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Danube Transnational Programme
Danube Hazard m³c

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Tackling hazardous substances pollution in the Danube River Basin by **M**easuring, **M**odelling-based **M**anagement and **C**apacity building

1.7.2020 – 31.12.2022

Project co-funded by European Union funds (ERDF, IPA, ENI) and National Funds of the participating countries

We aim to ...

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- improve baseline knowledge on the status quo of HS water pollution and on the relevance of different emission pathways
- elaborate recommendations for the national and transnational river basin management plans
- enhance skills and competence regarding inventorying, modelling and management of HS pollution in the DRB

Project structure

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Management

WP T1 Inventory of hazardous substances

WP T2 Scenarios modelling and assessment in pilot regions

WP T3 Transnational HS pollution assessment and recommendations

WP T4 Capacity building

Communication

WP T1

Inventory of hazardous substances

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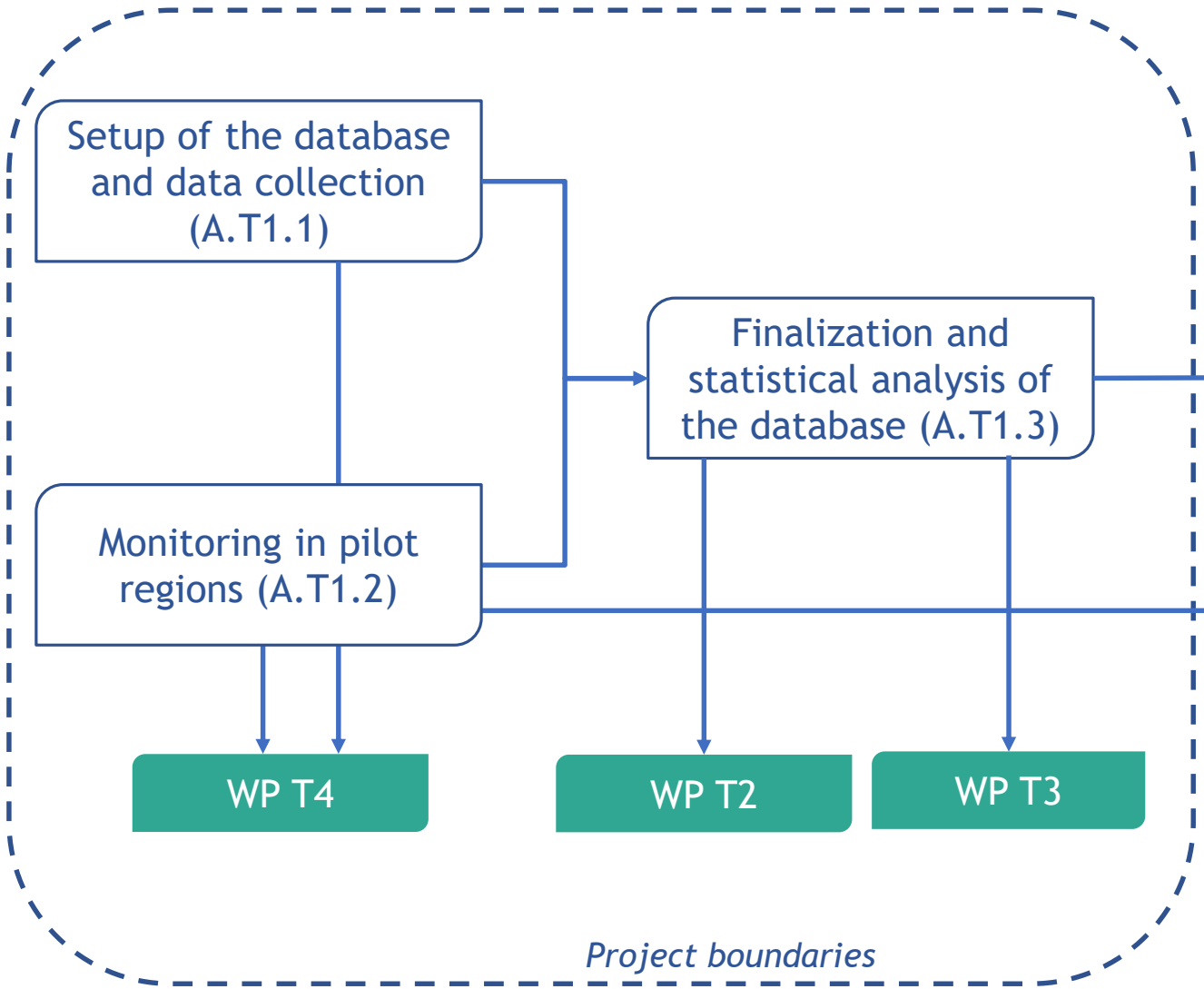

