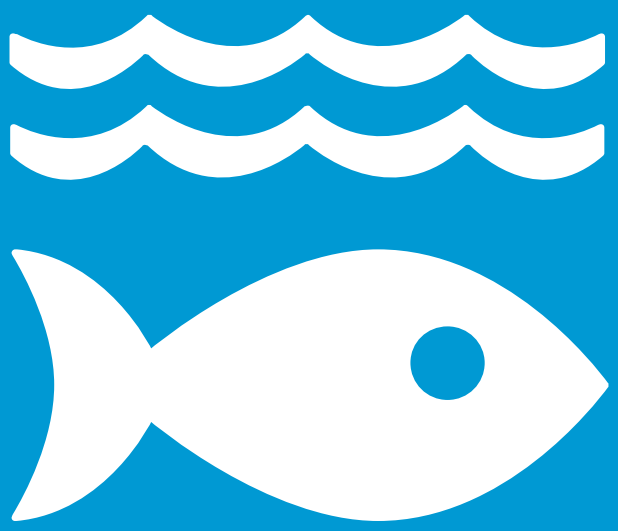
SDG REPORT

ITS Institut Teknologi Sepuluh Nopember

ITS Global Engagement

14 LIFE BELOW WATER



Institut Teknologi Sepuluh Nopember (ITS)

2022

"The two SDGs that look at the broader ecosystem divide it into Life Below Water, and Life on Land. The oceans, and the rivers and watersheds that link to them, are the largest part of our ecosystem. 40% of the world's population lives within 100km of the coast, and we all rely – directly or indirectly – on the sea."

(THE Impact Rankings)

14 LIFE BELOW WATER

SUPPORTING AQUATIC ECOSYSTEMS THROUGH ACTION

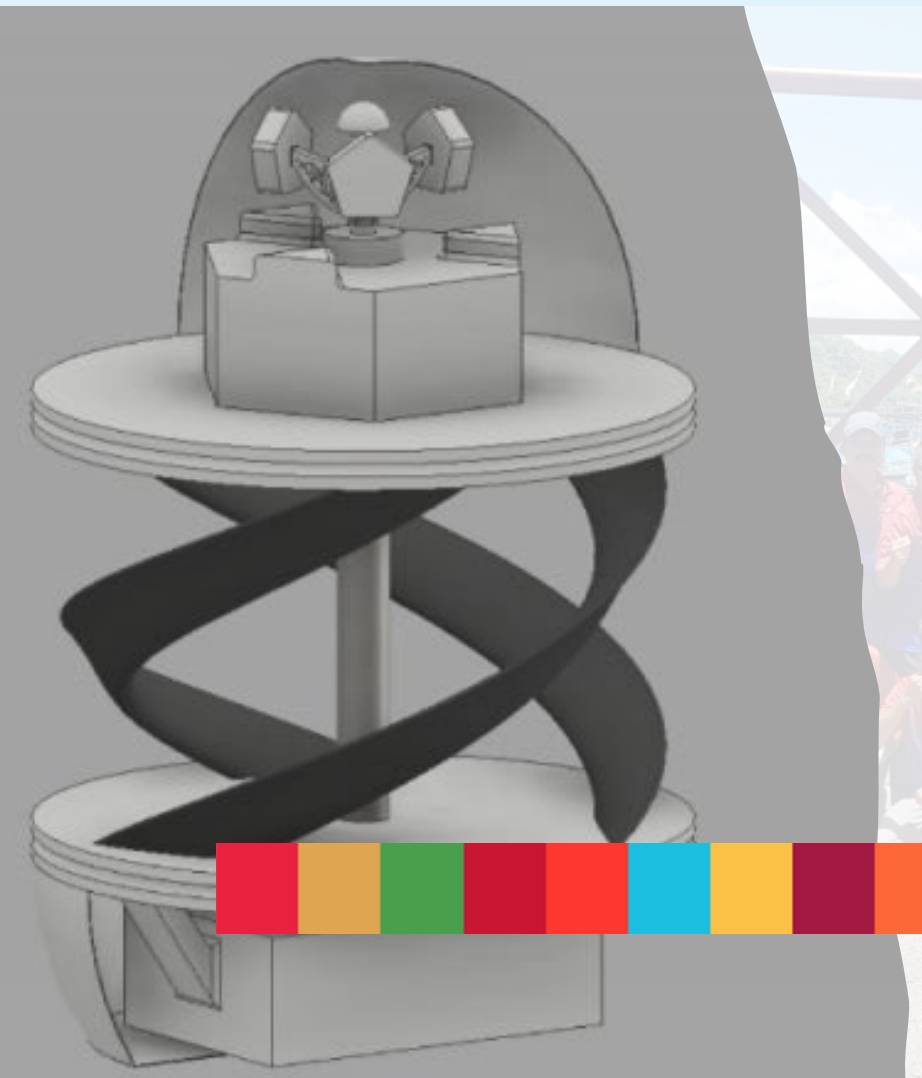
ITS Launches Ocean FarmITS

Inflaming the spirit of innovation as the leading maritime campus in Indonesia, the Sepuluh Nopember Institute of Technology (ITS) has launched an offshore technology innovation. Through Ocean FarmITS (OFITS), a technology in the form of offshore floating net cages (KJA). KJA already had a bottom building with nets as deep as seven meters for fish cultivation and an upper building in the form of a floating hotel for tourism.

Following the ITS tagline, namely Advancing Humanity this innovation will not only function as a medium for fish cultivation and help local fishermen but will also be intended for marine tourism activities.

SUPPORTING AQUATIC ECOSYSTEMS THROUGH ACTION

ITS Students Innovate Illegal Fishing Detection Sensors



The innovation came from five students of ITS who made the idea of underwater sensor technology innovation applied to Indonesian marine territory. They initiated an innovation called Humanless Underwater Sensors Technology (HUST). This tool serves to detect the entry of ships without official permission into Indonesian waters or vessels suspected of illegal fishing and can also be used to detect marine disasters such as earthquakes and tsunamis.

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WATER SENSITIVE WASTE DISPOSAL

solve the problem of pollution in the sea with bacteria

Utilization of biodegradation to overcome the problem of petroleum pollution that occurs in the sea caused by leaks during oil drilling activities and spills when shipping by ship. Biodegradation in this study utilizes the bacteria Bacillus subtilis and Pseudomonas putida which aims to determine the level of effectiveness of the bacteria in decomposing high levels of pollutant chemical compounds.

MAINTAINING A LOCAL ECOSYSTEM

ITS Abmas empowers local people to prevent beach abrasion

The worsening abrasion of Tlangoh Beach is disrupting the economy of the surrounding community. Through this problem, Department of Marine Engineering ITS held Community Service (Abmas) to design artificial coral reefs named "Hexareef". The placement of Hexareef in the sea is expected to reduce the rate of abrasion on Tlangoh Beach as well as a medium for coral transplants so as to create a sustainable coastal environment rich in biodiversity.