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Meet the SME Instrument Innovators: Clean-tech company Hydrokemos

Algal bloom may sound pleasant but in fact it kills aquatic life by consuming all the oxygen from the water, seriously damaging our environment. Most of it is due to excess nutrients applied to the soil, including nitrates. SME Instrument- funded Hydrokemos will demonstrate and commercialise the first clean-tech equipment to purify nitrate-polluted water. Hydrokemos just got an extra investment of 500.000 from Victòria Venture Capital to help their project skyrocket.

The technology destroys nitrates dissolved in water transforming them into air. The nitrates are entirely converted into N₂ gas and oxygen – the basic components of air, which are of course environmentally harmless. This process produces no waste and the energy generated is re-inserted into the system – fully "closing the loop".

Algal bloom is a result of excess nutrients in water that boosts their explosive growth and decay which consumes all the oxygen contained in water. Excess nutrients in water are almost always induced by a discharge of detergents, fertilizers and sewage into aquatic systems. 20% of European groundwaters are polluted by nitrates. Nitrates are common in the industry (pieces), chemistry or processes using nitric acid and in agriculture.

The Spanish SME Hydrokemos is the result of more than 10 years of research on how to eliminate nitrates from water without producing waste. The research that began in 2004 culminated in 2011 with the roll-out of the patented technology of electrodenitrification. The first prototypes have been built and the company will now proceed to demonstrations, first market applications and commercialisation.

Read more about [Hydrokemos](#). [1]

</easme/en/files/hyk-fp-water-electrodenitrification-water-potabilization-hydrokemos-sl-english-versionHYK-FP>. Water

electrodenitrification. Water potabilization. HYDROKEMOS, S.L. English version

Video of HYK-FP. Water electrodenitrification. Water potabilization. HYDROKEMOS, S.L. English version

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Links

[1] <http://hydrokemos.com/empresa/#10years>

[2] <https://ec.europa.eu/easme/en/tags/sme-instrument-environment-biodiversity-horizon-2020-innovation-clean-technologies>