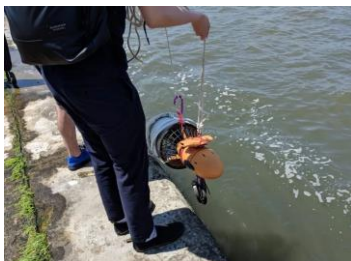


Pirika developed an innovative survey system to identify the source and the route of the leakage of plastic debris and microplastics to the ocean. We call this system 'ALBATROSS'. ALBATROSS system can grasp the current situation of micro and macro plastic leakage through an innovative survey device that can sample and measure floating microplastics in the rivers and the bays and the image analysis by Artificial Intelligence (AI). We surveyed more than 200 spots in Japan, Indonesia, Thailand, Vietnam, Cambodia, Laos, USA and EU countries and had published the result as the open data.

Microplastic Survey Method

We developed a method to capture samples of microplastics as they flow toward the sea. Rivers, canals, ports, lakes, ponds and sewage treatment plants -- every point of outflow has its own unique conditions. We invented Albatross Series as a flexible research device that can be used under all of these unique conditions.

Procedure of the Survey



Sampling Plastic Debris through the Investigation Device 'Albatross Mark. 5'

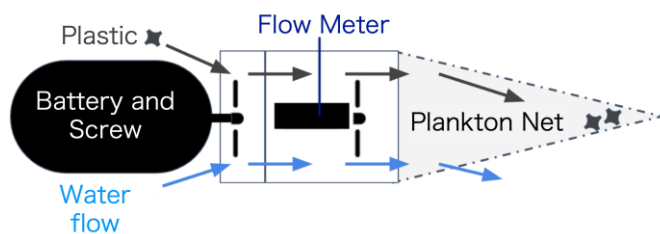


Analysis of component of debris by Infrared Spectroscopy (FT-IR) and Microscope

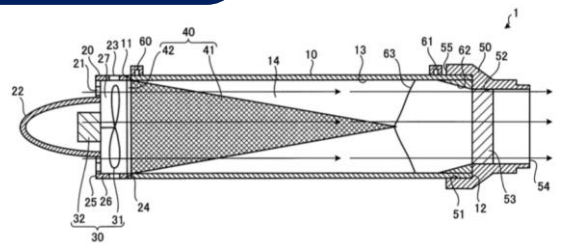


Identify the products and uses of plastics through the analysis of component, shape, size, colors and information from manufacturers

Microplastic Sampling Device

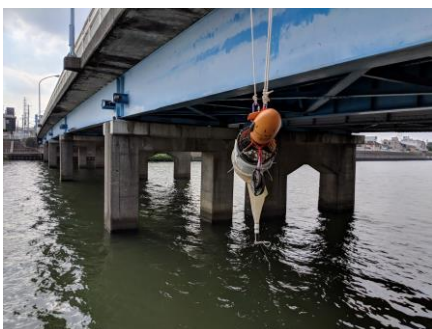


Construction of Albatross Mark.5



Albatross Mark.6

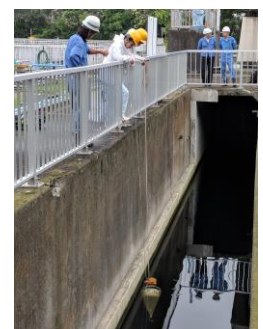
Albatross Mark Series can gather approx. 2~10tons (m³) water in 3 mins and extract debris including microplastics under water. It could realize the innovative survey of microplastic sampling by one unified method under any circumstances. (This product is patent pending.)



River (from the bridge)



Ocean (from on board a ship)



