

Development of Lora P2P Network for Autonomous Seawater
Quality Monitor for Green Powered Desalination Project

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Global water scarcity is expected to become more severe in the coming years due to population growth and climate change [1]. Desalination of seawater presents a viable option for the SIDS of the Caribbean, however, the high energy costs associated with the process are prohibitive. Using renewable energy sources can reduce this cost, but it will require more detailed knowledge of the energy needs of the process. Desalination is dependent on the input water quality, which is where this study aims to assist. A joint team from the UWI and The Caribbean Geophysical and Numerical Research Group investigate the possibilities for seawater quality monitoring using satellite data. Seawater quality is vital in determining the energy needs for desalination, particularly if using renewable power sources. This study takes the first step in experimentation on seawater quality monitoring, proving the viability of the Internet of Things (IoT) to assist in this process [2].

The researchers designed their setup using a series of nodes to collect data and send it over radio signal via the LoRa protocol.

CESaRE has identified critical areas for consideration stemming from the authors' work:

1. The results indicated that the LoRa protocol can be implemented in monitoring water quality in remote locations, or densely populated areas.
2. Improved material quality can enhance the accuracy of the sensor network if this setup were to be scaled for commercial use.

CESaRE has a strong mandate to connect leading institutions and academics in the Caribbean, pushing research publications from virtual sources of information to catalysts of change.

Through our innovative publication issues, we will feature many academics in our scope of the environmental sciences and renewable energy, and The UpCycle hopes to further the discussion beyond publication.

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You can contact the corresponding author [here](#).

REFERENCES





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