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Design and Development of IoT Based Health Monitoring System of an Industrial Motors and Power Transformer

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Abstract: *The research presents an IoT-based health monitoring system for industrial motors and power transformers to improve operational safety, reliability, and efficiency. The system uses sensors, ESP32, and cloud platforms to track temperature, load, current, and oil level in real-time. It facilitates remote monitoring, anomaly detection, and predictive maintenance, minimizing downtime and maintenance expense. Its principal advantages are scalability, cost-efficiency, and integration with the IoT, offering the possibility for future innovations such as AI-powered maintenance and application in renewable sources and smart grids.*

Keywords: IoT, power transformers, industrial motors, real-time monitoring, anomaly detection, predictive maintenance, ESP32, scalability, energy efficiency

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