

CALLISTO

BRIDGING THE GAP
BETWEEN COPERNICUS DATA
PROVIDERS AND END USERS THROUGH
ARTIFICIAL INTELLIGENCE SOLUTIONS

PILOT USE CASES BROCHURE

WATER QUALITY ASSESSMENT



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 10100415

PILOT USE CASES

SATELLITE JOURNALISM

- Germany
- Poland

PRESS

LAND BORDER CHANGE DETECTION

- European borders
- Spain-Morocco | Croatia-Bosnia and Herzegovina
- Greece-North Macedonia | Hungary-Serbia



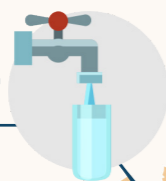
CAP MONITORING

- Greece
- Cyprus




WATER QUALITY ASSESSMENT


- Belgium
- Italy



WATER QUALITY ASSESSMENT

 **PUC locations**
De Blankaart, Belgium
La Loggia, Italy

 **Technological assets used**
Hyperspectral Camera, Sentinel-2
& Landsat-8 Imagery, Water Quality
Sensors & Analysis

 **End users**
Water Utilities
Environmental Agencies

 **Partners responsible**
De Watergroep, SMAT,
RBINS

CHALLENGE

Water scarcity and deterioration of raw water quality are an increasing concern for the future drinking water supply. Eutrophication and algae blooms in raw water storage basins significantly hamper drinking water production.

MAIN GOAL

This PUC aims to develop a methodology to quantify water quality variables, such as chlorophyll A and turbidity, from remote sensing data. The outcome will be made available to end users in an online platform and through an augmented reality application.

EXPECTED IMPACT

This PUC will exploit satellite data, in-situ hyperspectral data and water quality measurements to offer an improved and continuous water quality monitoring of surface waters, providing spatially complete information over water basins' surfaces.

INNOVATIVE SOLUTIONS

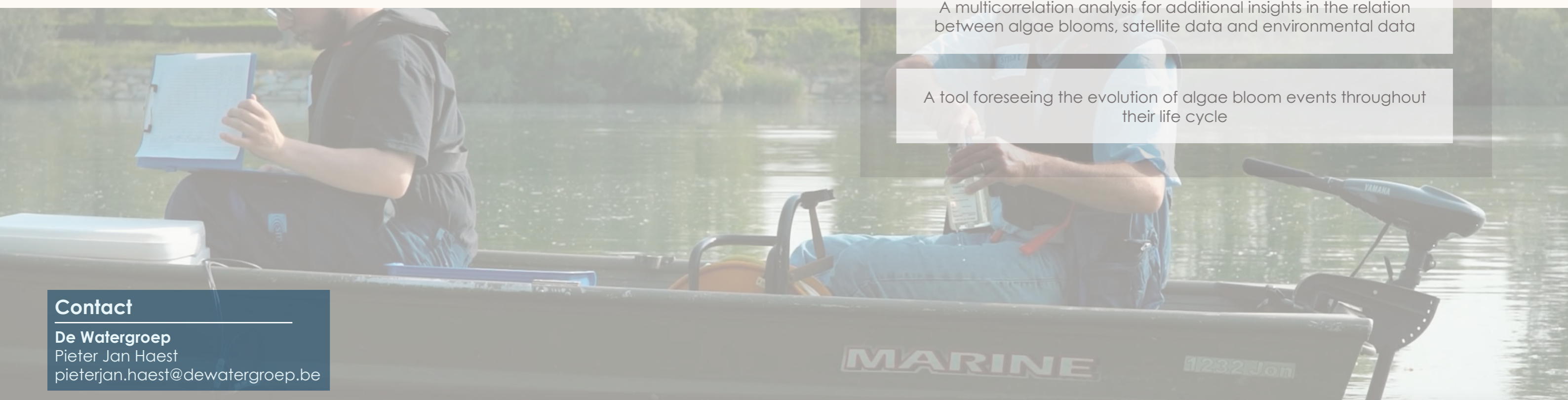
An automated data processing chain with near real-time validated and atmospheric corrected water reflectance products

An analysis ready dataset for the Blankaart and SMAT lagoons

A tool generating hyperspectral signals from multispectral ones

A multicorrelation analysis for additional insights in the relation between algae blooms, satellite data and environmental data

A tool foreseeing the evolution of algae bloom events throughout their life cycle



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