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How Sutaria fought red tape to give us data on air pollution

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Every year, the air we breathe becomes an issue of ever greater urgency. And Ronak Sutaria's Respirer Living Sciences, a six-year-old Pune-based venture, is playing a role in addressing the problem with devices that cost much less than imported alternatives.Respirer uses sensor technology to measure individual pollutants in the air (largely PM2. 5 and PM10) and transmits the data to a cloud, from where it can be accessed realtime on a dashboard. All the equipment is scientifically validated before being installed. Data collected every minute from hundreds of locations through IoT-enabled air-quality monitoring devices – developed in-house by Respirer (apart from the sensors) – is made available for the relevant authorities and agencies, and in some cases for the general public too, to use.

Sutaria did BE in computer engineering from Mumbai University, and then Master's from the New Jersey Institute of Technology, after which he moved to California to work as a software engineer with Arcot Systems. It was in San Francisco that he first came across air-quality monitors, being set up as part of a city project. "I believed India could benefit from this, and when I came back in 2010, I started making these monitors and took them to some organisations, but we didn't find any funding," he says. He then spent a few years as an IoT researcher at Mindtree.

In 2015, Sutaria gave his idea wings by partnering with IndiaSpend, a not-for-profit data agency, where as chief technology officer he planned and built India's first independent air-quality monitoring network. It ran for a year-and-a-half as a non-profit before IIT Kanpur's involvement helped scale it up. The European Climate Foundation and Shakti Sustainable Energy Foundation provided funding. Further scaling, they realised, would be possible only in private limited company, so they set one up.

Growing awareness about air pollution, and the data around it, also aided Sutaria's endeavour.

Data is the key

Sutaria recognised that any policy that seeks to tackle air pollution cannot do so without robust data. "In the cities where we work, a lot of money is being spent on control of air pollution. But without having baseline data, there's no way to know what is working and what is not – it's like throwing darts in the dark," he says.

Yet, when it comes to institutional support and funds, India lags well behind the US. "IIT Kanpur is one rare case, but outside of that, there isn't much," points out Sutaria. Respirer also works in a space with lots of government regulations. And that acts as a brake on innovation.

Still, Respirer is succeeding on the back of its collaborations. IIT Kanpur is its industry partner for Bihar and UP. Respirer has more than 100 clients and is working with municipal corporations, city authorities, pollution boards and environment bodies – including in Surat, Jaipur and rural Tamil Nadu – by tying up with IITs and other leading policy and tech research organisations. Some 2,000 of Respirer's devices are being used in cities across India, as well as in Africa (Nigeria and South Africa).