

**Summary table of projects and results of research activities  
Year 2023**

Crt. no.	Project	RD Contract No.	Product resulting from the RD activity (Technology / Method / Methodology)
1.	Specialized and sustainable technologies, based on advanced oxidation processes, intended for wastewater/sludge treatment and the valorization of renewable resources in wastewater treatment processes - WATERTREAT	Financing contract no. 3N/2022 PN 23 22 03 01	Research report (experimental study) on the synthesis and characterization of photocatalysts and polymeric membranes
2.	Specialized and sustainable technologies, based on advanced oxidation processes, intended for wastewater/sludge treatment and the valorization of renewable resources in wastewater treatment processes - WATERTREAT	Financing contract no. 3N/2022 PN 23 22 03 01	Research report (experimental study) regarding the critical parameters of the experimental model of the advanced oxidation hybrid process with ozone and percarbonate
3.	Specialized and sustainable technologies, based on advanced oxidation processes, intended for wastewater/sludge treatment and the valorization of renewable resources in wastewater treatment processes - WATERTREAT	Financing contract no. 3N/2022 PN 23 22 03 01	Research report (experimental study) on critical functionalities in bio-oxidation processes
4.	Specialized and sustainable technologies, based on advanced oxidation processes, intended for wastewater/sludge treatment and the valorization of renewable resources in wastewater treatment processes - WATERTREAT	Financing contract no. 3N/2022 PN 23 22 03 01	Research report (experimental study) regarding test conditions and operating parameters - for the technology of obtaining renewable hydrogen resulting from the utilization of biomass resources used in wastewater treatment processes
5.	Specialized and sustainable technologies, based on advanced oxidation processes, intended for wastewater/sludge treatment and the valorization of renewable resources in wastewater treatment processes - WATERTREAT	Financing contract no. 3N/2022 PN 23 22 03 01	Research report (experimental study) on the adsorption capacity of synthetic cellulose and corn stalk
6.	Methods/methodologies for the structural identification, chemical confirmation and analytical quantification of emerging anthropogenic contaminants in various environmental components in accordance with the new European environmental directives – ECOTRANS	Financing contract no. 3N/2022 PN 23 22 01 01	Quantitative method for the determination of As species (As (III), DMA, MMA and As (V)) from various water matrices (drinking water, surface water and underground water) using the HPLC-ICP-MS technique
7.	Methods/methodologies for the structural identification, chemical confirmation and analytical quantification of emerging anthropogenic contaminants in various environmental components in accordance with the new European environmental directives – ECOTRANS	Financing contract no.3N/2022 PN 23 22 01 01	Quantitative method for the detection of triazole and imidazole azole contaminants (clotrimazole, imazalil, ipconazole metconazole, penconazole, prochloraz, tebuconazole, tetraconazole, climbazole, epoxiconazole) from water matrices using the SPE-LC-MS/MS technique
8.	Methods/methodologies for the structural identification, chemical confirmation and analytical quantification of emerging anthropogenic contaminants in various environmental components in accordance with the new European environmental directives – ECOTRANS	Financing contract no. 3N/2022 PN 23 22 01 01	Quantitative method for the determination of iodo-haloacetic acids in waters subject to potabilization using the SPME-GC-MS/MS technique
9.	Advanced waste recycling through experimental models dedicated to the circular economy - SMARTWASTE	Financing contract no. 3N/2022 PN 23 22 04 01	Research report on the establishment of the criteria for the use as raw material of the waste from the leather industry in the process of obtaining intelligent fertilizers with controlled release of nutrients
10.	Advanced waste recycling through experimental models dedicated to the circular economy - SMARTWASTE	Financing contract no. 3N/2022	Research report on establishing the requirements for the use as raw material of waste from combustion plants (ash)

