

PHOTONICS PUBLIC PRIVATE PARTNERSHIP

The AQUARIUS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731465. This project is an initiative of the Photonics Public Private Partnership.

AQUARIUS H2020 PROJECT:

Coordinator:

Technikon Forschungs- und Planungsgesellschaft mbH

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Broadband tunable QCL based sensor for online and inline detection of contaminants in water



General Project Information

- Project reference: 731465
- Project start and duration: 01/01/2017 for 3 years
- Total costs/EC contribution: EUR 3.891.263,75 / rate of reimbursement 100%
- 8 Partners from 5 different European countries
- Mission: to develop pervasive online and inline sensing systems based on advanced photonic structures for detecting contaminants in water
- Website: <u>www.aquarius-project.eu</u>



Project Goals

Enhancement of broadband tunable quantum cascade lasers in terms of spectral coverage and noise (TRL increase: from 4 to 6) Realisation of a fully functional spectrometer sub-system consisting of a µEC-QCL and a fast MCT detector including data acquisition (TRL increase: from 3 to 6) Realisation of integrated optical circuits (IOCs) for Advance oil-in-water monitoring capabilities from offline waveguide based sensing and inline capable sensing (state-of-the-art) to online (TRL increase: from 3 to 6) configuration (TRL increase: from 2 to 4) Test of the online oil-in-water system at industrial end Assembly and test of the inline oil-in-water system in a laboratory environment (TRL increase: from 2 to 4) users (TRL 7)



WP Interaction





Chain of Partners





Impact

- AQUARIUS will reduce the threat of hydrocarbons in water streams by the use of new photonic modules, sub-systems and systems for fast online and inline monitoring (response time up to < 30 seconds)
- The project will support the building up of high performance (sub-ppm to low-ppb sensitivities and high selectivity) oil in water monitoring infrastructure
- AQUARIUS will **enhance the water quality** in and near industrial
- AQUARIUS will address industrial waste water control on the short term, environmental control on the middle term and control along the water supply infrastructure on the long term
- The project will provide a generic **sensor technology** which will trigger **new spectroscopy application innovations** in water and liquid monitoring



OMV Water Treatment Plant Schönkirchen, Austria





Contacts

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10 February, 2017



AQUARIUS Grant Agreement No. 731465

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