Outputs

- Relational database of concentrations of HS in the DRB
- Demonstration of harmonized and cost-effective monitoring

WP T2

Scenarios modelling and assessment in pilot regions

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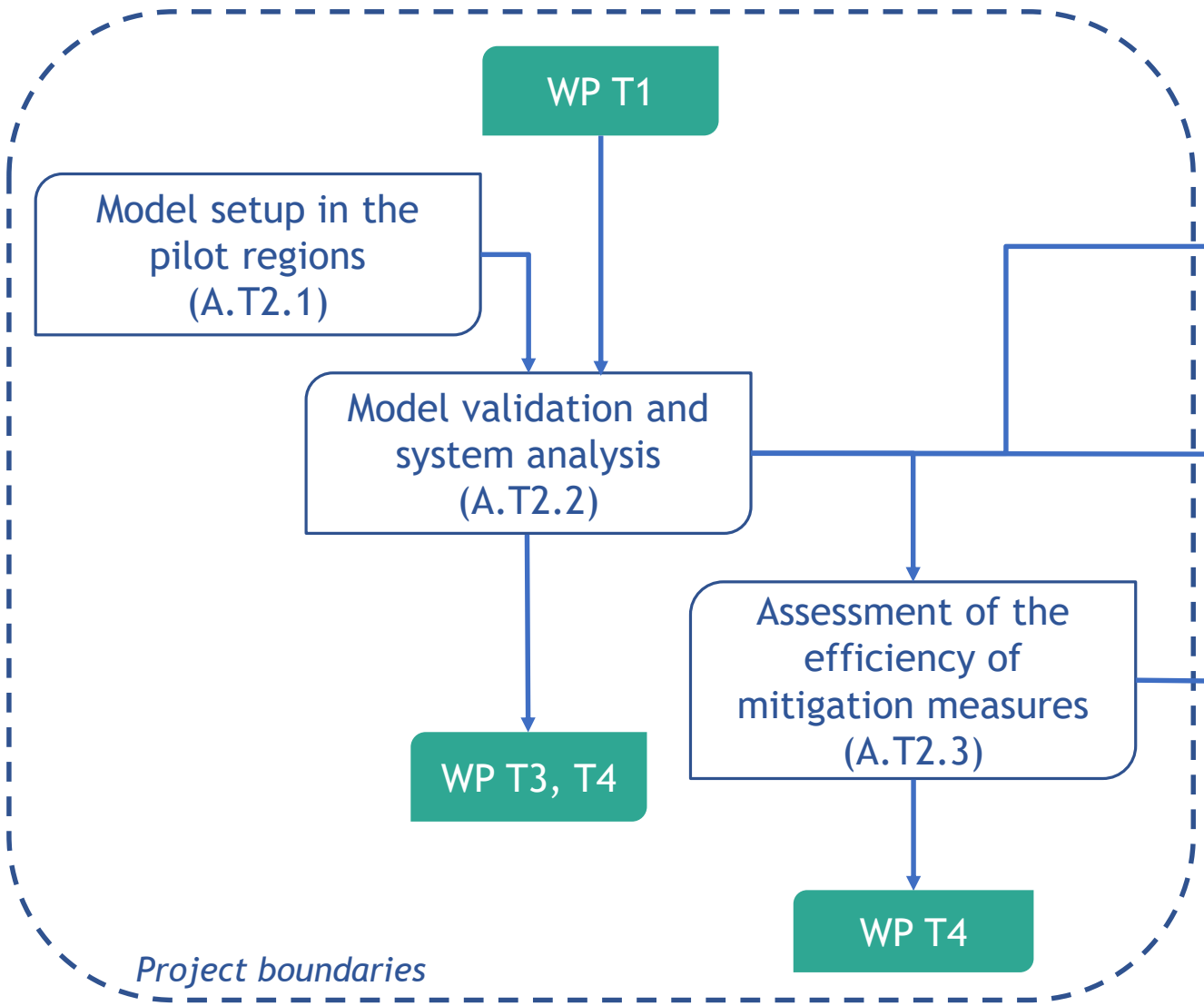

