Living Danube Challenge

EIT Climate-KIC Ignite NEB Event 2025

Challenge 4

Theme: Invasive Species

Challenge Owners: IRB & (IMSI)

The Problem

Aquatic invasive species (AIS) are an increasing threat to biodiversity, ecosystem health, and water quality in the Danube River Basin. These non-native organisms often outcompete local species, disrupt food webs, and permanently alter aquatic ecosystems. Effective monitoring and early detection are key to limiting their spread—but current systems are often fragmented, expert-driven, and not easily accessible or implementable to communities or schools.

The Insight

While several tools exist, such as mobile apps and environmental DNA (eDNA) sampling, many are still either too complex, costly, or underutilized at the community level. At the same time, there is untapped potential in mobilizing local residents, schools, and youth groups to support monitoring efforts. Engaging these groups could help close data gaps while also raising awareness and building local stewardship.

The Opportunity

How can we identify which invasive species are present locally in the Danube River Basin—together with its inhabitants?

This challenge invites creative ideas that empower schools, citizen scientists, and local communities to contribute meaningfully to invasive species monitoring. Solutions may leverage existing tools (e.g., apps, eDNA), propose new low-cost approaches, or offer novel ways to coordinate and scale monitoring across the basin.

The Challenge

Design a method, tool, or system that enables widespread, community-based monitoring of aquatic invasive species in the Danube River Basin.

The solution should:

a) Be accessible and usable by schools, youth groups, or local communities

b) Generate useful, location-specific data that can support scientific or conservation work

c) Include educational elements that build awareness about invasive species and biodiversity

Use of environmental DNA (eDNA) is welcome as an example or optional approach, but is not required.

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