

# Innovative technology for cyanobacterial bloom control

## Project background

Cyanobacteria can be found in almost every terrestrial and aquatic habitat. Aquatic cyanobacteria are known for their extensive and highly visible blooms that can form in both freshwater and marine environments. The massive blooms can be toxic and frequently lead to the closure of recreational waters when spotted.

Therefore, mass occurrence of cyanobacteria is a major health risk in the EU. Most of the cyanobacterial blooms produce highly toxic cyanotoxins which pose a threat during mass occurrences; the collapse of the bloom causes a release of cyanotoxins in the aquatic environment. Cyanobacterial blooms occur as a result of eutrophication of water bodies. Elimination of this cause is expensive and time consuming. It is therefore necessary to find a way of preventing blooms forming in spite of the conditions of the water body.

## Project objectives

The objective of this project is to demonstrate a new system for triggering lysis (break down) of cyanobacteria, decreasing its concentration and preventing mass blooming. This new technology, which will be implemented through a pilot device on two selected water bodies, will not destroy the entire population of the bacteria. It will simply prevent its mass occurrence.

The project will also test new online sensors that determine concentrations and detect certain physical and chemical parameters of cyanobacteria in water bodies. This system simultaneously transfers the measured data via a GSM network.

Programmes for interpreting measured data will also be designed. Data will be available on the project website. The device will also collect and store samples for laboratory analysis. Using the new technology will improve the ecological status of the chosen water bodies.

## Expected results

The project expects to achieve the following results:

- After triggering the lysis of cyanobacteria, the concentration will decrease to around 90% of the initial concentration;
- A 50% lower concentration of toxic cyanobacteria in the period in which the cyanobacterial blooms usually develop;

LIFE12 ENV/SI/000783  
LIFE Stop CyanoBloom



### Beneficiary:

#### Type of beneficiary

Small and medium-sized enterprise

#### Name of beneficiary

ARHEL projektiranje in inženiring d.o.o.

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#### Name of contact person

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### Duration of project:

42 months (01/07/2013 – 31/12/2016)

### Total budget in euro:

1,384,822.00

### EC contribution in euro with %:

690,671.00 (49.97%)

**Themes:** Risk management: Human health protection /  
Water: Water quality improvement

- The absence of microcystins in the water body during the test period;
- Improved ecological status of the chosen water bodies – i.e. increased biodiversity and a greater number of species of phytoplankton; and
- Reduction of the turbidity of the water body during the implementation period.