



## Project SIMONA of the Danube Transnational Programme and the Bulgarian participation

### Проект SIMONA на Дунавската транснационална програма и българското участие

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### Introduction

“Sediment-quality Information, Monitoring and Assessment System to support transnational cooperation for joint Danube Basin water management” – SIMONA is a European project (2018–2021) under the Danube Transnational Programme (DTP), cofinanced by the European Union (<http://www.interreg-danube.eu/approved-projects/simona>). EU legislation (2013/39/EU Directive and its previous versions) prescribes sediment quality monitoring and trend analysis in terms of taking measures to ensure that hazardous substances (HSs) concentrations do not significantly increase in sediments and/or relevant biota. Although the Joint Danube Surveys characterized sediment quality in the Danube several years ago and concluded that contaminated sediments were an existing problem in the Danube River Basin (DRB), the DTP countries did not have enough information, guidelines and methods to build transnational sediment monitoring network for HS trend assessment. SIMONA project is aiming to provide a system for monitoring the functional composition of sediment, including sampling, laboratory analysis, evaluation protocols and the SIMONA-tool (online IT application), that are applicable at local and also at strategic levels, thus actively contributes to meet the Water Framework Directive (WFD) sediment quality monitoring and chemical status assessment requirements.

### History of the strategies

In 2000 Directive 2000/60/EC of the European Parliament and Council established a framework for Community action in the field of water policy. WFD general objective is to achieve good (chemical, quantitative and ecological) status for all surface and ground-

waters. It would be reached by reduction of discharges, emissions and losses of priority substances and cessation or phasing out of discharges, emissions and losses of priority hazardous substances. In 2001 Decision No 2455/2001/EC of the European Parliament and Council established the list of priority substances in the field of water policy. Article 16 of the Directive 2008/105 of the European Parliament and the Council on environmental quality standards (EQS) worked out Strategies against pollution of water: establishing a list of priority substances (PS), identifying the priority hazardous substances (PHS), providing the legal basis for the Commission proposal on reviewing the list of priority substances, and tasking to submit proposals for emission control measures and the EQS setting.

In 2013 Directive 2013/39/EU (amendment of Directives 2000/60/ES and 2008/105/ES 2013/39/EU) sets standards in surface waters for “45 priority substances + 8 certain other pollutants” (from Directive 76/464/EEC) including 21 priority substances classed as hazardous (PHS); introduces the concept (possibility) of mixing zone; introduces the possibility of using EQS for sediment and biota instead EQS for water.

### SIMONA project synergy in the frame of the other DTP projects

DTP main mission is a territorial integration in the Danube region. The DTP aims acting as policy driver. The DTP structure comprises 4 Program priorities, and the second one is Environment and culture responsible Danube Region. The Action 2.1 (Strengthen transnational water management and flood risk prevention) comprises activities in building management plans in the partner states in line with the overall Danube River Basin and plan in order to improve transnational water management and flood risk prevention and to

contribute to the sustainable provision of ecosystem services. Bulgarian partner in SIMONA project is the Geological Institute at the Bulgarian Academy of Sciences (<http://project-simona-bg.eu/>). The SIMONA and the Bulgarian team contribution to Action 2.1 is expected to result in a coordinated effort for the joint Danube River Basin water management enhancing the status of all surface waters, biota and sediments via applicable tools. Another Bulgarian institution (National Institute of Meteorology and Hydrology at Bulgarian Academy of Sciences) participates in Action 2.1 also, in two projects: Danube River Basin Enhanced Flood Forecasting Cooperation (DAREFFORT) and Danube Sediment Management – Restoration of the Sediment Balance in the Danube River (SEDIMENT).

Despite the efforts for environmental monitoring in the EU countries there is still lack of harmonized international sediment quality monitoring protocols and procedures. DTP countries have different existing national methodologies and legislative frameworks (EU and non-EU members) for water quality assessment and monitoring and the availability of DTP countries' relevant technological capacities and resources for sediment quality monitoring implementation differs a lot. There is still a territorial need in all the DTP countries to build and sustain a DRB-wide harmonized transnational sediment quality monitoring network. That is why the aim of SIMONA is providing a common understanding about assessing and monitoring the sediment quality, that will be realized through wide collaboration of 17 full partners (11 ERDF, 4 IPA and 2 ENI) and 12 associated partners (ASPs).

### **SIMONA main objectives and goals**

The three specific objectives of SIMONA project are:

I – to describe the current status and common needs in order to serve as a baseline and status quo assessment in terms of existing good practices, national protocols, methods and databases in relation to sediment quality monitoring, water quality analysis and chemical status assessment;

II – to establish a durable and operational framework which consists of sampling and laboratory measurement and evaluation protocols, and online IT tool

for enabling water authorities and stakeholders to accomplish their daily work on WFD chemical status assessment;

III – to develop the common knowledge and skills for the governmental bodies, sectoral agencies, national/regional/local water authorities, ICPDR, research institutes and the wider WFD expert groups in the DTP countries for comprehensive water status assessment in order to aid their daily operational work in transnational water management.

The Bulgarian team is responsible for the work packages connected to the sampling program and heavy metal analyzing process and protocol. In the frame of the project a new sampling tool will be delivered. Two national sites will be sampled and analyzed. Bulgarian scientists and stakeholders will participate in sampling and training activities during the three case studies of the sampling points (Drava River, South Danube and Upper Tisa) in order to share the experience obtained in their offices as National Experts.

### **Expected contribution of SIMONA project**

SIMONA project foresees future improved, harmonized and coordinated sediment quality monitoring of water body status in the Danube River Basin. SIMONA will deliver a benchmark for monitoring the changes of the water quality via sediment quality, and this benchmark will be co-developed with stakeholders, verified by case studies. SIMONA efforts to improve the long-term monitoring strategy of the transboundary waters by monitoring the concentration of hazardous substances in the sediments, along with the analysis of biota and water. As a final goal SIMONA results will contribute to the DRB baseline network designed to serve as long-term sediment monitoring reference sites.

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### **References**

<http://www.interreg-danube.eu/approved-projects/simona>  
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