

# CIRCULARSEAS

NEWSLETTER #1



## *“In a World of Plastic!”*

*Engaging students with the challenge of ocean plastic pollution was the main purpose of the “In a world of plastic” Initiative.*

*Photograph shows experimental activities at CDRSP facilities*

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## *“Cork explores business opportunities”*

March 31st 2020 saw the first of three Circular Seas workshop events hosted by the Halpin Centre, at the National Maritime College, Cork Institute of Technology.

The stakeholder workshop and project introduction was hosted online using a live stream meeting platform.

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## *Know our team!*

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## *“Water in the time of COVID-19”*

The view of the Earth as the “blue planet” can give us the impression that we live in a world with an abundance of water.

However, the water we use for our daily chores, production and, mainly, to quench our thirst, is not as abundant as it seems.

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CIRCULARSEAS

## *“ In a World of Plastic!”*

Engaging students with the challenges of ocean plastic pollution was the main purpose of the “In a world of plastic” Initiative.

*Plastic waste in the oceans is now a global problem, with multiple implications for society and requires a complex resolution.*

Students were divided into 3 groups representing different types of plastic (bioplastics, petrochemical plastic and composites). While visiting CDRSP facilities they observed different plastic manufacturing technologies (including 3D printing), they saw the production and valuation of different wastes in the generation of new products.

This event was attended by Paulo Sellmayer, co-founder and Designer of Vicara. He designed sieves made from renewable materials, such as wood, with a bi-functionality, as a beach toy and as a garbage collector object. Paulo Sellmayer participated in this activity with the students of Agrupamento de Escolas Caranguejeira – Sta Catarina da Serra, where he explained them the variety of plastic found on some of Leiria beaches.



The photo shows the young scientists in action

The visit concluded with the distribution of diplomas to the young scientists, encouraging them to question each action and consequently to play an increasingly active role in caring for our planet!



The photos shows the activities in the different laboratories of the CDRSP



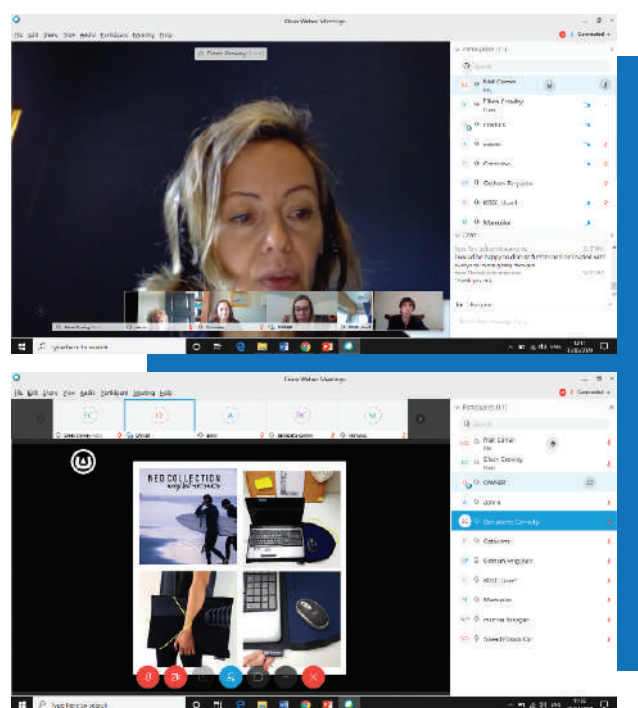
## Cork explores business opportunities

### ***“Introduction to the Circular Economy, Circular Seas & 3D Printing”***

March 31st 2020 saw the first of three Circular Seas workshop events hosted by the Halpin Centre, at the National Maritime College, Cork Institute of Technology. During this webinar, project presentations were made and discussions were had with various stakeholder representatives from our three target sectors; Fisheries, Port operations and Nautical sports. We had presentations from upcycle businesses Mamukko and The Upcycle Movement.

