalui *Augmented Reality (AR)* berbasis *Internet of Things (IoT)* dengan menampilkan sebuah status seperti identitas alat-alat, *Datasheet* alat yang digunakan, status tombol-tombol pada box panel, status arah putaran motor induksi, dan status kecepatan motor induksi secara *realtime*.

Pada Perancangan sebuah system monitoring motor induksi ini dilakukan melalui software *Augmented Operator Advisor* yang melalui proses *Buildtime* dan *Runtime*, Monitoring ini menggunakan teknologi *Augmented Reality (AR)* sebagai visualisasi objek gambar pada saat monitoring dan *Internet of Things* sebagai penghubung *Programmable Logic Controller (PLC)* untuk membaca data variable yang sudah diprogram *Programmable Logic Controller (PLC)*. *Augmented Reality (AR)* ini menampilkan objek secara virtual untuk memonitoring kinerja motor induksi yang dimana data status yang ditampilkan sama seperti kondisi actual motor induksi pada alat.

Pengujian sistem ini didapatkan bahwa ketidakstabilan tegangan *Input* yang diterima oleh *Variable Speed Drive (VSD)* dapat mempengaruhi *Output* kecepatan Motor Induksi dan apabila nilai inputan *speed* meningkat maka perputaran motor juga akan semakin meningkat lalu terdapat selisih dari hasil pengukuran pada saat monitoring dan hasil perhitungan teorinya, tetapi dengan kesesuaian tingkat pembacaan monitoringnya yaitu rata-rata 93,22% dari keseluruhan pengujian pada speed inputan yang dimonitoring.

**Kata Kunci :** *Augmented Reality, Internet of Things, Motor Induksi, Monitoring, Node-Red, PLC*

UNIVERSITAS  
MERCU BUANA

## **ABSTRACT**

*This research discusses the design of an induction motor monitoring system through Augmented Reality (AR) based on the Internet of Things (IoT) by displaying a status such as the identity of the tools, the Datasheet of the tools used, the status of the buttons on the panel box, the status of the induction motor rotation direction, and the induction motor speed status in realtime.*

*In the design of an induction motor monitoring system is done through Augmented Operator Advisor software through the Buildtime and Runtime processes, this monitoring uses Augmented Reality (AR) technology as a visualization of image objects during monitoring and the Internet of Things as a link to the Programmable Logic Controller (PLC) to read variable data that has been programmed by the Programmable Logic Controller (PLC). Augmented Reality (AR) displays objects virtually to monitor the performance of induction motors where the status data displayed is the same as the actual condition of the induction motor in the tool..*

*This system test found that the instability of the input voltage received by the Variable Speed Drive (VSD) can affect the speed output of the Induction Motor and if the speed input value increases, the motor rotation will also increase and then there is a difference from the measurement results at the time of monitoring and the results of theoretical calculations, but with the suitability of the monitoring reading rate, which is an average of 93.22% of the overall test on the speed input monitored.*

**Keywords : Augmented Reality, Internet of Things, Induction Motor, Monitoring, Node-Red, PLC**