ABSTRACT

Vibration sensors play a crucial role in monitoring the infrastructure. However, a primary challenge faced is the reliability of these sensors in environments that are susceptible to external disturbances. This issue can lead to potential undetected damage infrastructure, resulting in significant operational losses.

To address this challenge, an Internet of Things (IoT)-based approach emerges as a promising solution. By leveraging IoT infrastructure, vibration sensors can be integrated into intelligent and adaptive monitoring systems. This solution involves the use of stable sensors, reliable communication protocols, and intelligent data analysis techniques to detect and address sensor failures in real-time, thereby enhancing operational reliability and efficiency.

Through testing and analysis of acquired data, results indicate that IoT integration has successfully significantly improved the reliability of vibration sensors. This approach makes a substantial contribution to the development of more reliable and adaptive monitoring systems, with a positive impact on optimizing industrial operations.

Keywords: Vibration Sensors, Internet of Things, Applications, Communication Protocols