



MINISTERUL CERCETĂRII,
INOVĂRII ȘI DIGITALIZĂRII

Proceedings of
The 16th Edition of

E U R O I N V E N T
EUROPEAN EXHIBITION OF
CREATIVITY AND INNOVATION



Editor: Andrei Victor SANDU

ISSN Print: 2601-4564
Online: 2601-4572

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Romanian Inventors Forum / Forumul Inventatorilor Romani

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communication pillars, which ensures minimal impact on the protected area soil and the functionality of the communication network, regardless of the adverse weather (storms) and hydrodynamic conditions (flooding), that are characteristic of wetlands. The execution, functionality, and location of the shell-shaped assembly permanently maintains connectivity between neighbouring communication pillars, despite the environmental factors. In terms of taxonomy, the solution is sustainable and takes into consideration the effects of climate change on the region. The technical solution of this patent aims to reduce the anthropogenic impact by developing an ecological foundation for communication network pillars located in areas with strictly protected conservation status, including the Danube Delta Biosphere Reserve (DDBR), which ensures minimal impact on the soil of the strictly protected area.

The invention guarantees the proper functioning of the communication network in extreme environmental conditions found in wetlands and ensures their interconnection, especially those belonging to the Lora-Net network, thus providing valuable data on biodiversity, especially regarding sturgeons in extremely protected areas. One key advantage is that it limits the impact on the environment by using a plateau covered with soil and native vegetation during assembly, reducing contact with the ground in strictly protected areas, particularly wetlands.

RO.239.	
Title EN	DALIA Danube Region Water Lighthouse Action
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Institution	National Institute for Research and Development in Environmental Protection, Bucharest
Patent no.	
Description	DALIA project is implemented by a consortium of 22 expert organizations (universities, authorities, SMEs, NGOs) from 8 different Danube EU and Associated countries. DALIA innovation actions are supported by the 9 Demonstration Pilot Sites (DPS) in the 6 countries in the Danube River basin area. INCDPM is in charge of DPS 6 dedicated to

sturgeon migration by-pass Iron Gates I and II and the proposed activities will provide a technical & scientific solution in order to ensure the connectivity of the migration routes for the ultrasonic tagged sturgeon specimens to by-pass the two Hydropower Stations. The implementing methodology involves four main stages: measurement campaigns in order to determine the exact location for the INCDPM patented monitoring stations (DKMR-01T and DKTB); commissioning ultrasonic tagged sturgeon specimens detection gates (two located downstream the Iron Gates I and II and one downstream Bazias and more in the Serbia and Hungary Danube sectors); developing the best strategy to assist ultrasonic tagged sturgeon specimens to pass upstream and adopting the use of special solutions adapted for each hydropower station; continuous mobile monitoring using boat-mounted VR-100 reception stations for then tagged specimens and recording their behaviour and movements until Bazias and further upstream for 700 fluvial km until Danube km 1780.

RO.240.	
Title EN	OBTAINING NANOMATERIALS AND DESIGNING SENSORS FOR THE REAL-TIME DETERMINATION OF PM10 AND CO₂ POLLUTANTS
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Institution	National Institute for Research and Development in Environmental Protection Bucharest
Patent no.	PN 23 31 03 01.1
Description	The project aims to develop innovative solutions that contribute to the EU directives to minimize pollution to zero, determining an improvement in air and water quality, and as a result the quality of life. Therefore, initially the types of nanomaterials that can be used for the development of filters for air pollutant retention were analyzed, taking into account the main atmospheric pollutants that affect the outdoor and indoor air, but also the nanomaterials that can be used for the remediation of the quality of water bodies, considering the source (natural, sewage or industrial wastewater), the adopted techniques, the number of treatment stages, the materials used, and the type and amount of pollutants. Additionally, the synthesis methods of nanopowders were analyzed, including the most effective and current chemical