MAELSTROM

Smart technology for MArinE Litter SusTainable RemOval and Management

PROJECT PRESENTATION

Co-funded by the European Union

MAELSTROM
MArinE Litter Sustainable RemOval and Management

WE HAVE A PROBLEM!

Increasing amounts of litter are ending up in the world's rivers and oceans, harming the health of ecosystems and animals when they become trapped or swallow the litter. Human health is also at risk, as plastics may break down into smaller pieces that may subsequently end up in our food.
We, at the MAELSTROM project, want to do something about it!

HOW? By implementing two innovative technologies designed to remove litter in previously identified accumulation hotspots. Our technologies – a underwater cable robot and a Bubble Barrier – will be tested in the rivers of Portugal and Italy, removing litter both from the seabed and the water column and preventing it from reaching the sea.

WHAT'S NEXT? We don't want waste to remain waste: collected litter will be recycled and put back into the market through the form of chemical precursors, polymers and materials that can be part of the industrial chain. In this way, litter will become a new resource, within a circular economy perspective.

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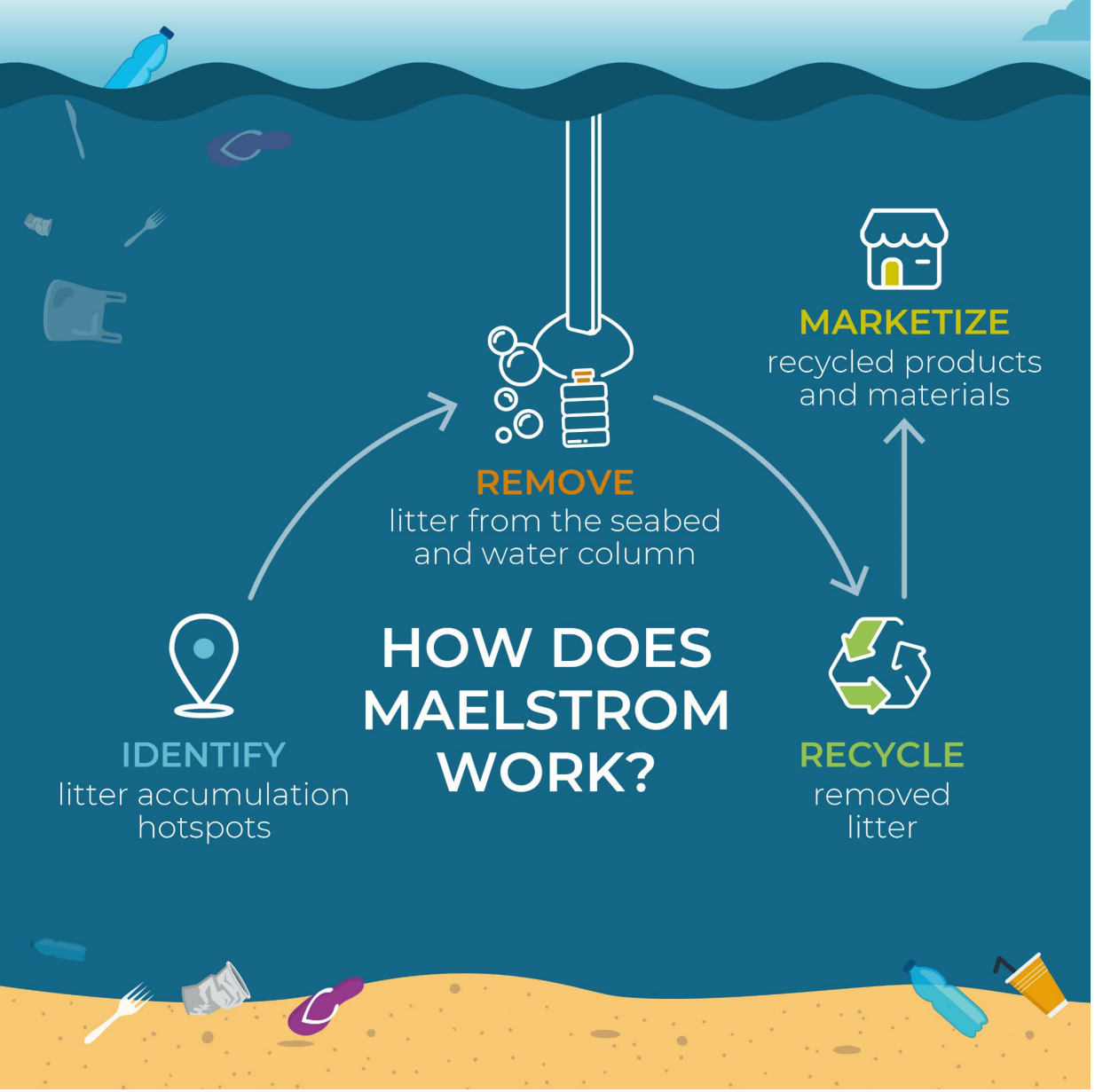

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WHAT DOES MAELSTROM DO?

