

October 2023 **PRESS RELEASE #1**

D-HYDR  **FLEX**

D-HYDROFLEX project started!

European Commission-funded project D-HYDROFLEX - Digital solutions for improving the sustainability performance and FLEXibility potential of HYDROpower launched on the 1st of September 2023 to tackle the challenges posed by European Green Deal and the Digital Decade Policy Programme 2030 for Europe.

The European energy system is undergoing a significant transformation: decarbonization, security of supply, deployment of renewables and their integration into the market, generating significant opportunities and challenges for energy stakeholders. Despite all energy efficiency efforts, overall demand for decarbonized electricity is set to be significantly higher in 2050 than today due to the decarbonization of the heating, cooling, transport and many industrial sectors, which can only be achieved via efficient and smart electrification.

Hydropower is a key technology in supporting the European pathway to a decarbonized energy system and to achieve global leadership in renewable energy generation. It consists a renewable and highly sustainable electricity resource and can supply the European power system with stability and valuable flexibility. In addition, hydropower reduces EU's dependency on fossil imports and renders multiple extra benefits for society in the river basins such as support to irrigation, water supply and flood control.

The D-HYDROFLEX project aims to advance excellence in research on digital technology for hydropower paving the way towards more efficient, more sustainable, and more competitive hydropower plants in modern power markets.



Funded by
the European Union

D-HYDROFLEX project has received funding from the European Union's HORIZON Research and Innovation Action under Grant agreement No 101122357

To this end, D-HYDROFLEX will develop a toolkit for digitally 'renovating' the existing hydroelectric power plants based on sensors, digital twins, AI algorithms, hybridization modelling (power-to-hydrogen), cloud-edge computing and image processing.

The core pillars of the project are:

- digitalization, (i.e., digital twins for hydro dams and machinery, weather and flow forecasts, cyber resilience tools),
- flexibility, (i.e., coordination with hydrogen, storage and VPP operation) and
- sustainability, (i.e., biodiversity and environmental indicators monitoring).

Validation will take place in 7 hydro plants operated by EDF (France), Tauron Ekoenergia (Poland), PPC (Greece), TASGA (Spain) and INTEX (Romania), covering different geographical areas of Europe.

Kick-Off Meeting completed successfully in Brussels

On 21st and 22nd of September 2023 the D-HYDROFLEX Consortium met in Brussels for a two-day meeting (hybrid). The Project Coordinator, Technical Coordinator, and Work Package Leaders presented a detailed overview of the project and the objectives of each work package focusing on the upcoming milestones and deliverables. An overview of the demonstration campaigns was displayed from the Technical Coordinator. WP leaders proposed ways of cooperation and oriented the discussion towards the next steps.



D-HYDROFLEX project has set high-standard objectives to be implemented during the project lifetime and will have a significant impact towards the decarbonisation of the energy system. More information will follow.



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About us:

The D-HYDROFLEX is a project funded by the European Union's HORIZON Research and Innovation Action under the topic HORIZON-CL5-2022-D3-03-08/Development of digital solutions for existing hydropower operation and maintenance and responds to the Call HORIZON-CL5-2022-D3-03/Sustainable, secure and competitive energy supply. The Consortium consists of 18 partners, bringing together 5 power plant operators/energy producers (EDF, TEE, PPC, INTEX, TAGSA), 6 European research institutes and universities (CARTIF, PWR, UCL, UOC, UoA, ENERGYLAB) and 7 technology providers (UBI, NOVA, UBE, MINDS, FASADA, IDEA, CINT). D-HYDROFLEX will carry out 5 demonstration campaigns in 7 hydropower plants. D-HYDROFLEX is a 36-month long project started in September 2023.

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D-HYDROFLEX Consortium

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2	UBITECH ENERGY	UBE	BE	
3	FUNDACION CARTIF	CARTIF	ES	
4	TASGA RENOVABLES S.L.	TASGA	ES	
5	FUNDACION CENTRO TECNOLOGICO DE EFICIENCIA E SOSTENIBILIDADE ENERGETICA	ENERGYLAB	ES	
6	ELECTRICITE DE FRANCE	EDF	FR	
7	TAURON EKOENERGIA SPOLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA	TEE	PL	
8	POLITECHNIKA WROCLAWSKA	RWR	PL	
9	PRZEDSIEBIORSTWO ROBOT ELEWACYJNYCH FASADA SP ZOO	FASADA	PL	
10	ASOCIATIA INOVARE SI DEZVOLTARE IN ENERGIE - IDEA	IDEA	RO	
11	INTEX PRIM GREEN ENERGY SRL	INTEX	RO	
12	ETHNIKO KAI KAPODISTRIAKO PANEPISTIMIO ATHINON	UoA	EL	
13	DIMOSIA EPICHEIRISI ILEKTRISMOU ANONYMI ETAIREIA	PPC	EL	
14	METAMIND INNOVATIONS IKE	MINDS	EL	
15	CINTECH SOLUTIONS LTD	CINT	CY	
16	NOVA TELECOMMUNICATIONS & MEDIA SINGLE MEMBER SA	NOVA	EL	
17	THE CHANCELLOR MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE	UOC	UK	
18	UNIVERSITY COLLEGE LONDON	UCL	UK	