

# Solar powered autonomous lawn mower robot



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# Solar Powered Autonomous Lawn Mower Robot

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# Declaration

We hereby declare of officially work contained in this thesis is our own, except where explicitly stated otherwise. Our project work entitled, “**Solar Powered Autonomous Lawn Mower Robot**”, is submitted to the “Department Of Electrical Engineering” under school of Engineering at University Of Management And Technology, is a record and written evidence of our work performance under the guidance of Dr. Irfan Ullah (Assistant Professor, EE Department). This document along with its project work is submitted in the partial fulfillment of the requirements of or the award of the degree of Bachelors of Science in Electrical Engineering. The results embedded in this document and performance done is not done or submitted to any other University or Institute for the award of any degree or diploma.

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# Abstract

As the title of this project suggest that we using renewable form of energy and the best form of renewable energy is solar energy. We are using solar energy because of the shortage of electrical energy. We are making **'solar powered autonomous lawn mower robot'** which will cut the grass autonomously using solar energy. We have designed a lawn mower which will have improve features from the previous ones which are already available in the market. Our lawn mower requires no parameter wire to stay in the lawn, our lawn mower itself makes sure that it never leaves the lawn by sensing the boundary of the lawn by using sensors.

Our objective is to make a lawn mower which ensure safety. It is portable, durable, and user friendly and environmental friendly. Our project is designed in two different stages. In first stage we made it as an electrical lawn mower as it will operate with the help of DC battery and in second stage we will use renewable energy in the form of solar energy form solar panel to power our lawn mower. By gathering the data about and doing our project we got to know that how much technology we used in this project.

# Chapter 1

## Introduction

Currently, people are getting aware about the harmful effect of pollution and they want to overcome the pollution by contributing themselves for a healthy environment and green environment. Convectional form of energy are being used in all over the world, these resources are limited and if we do not find any other means of energy then one day our convectional resources will completely depleted. These resources will not only be deplete one day but using them we also pollute our environment which is very unhealthy for all the living organisms. In our project we will use solar energy as it is renewable form of energy and it is also environment friendly and it does not required a lot of maintenance like other sources.

A lawn mower, is a machine operated either electrically or manually to cut or to mow the grass of the lawn. Mostly, lawn mowers are operated manually by the help of a person who pushes it from behind they are known as standard lawn mowers [1]. Using the standard lawn mower is not easy to use as a lot of energy is needed to push it. People of all groups feels inconvenient in using ordinary grass cutter as it requires great force to push it. Motor powered push lawn mower and riding lawn mower make a lot of noise and pollute the air the air due to their loud engine and combustion. These mover required a lot of maintenance as one have to change their oil. In using electric lawn mower the big difficulty is to handle its wire.