

Plastic Pirates – Go Europe!

“[In an ideal scenario] environmental data gathered as part of citizen science initiatives is recognised, valued and considered in the policy-making process.”

Mandy Hinzmann, Ecologic Institute



The Spark

Every year around 6 million tons of plastic waste leaks to rivers and coasts, and about 15% of that waste finds its way to our oceans¹. This plastic waste accumulates and over time breaks down into tiny pieces that are eaten by fish and other animals, poisoning them and ultimately entering our own food chain². Even though rivers and coastlines are a major pathway to the ocean, being the origin of 75% of the ocean plastics, there is still a big data gap on plastic pollution patterns across Europe³. That is where Plastic Pirates – Go Europe! comes in. The program originated from the Científicos de la Basura, a citizen science programme initiated at the Universidad Católica del Norte (UCN) in Coquimbo, Chile. The initiative unites young people (ages 10 to 16), scientists, teachers and volunteers to collect and analyse data on plastic pollution in rivers, beaches and along coastlines. By standardising methods and working together with governments, research institutions and schools, the project not only generates valuable insights for researchers but also empowers young citizens with environmental knowledge and responsibility.

After its foundation in Chile the initiative was transferred to Germany where the Kiel Science Factory (KSF) first developed the Plastic Pirates campaign in 2016. During the German EU Presidency in 2020 the German campaign was extended to also include Portugal and Slovenia in 2020–2021. In the last three years the initiative saw a further Europeanisation, including a total of 12 countries within the EC-funded project Plastic Pirates – Go Europe.



Governance Model

The initiative employs a participatory governance model that connects science, citizens and policymakers. Twice a year young citizen scientists from 12 European countries join sampling campaigns to collect and use a standardised methodology to document plastic waste in and near rivers. Results of the samplings (including counted litter items, types of litter and overall weight) are uploaded to a central database. Their contributions generate large-scale data whilst fostering co-creation of knowledge by empowering the youth to actively contribute to research. By validating and centralising the gathered data the project strengthens the science-policy interface by advocating for citizen-generated data to be recognised and valued in decision making.

Throughout its different stages of implementation, the citizen science campaign enjoyed financial support from a range of sources. Starting with funding from the Chilean Science Foundation CONICYT for the initial methodology, followed by national support structures for the implementation of the campaign in Germany, Portugal and Slovenia.



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The Europeanisation of the citizen science initiative since July 2023 is funded under the EC's Horizon Europe Mission "Restore our Ocean and Waters by 2030". The European funding is supplemented with national funding to pay for funds to the local implementation of the campaign.

Social Benefits

The project actively engages and empowers citizens, particularly young people, across Europe. Plastic Pirates motivates active involvement by involving youth in hands-on scientific research. By participating in the project young citizens become more aware of the environmental impact of plastic waste and the benefits of preserving ecosystems. The experience promotes a sense of responsibility and motivates participants to take action to protect the environment.

Through the collection and documentation of waste the initiative enhances the scientific understanding of plastic pollution. Young citizen scientists gather valuable data, which researchers analyse to gain insights into pollution patterns. Additionally, the project contributes to long-term solutions for the prevention, reduction and removal of pollution. It can set a standard for creating strategies to combine citizen science with scientific research.



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Environmental Benefits

During each sampling campaign, Plastic Pirates teams gather waste from rivers, coastlines and beaches which is then analysed. Afterwards, the waste is disposed of responsibly. This contributes to reducing the environmental impact of plastic litter.

For the long term, the collected data provides insights into plastic flows before they reach the ocean. These findings could guide environmental policies and shape conservation strategies to stop plastic at its source, helping reduce marine pollution in the long run.



Impact numbers of Plastic Pirates – Go Europe! since June 2022

Replicability Potential

Plastic Pirates – Go Europe! has proven it can work anywhere. After its foundation in Chile and its transfer to Germany, EU funding for the PlasticsPiratesEU initiative in 2022 led to successful expansion to 11 other European countries. This expansion highlights the project's adaptability and its ability to unite diverse communities in the shared mission of reducing plastic pollution. Additionally, the gathered data is analysed across countries as a joint scientific cooperation.

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