

WaterSpy – first module prototypes and integrated testing

The WaterSpy project is developing water quality analysis photonics technology suitable for online, field measurements. WaterSpy technology will be integrated, for validation purposes, into an existing, commercial water quality monitoring platform, in the form of a portable add-on. WaterSpy will be used in the field for the analysis of critical points of water distribution networks. This will be demonstrated in two different demo sites in Italy.

The project has just recently reached its mid-point milestone. Important results have already been delivered, while significant technical tasks are currently ongoing. Important results obtained include:

- Three packaged Quantum Cascade Lasers (QCL), developed for the WaterSpy experiments and preliminary device prototype. These are being used for experimentation.
- A preliminary version of the photodetector to be used in the WaterSpy concept. A novel balanced detection amplifier was also designed and developed.
- Antibodies against the targeted bacteria were produced and will be used in the biosensing surface of the WaterSpy device.
- Two different approaches for the WaterSpy ATR and microfluidics configuration have been designed in detail and experiments are taking place for selecting the final one that will be used in the field-validation version of the WaterSpy device.
- A prototype of the ultra-sound-based particle concentration module has been prepared.
- A prototype of the main processing unit of the WaterSpy device was produced and programmed.
- An automated water sample incubator was designed and delivered for experimentation.

During the last week of May, the WaterSpy team met in Vienna for the first integrated testing of the various WaterSpy modules. Various tests took place, to examine the compatibility of these modules and prepare towards the next, field-use version of the WaterSpy device. A very interesting and intensive period lies ahead, with multiple technical developments ongoing. Our aim is to deliver the first field-use prototype in six months from now.

WaterSpy is being developed by a multi-disciplinary team, coordinated by CyRIC, Cyprus Research and Innovation Center Ltd, in the framework of EU's Horizon 2020 Programme. The project was launched in November 2016 and will run for three years. The project is funded by Horizon 2020, the EU Framework Programme for Research and Innovation for 2014-2020. The project is an initiative of the Photonics Public Private Partnership (www.photonics21.org).

Project partners include: CyRIC - Cyprus Research and Innovation Centre (Cyprus), National Research Council (Italy), Alpes Lasers SA (Switzerland), National Technical University of Athens (Greece), Technische Universität Wien (Austria), Friedrich-Alexander-Universität Erlangen-Nürnberg (Germany), AUG Signals Hellas (Greece), VIGO System SA (Poland) and IREN SpA (Italy).



PHOTONICS PUBLIC PRIVATE PARTNERSHIP



Notes for editors:

1. Horizon 2020 is the biggest EU Research and Innovation programme ever with nearly €80 billion of funding available over 7 years (2014 to 2020) – in addition to the private investment that this money will attract. It promises more breakthroughs, discoveries and world-firsts by taking great ideas from the lab to the market.

2. For media enquiries, please contact CyRIC on +357 22 777200 or e-mail info@cyric.eu