RemoteGuard – Software for estimation of chemical and biophysical parameters of surface water

Development status

Phase 4

The transition from the prototype to the final and fully functional form. At this stage, the prototype is already fully tested, or the technology is certified and ready for mass deployment.

IP protection status

SW - copyright protection

Partnering strategy

investment, licensing

Institution

University of South Bohemia in České Budějovice

Vlastník

Jihočeská univerzita v Českých Budějovicích

Challenge

This SW solves the issue of estimating the quality parameters of water in water reservoir without the need of physical presence at the given site. Water quality data is obtained through spectral data from the satellite. By using a unique chain of data processing and learning algorithms for predicting estimated water quality parameters, this SW creates a complete system of water quality estimation with simple operation. The authors of the invention don´t know a similar system for analysing water quality parameters by satellite data. Without a physical presence at the sampling site, water analysis cannot be carried out under current conditions.

Description

The solution is SW for estimating the qualitative parameters of water (chemical and biophysical), especially shallow water reservoirs from satellite images. SW allows the download of satellite images from sentinel 2 satellite for the user-defined water surface at a given time. Subsequently, SW processes satellite data and converts them to qualitative water parameters. For this purpose, a model of estimation of quality parameters of water trained from data of sampled ponds is used. After the parameters are calculated, they are displayed in the user window as a scale for the selected region. The advantages of the solution are: - Easy use when complex data analysis is automated - Save the user's costs on expensive water analyses in reservoir (satellite data is free) - Retrospective (parameters can be analyzed retrospectively) - Provision of spatial information about the given parameter – the user gets an overview of the spatial distribution of the monitored parameter within the whole monitored tank.

Commercial opportunity

The solution can be applied in particular to the state administration in

the field of environmental protection, watercourses and water reservoir managers and water reservoir operators. The service is provided through e-shop "remotewaterquality.com".