
IoT-based monitoring system for a telecommunication tower

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The internet of things (IoT), is a futuristic technology in which an object can be sensed, monitored, and controlled remotely using a cloud server network. The proposed IoT-based remote cell tower monitoring system has been introduced to address challenges in the operation and maintenance of remote telecommunication towers to a desired level. It will automatically monitor devices, update status, and produce alerts for different conditions. System users can monitor the cell tower status remotely via webpage and send sms alert when needed. The implemented system consists of a microcontroller as the main processing unit for the entire system. The process for input parameter collection is done through several sensor modules. In this proposed design, the transmitter section would be installed in the cell sites to monitor the desired conditions of the tower base house equipment such as generator, the battery, and the air conditioner. The information about desired parameters is sent to the operator through a Graphical User Interface (GUI) based application. The notifications about several faulty situations also can be sent to the user (site operator) via the GSM module for an update. In conclusion, implementing this kind of system will improve the proper management of the operation and maintenance of a remotely situated telecommunications tower.

Keywords: Internet of things, IoT, Remote monitoring, Telecommunication towers

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