DANUBIUS-RI, Making River-Sea Systems Work

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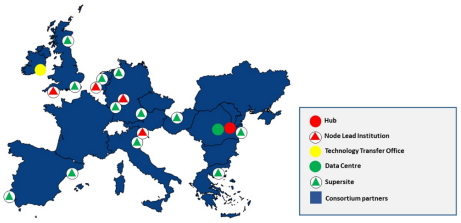

DANUBIUS-RI first appeared in the 2016 Roadmap and is now an aspiring ERIC in the final year of its H2020-funded Preparatory Phase (www.danubius-pp.eu). What is it and what are its distinguishing features in the seemingly crowded landscape of distributed, environmental RIs?

The full title, though rarely used, is the International Centre for Advanced Studies in River-Sea Systems. The usual name of DANUBIUS-RI reflects both the origin of the idea and recognition of the Danube as the world's most international river flowing 2,850 km from the Black Forest to the Black Sea, flowing through or bordering ten countries, and with its basin draining 19 countries.
DANUBIUS-RI will be a pan-European RI dedicated to interdisciplinary studies of the whole system from the source of the river to the coastal waters. There will be a focus on transitional zones such as estuaries, deltas and lagoons. It will support research addressing the conflicts between society's demands, environmental change and environmental protection in river–sea systems worldwide. Surface waters have a key role in global biogeochemical cycles, food and energy production, and societal wellbeing. They face pressures from natural and anthropogenic driven environmental perturbations at local and global scales. European research is world-leading but fragmented, largely discipline-specific and often geographically isolated.

The lack of interdisciplinary RIs has fuelled this fragmentation. DANUBIUS-RI will fill the gap, drawing on existing research excellence across Europe and enhancing the impact of European research. It will provide access to a range of European river-sea systems, facilities and expertise; a 'one-stop shop' for knowledge exchange in managing river-sea systems; access to harmonised data; and a platform for interdisciplinary research, inspiration, education and training.

The architecture will include a Hub and a Data Centre (Romania),

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four subject-specific Nodes (led from the UK, Germany, Italy and Netherlands), a Technology Transfer Office (Ireland) and Supersites at locations of high scientific importance and opportunity across Europe. The DANUBIUS Commons will drive the implementation of standardised procedures and quality control.

We are developing links with other European RIs for mutual benefit as well as to avoid duplication or overlap. For example, there is interest in the use of individual DANUBIUS-RI Supersites for observations and measurements by other environmental RIs.

There is a strong collaboration with EPOS ERIC, since river-sea systems often evolve over the geological time due to the tectonic and neo-tectonic activities. Transitional environments, such as deltas and lagoons, are also subject to subsidence and other geological processes. This is why some of the DANUBIUS-RI Supersites have the potential to become areas with relevant for both research infrastructures, as in these sites scientific information relevant to both infrastructures will be collected.

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