
**SIMONA OUTPUT T3.2.**

# SIMONA IT TOOL

**Access to the IT-tool: https://simona.geonardo.com/**

## PART OF THE SEDIMENT-QUALITY INFORMATION, MONITORING AND ASSESSMENT SYSTEM (SIMONA)

## THE MAIN AIM IS TO SUPPORT TRANSNATIONAL COOPERATION FOR JOINT DANUBE BASIN WATER MANAGEMENT

**30/11/2021**

Project co-funded by the European Union (ERDF, IPA and ENI)

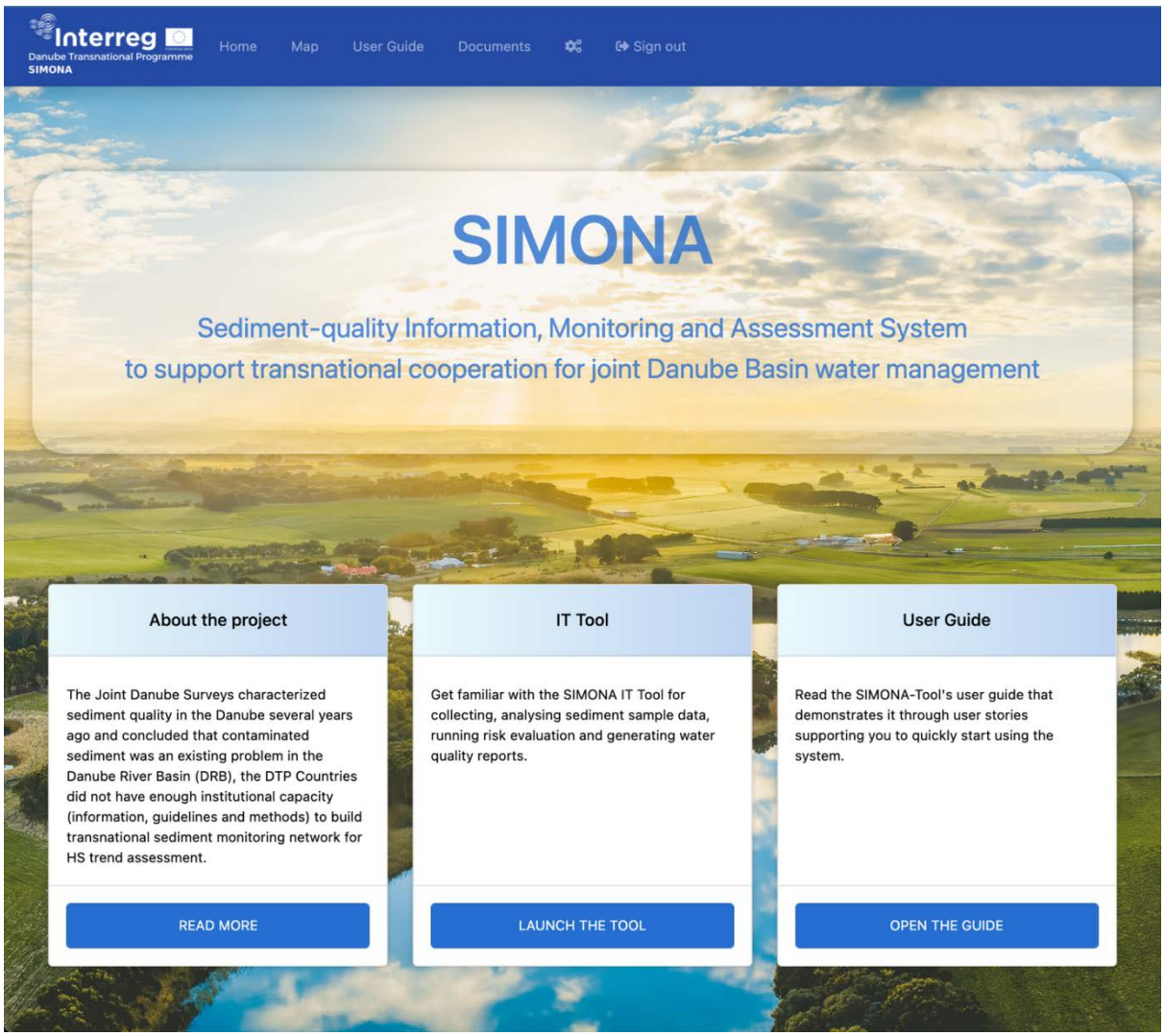


*Figure 1 Welcome screen of the SIMONA IT Tool*

| | |
|---|---|
| **PROJECT TITLE** | Sediment-quality Information, Monitoring and Assessment System to support transnational cooperation for joint Danube Basin water management |
| **ACRONYM** | SIMONA |
| **PROJECT DURATION** | 1st June 2018 to 30th Nov 2021, 42 months |

