



International Association  
of Water Service Companies  
in the Danube River  
Catchment Area



EPO

# Utility Management Training

## MODULE 5: Efficient Plant Operations (EPO)

### Institutional Partners



**WORLD BANK GROUP**

Water



**FACULTY  
OF ECONOMICS  
AND BUSINESS  
ADMINISTRATION**



### EPO Module Team

**Module Development Partner:**  
Hydrolia

**Trainers:**  
Nikolay Nikolov, Jindrich Prochazka

**Comptence Partners:**  
Siemens, s::can

**Utility Partners:**  
Sofia Water, Korca Water



## EPO Module Logistics

**Format and Venue:** Four-months module with residential week in Sofia, Bulgaria and Korca, Albania

**Module timeline:** May – August 2024

**Introductory webinar for the module:**  
Early June 2024

**Core training week:** 24 - 28 June 2024



## EPO Module Outline

**Efficient Plant Operations (EPO)** module aims to provide both a technical/technological and organizational/management view on treatment plants – potable water and wastewater ones.

The module starts with a review of **Contaminants** – what is in water “that should not be there”. Effectively, it is a refresher on physics, chemistry and biology and looks at potable water and at wastewater. Important part of this introductory day is dedicated to the water-quality standards for both drinking purposes but also for treatment prior to discharge back into nature. Particular focus is given to EU regulations and, very specifically, to the Drinking Water Directive and the Urban Wastewater Treatment Directive.

EPO then moves to the variety of **Treatment Technologies and Processes** – from conventional filtration, coagulation and disinfection to membranes and nature-based solutions. This session looks at the variety of treatment needs and plant sizes vs. the technologies and critical aspects in their application. While reviewing the applicable technologies, the UMT class visits a series of treatment plants – a large-scale WWTP operated

by Sofia Water, a new small membrane-type of treatment facility of Hydrolia, and, later in the week, a lagoon-type WWTP operated by Korca Water.

Among other aspects, the technological sessions heavily reflect on energy needs and strategies of water utilities to reach energy independence through efficiency projects and on-site energy generation - gas capture, PV and other methods.

Upon reviewing the relevant technologies, the EPO module reflects on **Organizational and Financial Aspects** of treatment. This session looks at fixed and variable costs, OPEX vs. CAPEX, the benefits of developing a centralized control room and other organizational aspects.

Throughout the EPO module various guest speakers also present country-level strategies for ensuring EU-compliance with treatment regulations and sludge management.

Not least, novel technologies (such as digital twins, treatment-process simulations and AI) are also covered by practitioners and technology partners.

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