MAELSTROM – MArinE Litter SusTainable RemOval and Management is a European Union funded project designed to develop and test sustainable technological solutions **for the removal and treatment of litter within river ecosystems, intercepting litter before it** enters the sea.

STEP 1 IDENTIFY : in the pilot areas of Italy and Portugal, we will model **litter trajectories to identify** accumulation hotspots.

↓

STEP 2 REMOVE : two innovative **litter removal technologies** will be implemented in those hotspots: a Bubble Barrier and an Underwater Cable Robot. Both technologies will be co-powered by sustainable sources of energy.

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STEP 3 RECYCLE : the removed litter will then go through **advanced recycling processes**.

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STEP 4 MARKETIZE : recycled products such as polymers, it will **re-enter the industrial supply chain** as a new resource.

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STEP 1 : IDENTIFY

Our action starts from modelling litter trajectories to identify its accumulation hotspots. We then proceed with an environmental assessment to understand how litter is impacting the surrounding ecosystem.

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STEP 2 : REMOVE

The second step it to implement one of the two MAELSTROM's removal technologies – the Bubble Barrier and the underwater cable robot – for litter removal, either from the riverbed or the water column, depending on the river settings.

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STEP 3 : RECYCLE

The removed litter will go through advanced recycling processes which will allow the regenerated materials to re-enter the industrial supply chain. Examples are chemical precursors, polymers and other materials useful for industrial purposes.

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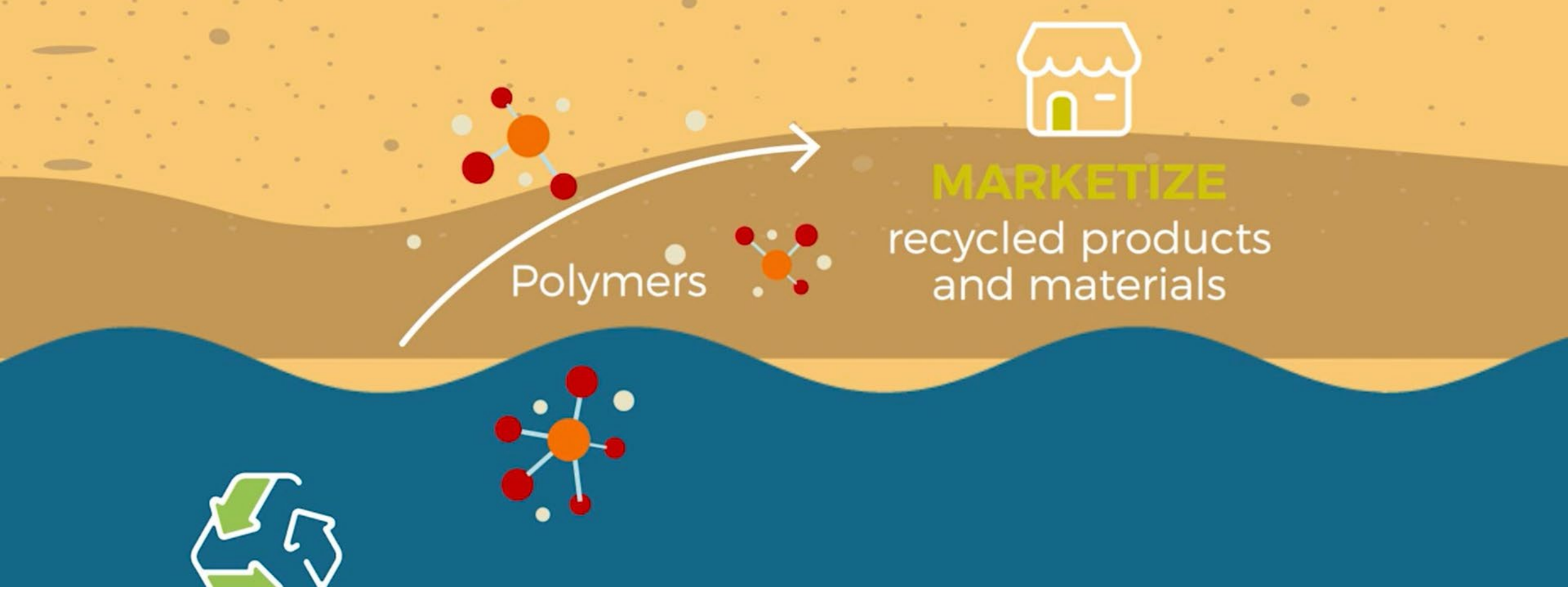

STEP 4 : MARKETIZE

Moreover, we will use a prototype based on low-temperature pyrolysis capable of producing second-generation fuel, which in turn will be used to power the removal technologies within the project... creating a self-feeding cycle!

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WHAT'S IN FOR ME

The protection of the environment requires multi-disciplinary efforts. For this reason, MAELSTROM will not only be a project exclusively based on science and technology, but also on the active engagement of citizens: find out how you can be part of the movement!

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REMOVE. RECYCLE.
RE-USE. REPEAT.

JOIN US!

www.maelstrom-h2020.eu

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Thanks for the attention

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