



QUICK WIN PROJECT – RAJKOT AMBIENT AIR QUALITY MONITORING STATION (AAQMS)

About Rajkot

Rajkot, an industrial town famous for its foundry and machine tools industry, is the fourth largest city in the state of Gujarat. It is located on the banks of the Aji and Nyari rivers at the center of peninsular Saurashtra region, in the central plains of Gujarat state. It is the biggest city in terms of population in the Saurashtra-Kutch region, and is bustling with commercial activity.

CapaCITIES Project

Cities account for approximately two-thirds of global energy use and over 70 percent of energy-related greenhouse gas (GHG) emissions that drive global climate change. In India, increased demand for energy, infrastructure and services is putting city systems under pressure. This will be accentuated further by growing risks caused by climate variability. Poor and vulnerable segments of the city populations will be affected most. Through the Capacity Building for Low Carbon and Climate Resilient City Development project (CapaCITIES), SDC's Global Programme Climate Change will support and accelerate the Government of India's efforts for sustainable urbanization.

Sensor based AAQMS

Rajkot is an industrial hub in the Saurashtra region. Traffic congestion and industrial pollution lead to poor air quality in Rajkot city. Shorter trips and intermittent frequency of available public transportation leads to increase in number of private vehicles. Inadequate last mile connectivity also restricts the usage of public transport. Auto-rickshaws, which are the preferred mode of public transportation due to frequent availability, apart from being illegal, add to traffic congestion problems. Trikon Baug, Hospital Chowk, and Greenland Chowk are some areas facing severe traffic congestion issues.

A better mobility plan and effective traffic management will have a significant positive impact on the air

quality. Therefore, the CapaCITIES project assessed the feasibility of electrifying the Bus Rapid Transit (BRT) route and proposed relevant measures to improve ridership along the route after studying the need for last mile connectivity.

The project also supported the city by providing sensor based air quality monitoring stations, which will measure particulate matter (PM 2.5 and PM 10) as a result of potential improvements in ridership and public transport.

While the city has already deployed 20 environmental sensors at different locations in the city to monitor temperature, humidity, CO₂, O₂, CO, SO₂, Light, UV, Noise and NO_x, these sensors do not have the ability to monitor PM 2.5 and PM 10, which are the reference pollutants for assessing transport emission impacts on air quality.

The two sensor based particulate matter monitors are installed at Trikon Baug and RMC East Zone Office. Real time concentrations are monitored and the data is relayed to the RMC Integrated Command and Control Center. The Air Quality Index is also calculated and displayed. Real time results are also visible on the Rajkot Municipal Corporation (RMC) website (<http://117.206.156.227:8090/public/stations/1>).

Project Impact

Training has been provided to the city government on analyzing the air quality data generated by these monitoring stations, giving them the ability to periodically monitor air quality and take timely remedial actions if required. City-wide initiatives with the aim of improving traffic management and efficacy of public transport can significantly improve air quality. The periodic monitoring of air quality also enables the city to implement a public warning system for potential health hazards, based on the prevalent Air Quality Index.



Beneficiaries

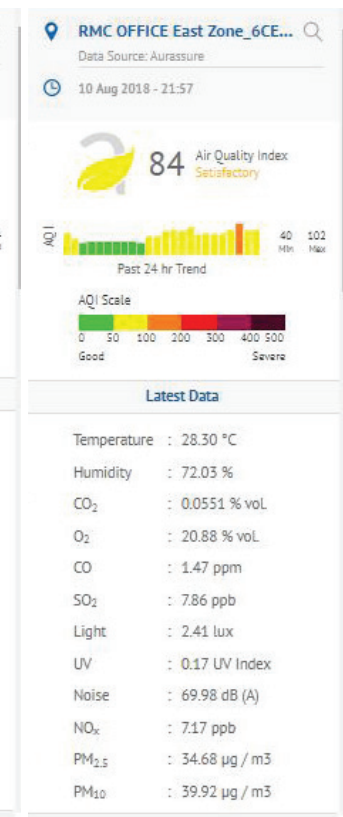
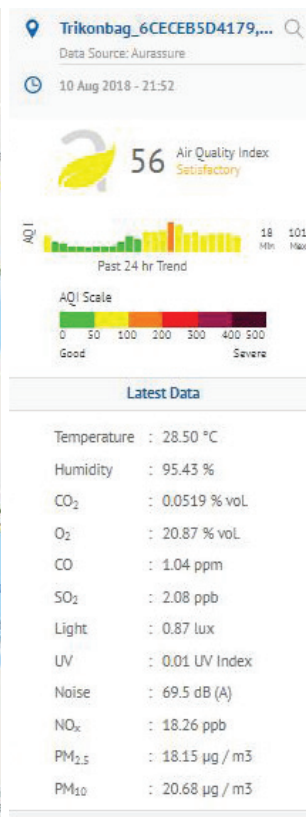
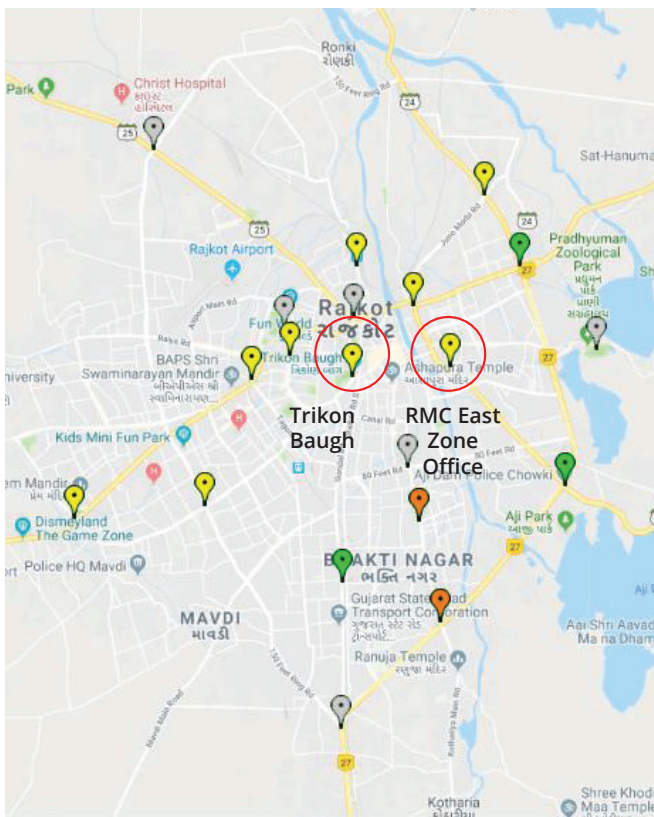
Project beneficiaries include Rajkot Municipal Corporation and state level departments - Traffic & Transport Department, Public Health Department, Gujarat Pollution Control Board.

Potential for Replication

Rajkot Municipal Corporation has already added particulate matter sensors to 6 locations in the city and is planning to add particulate matter sensors to 12 other existing environmental sensors.

Project Investment

The total project investment was CHF 6'700



For more information, please contact:

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