		PN 23 22 04 01	
11.	Advanced waste recycling through experimental models dedicated to the circular economy - SMARTWASTE	Financing contract no. 3N/2022 PN 23 22 04 01	Research report on the use of municipal waste in the production of alternative fuels
12.	Environmental biotechnologies for supporting the green transition and adapting to the principles of the circular economy – EMBRACE	Financing contract no. 3N/2022 PN 23 22 03 02	Study on the selection and characterization of decentralized wastewater sources
13.	Environmental biotechnologies for supporting the green transition and adapting to the principles of the circular economy – EMBRACE	Financing contract no. 3N/2022 PN 23 22 03 02	Biodegradable organic waste flow characterization study
14.	Innovative technologies for advanced removal of inorganic and organic micropollutants such as arsenic and chlorine disinfection by-products (trihalomethanes and haloacetic acids) in the context of the implementation of the new European legislation on drinking water quality – AQUASTECH	Financing contract no. 3N/2022 PN 23 22 03 03	Study on the procedures for removing THMs and HAAs from drinking water
15.	Innovative technologies for advanced removal of inorganic and organic micropollutants such as arsenic and chlorine disinfection by-products (trihalomethanes and haloacetic acids) in the context of the implementation of the new European legislation on drinking water quality – AQUASTECH	Financing contract no. 3N/2022 PN 23 22 03 03	Study on groundwater quality in the Western Area of the country
16.	Eco-friendly solutions for monitoring and protecting the biodiversity of integrative systems, as well as for preventing their destruction - ECO-PHARMA	Financing contract no. 3N/2022 PN 23 22 02 01	In silico study on the spread and impact generated by pharmaceutical substances in the environment
17.	Eco-friendly solutions for monitoring and protecting the biodiversity of integrative systems, as well as for preventing their destruction - ECO-PHARMA	Financing contract no.3N/2022 PN 23 22 02 01	Study highlighting the current state of knowledge regarding alternative methods versus conventional methods of biodiversity identification
18.	Eco-friendly solutions for monitoring and protecting the biodiversity of integrative systems, as well as for preventing their destruction - ECO-PHARMA	Financing contract no. 3N/2022 PN 23 22 02 01	Field work protocol for eDNA analysis
19.	Eco-friendly solutions for monitoring and protecting the biodiversity of integrative systems, as well as for preventing their destruction - ECO-PHARMA	Financing contract no. 3N/2022 PN 23 22 02 01	The characterization study of the impact of pharmaceutical substances with a polluting effect on plants with antimicrobial potential
20.	Climate change impact assessment in urban and peri-urban areas in Romania – priority measures regarding climate resilience – RCUP	Financing contract no. 3N/2022 PN 23 22 02 02	Prospective study regarding the conceptual model related to the RCUP project
21.	Innovative fluidized bed biofilm bioreactor for municipal wastewater treatment	POC – D 55/2016, Subsidiary contract 11956/ 2022	Innovative MBBR bioreactor for advanced wastewater treatment
22.	Specialized and sustainable technologies, based on advanced oxidation processes, intended for wastewater/sludge treatment and the valorization of renewable resources in wastewater treatment processes – WATERTREAT	Financing contract no. 3N/2022 PN 23 22 03 01	Research report on the development of the solar PMR experimental model (experimental study)
23.	Specialized and sustainable technologies, based on advanced oxidation processes, intended for wastewater/sludge treatment and the valorization of renewable resources in	Financing contract no. 3N/2022	Research report on experimental models of percarbonate and ozone treatment (experimental study)

	wastewater treatment processes – WATERTREAT	PN 23 22 03 01	
24.	Specialized and sustainable technologies, based on advanced oxidation processes, intended for wastewater/sludge treatment and the valorization of renewable resources in wastewater treatment processes – WATERTREAT	Financing contract no. 3N/2022 PN 23 22 03 01	Research report on SBR experimental model (experimental study)
25.	Specialized and sustainable technologies, based on advanced oxidation processes, intended for wastewater/sludge treatment and the valorization of renewable resources in wastewater treatment processes – WATERTREAT	Financing contract no. 3N/2022 PN 23 22 03 01	Research report on microalgae cultivation experiments and analysis of biohydrogen generation capacity (experimental study)
26.	Specialized and sustainable technologies, based on advanced oxidation processes, intended for wastewater/sludge treatment and the valorization of renewable resources in wastewater treatment processes – WATERTREAT	Financing contract no. 3N/2022 PN 23 22 03 01	Research report on the experimental model for obtaining materials with complexing properties (experimental study)
27.	Methods/methodologies for the structural identification, chemical confirmation and analytical quantification of emerging anthropogenic contaminants in various environmental components according to the new European environmental directives – ECOTRANS	Financing contract no. 3N/2022 PN 23 22 01 01	Quantitative method for the determination of perfluoroalkyl sulfonic acids in various water matrices (drinking water, surface water and waste water) using the LC-MS/MS technique
28.	Methods/methodologies for the structural identification, chemical confirmation and analytical quantification of emerging anthropogenic contaminants in various environmental components according to the new European environmental directives – ECOTRANS	Financing contract no. 3N/2022 PN 23 22 01 01	Experimental model of new sensors for the detection of perfluorooctanoic acid (PFOA) type CNT-GO-MIP, CNT-GRQD-MIP, CNF-MIP
29.	Advanced waste recycling through experimental models dedicated to the circular economy - SMARTWASTE	Financing contract no. 3N/2022 PN 23 22 04 01	Research report (research study) regarding the establishment of criteria for the use as raw material of waste from the leather industry
30.	Advanced waste recycling through experimental models dedicated to the circular economy - SMARTWASTE	Financing contract no. 3N/2022 PN 23 22 04 01	Research report (research study) regarding the establishment of the requirements for the use of ash in the synthesis process of nanomaterials
31.	Advanced waste recycling through experimental models dedicated to the circular economy - SMARTWASTE	Financing contract no. 3N/2022 PN 23 22 04 01	Research report (research study) on physicochemical and energetic characterization of municipal waste
32.	Environmental biotechnologies for supporting the green transition and adapting to the principles of the circular economy - EMBRACE	Financing contract no. 3N/2022 PN 23 22 03 02	Experimental model facility for intensive composting of biodegradable organic waste
33.	Environmental biotechnologies for supporting the green transition and adapting to the principles of the circular economy - EMBRACE	Financing contract no. 3N/2022 PN 23 22 03 02	Experimental model installation for wastewater treatment from decentralized sources
34.	Innovative technologies for the advanced removal of inorganic and organic micropollutants such as arsenic and secondary products from chlorine disinfection (trihalomethanes and haloacetic acids) in the context of the implementation of the new European legislation on the quality of drinking water - AQUASTECH	Financing contract no. 3N/2022 PN 23 22 03 03	Preliminary experimental treatability study carried out at laboratory level to analyze the aspects related to the advanced removal of arsenic from synthetic aqueous solutions
35.	Innovative technologies for the advanced removal of inorganic and organic micropollutants such as arsenic and secondary products from chlorine disinfection (trihalomethanes and haloacetic acids) in the context of the implementation of the new European legislation on the quality of drinking water - AQUASTECH	Financing contract no. 3N/2022 PN 23 22 03 03	Study on the procedures for removing THMs from drinking water by ultrasonication and reduction with zerovalent iron

