

Automation Using Wireless Sensor Networks

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Abstract: *Wireless Sensor Networks (WSNs) have become one of the most promising technologies for developing automated, intelligent, and distributed systems. WSNs consist of small, low-power sensor nodes that communicate wirelessly to monitor physical or environmental conditions. The integration of WSN in automation systems has improved accuracy, scalability, and efficiency across industries such as manufacturing, agriculture, and home systems. This paper discusses the design, implementation, and evaluation of an automation system using WSN. The system utilizes sensor nodes and wireless communication to collect real-time data and trigger control actions automatically. The results show significant improvements in flexibility, response time, and operational cost reduction compared to conventional wired systems.*

Keywords: Wireless Sensor Networks (WSN), Automation, IoT, Zigbee, Smart Systems, Industry 4.0

