



POLICY BRIEF NR.1

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INTRODUCTION:

The aim of DANCERS is to develop new instruments and tools that will enhance environmental research and promote innovation in Danube Region, including the Danube Delta and the Black Sea. The project undertakes a critical analysis of what has been achieved so far in the Danube Region and will build upon results of achievements to-date, to design innovative solutions to strengthen knowledge transfer in this area. This is achieved by gathering top level representatives of the academia and business communities as well as decision makers, specialized in various sectors of integrated management of the Danube –Black Sea macrosystem. The project is structured on the three main pillars of Research and Innovation (i. Science and Innovation Agenda, ii. Research Infrastructures and iii. Human Capital) – and their relation to the three main categories of stakeholders: i. Policy and Decision Makers, ii. Business / Industry community and iii. Academia. One of the most important actions that took place during the implementation phase was the consultation with the above mentioned parties involved, respectively scientists, business sector as well as decision makers, including research funding agencies, local authorities, ministries (central administration). Consultation took place in phases, during three events held in Bucharest. Results of these three were structured in the form of a SWOT analysis. At the end, a knowledge matrix document emerged and was thus available for consultation at the Dialog Conference.



STRENGTHS

Human Resources	Research Infrastructures	Strategic Research and Innovation Agenda
Existing expertise and education competencies at all levels	Existing “natural cross-national laboratory” (the Danube River – Danube Delta – Black Sea System)	Common understanding of existing environmental problems within the Danube Region – among research communities in Danube Region countries
Education is recognised as one of the top societal priorities in Danube Region. It is Priority Area 9 “Education and skills” in EUSDR	Some existing national infrastructures with different focus of action (from analytic facilities – laboratories to research vessels) Experience from Flagship Projects for Research infrastructure like AT with DREAM and Romania with DANUBIUS-RI	National Funding (to find solutions for national problems)
Some Education programmes comprise involvement in research activities	Experiences with the use of the Structural funds eg for CBC or in other sectors	Existing international cooperation (i.e. in the FPs, SEE TCP, CBC, bilateral programmes, involvement of Researchers in EU or global research initiatives, even if partly focused on river or sea research)
Community exists (Universities, Professors, Associations – such as the Danube Region Academies or the Danube Rectors Conference, institutional networks)	A significant amount of data collected during the decades in various research projects (either by individual countries or by the ICPDR cruises) exist; e-infrastructures (ex. metadata-base and computing facilities) exist	Existing inter- and multidisciplinary studies (even if so far with limited geographical focus, not covering the whole River Basin including the connected sea, or focused on specific topics)
Significant cultural diversity in the Danube Region, from the Upper Danube to the Black Sea		Researchers cooperate with Administrations (successful pilot actions exist and were acknowledged by some representatives of the administrations)
		Champions with excellent initiatives exist with business, administrations and the public
		Research assistance to water management at national level
		Established Messages (like the “Sturgeon 2020” Flagship Project within EUSDR)

WEAKNESSES

Human Resources	Research Infrastructures	Strategic Research and Innovation Agenda
Many education programmes do not necessarily fit the present day requirements of economy (companies) and administrations	Current dispersion of existing research infrastructures and facilities and no coordination or clear information accessible	Stakeholder involvement in research coordination actions is insufficient
Education curricula respecting “traditional” domains and disciplines, not covering the river-delta-sea system as a continuum	Missing systematic transnational (and sometimes even national) access to existing infrastructures	In some Danube Region countries there is a limited administrative capacity to absorb research, education and training funds (even though there are countries where almost 100% R&D funds have been committed and used)
incomplete picture of existing skills in Danube Region	Lack of harmonization/standardization of scientific data – either between domains or within the same field	Limited number of research providers, not fully exploiting the existing research potential (i.e. contracting always with the same research service providers on national level, not looking for competition)
lack of a quickly reacting-centralized system of education and training	Fragmentation of the overall picture of regional/national priorities for Research Infrastructures	Lack of an overall perspective of the entire Danube – Black Sea macrosystem leading to a non-alignment of research priorities taking into consideration the river basin-delta-sea system
Capacity building and training actions are limited (rarely provided to non academic actors like administrations, business community, etc)		Non-alignment of strategies and instruments /coordination
Reduced credibility of the Higher Education system in several Danube Region countries due to some corruption cases		Lack of sustainable management of natural resources and ecosystems at the scale of the Danube River – Danube Delta – western Black Sea (taking into account of the entire macrobasin).
		Not very effective communication of results from researchers to decision makers, administrations and the public. Communication between river basin and coastal – marine end users is limited.
		Persistent lack of good intercalibration for WFD parameters in the entire river basin, including the coastal waters (despite the number of initiatives running)
		Missing Harmonization of data in the entire basin (including the coastal sea)
		Limited stakeholder involvement in many research projects
		Limited number of basin – scale initiatives vs. national projects

