

Air Quality Monitoring System commissioned at Rajarshi Shahu College

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The Department of Computer Science at Rajarshi Shahu College in the city has installed the **“Design and Development of Air Quality Monitoring System for Latur City”** project, created by **Dr. Somanand Tirth Maragale** and **Dr. Nandad Yadav**. This short-term project has been implemented on the **“West Block” building of the college**.

The inauguration of this system was done by the college **principal Dr. Mahadev Gavhane**. The event was attended by **Vice Principal Prof. Sadaashiv Shinde**, **Special Executive Officer Dr. Shashibhushan Yadav**, **project head Prof. and Head of the Computer Science Department Dr. Renuka Lodge**, **Prof. A. R. Shinde**, and **Prof. Pravin Suryawanshi**.

The air quality level (Air Quality Level) of Latur city is often in the moderate category, and vehicular exhaust is mainly responsible for this pollution. To control air quality levels, the Air Quality Monitoring System is used. **This system is based on Internet of Things (IoT) and Long Range (LoRa) communication with Wireless Sensor Network (WSN) technology.**

The system measures pollution levels every 10 minutes due to changes in environmental conditions and vehicular emissions in the city. This project allows for obtaining real-time data on air quality, enabling immediate preventive actions against pollution. Project head Dr. Renuka Lodge stated that the Air Quality Monitoring System consists of autonomous devices to monitor pollutants such as **Carbon Dioxide (CO₂)**, **Carbon Monoxide (CO)**, **Nitric Oxide (NO)**, **Hydrogen Sulfide (H₂S)**, **PM2.5**, and **PM10 (micro particulate matter)**, as well as **temperature, humidity, and air pressure every 24 hours**.

This will make it clear at what times pollution levels are high, low, or within limits, and how harmful gas levels fluctuate.

The information collected in this project will be used for further research. This data will soon be made available to Latur residents via a mobile application. Principal Dr. Mahadev Gavhane mentioned that more such sensors will be installed in different parts of Latur city, which will expand the project's scope and benefit city residents.

For further research, the project is supported and encouraged by Shiv Chhatrapati Shikshan Sanstha President Dr. Gopikishan Patil, Vice President Dr. P. R. Deshmukh, and Secretary Principal Aniruddha Jadhav.