

**UNIVERSITI TEKNOLOGI MARA**

**DESIGN, ANALYSIS AND  
FABRICATION OF BEACH  
CLEANING MACHINE**

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## **ABSTRACT**

There is various type of beach cleaning machine that has been made. But the difference of this project is its simplest to make and use by the users. Other than that, because of the mini size, it is easier to carry anywhere. Next, the identification of the problems for this project is beach pollution has become a hypercritical issue yet many people are still unaware of and care about it at all. In fact, the beach pollution that keeps rising over the years will give an effect to humans, living things, and the environment. Thus, the objective is to analyze beach pollution that has been increasing over the years and design a mini beach clean machine that can remotely control by the users. The fabrication process used is cutting, bending, drilling, grinding, and many more. The material for this machine is mostly aluminum. This is due to the cheap price, lightweight, durability, and anti-corrosion. Lastly, the expected result is this project will give numerous benefits to the living things, the environment, and society near the beaches. In conclusion, this machine is can function effectively without any problems to achieve the objective and solve the problems.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of Study

Nowadays, beach pollution already become a critical issue because it's not only causing harm to the environment, but to marine life as well. In fact, in 2021, Malaysia was shockingly ranked third in the top 20 most polluting countries based on annual plastic emissions into beaches and oceans with emissions of 0.073 million metric tons per year. This surprising fact shows that they shouldn't take this issue for granted especially at tourist attractions and beaches. Now with the existence of the beach cleaning machine, it definitely can reduce the amount of trashes on the beach by picking up and stored in its body. Later the users can throw away all the trashes that had collected in the machine trash storage easily[1].

### 1.2 Problem Statement

The problem statement for this project is the beach pollution that keeps rising over the years. In fact, if this problem keeps growing it will affect many people, animals, and plants near the beach. Next, the problem that always affects others is people always have to bend down to pick up trash that found on the beach. This action may affect their back by putting a lot of pressure on their spines and spinal disk. So with the existence of this project, it will ease the burden and pain in their back and pick up trashes without the need to bend down. Other than that, people always don't have time and enough energy to pick up all the trashes in the beach area. So this machine simply can save their time and energy as well without making them move their body. Lastly, there is also trash that might affect all living things around there as well. For an instance, sharp, corrosive or flammable trashes. So to overcome this problem, the machine will remotely control by the user to simply pick up, collect and store in its body without a single skin contact with the trashes and making their hand dirty.