Monitoring Dust Pollution in Textile Industries

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Abstract:
To track the level of cotton dust in the textile sector, an IOT-based cotton dust monitoring system is deployed. The system transfers the obtained data over a great distance using Wi-Fi protocol. The level of cotton dust is measured using an optical dust sensor. In addition to being shown on LCDs in the textile sector, the cotton dust level is tracked using a mobile application. A buzzer is used in the textile industry to indicate when cotton dust levels are above the permitted range (0.5 mg/m3), and an exhaust fan is also turned on as part of the dust management system. GP2Y1010AU0F is the optical dust sensor that measures and displays the quantity of cotton dust that is present in the textile industry. When cotton dust concentrations surpass the permitted limit (0.5 mg/m3) in the textile industry, a buzzer sounds. Additionally, IOT is used to convey the current dust concentration to mobile devices. Use of an exhaust fan or a water sprayer can be used to regulate cotton dust levels.

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