Sacyr
iChallenges
A Sacyr Open Innovation Program

Technical Innovation to Boost the Circular Management of Water Treatment.

How can we reduce, reuse or exploit the substances and wastes present in our water treatment and distribution operations?

Challenge Origin

Sustainable water treatment has become an incredibly important issue due to the need to preserve this vital resource in an environmentally friendly way. Circular water management is not only essential when it comes to environmental regulation compliance, but also in order to contribute to a more efficient and sustainable water use cycle. With advances in innovative technologies, these substances and residual waste elements are opportunities to generate value.

Context of the Problem

When it comes to water operations, waste management poses several challenges that require innovative solutions to improve sustainability and efficiency:

- **Sludge Production:** Wastewater and sewage plants generate large volumes of sludge on a regular basis. With increasingly strict regulations, the complexity, cost, and environmental footprint associated with sludge management are also increasing.
- **Water Desalination:** Desalination processes generate large quantities of brine, rich in a variety of minerals that are currently not being used to their potential for the extraction of valuable materials.
- **Waste Management:** The accumulation of other kinds of waste during the treatment, distribution, and sanitation phases of water has a high impact on plant and network operations, leading to the need for maintenance and cleaning.

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Challenge Description

Challenge Objectives

We are looking for solutions that improve waste management in water treatment plants and water distribution networks. The aim is to reduce, optimise or exploit the following types of waste:

- **Sludge from water treatment processes;**
- **Brine and salts from desalination and treatment processes;**
- **Other waste present in our operations, such as membranes, greases and fats, sand, wipes, etc.**

Application Areas

Sludge from water treatment processes:
Technologies and methods that reduce the quantity, reuse in situ, recover or recycle sludge generated during water treatment processes, as well as recovering valuable elements such as nitrogen, phosphorus or carbon.

Brine and salts from desalination and treatment processes:
Technological solutions that allow us to valorise desalination processes, recover substances from brine and brine mining processes, as well as making use of rejected water and increasing the yield and energetic efficiency of plants and facilities.

Other waste (membranes, greases, fats, sand, wipes, tissues, etc.):
Innovative solutions around circular management of the waste found in our treatment, distribution and sanitation operations.

Why Apply?

Boost your Brand: Gain visibility and become part of a global ecosystem.
Kick start your Path to Success: Receive feedback and commercial, technical and strategic support to take your project to the next level.
Grow your Business: Implement your project in a real business environment and validate your solution.

*This challenge has a **global** scope and is open to the **professional innovation community**, including startups, scaleups, technology centres, universities and established companies.*

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