### ***Circular Seas lead partner LEARTIKER conducted initial identification and analysis of waste materials that could be converted into 3D printing feedstock to produce different objects...***

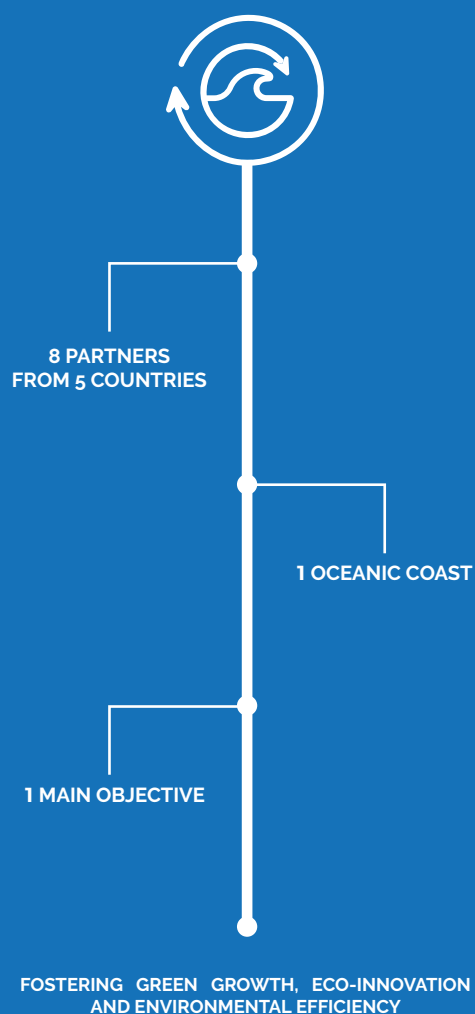
As part of the project, CIT was tasked with performing a diagnosis of plastic waste consumption across these sectors. Included in this diagnosis was an overall characterisation and categorization of the types of plastic materials found on Cork ports and beaches. LEARTIKER conducted initial identification and analysis of these materials that could be converted into 3D printing feedstock, and recommendations made around the green products that could be 3D printed using equipment that will be purchased and built by project partners. These products were identified by stakeholder businesses themselves based on their day to day operational needs, while developing a circular supply chain for this waste plastic back into these sectors.



Screenshots of the workshop

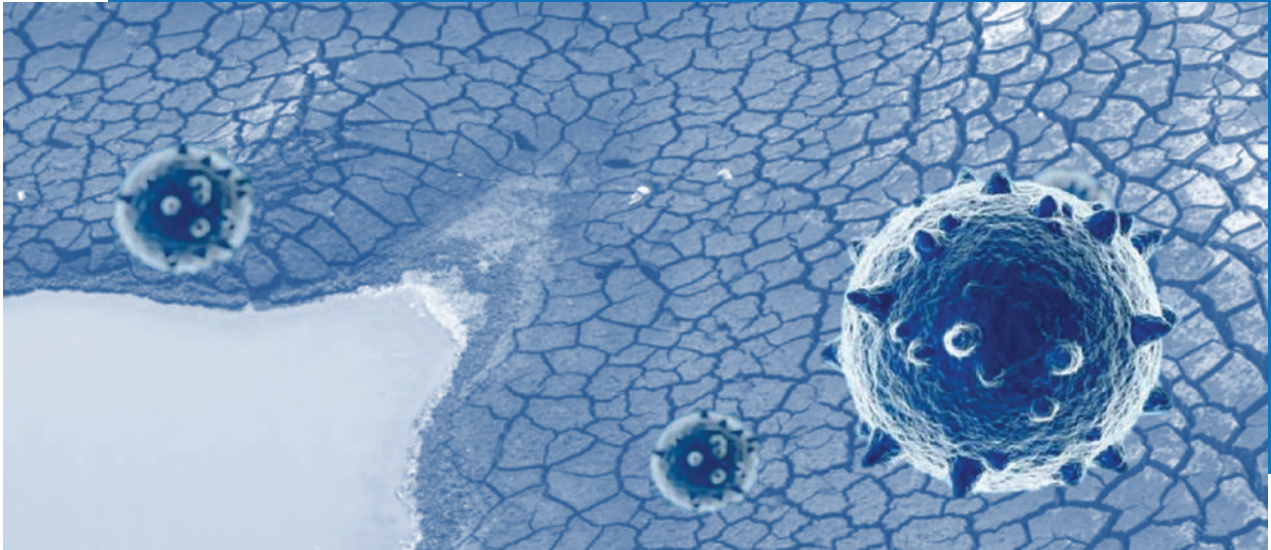
Highly productive discussions were had around the potential of introducing eco-design processes into the production of these printed products. Further classification of the plastic materials themselves were discussed, including the viability of the recovered plastic in relation to the durability and eco- friendly nature of the polymers that were proposed. Very interestingly, outdoor education centres and nautical sports stakeholders in attendance discussed the importance of the broad need to educate and inform both their clients and the wider Irish community in the benefits and opportunities to management of our plastic waste streams, and the novel aspects of upcycling items together with new 3D printing technologies and processes.

