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**Scalable full-cycle marine litter remediation in the
Mediterranean: Robotic and participatory solutions**

SeaClear2.0

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SeaClear2.0 stakeholder workshops

Co-design Activities for Tackling Marine Litter

Stakeholder Workshop in Hamburg

25 May 2025

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The SeaClear2.0 stakeholder workshops

Identifying site-specific issues and designing applicable and effective solutions to address them is a key step in combating marine litter. To this end, within the SeaClear2.0 project, ISOTECH Ltd is implementing its DeCyDe-4 decision support method in a series of participatory workshops with stakeholders in eleven countries around Europe and the Mediterranean (including non-EU member countries) to map site-specific marine litter problems and co-design solutions.

The first workshop: Hamburg, Germany

The first workshop took place on 22 May 2025 in Hamburg, Germany.

The workshop brought together 15 invited stakeholders from a diverse mix of sectors, including public authorities, port authorities, academia, waste management and the private sector. Participants worked collaboratively to identify key marine litter challenges in the Hamburg region and to co-design potential solutions.

Key Marine Litter Issues: From Broader Challenges to Local Realities

The workshop highlighted a variety of marine litter issues, ranging from broader European-wide challenges related to regulatory gaps to distinctly local realities:

1. Inefficient enforcement of regulations and directives was a main issue. Stakeholders pointed to the fact that although the legislative framework is comprehensive, there is a lack of effective implementation of policy instruments. The inefficient management of garbage from vessels, stemming from the ineffective implementation of the Port Reception Facilities Directive, was noted as an example, highlighting a possible gap between policy and practice in port and shipping waste management.
2. “Out of sight, out of mind”: Lack of awareness regarding seabed marine litter was identified as a major concern. Because this type of litter remains out of sight, it is often underestimated or ignored by the public and decision-makers alike.
3. Insufficient detection, monitoring, and data on both seabed and floating marine litter were flagged as key limitations. Stakeholders stressed that without reliable data, it is difficult to design and evaluate targeted interventions.
4. Lack of public education around marine litter, particularly its impact on public health and ecosystems, was also considered a priority. Participants noted the need for early and ongoing environmental education, especially regarding plastic pollution.
5. Vandalism leading to items like e-scooters and supermarket carts ending up in canals, often complicating cleanup and posing safety risks.
6. Urban litter from city streets is being washed into canals and transported by tides to the sea, pointing to the interconnectedness of land-based and marine pollution.

Overall, the workshop underscored the complexity of marine litter in Hamburg, where regulatory, behavioural, and infrastructural issues intersect. While some challenges, such as enforcement and education, are shared across Europe, others, like urban vandalism, are

localised and require tailored responses.

Co-designing Solutions for Greater Impact

In response to these challenges, the participating stakeholders were facilitated towards co-developing practical, effective and applicable solutions. The proposed actions include:

- Implementation of data collection and monitoring programmes focusing specifically on seabed and floating marine litter and combining these with educational activities to ensure that this 'hidden' problem becomes more visible to the public, especially children, as well as to policy-makers.
- Increasing surveillance and monitoring, coupled with allocating more personnel for regulatory oversight and enforcing stricter penalties for polluters, to disincentivise the inappropriate disposal of waste and vandalism.
- Incentivising cleanup efforts and targeting specific groups, such as industry, for awareness-raising campaigns, were also proposed as possible solutions.

The Way Forward

This workshop marks the first in a broader co-design process that will unfold across all SeaClear2.0 pilot and demonstration sites, as well as the sites where the project's Associated Region projects are being implemented. Each workshop aims to build local ownership of marine litter challenges and solutions. The Hamburg workshop has set a strong precedent for this.

The results from these eleven workshops will complement the policy analysis work that ISOTECH is implementing within SeaClear2.0 and will inform the final policy recommendations that will be included in a White Paper to be published in 2026.