intoDBP

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

The challenges

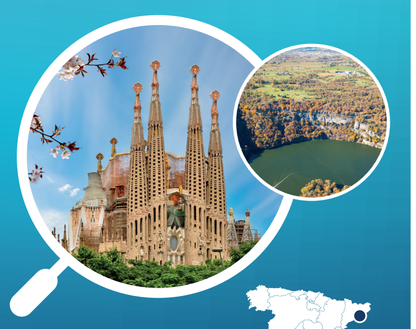
There is a legal and sanitary need for water disinfection. Disinfection by-products (DBPs) are the most abundant contaminants in drinking water when water is chemically disinfected. Unintentional formation of DBPs through interactions of dissolved organic matter with chemical reagents are emerging as 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 intoDBP 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.

4 Case Studies

Case Study 1
Limassol (Cyprus)



Case Study 2
Barcelona (Spain)

Case Study 3
Madrid (Spain)

Case Study 4
County Mayo (Ireland)

intoDBP methodology

To accomplish its objectives, intoDBP will:

- **Develop** a comprehensive approach from source to tap for an optimum drinking water surveillance strategy.
- **Foster** AI 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

About intoDBP

Start date: 01 December 2022

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Budget: 3,994,707 €

Project coordinator: Maria José Farré, ICRA (Catalan Institute for Water Research)

Contact Us

WEBSITE
https://intodbp.eu

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@intodbp

LINKEDIN
intoDBP_eu

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