



Issue 2  
January 2020

March 2019 | Funding from the I+C=+C program

## LED4Future

SODERCAN funded our R&D project LED4Future: "New generation of UV-LED photocatalytic reactors for the elimination of persistent compounds in water", which aims to develop a new generation of photoreactors that allow higher efficiencies and efficacies in the elimination of emerging compounds.

June 2019 | 3<sup>rd</sup> ESSEAAOP

We participated at the 3<sup>rd</sup> European Summer School on Environmental Applications of Advanced Oxidation Processes (3<sup>rd</sup> ESSEAAOP), held at Alcoy, Spain. Our Chief Commercial Officer, Sara Domínguez, delivered the talk "Lamps and LED reactors", where several of our innovative photochemical equipment designs were showed.



June 2019 | ANQUE-ICCE-CIBIQ 2019



APRIA Systems attended as an exhibitor to the 3<sup>rd</sup> ANQUE-ICCE International Congress of Chemical Engineering (ANQUE-ICCE-CIBIQ 2019), in Santander, Spain. Our visitors were able to see one of our cutting-edge photochemical equipment, which was comprised of an immersion lamp with UV-a and vis LED.

June 2019 | EAAOP-6

Promotion of our advanced oxidation equipment at the 6<sup>th</sup> European Conference on Environmental Applications of Advanced Oxidation Processes (EAAOP-6), held in Portorož-Portorose, Slovenia. The people who visited our booth had the chance to see one of our equipment working.





July 2018

## New generation of photoreactors



They have a mirror finish to increase the photonic flux. A tailored shell for protecting the user from the light and an aeration system –air injection chamber, evacuation ring, and blower– are also included. Moreover, we launched a new series of electric consoles with PLC for monitoring, control, and regulation of the temperature and power consumed by the lamp.



September 2019

## Photoelectrocatalytic reactors

We designed two models of photoelectroreactors. The first model –PElab LED365-16c//T-S10– consists in a CSTR reactor, with UV-a and vis LED of adjustable intensity, a titanium anode and a stainless steel cathode. The second one –PElab LED365-3p– is comprised of a cell with UV-a LED of adjustable intensity, a nickel cathode and a stainless steel support for the anode.



December 2019

## Combination with a CPC reactor



APRIA Systems built a photo-Fenton pilot plant –Photobench LED365-48/450-48a/CPC2– that can work using either a compound parabolic concentrator (CPC) solar reactor or two LED annular photoreactors. The source of light of the photoreactors are comprised of UV-a and vis LED of adjustable intensity and refrigeration through forced air convection.



December 2019

## New UV-c LED photoreactors

We have built two novel UV-c LED photoreactors –Photolab LED275-2c and Photolab LED275-4c–, which result ideal for disinfection purposes. They include an immersion lamp with adjustable intensity through a PLC located in a console and refrigeration through forced air convection.



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