Outputs

- MoRE (Modeling of Regionalized Emissions) Model
- Report on improved system understanding
- Demonstration of management plan development based on emission modelling

WP T3

Transnational HS pollution assessment and recommendations

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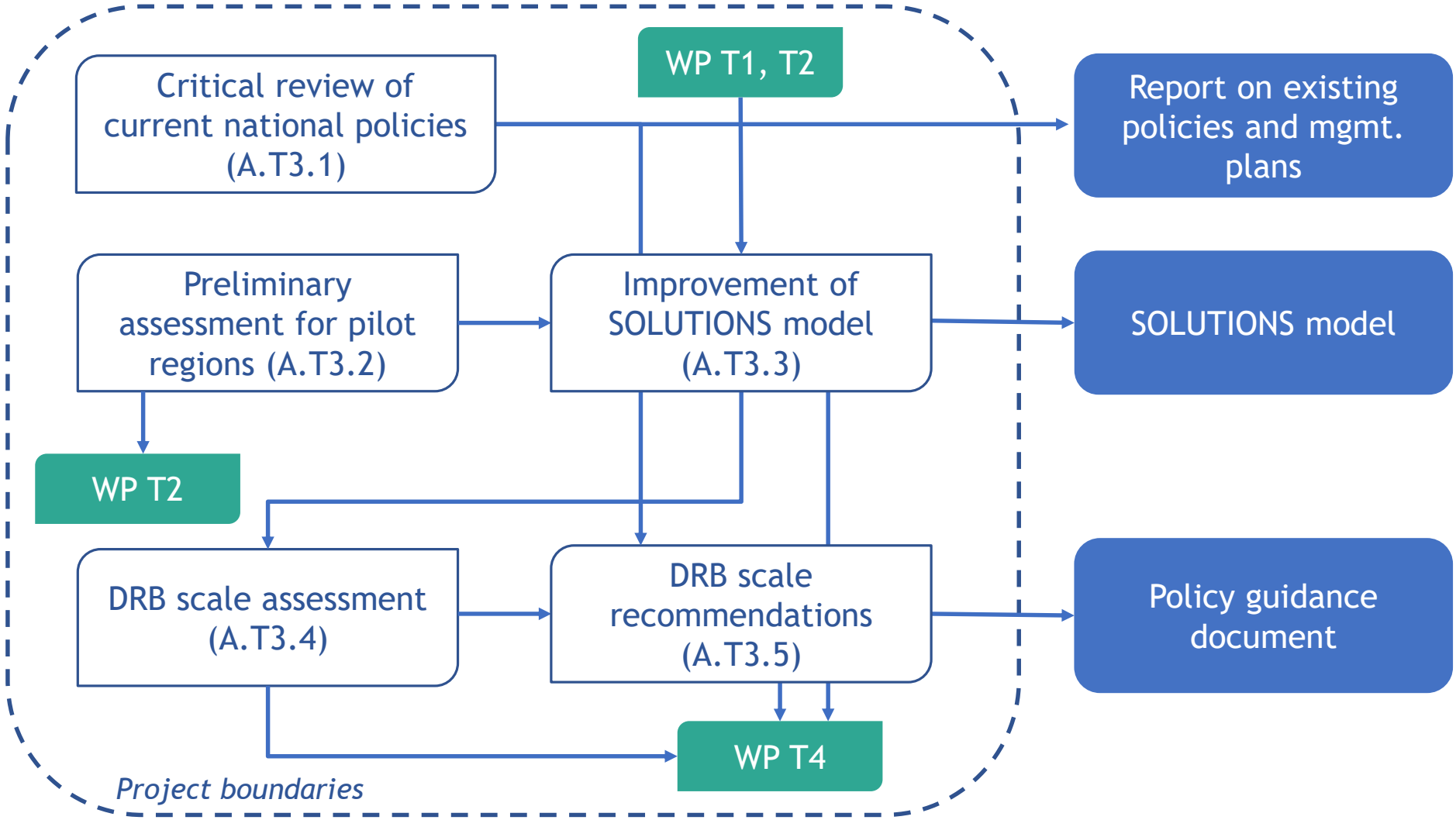