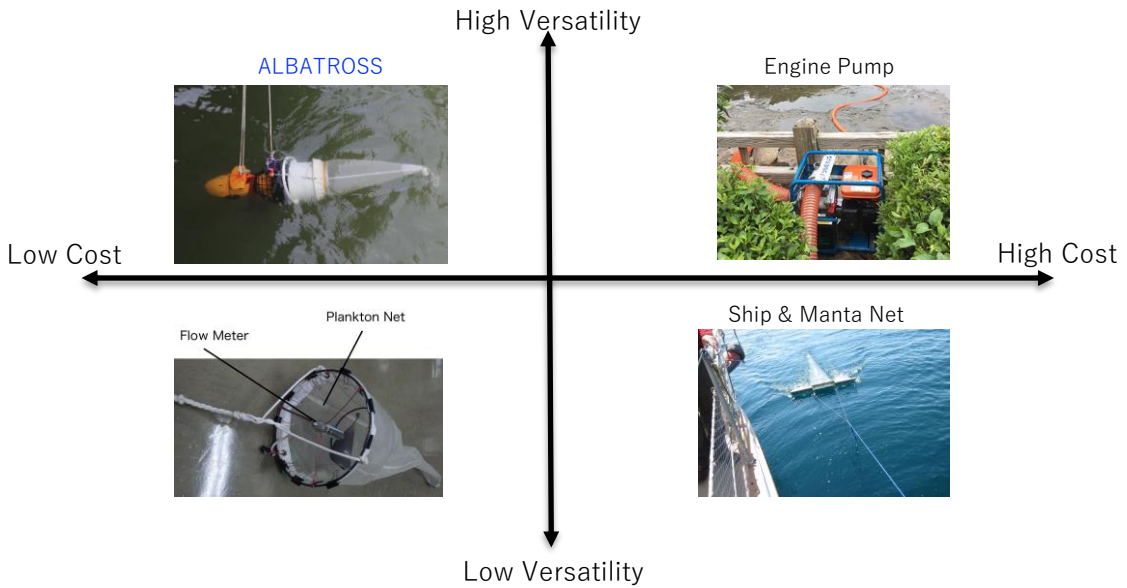
Water Treatment Plant

Superiority of Survey Method



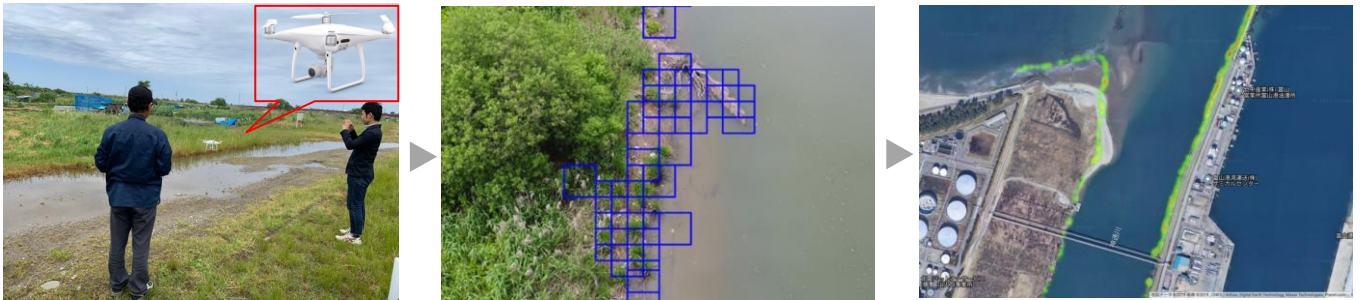
Method of Sampling for Microplastics

Albatross Mark Series enable highly versatile and economical sampling survey of microplastics in comparison with conventional methods.



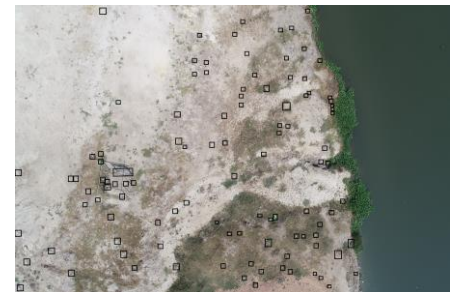
Macroplastic Survey Method

Pirika also developed an efficient method to grasp the distribution condition of macroplastic debris through the visual analysis technology by Artificial Intelligence (AI). We shoot the aerial video through UAV (Drone). AI system can identify plastic debris from that video and output on the map.



Introduction to the UN Project

UN Environment Programme has started the Promotion of Countermeasures Against Marine Plastic Litter in Southeast Asia and India (CounterMEASURE project) from 2019 in Mekong River. Pirika provides the technical support through Albatross system.



'Ridding the Mekong of Plastic Poison'

UNEP CounterMEASURE Project was featured on the international TV program in 160 countries. This program is broadcasting on-demand for free now. (NHK World, March 2020, English, 3m55s)

<https://www3.nhk.or.jp/nhkworld/en/tv/rising/>

Disclose on the website as the

'Floating Microplastics Data'

<https://en.opendata.plastic.research.pirika.org/>

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