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## Drawing insights from European cutting-edge technology for marine plastic litter removal and circular economy at the International Boat Show of Venice

*On June 3<sup>rd</sup> 2021, the H2020 MAELSTROM and InNoPlastic Projects set the stage for the international workshop "Removal of Marine Litter and Circular Economy: Challenges and Opportunities" that will take place at the historic Arsenal of the world heritage site of Venice and its lagoon.*

For the first time, the event brings together innovative sustainable technologies for removing and recycling marine plastics litter, bonding together large industrial entities with startups and NGOs in the attempt to turn such a planetary scourge into a blue economy opportunity. The workshop is the first annual event in the frame of the EU H2020 projects MAELSTROM (coordinated by CNR-ISMAR) and InNoPlastic (coordinated by SINTEF), instrumental in taking stock of the most promising marine litter removal and blue circular economy's technological developments in the European Union.

The workshop will host representatives of additional EU pioneering projects and independent entrepreneurs engaged in designing and testing innovative vessels/devices to retrieve marine plastics litter through which feed stocking green/blue economy growth by circular/economy-oriented technologies.

Our projects were also born believing firmly in the importance of **informed citizens** to mitigate the problem of marine litter. For this reason, as part of MAELSTROM and InNoPlastic, we have planned several cleanup campaigns with multiple goals all around Europe and the Caribbean in the following 3-4 years.

In the aftermath of the workshop, a vast clean up campaign will take place in the Venice historic city centre, mainland and minor islands, with the fundamental support of the local waste management authority (VERITAS), aligned with the World Environment Day (June 5<sup>th</sup>).

A great moment of exchange of scientific and technical knowledge: the workshop is a one-day event from 10.00 to 17.30. It brings together representatives of four international projects dedicated to addressing the problem of marine litter. Divided into four sessions and with round tables and Q&A moments, the meeting occurs in a combined mode, partly online and partly in presence at Torre di Porta Nuova of Arsenale of Venice, due to the persisting pandemic constraints.

The first part of the day is an opportunity to introduce the participating projects and their Consortia members to establish a collaboration network. It is essential to enhance inter-project cooperation and to narrow the gap between removing and managing marine litter after its removal. In addition to the representatives of the projects InNoPlastic and MAELSTROM, the coordinators of two other EU H2020 projects, namely CLAIM and GoJelly, will be equally attending and contributing.

The second part is devoted to removing marine litter technologies in progress or developed to come to grip with a wide array of plastics based materials and sizes, from nano to macro. Each speaker will focus on a specific technology that allows us to intercept and collect plastics waste. These technologies are designed to prevent the litter accumulation in our environment and ecosystems and even its arrival into our coastal areas and the sea with special river cleaning devices.

The third part of the day will address the circular economy topic and focuses on recycling marine plastic litter. This goal is highly relevant for MAELSTROM and InNoPlastic, and their technical and technological partners such as SINTEF, Tecnalia, EDF France, Makeen Denmark, GEES Recycling, to mention a few.

The workshop will end with a fourth session dedicated to smartphone apps under development that assists operators in marine litter monitoring, cleanups (even through incentives and gamification), disposing and



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recycling process of collected waste. From here, the workshop will ideally and operationally join the cleanup day shortly after, during which a first version of the smart app of the Norwegian start-up EMPOWER (InNoPlastic project partner) is put at test on field.

Venice Lagoon Plastic Free will indeed, implement a vast cleanup campaign on Saturday, June 5th in conjunction with the 47<sup>th</sup> United Nations World Environmental Day and in compliance with regulations to limit the spread of Covid-19.

The event in Venice will engage local and national organisations, volunteers, rowing clubs, citizens and tourists, and more than 30 organisations, among which environmental NGOs, waste management enterprises, rowing clubs and sustainable tourism start ups, including Legambiente, Fare Verde, Mare Vivo, Global Shapers Veneto hub, Skal Venice, Prontopia etc and it will support the WWF Plastic Smart Cities Initiative. Furthermore, the Venetian naval engineering enterprise ST will assist in collecting plastics and non-plastics materials identified during the cleanup. At the same time, the Italian waste management company Gees Recycling from Aviano (Italy) will handle the hard-to-recycle material through innovative mechanical treatments. It is worth noting that the hot spot for the clean up are green lighted by the Italian League for Protection of Birds (LIPU). Volunteers handpick-ups, when conducted in the wrong places and times with an insufficient level of awareness, can harm ecosystem. The “spectacularisation” of the clean up as social events, focusing on the number of participants and the quantity of litter removed, often neglects the fact that human/mechanic operations can cause distress to bird populations during courting and hatching periods with possible eggs removal, nests destruction, etc. To avert this scenario, we recommend relying on senior professionals and always consult the local entities for the protection of local flora and fauna.

Finally, the organisers hope that the basins of the Arsenal, once the heart of the naval power of the Republic of Venice, may permanently become, in collaboration with the Venice Boat Show, the new house and showcase of innovative vessels and devices capable of detecting, collecting and removing marine plastic litter and pollutants from our rivers and seas.

Organisers: **The international workshop** is co-organized by: CNR ISMAR and the NGO Venice Lagoon Plastic Free in cooperation with the Venice Boat Show, CIMA Research Foundation and ISDI.

**The Clean up is organized by** Venice Lagoon Plastic Free with the participation of more than 30 organisations (environmental NGOs, rowing clubs, waste management enterprises such as Legambiente, Fare Verde, Mare Vivo, Global Shapers Veneto hub, Skal Venice etc. The event is also in line with the WWF Plastic Smart Cities Initiative, the city of Venice is a signatory party.

If you wish to provide your contact for registration in the International Workshop, please fill out the form on the following [https://zoom.us/webinar/register/WN\\_IQJbhqZBSCK4HNAOX0BSXg](https://zoom.us/webinar/register/WN_IQJbhqZBSCK4HNAOX0BSXg).

Please note that the number of participants is limited.

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