WP T4

Capacity building

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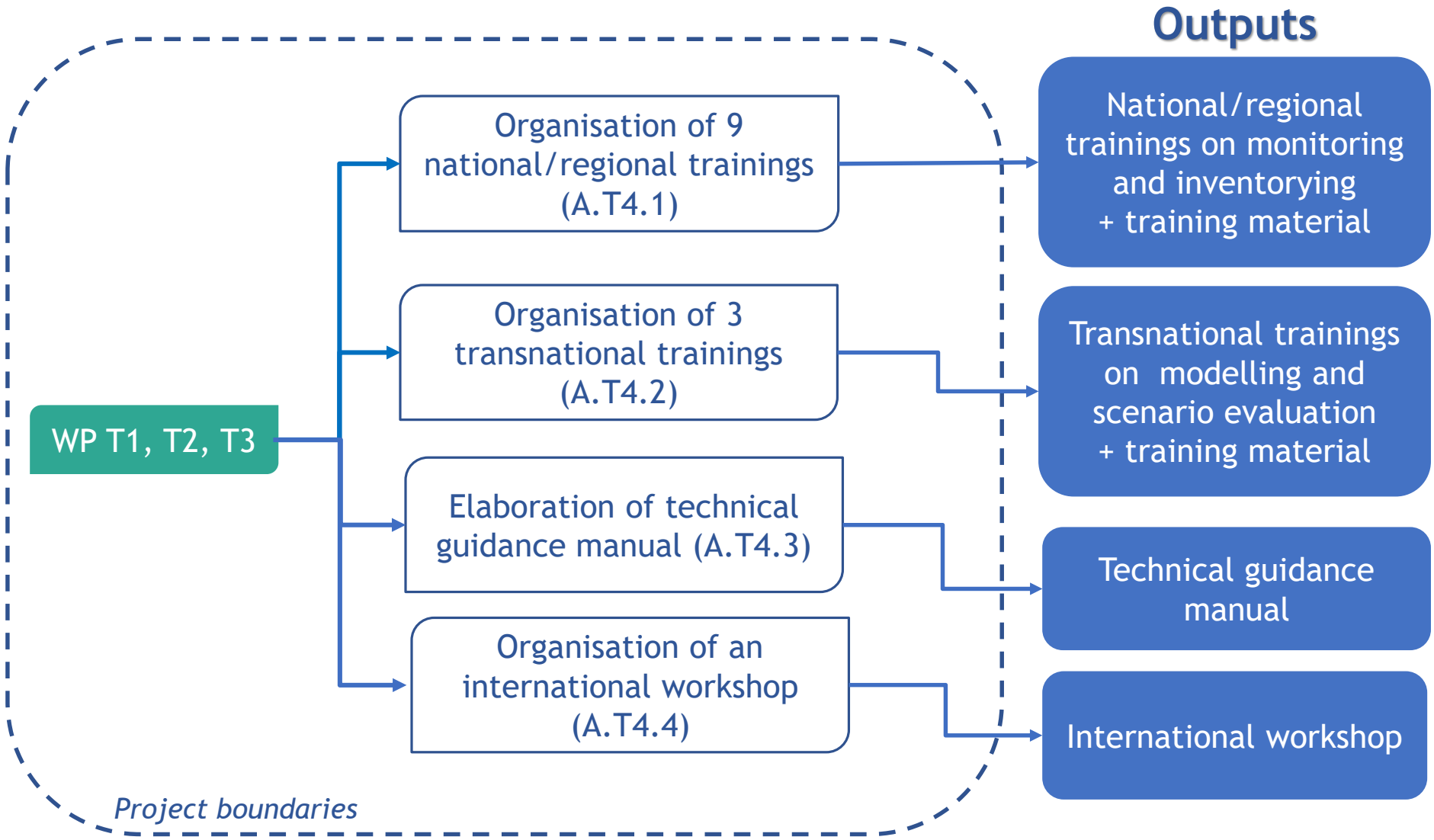