OPPORTUNITIES

Human Resources	Research Infrastructures	Strategic Research and Innovation Agenda
Development of Higher Education Institution (HEI) networks	Proposed pan-European distributed RI in the field of river delta – sea system (DANUBIUS-RI – its Danube component is EUSDR Flagship Project)	Understanding of the full connected system river-delta-sea
Existing global educational trend towards a cross sectoral / interdisciplinary approach	Proposed distributed RI: DREAM Danube River Research and Management – EUSDR Flagship Project	Harmonisation of research goals and methodologies to support better research Programmes (Programme logic alignment and quality support, set up of better indicator sets for R&I programmes = structural support to stakeholders of national research and innovation programmes)
Existing public awards for “water research” or “HEI+Administration cooperation” to showcase good experiences (best practice also in some Danube countries)	Existence of ESFRI and its roadmap	Setting the R&I Agenda relevant to EU 2020 Societal Challenges – also covering Horizon 2020 challenges (considering the Water EIP, Water, Climate and Ocean JPIs)
Twinning actions between HEIs to facilitate mutual learning	Existence of dedicated calls for Integrated Activities for Infrastructures at European level (H2020)	Acknowledged need to support the set up of the Danube River Basin Management Plan with the active involvement of researchers
ERASMUS and other pan-European actions in the field of water	Coordination of existing national research infrastructures (national roadmaps)	
European legal framework for transferable credits between Higher Education Institutions	Environmental and social research centres lining up to global initiatives, such as collection of long term data series	
Existing European opportunities such as Marie Curie – for training at various research career stages		
Already identified needs for highly skilled experts in future actions (ex. navigation)		
Possibility to involve Industry/business funding of HEI training programmes, applied research and training activities		
Promoting hands-on training in curricula		
Framework exists to develop training certificates		

THREATS

Human Resources	Research Infrastructures	Strategic Research and Innovation Agenda
Inertia to changes when dealing with development of new research and professional communities	Lack or uncertainties of funding	Complex administrative processes at national level endanger further alignment of international or coordinated research actions
Lack of ability to involve in the capacity building process all the relevant actors/sectors	Subcritical funding and size endanger the visibility and significance in the region and globally	Non availability and accessibility of best available technologies (cost factor, information, disclosure by industry)
Limited access (eg. bureaucratic barriers) to field work for stakeholders that are not directly involved in water research	Focus on a very limited Research field	Non timely response of actors - Urgency for action i.e. climate change
	Limited funding for maintenance of regional and national infrastructures	Possible rapid alterations suffered by the European natural habitats (eg. risk to lose the subject of research)
	Life cycle of infrastructure	Segregation of the connected natural system driven by non coordinated interventions/isolated interventions in the system



KNOWLEDGE MATRIX

The Knowledge Matrix has been developed by considering the main three pillars of R&I: Science & Innovation Agenda, Research Infrastructures and Human Potential, originating from the SWOT Analysis.

Besides the analysis of what is good and what is missing, what is significant, and what needs to be strengthened in this field, the Knowledge Matrix incorporates several important suggestions regarding the future developments in the Danube Region. These suggestions are the initial contributions for the detailed materials that will constitute the toolbox of instruments, which is one of the final deliverables of the project.

This Knowledge Matrix may further evolve and will be used in definition of a new research infrastructure that may be built in the Danube Region.

CONCLUSIONS

All the strategic needs identified during the workshops were the starting ground for discussions during the Dialogue Conference. Here, the joint discussions of the representatives of the three main categories of stakeholders (selected active participants at the previous workshops) helped the coagulation of conclusions regarding the present state of the three pillars for innovation in the Danube Region (scientific programmes, infrastructures and human capacity).

Consensus was obtained between participants at the Conference regarding the strong and weak points, as well as the threats and opportunities for the development of research and innovation in the field of integrated river-delta-sea management in the Danube Region.





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