IoT Based Cold Storage Automation

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Abstract: *Across the globes, food and medicine worth billions of dollars are wasted every year primarily because of improper storage and transportation of temperature, humidity, and various gas sensitive goods. To overcome this problem the proposed system is designed to monitor as well as control cold storage parameters. So, the system provides an end-to-end IoT solution to monitor and control using wireless sensors system. The system solution monitors temperature, humidity and various gases like LPG, CO, and Methane, whereas also provide the location coordinates of the warehouse in real time to keep food, vegetables, medicines, and vaccines safe in addition to reduce wastage. This IoT compromises of most advanced sensors and Particle cloud software. The sensor data is sent from node to the base station then will process and displayed on LCD. The data is pushed and stored on particle cloud and can be accessed remotely using a mobile application Blynk. The software allows the control action that is relay to be configured remotely using a mobile application. The device monitors the temperature in cold rooms, refrigerators trucks, restaurant freezers, medical storages, and warehouses in real time. It alerts immediately in case of any temperature excursion. This alerting helps the business to act proactively and eliminate waste and stay compliant to view temperature and location data, whereas the client can set the alert limit using a mobile application. The device also updates data into an excel spreadsheet on time intervals and send a daily email notification. The device is battery operated, dust proof and robust for environmental conditions.*

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