Project partners

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TU Wien	AT	Higher education and research
Budapest University of Technology and Economics	HU	
University of Zagreb, Faculty of Chemical Engineering and Technology	HR	
Water Research Institute	SK	
Jozef Stefan Institute	SI	
Center for Ecotoxicological Research Podgorica	ME	
Institute of Chemistry	MD	
Environment Agency Austria	AT	Sectoral agencies
National Administration “Romanian Waters”	RO	National public authorities
Bulgarian Water Association	BG	Interest groups
International Commission for the Protection of the Danube River	AT	International organisations

Associate strategic partners

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Public Institution “Waters of Srpska”	BA	National public authorities
Federal Ministry of Sustainability and Tourism	AT	
Ministry of Environmental Protection	RS	
General Directorate of Water Management	HU	
German Environment Agency	DE	
Ministry of Energy and Environment	HR	
Ministry of the Environment of the Czech Republic	CZ	
Ministry of Foreign Affairs and Trade	HU	
Ministry of the Environment and Spatial Planning	SI	
Ukrainian Hydrometeorological Institute State Service on Emergencies and National Academy of Sciences	UA	Sectoral agencies
Institute of hydrometeorology and seismology	ME	
International Association of Water Service Companies in the Danube River Catchment Area	AT	Interest groups
International Sava River Basin Commission	HR	International organisations

