

INTEGRATED SYSTEM FOR REDUCING ENVIRONMENTAL AND HUMAN-RELATED IMPACTS AND RISKS IN THE WATER USE CYCLE

Goal of the project:

The main goal of the project is to develop and implement an integrated system of innovative technologies and management instruments for reducing environmental impacts and associated human health risks caused by water quality aspects in the entire water use cycle: water abstraction, treatment, distribution, use, wastewater collection, wastewater treatment and discharge and reuse.

Short description of the project

The specific objectives were defined at the level of whole water usage cycle:

1. Development of specific instruments for the identification, quantification and control of environmental impacts and risks, over the water use cycle, applied to regional water operators;
2. Development of the capacity of collaboration and knowledge transfer between the universities and the regional water operators in Iasi and Timis counties for the control of the environmental impacts and human health risks in the water use cycle;
3. Development of the research and institutional capacities of the universities and water regional operators in Iasi and Timis counties for facilitation of the further cooperation at national and international scale;
4. Development of capacities and competitiveness of Romanian researchers and staff of regional water operator, as well as of the national partnerships contributing to environmental sustainability.
5. Dissemination of relevant results of the project to the scientific community through publication in peer reviewed international journals, ISI ranked, participation in international conferences, workshops, trainings/research stages, as well as to interested stakeholders (industrial agents, water authorities, waterworks companies, agriculture and services, EPAs, local and regional development agencies and authorities, NGO's and societal organizations).

Project implemented by

- Technical University "Gheorghe Asachi" Iasi - Lead partner
- Politehnica University of Timisoara - P1
- SC AQUATIM SA Timișoara - P2
- SC APAVITAL SA Iasi - P3

Implementation period

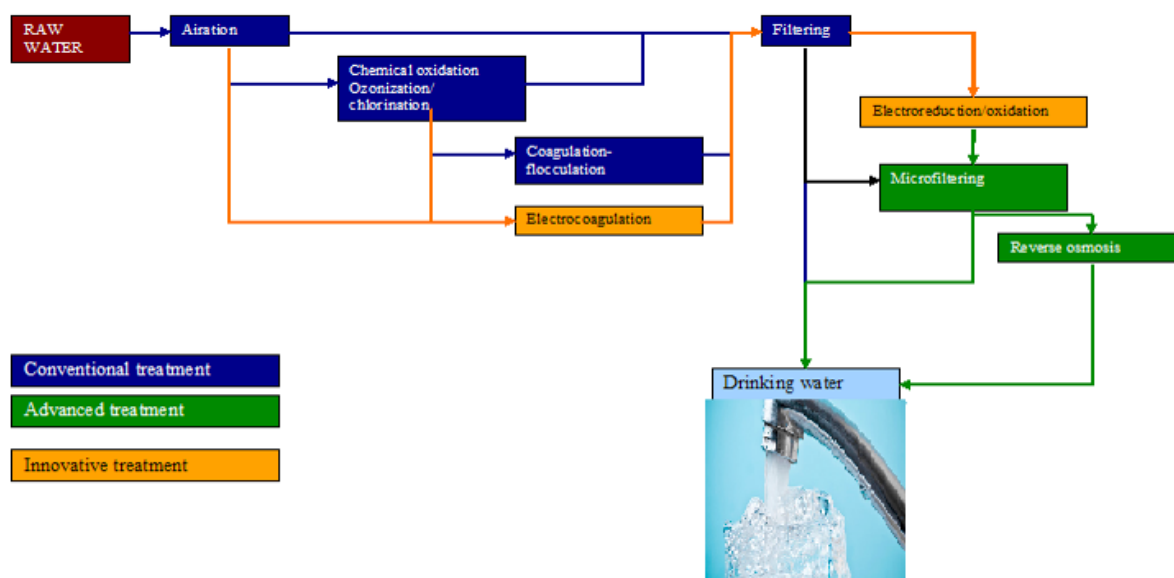
2012 - 2016

Main activities

1. Integrated evaluation of the water use cycle;
2. Studies on impact and risk minimization through innovative water treatment process (removal of nitrate, nitrite and natural organic matter);
3. Studies on impact and risk minimization through innovative wastewater treatment processes (removal of priority organic pollutants);
4. Pilot-scale studies on impact and risk minimization in water and wastewater treatment for reuse.
5. Development and testing of integrated management instruments for impact and risk prediction and minimization over the water use cycle;

Results

- Assessment of electrocoagulation, electrooxidation and electroreduction processes in drinking water treatment;
- Schematic flow for the flexible pilot plant for the drinking water treatment
- Design and elaboration of the flexible pilot plant for the drinking water treatment



Applicability and transferability of the results

Two regional water operators, i.e. Aquatim and Apavital are involved in this project in order to test and apply innovative technologies for water and wastewater treatment in direct relation with specific water quality problems.

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