



ECOSYSTEM INFORMATICS INNOVATION HIGHLIGHT



COMPANY OVERVIEW

Ecosystem Informatics Inc is an ecological and environmental informatics company focused on making environmental information available to create stronger and more informed decision making. ESI's technology and business model was created to align with multiple United Nation's Sustainable Developmental Goals. With the proper technologies and team members, ESI uses accurate and beneficial data to help decision makers create an environmentally friendly world.

LOCATION: TORONTO, ON

TECHNOLOGY



Internet of Things

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THE BENEFITS OF MONITORING AIR QUALITY

No matter the location, air quality can have considerable impacts and should be measured on a timely basis. Depending on whether you're by a local industrial area or going out for a walk on the outskirts of town, air quality can vary greatly in a single community and needs to be hyperlocal monitored. Collecting data on air quality can help in numerous ways including informing sustainable transportation policies, assess development projects, understand changing environments, provide alerts for vulnerable areas, and to create and assess prevention/mitigation strategies.

MEASURING AIR QUALITY ON THE MOVE WITH IOT DEVICES

Sticking with providing information to help the environment, ESI has developed an end-to-end, solar powered, IoT-based solution for monitoring air pollution. ESI's solution can detect numerous pollutant levels such as carbon dioxide, carbon monoxide, nitrous oxide, and hydrofluorocarbons. The IoT sensors also measure humidity and temperature, allowing the solution to use AI to predict pollutions based on climate conditions. Once measured and analyzed, the information is sent to a dashboard that gives the end-user a view of the current conditions.

SCALE TESTING THE SENSORS AND PLATFORM

Seeking to measure the scalability of their solution, ESI came to CENGN. While at CENGN, ESI scale tested both their IoT sensors and the solution's database/dashboard. The end results showed that large deployments were possible with 2800 sensors interacting simultaneously on the infrastructure with low latency. Meanwhile, ESI's database and dashboard was able to handle 100,000 records with good performance and should be able to handle much more. Through platform testing, ESI was also able to reduce RAM usage by 50% and initialization time by 60%.

"Our project with CENGN provided ESI with data to show potential customers what our technology can do and what potential it has."

Shirook Ali

Founder, Ecosystem Informatics