36.	Eco-friendly solutions for monitoring and protecting the biodiversity of integrative systems, as well as for preventing their destruction - ECO-PHARMA	Financing contract no. 3N/2022 PN 23 22 02 01	Work protocol for toxicity/histopathology tests and protein profiles
37.	Eco-friendly solutions for monitoring and protecting the biodiversity of integrative systems, as well as for preventing their destruction - ECO-PHARMA	Financing contract no. 3N/2022 PN 23 22 02 01	Experimental study of ecotoxicological characterization of pharmaceutical compounds
38.	Eco-friendly solutions for monitoring and protecting the biodiversity of integrative systems, as well as for preventing their destruction - ECO-PHARMA	Financing contract no. 3N/2022 PN 23 22 02 01	Database with strains from the intestinal microbiota of fish resistant to antibiotics
39.	Eco-friendly solutions for monitoring and protecting the biodiversity of integrative systems, as well as for preventing their destruction - ECO-PHARMA	Financing contract no. 3N/2022 PN 23 22 02 01	Experimental study of molecular level analysis of some phyto-biomarkers of stress
40.	Eco-friendly solutions for monitoring and protecting the biodiversity of integrative systems, as well as for preventing their destruction - ECO-PHARMA	Financing contract no. 3N/2022 PN 23 22 02 01	The method of obtaining some compounds from plant extracts with potential antimicrobial effect
41.	Eco-friendly solutions for monitoring and protecting the biodiversity of integrative systems, as well as for preventing their destruction - ECO-PHARMA	Financing contract no. 3N/2022 PN 23 22 02 01	Experimental study to characterize the composition and structure of biotic communities at the level of selected aquatic systems
42.	Eco-friendly solutions for monitoring and protecting the biodiversity of integrative systems, as well as for preventing their destruction - ECO-PHARMA	Financing contract no.3N/2022 PN 23 22 02 01	Specific methodology for the analysis of pollen types
43.	Assessment of the impact of climate change in urban and peri-urban areas in Romania - priority measures regarding climate resilience - RCUP	Financing contract no.3N/2022 PN 23 22 02 02	Study related to the experimental field related to the RCUP project
44.	Microplastics - Ecotoxicological effects and mechanisms of action in fish species <i>Cyprinus carpio</i> ", acronym MicroPlasFish	TE61/2022	Study on the ecotoxicological effects of microplastics
45.	Microplastics - Ecotoxicological effects and mechanisms of action in fish species <i>Cyprinus carpio</i> ", acronym MicroPlasFish	TE61/2022	Study on the impact of microplastics on the antioxidant enzyme system
46.	Microplastics - Ecotoxicological effects and mechanisms of action in fish species <i>Cyprinus carpio</i> ", acronym MicroPlasFish	TE61/2022	Biomarker highlighting study at the translational level
47.	Epidemiological early warning system for SARS-Co-V-2 trends in untreated wastewater as an indicator of the spread of circulating variants in the population", acronym WARNING	705PED/ 2022 PN III-P2-2.1-PED-2021-4131	Working protocol for the detection of SARS-Co-V-2 and circulating variants in untreated wastewaters
48.	New eco-nano-technologies for the elimination of halogenated organic compounds from wastewaters using advanced oxidation and reduction processes and anaerobic biodegradation processes (NEWNANOAOPS)	584PED/ 2022	Degradability study of organo-chlorinated compounds