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**DATE OF PREPARATION**
30/11/2021

For further information on the project, partnership and the Danube Transnational Programme:

www.interreg-danube.eu/simona

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# 1. SUMMARY

The SIMONA-Tool IT application is a web application for collecting, analysing sediment sample data, running risk evaluation, and generating sediment quality reports.

# 2. INTRODUCTION

## 2.1. Purpose of this document

This document aims to summarise details about the initial concept, goals that were aimed at and the expected results during the operational phase of the tool.

## 2.2. References

- SIMONA IT Tool
- Eionet Data Dictionary
- Hungarian University of Agriculture and Life Sciences

# 3. DEFINITIONS, ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| CAS | Chemical Abstracts Service |
| DRB | Danube River Basin |
| EEA | European Environment Agency |
| Eionet | European Environment Information and Observation Network |
| MATE | Hungarian University of Agriculture and Life Sciences |
| WISE | Water Information for Europe |

*Table 1 Definitions and abbreviations*

# 4. BACKGROUND

The SIMONA project started in 2018 with the main objective of responding the current demand for effective and comparable measurements and assessments of sediment quality in surface waters in the Danube River Basin. The project aimed at delivering a ready-to-deploy sediment-quality information, monitoring and assessment system to support transnational cooperation for joint DRB water management.

# 5. GOALS

From the perspective of the software, the goal was to find a way to support surveillance monitoring of sediment quality data as well as the status of monitoring sites. Four phases of the monitoring activity have been identified that needed to be supported by the system. During the *Field observation phase,* on-site data collection about the monitoring site and its condition along with details of the sediment samplings takes place. In the *Laboratory analysis phase* results of the chemical analysis, coming from the laboratories, are associated to the sediment samples. *Monitoring phase* is the one when status and risk classification and uncertainty assessment is carried out against the laboratory results, while in the *Reporting phase* standard documents of sediment sample data, along with the associated laboratory results are generated.

Therefore, the system was designed to allow collecting, analysing sediment sample data, running status and risk classification and uncertainty assessment, based on the SIMONA evaluation protocol, and finally to generate standard, WISE compatible sediment quality reports in XML format.

In order to follow existing standards and be compatible with the Eionet reporting system, the SIMONA IT tool's spatial database is built up on the WISE-5 reference data, defining the baseline GIS data set of monitoring sites, surface water bodies, river basin districts, etc.

For identifying chemical substances, standards of the Chemical Abstracts Service and the one of the European Environment Agency was selected to be supported by the tool. Therefore, a substance database, that maps the CAS and the EEA codes has been composed, and substances have been categorised into the classes of River Basin Specific Pollutant, Additional pollutants or an indicator of pollution, Priority Substances and Priority Hazardous Substances.


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# 6. EXPECTED RESULTS

The project's main result is considered to be the improved, harmonized and coordinated sediment quality monitoring of water body status in the Danube River Basin, and a transparent method supported by the SIMONA-tool for sediment quality monitoring that is intended to encourage cooperation in transnational water management.

The tool is foreseen to further standardise and simplify the cooperation between stakeholders concerning the monitoring of hazardous substances' concentration in sediments by supporting a complete methodology starting from the sample collection to generating and visualising risk assessment results.

# 7. SUPPORT AND MAINTENANCE

The software is deployed on Geonardo's own infrastructure and is available on the following address:
https://simona.geonardo.com

The system will be maintained and operated by Geonardo until 2027 and foreseen to be continued even after. During this period, technical support (e.g., accepting bug reports) will be available via email using the address of simona@geonardo.com.

# 8. LEGAL FRAMEWORK

The owner of the tool is the Hungarian University of Agriculture and Life Sciences (MATE). Geonardo, as the developer of the system, holds intellectual property rights to the underlying application development framework (called nJinn) that protects the source code from being exploited by 3rd parties.

Technically speaking, the software is not open source in the sense that it cannot be publicly contributed, forked, or distributed. However, the source code is openly available for the consortium for validation purposes upon request.


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