



# MICROPLASTIC POLLUTION PROBLEM

- 1950 – 2018: **358.5 Million tons** of plastics have been produced worldwide.

(Okunola A Alabi<sup>1</sup>, 2019)

- The amount of plastic is **expected to double in the next 15 years**, by 2050 **more plastic than fish in the sea**.

(Sarah Kaplan, 2016)

- Plastic pollution represents **85% of all marine litter**.

(Nairobi, 2021)

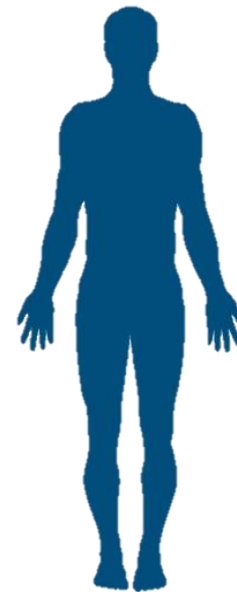
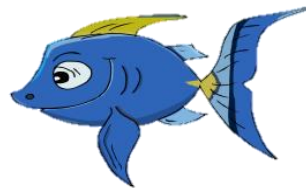
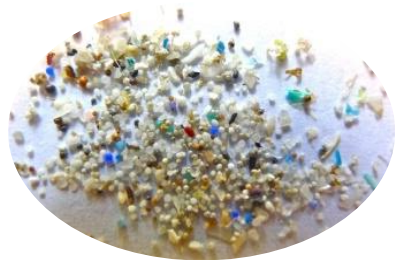


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Microplastics (MPs) have generated special concerns

Heat friction radiation

- easy to transfer to marine ecosystems, across different trophic levels inside the food web.





# MICROPLASTIC POLLUTION PROBLEM

- The earliest Study reported plastic ingestion in more than 100 fish species **→ causing neurotoxicity, increasing cellular oxidative stress, and cell death.**

(Markic et al., 2019)

- Microplastic pollution has been detected in human blood for the first time, with scientists **finding the tiny particles in almost 80%** of the people tested.

(Heather A.Leslie et al, 2022)



## ECOSPHERE DEFINITION

- Is a product built around a novel, lab-validated process to degrade MPs existing in aquatic bodies – ponds, lakes, and oceans.



# ECOSPHERE IMPLEMENTATION PHASES

PHASE 3  
Mega-scale

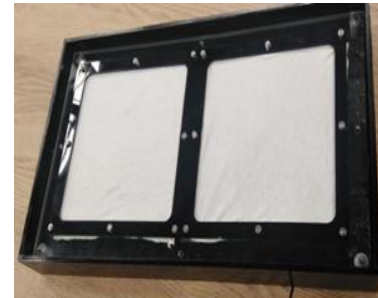
(Nano-MM sphere)



PHASE 2

Bridge from the micro substrate to a real-world macro scale application

(Nano-MM cell)



PHASE 1

Lab-scale

(Test vials)

