

UNIVERSITI TEKNOLOGI MARA

**DEVELOPMENT OF A BEACH
CLEANING MACHINE**

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ABSTRACT

Beaches used to be a fun place to go since there are many activities can do. People use to go to beaches to heal themselves by chilling with nature. Nowadays, there are a lot of beaches that have been polluted by irresponsible people who throw rubbish on the beach. There are a lot of technologies that have been innovated such as beach cleaning machines. This machine helps people to clean beaches very effectively since it can save more time and energy. The project that is made in Final Year Project 2 (FYP2) is the adjustment and improvement of the current product in terms of size and price. Designing the beach cleaning machine using the state-of-art SolidWorks 2021 and fabricating the beach cleaning machine as a proof of concept are the main objectives of this FYP 2. The methodology used to fabricate this product is the Morphological chart and Pugh chart. The product is to make people at the beach like to clean the beach since it is suitable to use by them. In conclusion, one of the objectives of this project is achieved since there are the designs of beach cleaning machine using SolidWorks 2021.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Beach and ocean have been a major factor of why tourism want to visit some country. Tourism is a major factor of stability in Malaysia economy system [1]. Beach always attract tourism to go to visit it because they can enjoy so many fun activities such as scuba diving, riding motor boat, flying a kite and many more [2]. In 2020, Malaysia manages to collect RM66.1 billion due to economy sector [3]. This is very good achievement for Malaysia to maintain the economy.

Nowadays, beach has become one of the most polluted places in the world such as Kuta Beach, Bali Indonesia, Juhu Beach, Mumbai India, Maya Bay, Thailand and many more [4]. Sadly, Malaysia is ranked 5th most beach pollution. Many plastics, papers and aluminium can are scattered on the beach make people does not interest to visit the beach anymore. This situation could be worse if many oceans' lives is dead, and we can lose our beautiful nature [5]. If this happens, Malaysia will losses a lot of economic income because according to statistic, Malaysia is one of the most visited country in the world [6].

There are some technologies that have made by groups of engineers to collect rubbish at the ocean from a very simple technology to advance technology. This technology is very useful because it can reduce time and energy for people to collect the rubbish. Before this kind of technology exist, people use to collect rubbish manually means they must crouch to pick up those rubbish. It will cause back pain to someone, and it is not good for healthy. By the existing of this product, at least they have made a progress to take care of the ocean. One of the beach cleaning machines that make a huge impact is MODEL 600HD: Barber's Largest Beach Rake Machine that manufactured by H. Barbers & Son, Inc. as figure below that operate at United State (US) for domestic market and also international market [7].