

WaterSpy – progress after 18 months

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 is currently reaching its **mid-point milestone**. Important results have already been delivered, while significant technical tasks are currently ongoing. Important results obtained already include:

1. The delivery of a data management plan, which presents the way that research data generated within the project will be shared with the community
2. An analysis of the WaterSpy system requirements from the end-users perspective
3. An analysis of existing instrumentation, in order to complete the state of the art. The analysis provides a description of technologies used to monitor water quality. Then, it concludes to statements regarding the innovation potentials of the WaterSpy technology with respect to the existing methods.
4. A detailed description of the use cases of the WaterSpy technology and the respective scenarios for the pilot validation.
5. Detailed system specifications and conceptual design of all components. The document and designs were updated after the first project review and the results of the first tests.
6. Evaluation metrics and targets were set, whenever possible, for evaluating the WaterSpy modules to be developed, as well as the WaterSpy device as a whole.
7. Three packaged Quantum Cascade Lasers (QCL), developed for the WaterSpy experiments and preliminary device prototype. The necessary drivers were also delivered.
8. A preliminary version of the photodetector to be used in the WaterSpy concept. A novel balanced detection amplifier was also designed and developed.
9. Antibodies against the targeted bacteria were produced and will be used in the biosensing surface of the WaterSpy device.
10. 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.
11. Several dissemination activities. Progress and results have been presented in conferences and trade fairs, while newsletters and flyers are regularly produced and distributed.

The first project review by the EC also took place in December 2017, with a positive outcome. During the next six months, the project efforts will be concentrated on the integration of the first preliminary prototype to be used for laboratory testing in May 2018.

The WaterSpy project is funded by Horizon 2020, the EU Framework Programme for Research and Innovation for 2014-2020 and is an initiative of the Photonics Public Private Partnership

(www.photonics21.org). The WaterSpy project consortium includes 9 partners from 7 different European countries, coordinated by CyRIC, Cyprus Research and Innovation Center Ltd. The project was launched in November 2016.

More information about the project and the partners can be found on our website: www.WaterSpy.eu.