

Innovative tools to control organic matter and disinfection byproducts in drinking water



There is a legal and sanitary need for water disinfection. Disinfection by-products (DBPs) are the most abundant contaminants in drinking water when water is chemically disinfected. Unintentional formation of DBPs through interactions of dissolved organic matter with chemical reagents are emerging as chemical risks that affect human health. Yet, investigation of DBPs is not sufficiently addressed at the European research level. Additionally, climate change and increased pollution in catchments exacerbate the levels of DBP precursors and consequentially DBP formation.



What will into DBP accomplish?

- Protect catchments and minimize human exposure to disinfection by-products under current and future climates, without compromising disinfection efficacy.
- Integrate a real-time control of source, product, and distributed water to ensure that the safety is aligned with the EU Green Deal's zero pollution ambition.
- Provide a renewed perspective of drinking water surveillance from source to tap with the smart integration of forecasting, flexible tools, and transdisciplinary solutions
- Support decision-making and governance.
- Increase system resilience in the wake of emerging challenges.
- Increase trust of consumers in tap water and reduce bottle water consumption.

intoDBP methodology

To accomplish its objectives, intoDBP will:

- **Develop** a comprehensive approach from source to tap for an optimum drinking water surveillance strategy.
- Foster Al sensor deployment methodologies and algorithms in water distribution networks.
- Formulate a new transformative approach to simultaneously remove precursors and disinfect drinking water, thus minimizing unwanted effects.
- Create a new open and ready-to-use workflow to better forecast the effects of climate extremes under current and future conditions.
- Increase the understanding of human exposure, taking into consideration the gender dimension.
 - Provide guidance to decision-makers to formulate optimized and future-proofed climate change adaptation pathways.
 - Compile and present new business opportunities in the context of dissolved organic matter and disinfection by-products monitoring, modelling and control

- 4 Case Studies -



Case Study 1

Limassol (Cyprus)



Case Study 2

Parcelona (Spain)



Case Study 3

Madrid (Spain)



Case Study 4

County Mayo (Ireland)











Start date: 01 December 2022



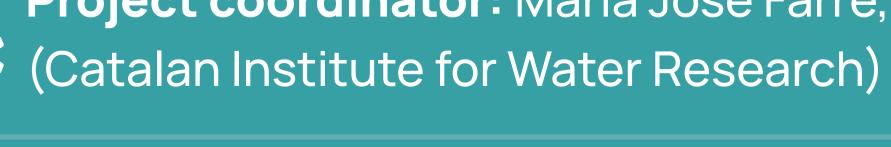
Duration: 48 months



Budget: 3,994,707 €



Project coordinator: Maria José Farré, ICRA



















































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