

7 Mar 2023

EXPO 25 - OSAKA ANNOUNCES OFFICIAL PARTNERSHIP WITH SHELLMET THE ECO-FRIENDLY HELMET MADE FROM SCALLOPS WILL BECOME THE OFFICIAL SAFETY HELMET OF EXPO 25

SHELLMET, an environmentally friendly helmet made from discarded scallop shells, designed by TBWA\HAKUHODO in partnership with Koushi Chemical Industry Co. and quantum inc., was selected from “Co-Design Challenge Program” by Japan Association for the 2025 World Exposition (hereinafter referred to as “the Association”). As a result of this selection, Shellmet will be the official disaster prevention helmet for the World Exposition 2025 (hereinafter referred to as “the Expo”).



“Co-Design Challenge” is a special co-creation project to call for sponsorship of facilities, goods and services necessary for the site operation in order to make the Expo even more attractive and to create a comfortable site for all visitors. The concept of the “Co-Design Challenge” is to make the Expo “an opportunity to build the future of lifestyle in Japan.”

SHELLMET, an eco-friendly product that aims to contribute to the achievement of the Sustainable Development Goals, matches the concept of the Co-Design Challenge program and was selected from

among 79 applications to the program. The design and specification of SHELLMET will be updated specifically for the Expo, to be used as the official disaster prevention helmet of the Expo.

■ What is “SHELLMET”?

Shells that have protected themselves from external enemies are reborn to protect people and the earth.

Among Japan’s domestic marine products, scallops have the largest export value. Sarufutsu Village is one of the leading producing areas of scallops in Japan. On the other hand, the Soya district, where Sarufutsu Village is located, generates approximately 40,000 tons of shells as marine waste annually during scallop processing produces. With the export of scallop shells for reuse out of the country set to cease in 2021, the environmental impact of storing scallops on the ground and securing a place to deposit them have become social issues for the local community.

In order to solve the problem of the village's surplus scallop shells, TBWA\HAKUHODO focused on the fact that the main ingredient of scallop shells is calcium carbonate, and came up with the idea that they could be reused as a raw material for a completely new material. With the partnership with Koushi Chemical Industry Co. and quantum inc., the team of TBWA\HAKUHODO started to develop the scallop shells as an important resource to support the village and began efforts to recycle the material.



■ “Shellstic” - inventing the new material upcycled from waste

Scallop Shells x Waste Plastic: Japan's first new material "Shellstic"

SHELLMET is made from a new material based on scallop shells whose main component is calcium carbonate, and recycled plastic. It was developed by Koshi Chemical Industry Co. with Professor Hiroshi Uyama of Osaka University with support from Sarufutsu Village in providing surplus shells.

TBWA\HAKUHODO has developed the name of “Shellstic (Combination of words “Shell” and “plastic”)” and logo for the new recycled material which is a combination of wasted scallop shells and waste plastic.



Characteristics of “Shellstic”

- Contributes to about 50% reduction in CO2 emissions compared to the use of 100% new plastic
- Contributes to a 20% reduction in CO2 emissions compared to limestone-derived eco-plastics.
- By mixing scallop shells into the plastic, strength (bending modulus) is improved by about 33%

Furthermore, because it is an upcycled material that utilizes waste, it is expected to reduce the amount of waste in the world and help solve the waste problem in the region.

■ Characteristics of SHELLMET

“Biomimicry” design inspired from seashells

SHELLMET is developed based on the concept of “Biomimicry”, which is the application of the mechanisms of the natural world to technological development. SHELLMET incorporates a special ribbed structure in its design that mimics the structure of scallop shells, which is part of the material used for helmet production. As a result, the durability of SHELLMET is improved by about 30% compared to the case without the ribbed structure, even though less material is used. From material development to design, SHELLMET is designed with sustainability in mind, with minimal burden on the environment. The product design is by a startup studio “quantum inc.” that creates new products and services in all areas of business development, from conception to implementation.

In recognition of SHELLMET's concept and design, it will be exhibited at Museu de Arte, Arquitetura e Tecnologia (MAAT), an art museum of Portugal that exhibits works related to contemporary art, architecture, and technology, from March 22, 2023.

Official Website : <https://koushi-chem.co.jp/hotamet/>

Product Movie URL : https://youtu.be/_9k2eLL3btI

■ About TBWA\HAKUHODO

TBWA\HAKUHODO is a full-service advertising agency based in Tokyo, established in 2006 as a joint venture between Hakuhodo and TBWA Worldwide Inc. With the combination of TBWA's DISRUPTION® methodology, a global network spanning over 100 countries/regions and Hakuhodo's in-depth knowledge of the Japanese market and longstanding reputation for trustworthiness, the agency continues to create and deliver high quality solutions to all of our clients - solutions that cause change and have the power to get noticed. <https://www.tbwahakuhodo.jp/en>