The 'Nixie' | Photo source Reign Maker

'WORLD'S FIRST' DRONE-ENABLED WATER SAMPLING AND DATA COLLECTION DEVICE

MOBILITY & TRANSPORT

The device is said to reduce water sampling time by 75 per cent, while decreasing the number of required trained personnel

Spotted: Inspecting for pollution in waterways normally involves a team of trained individuals who go out on boats to sample the water. New York-based data and information collection startup Reign Maker has developed what may be the world's first water-sampling drone, with the aim of making water sampling swifter, more efficient, and eventually more economical while reducing the number of required field personnel.

The drone, named "Nixie", comprises a patented drone-mounted water sampling attachment, made from aluminum, stainless steel and nylon and a 500-ml bottle to collect water that is locked in a container at the base.

"With Nixie, we are committed to changing how water is analysed worldwide, one sample at a time," Jessica Chosid, Founder and CEO of Reign Maker said to sAUS News. "Our mission is to remotely collect, digitise, and transform commercial, industrial, and agricultural water management across the supply chain."

The drone operates by flying to the location for sample collection and submerges the bottle 2 feet below the surface. It functions in currents up to 5 knots. Back in the lab, a technician retrieves and replaces the EPA-approved sample bottles from the cradle, with each operation being able to be completed in under three minutes. What's more, the Nixie app enables tracking the respective GPS coordinates to locate where each sample is taken, allowing for future samples to be obtained from the exact same places for increased consistency and accuracy of comparison.

According to Reign Maker, the New York City Department of Environmental Protection collects 30 water quality samples every day, 14,000 a year, involving boats, captains, and a crew of three at an average cost of $100 (€84,31) per sample. "With Nixie, a crew of two can collect 120 samples in the same seven-hour shift, at a cost as low as $10 per dip," added Chosid.

Nixie Base is currently available for pre-order for $850 (€716).

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Takeaway:

In many first world countries, we may not think of it twice when a gush of clean water comes out of the tap. However, ensuring that the water we consume is clean and safe to drink involves a laborious process of continuous monitoring and consistency. Improving water sampling will be a means of greater efficiency, time-saving and cost reduction for the US. However, in developing countries, Reign Maker's drone could support the 2.1 billion people who lack safe drinking water at home according to the WHO.