

Eco-Tiles for Enhancing Marine Biodiversity

 Energy & Environment

Others



Remarks

48th International Exhibition of Inventions Geneva (IEIG) (2023) -
1. Gold Medal with Congratulations of the Jury
2. Special Prize
(Not ready for IP licensing)

IP Status

Patent filed



Opportunity

The prevalence and increased spread of artificial shorelines has become a major issue for coastal areas. The damage caused by artificial shorelines to the environment impacts the entire ecosystem, including the local water quality and fisheries. As coastal areas become more populated and climate change threatens shorelines, more artificial shorelines are built. Our Eco-Tile had twice the number of species as the traditional seawall after 12 months on a vertical seawall in Hong Kong. With future large-scale deployments, we can transform the barren seawalls of cities and ports into thriving, biodiverse ecosystems.

Technology

In contrast to the traditional seawalls commonly used around the world, the Eco-Tile encourages the growth of marine life and leads to a healthy ecosystem. The crevices and holes of the Eco-Tile can harbour twice as many species as traditional seawalls, and are used by fish and oysters, filtering the seawater and promoting sustainable fisheries. The eco-friendly concrete of the Eco-Tile uses 20-40% recycled material, lowering the carbon footprint compared to traditional concrete. The Eco-Tile can be used to restore the seawalls of cities and ports and create healthy ecosystems.

Advantages

- Eco-friendly concrete mix reduces carbon footprint by 20-40%
- Increases the number of species by 2 times that of vertical seawalls
- Microhabitats allow a biodiverse ecosystem to grow

Technology Readiness Level (TRL) ?

7

Inventor(s)

Prof. LEUNG Mei Yee Kenneth

BRADFORD Thea Eilly

Mr. LO Chi Chiu

Miss LEUNG Wing Sum

Prof. POON Chi-sun

Dr. Juan Carlos ASTUDILLO PLACENCIA

Enquiry: kto@cityu.edu.hk

Develop Concept

Proof Concept

Build Value

Follow-on Funding

- Large-scale implementations can lead to a healthier ecosystem

Applications

- Applicable to various types of seawalls and environments globally
- Technology can be incorporated into any planned seawalls yet to be constructed

