

BIO-MONITORING AND AUTOMATIC MICROBIOLOGICAL CONTAMINATION CONTROL SYSTEM OF INDUSTRIAL HYDRAULIC CIRCUITS



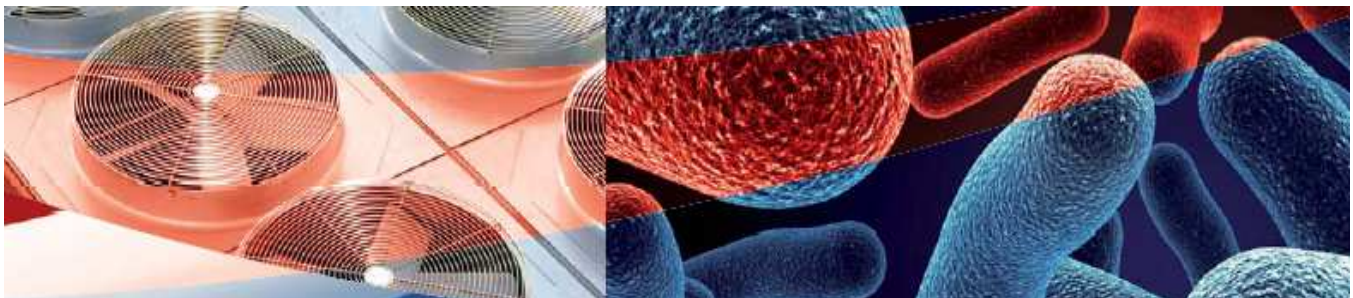
LIFE11 ENV/ES/000552



1st Newsletter

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BIOMOMI - BIO-MOnitoring and Automatic MIcrobiological Contamination Control System of Industrial Hydraulic Circuits (LIFE+10 ENV/ES/431) began on the 1st of January 2013, and will study the application of wet-laid technology in the revaluation of textile waste for use in the composites industry.). The project is coordinated by AITEX and the project partners are PASCUAL Y BERNABEU, RAPIFE, SERVYECO, FADRELL y EWP.



Objectives:

The principal aim of the project is to validate and demonstrate a new technology that allows the real time monitoring and quantifying of aerobic microorganisms present in the water of a hydraulic system, and the subsequent correct dosage and constant optimization of an adequate biocide to minimize these microorganisms. To this end, an industrial-scale prototype of the plant will be constructed and put into operation to demonstrate the technique in two representative Spanish textile companies with very different hydraulic systems, both of whom require disinfection systems: the cooling towers of a finishing company and the air-conditioning system of a weaving company.

This system significantly improves the disinfection management in hydraulic systems and air conditioning systems making the processes more effective, due to the fact that detection is continuous and can be carried out at several installation points (where the concentration and type of biocide is variable, so the disinfection can be customized).

The new method proposed in this project will optimize the biocide amounts to be dosed at any given moment, so extra amounts or extra residual of biocide are reduced (as well as packaging), making the process cheaper and more environmentally-friendly.



Needs:

ENVIRONMENTAL PROBLEM

- Lacks of control of biocides optimization in cooling tower and air conditioning Systems
- Chemical products used as biocides are oxidant substances or harmful substances for the human health and the environment

ECONOMIC PROBLEM

- Equipment and systems lifetime is highly reduced because of the biocide excess, causing several environmental issues like extra energetic costs, inefficiency of the industrial processes, continual spare parts substitution or increase of the produced waste residues.



Progresses:

Partners have been working in these two Actions:

- Study and optimization of biocides in specific matrix corresponding to the cooling tower to be monitored in order to determinate both types of biocides (oxidising and non-oxidising) for the specific matrix.
- Design of the prototype.

During this first months it has been followed the next steps:

1. An experimental procedure has been carried out obtaining the first experimental results
2. A matrix of the real water in both companies installation has been obtained
3. Plans and drafts of the prototype have been developed and components and control panel of the prototype have been purchased.
4. The analysis and identification of critical points in the first Spanish Company (Supplying water and Pool water of the cooling tower) has been carried out
5. Historical results of the first Spanish Company weekly have been obtained in order to develop the control and dosage system of the prototype
6. Technologies (Operating System, Database and App. Development) to be used to develop the communication software between the control and the dosage unit has been selected as well as defined the process diagram of communication between both units

For more information about the project: www.biomomi.eu

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