Partners

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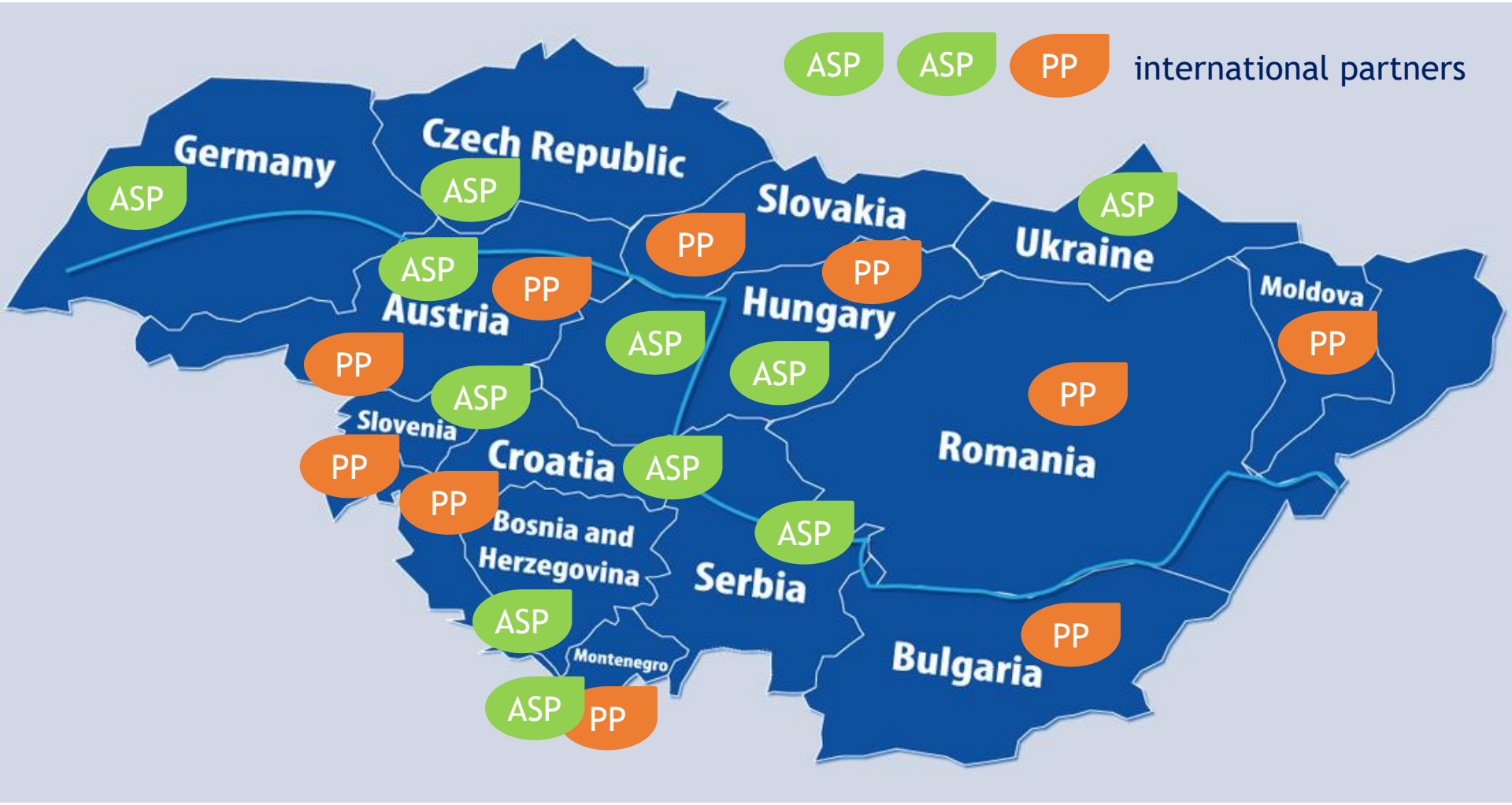

Partners presentation

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cetio
Center for Eco-Toxicological Research

TU WIEN

BWA
BULGARIAN WATER ASSOCIATION

Jožef Stefan Institute, Ljubljana, Slovenia

Administrația Națională "APELE ROMÂNE"

MŰEGYETEM 1782

FKITMCMXIX

UNIVERSITAS STUDIORUM ZAGRABIENSIS MDCLXIX

INSTITUTUL DE CHIMIE

ENVIRONMENT AGENCY AUSTRIA umweltbundesamt

ICPDR IKSD
International Commission for the Protection of the Danube River
Internationale Kommission zum Schutz der Donau

Institute for Water Quality
and Resource Management
TU Wien, Austria

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Research topics:

- Municipal and industrial wastewater treatment
- Sewage sludge and biogas
- River basin management
- Antibiotic resistance
- Measuring and online monitoring
- Micropollutants in urban water cycle
- Climate change and water management

Role in Danube Hazard m³c

- Lead Partner
- Responsible for management & communication
- Strongly involved in all activities of the implementation WPs

TU WIEN

bl.iwr

Bulgarian Water Association (BWA)

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With more than 80 corporative and 250 individual members BWA is the biggest non-governmental organisation in the water sector in Bulgaria

We can be reached by e-mail on: bwa.sofia@gmail.com or you can read the latest information on our website: www.bwa-bg.com.

