Di-Hydro

Digital maintenance for sustainable and flexible operation of HYDROpower plant

OVERVIEW

EU-funded project Di-Hydro aims to **enhance hydropower plants** in line with the European Green Deal and Paris Agreement. It aims at **revolutionising plant operations**, **making them smarter**, **more efficient**, **and eco-friendly**. Di-Hydro empowers sustainable energy production with digital tools, ensuring hydropower's crucial role in a greener future.

ABOUT

Di-Hydro's concept introduces a **Decision-Making Platform (DMP) and Digital Twin (DT) tech to hydropower**. The aim is to **bridge the digital gap**, boosting plant performance and sustainability. **Expected outcomes** include innovative sensors, structural health monitoring, AI decision support, and advanced encryption for data exchange and storage, among others.

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Di-Hydro Project - Digital optimisation for hydropower plants

OBJECIVES

Di-Hydro has five principal objectives:

- Develop innovative sensors and data technologies for hydropower plants
- Digitise maintenance and operation of hydropower plants for sustainability
- Reliable and robust hydropower data solutions as transparent as needed
- Facilitate decision-making for the O&M of hydropower plants and clusters in contemporary power markets
- Assess the socio-economic and environmental impact of hydropower sector digital transition

USE CASES

GREECE

Application of DT and integration in hydropower digital cluster. Calibration of DMP for hydropower plants and cluster. Installation of sensors for structural health monitoring/condition monitoring.

ITALY

Inflow forecasts at flexible lead-times according to meteorological evolution in the upstream catchment.

SERBIA

Development and implementation of a digital sensor-based real-time water quality monitoring system.

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