



Smartphone attachment | Photo source [Unsplash](#)

SMARTPHONE ATTACHMENT CAN IDENTIFY CONTAMINATED WATER

 TELECOMMUNICATIONS

A new instrument allows smartphone users to measure water quality and determine if it is contaminated.

Assessing the quality of surface water with a smartphone has been made possible by astronomers and ecologists in Leiden. The device is the product of a collaborative project called **MONOCLE**, between scientists and locals from Europe, Tanzania and Brazil. Moreover, it is a spin-off of astronomer Frans Snik's **iSPEX** from 2013, an iPhone attachment and app that measures dust particles in the air.

Attachable to a smartphone, the device enables users to gather accurate information about water quality in a quick and easy manner. By warning people of contaminated water, the device shows which waters are safe to drink from. Polluted waters also affect the quality and populations of fish and the device can indicate these areas. The device cuts down the time it takes to measure water quality by hand or in a lab. Therefore, the attachment is beneficial to a range of people and industries.

Launching the project initially in selected areas based on citizen participation, researchers and residents in these areas will work to measure the local water quality. The project researchers will use equipment such as drones, satellites and buoys to confirm the accuracy of the measurements collected by the residents. Some of the selected research locations include Loch Leven in Scotland, Lake Tanganyika in Tanzania and Balaton Lake in Hungary.

The creators of the **MONOCLE** project device expect its release to be in late 2019. Additionally, they aim for it to be compatible with every type of smartphone and printable using a 3D printer.

Other environmental innovations include a [bio-acoustic monitoring system](#) to help save Brazilian rainforests. Another example is an eco-friendly, [hydropower turbine](#) from Germany. What other fast and reliable applications of environmental science could be beneficial?

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