BWA is Project partner 2 in Danube Hazard m³c Project and the main responsible people for its execution are:

- Prof. Dimiter Alitchkov, PhD, MsC Eng – Project Manager
- Daniela Popova – Financial Manager
- Dimitar Mihalkov – Communication Manager

BWA Bulgarian Water Association

Faculty of Chemical Engineering and Technology (FCET)
University of Zagreb, Croatia

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~ 1100 students

~ 200 employees

High education and research institution with a hundred-year tradition of knowledge, excellence and interdisciplinary research

Scientific research areas:

- sustainable technologies for water treatment
- development of advanced materials and chemical processes
- renewable energy sources
- new bioactive substances and drugs
- industrial biotransformation and digitization of chemical processes using chemical engineering knowledge and tools
- environmental engineering
- applied chemistry

FCET in Danube Hazard m³c: ***WP1***, ***WP3*** & ***WP4***

Strong cooperation with the public and private sector

FKITMCMXIX

Water Research Institute (WRI) Bratislava, Slovakia

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WRI is performing complex research and related activities in field of water management of Slovak Republic including legislation, methodologies, research, expertise, normalization, water monitoring program, and education among others. WRI is also covering activities arising from European Union, ICPDR and international deals.

WRI is Project Partner cooperating in work packages:

- Inventory of Hazardous Substances
- Transnational HS Pollution Assessment and Recommendations
- Capacity building

Contact person:
Michal Kirchner
michal.kirchner@vuvh.sk

Jožef Stefan Institute, Ljubljana, Slovenia

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JSI (960 employees) is the largest and leading research organisation on basic and applied research in the fields of natural sciences and technology in Slovenia.

Department of Environmental Sciences: multidisciplinary research on physical, chemical and biological processes, which influence the environment, including human health risk and environmental impact assessments

Expertise related to the project needs

- *Investigation of the role of metal ions and metal-based nanoparticles (NPs) in the environment and living organisms using the methods of chemical speciation and sizing of NPs (LC-ICP-MS, SP-ICP-MS)*
- *Study of metal species transformation during the analytical procedures and their fate in the environment and living organisms by the use of stable isotopic tracers*
- *Quantification of chemical species of elements by speciated isotope dilution (ID)-ICP-MS*
  - *Coordination of the 6th FW EU project **SARIB**: Sava River Basin: Sustainable Use, Management and Protection of Resources*
  - *WP and Case study Sava leader on the 7th FW EU project: Managing the effects of multiple stressors on aquatic ecosystems under water scarcity **GLOBAQUA***

Role in the project

- Support in optimization of measurement campaigns in the pilot regions
- Policy review and data collection of HS for Slovenia
- Trace elements analysis in different matrices in the pilot regions
- Integration (interpretation) of results in the inventory used for the modelling activities
- Preparation of reports and scientific publications
- Organization of a national training for end-users and stakeholders

The Centre for Ecotoxicological Research Podgorica (CETI)

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- Established by the Decision of the Government of Montenegro in 1996. as PI
- Since 2012 it has been transformed into an LLC, 100% state-owned, non-profit institution-specified by the statute
- The leading/reference institution in physicochemical and radiochemical testing of all segments of the environment in Montenegro.
- Accredited in accordance with MEST EN ISO/IEC 17025:2018
- Significant professional and technical capacities for HS analytics in water, sediment and biota
- Since 2013 has license for scientific research activity

ceti
Center for Eco-Toxicological Research

Institute of Chemistry Moldova

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Representatives of three centers participate in ICh MD team:

- Physical and Inorganic Chemistry
- Ecological Chemistry and Environment Protection
- Organic and Biological Chemistry

ICh MD will participate in:

- collection and pre-process of the national data on HS pollution
- organization of the national training adapted to national needs
- communication and cooperation with main target groups and other stakeholders in Moldova through capacity building and dissemination activities