These activities will feed into business case workshops 2 and 3, which are scheduled for the summer of 2020, to explore in more detail the creation of new supply chain and business models for these businesses, centred around the circular economy approach and upcycling of the end of life materials.



The photo shows the second project annual meeting in Plymouth, England



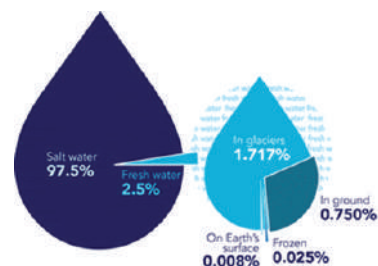


*The view of the Earth as the “blue planet” can give us the impression that we live in a world with an abundance of water. Yes it is true. However, the water we use for our daily chores, production and, mainly, to quench our thirst, is not as abundant as it seems.*

This is directly related to the ways in which we deal with this important natural resource. At a time like the one we live in, fighting Covid-19 requires a greater use of this resource, not only in frequent hand washing but also in disinfecting surfaces and public spaces. In these circumstances, water availability becomes more relevant and we should not forget its importance and scarcity as well. And that it is necessary to know how to rationalize this precious asset. It is never too much to remember how to act. Actually, at the rate at which we consume water and waste this resource, in just a few years, the very near future will be unsustainable. We need a change of attitude towards the use of this resource. The apparent abundance of water cannot be mistaken by permission to waste it with pollution, losses during supply or uncontrolled use, as it is usually seen.

### facts about water

- The surface of the planet is made up of 70% water. Approximately 97% of the Earth's water is trapped in our oceans and seas, while the other 3% is considered to be "fresh water". Out of freshwater, 69% resides in glaciers, 30% is underground, and less than 1%, located in lakes and rivers, remains for use among all the inhabitants of the Earth;



- With over 70% of the earth surface covered in ocean water, desalinisation could be a solution but it is extremely expensive, and on top of that it only fulfils 10% of our water needs;
- 5% of water consumed in the US is in the home compared to 55% of water consumed in animal agriculture;
- Animal Agriculture is responsible for 20%-33% of all freshwater consumption in the world today;

- With the increase of the human population as well as the consumption activities that use this resource, such as extensive food production, it is estimated that every 20 years the world water consumption doubles;
- According to the United Nations, in 2030, the global population will need 40% more water to survive in adequate conditions. By 2050, approximately 45% of the population will not have the minimum amount of water;
- The lack of drinking water is a harsh reality in several countries: 1 out of 3 people globally do not have access to safe drinkable water;
- The Earth may experience severe water shortages until 2050, if emergency measures are not taken to care for water sources.
- Brazil is one of the countries that most wastes water worldwide. In 2013, 37% of treated water, was wasted in Brazil;
- Water is a Human right! However approximately thousands of deaths are related to inadequate water supply, and there is an unequal worldwide access to drinking water sources, such as:
  - Urban areas vs rural areas;
  - In the U.S. around 580 liters of water is used per capita.

In the UK, the average person uses about 150 litres of water a day (that is around a tonne a week), whereas in Africa no more than 5 to 10 liters of drinking water is available per person.

- Water access is one of the key interventions in the COVID-19 response plan;
- With the COVID-19 Pandemia, if you wash your hands for 40 sec, with the tap on, you will spend approximately 6 liters of water, times 10 washes a day; for hand-washing alone you will spend around 60 L per day. In 15 days you are responsible for 1 ton of water spent!

**It is necessary for society to seriously reflect on these matters**, as the availability of water is vital. Without water we cannot maintain the basic biological processes of our organism, since 60% of the human body is formed by water, and as a result cannot have the energy to lead a healthy life.

### *the issue we face*

Because of our water-intensive lifestyle, **we need to find ways of using water much more efficiently if we are to continue to enjoy high standards and constant supply.** By the end of 2020 the demand for water could increase in an unreasonable way by extra liters of water a day, not only but mostly because of COVID-19 outbreak.

**Acknowledgements:** <https://www.who.int> | <https://www.thegreenage.co.uk> | <https://www.un.org/>



## how to save water

