Universitat de València designs the first intelligent wireless network intended for optimizing water purification and desalination

The Institut de Robòtica i TIC (Robotics Institute and ICT) coordinates the European project HYDROBIONETS, which is a pioneering project in the world and has a budget of 3,5 million Euros. This new technology will lead to a decrease in the cost of desalinated water and it will reduce the energy consumption in waste-water treatment facilities.

Researchers at València University are designing intelligent networks intended for optimizing the operation of sewage treatment plants and water desalination plants. The Grup de Sistemes d'Informació i Comunicacions (Group of Information and Communication Systems, GSIC), belonging to the Robotics Institute, coordinates this European project, which has a budget of 3,5 million Euros over three years, with the goal of developing, for the first time in the world, an intelligent interconnected wireless network of biosensors able to control bacterial activity, to determine the ideal biocides injection, and thus to increase the efficiency of these facilities.

The research platform, which has been working since Autumn 2011, is made up of an international multidisciplinary team. Participating in the team are, in addition to Universitat de València, the Centro Nacional de Microelectrónica from the Superior Council of Scientific Research (CSIC), several Swedish, Hungarian, Greek and British research centres, and the company Acciona Agua.

The Vice-Principal for Research and Scienctific Policy, Pedro Carrasco, presented this project on 27th December, along with the technical director of the Oficina de Projectes Europeus (European Research Projects Office, OPER), Àngels Sanchis, and HYDROBIONETS coordinator, Baltasar Berefull. Carrasco stressed that the research is 'not only pioneering but another example of knowledge transfer from the University to society, in this case, through improvements in economy and sustainability areas.'

The GSIC director and coordinator of HYDROBIONETS, Baltasar Berefull, explained that the main goal of this initiative is to 'fundamentally increase the plant productivity and reduce its costs. This would be done thanks to an increase of the lifetime of osmosis membranes, in the case of desalination plants, and a higher durability of bioreactors in sewage treatment plants, in addition to a more controlled use of chemical products. A better management of the facilities will be possible allowing access and visualization of the different processes more efficiently.