

Title of paper:

Exploring Sustainable Robot Technologies for Reduce Global Warming

This paper introduces concept of robot technologies developed by the author for a possible sustainable scenarios on ocean, river and lake environment. It includes description, details and visual scenarios of proposal design. The design concepts was selected and awarded in the international ecodesign competition. It was awarded as Grand Prize and Prime Ministry of Japan Prize. The proposed is called "Mobile Eco Robot". The proposal was based on the solar energy and biomass energy. The Mobile Eco-Robot is capable of locate contaminated water zone, purify the water and storage toxic waste gets into seas and oceans. Other function is to reduce the warming the oceans. It drives pumps that draw cool, nutrient-rich water up from the deep ocean. It activates the ecosystem and increases of sea life lives.

Mobile Eco-Robot:

Currently, humanity is confronted by various earth-threatening problems, such as the degradation of natural ecosystems as a result of abnormal weather and global warming has also become an urgent global task. In order to cope with these present-day, robot technologies, which are taking on the role of enhancing and performing the functions of life forms – particularly humans – are viewed as a potential composite technology leading to effective solutions. Through innovative designs, state-of-the-art robot technologies can be sublimated to effective solutions for users.

Pollution in the ocean is a major problem that is affecting the ocean and the rest of the Earth. Pollution in the ocean directly affects ocean organisms and indirectly affects human health and resources. Oil spills, toxic wastes, and dumping of other harmful materials are all major sources of pollution in the ocean.

In front of these problems and state-of-art of robot technologies, the concept design proposals to solve one of the largest problems facing humankind and ocean, river and lake life lives. It increases the international cooperation among different nations in the world, helping damaged ocean zone with limited production of seafood.

The design uses two ways of natural resources: solar energy and biomass (organic material from urban waste). The mobility, monitoring and distribution are made through the GPS. Each unit of Eco-Robot is incorporated with sensors that analysis of water condition and according to the situation it can to move on the damaged zone and clean it. The contaminated water is sucked and cleaned by filter system. The toxic waste from contaminated water is storage into the tank. It increases the sea life lives and improves the aquaculture and mariculture farming. It is based a present technologies and aquatectural structures. Its design is modular and dimension is 25 square meters, designed to be incorporated in arrangements virtually unlimited by size or complexity - the sample organization show in the panel in approximately 125 meters in length by 75 meters in wide (15 units).

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Contact email: edilsonsueda@faculty.chiba-u.jp

Edilson S. Ueda (PhD, Associate Professor)

Chiba University – Faculty of Engineering – Product Design Department (Japan)