



اَوْنِبُوْ رَسِيْتِيْ بِاَتِيْكَوْ لَوِيْ كِيْ مَبَارَا
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TECHNOLOGY ENTREPRENEURSHIP

(ALC CLEANING DEVICE)

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COMPANY'S LOGO



CHAPTER 1

1.0 PRODUCT DESCRIPTION

1.1 Introduction

Our team is developing a product which is 'Auto Laser Cleaner (ALC)'. This device can be used to clean the windows especially in high rise buildings. Besides, it was inspired from an aquarium robot cleaning. Compared to the current cleaner machine, this product has rapid cleaning action since it uses laser as the cleaning device. For safety features, this product has an anti-dropping algorithm thus limit the risk of it accidentally dropping from the window.

1.2 Background Study

Nowadays, there are many skyscrapers and tall building in all countries. Currently, tall building windows are cleaned periodically by trained professional window cleaners where they are attached to the anchor that is mounted on the roof while cleaning the glass window. These window cleaner uses a glass scrapper and detergent by bring it in a small bucket when cleaning the window. In fact, this window washing method is a tiresome and time-consuming task and considered as one of toughest and most dangerous jobs in the world. At the same time, cleaning windows of houses can also be a tiring job.

1.3 Purpose of Development

- Rapid cleaning action as the device can clean windows fast at 8cm per second.
- To provide better cleaning effect since it can clean the unreachable spot.
- To reduce the risk on cleaning windows of high rise building.
- To reduce cost of hiring manpower needed for cleaning the windows of the building.

1.4 Product concept

Inspired from an aquarium robot cleaning, ALC device is develop with ability to clean the windows and glasses of high rise buildings easily and effectively with less human power needed.

1.5 Applications

- For tall building windows and any wide glass

1.6 Functions

- AC (alternating current) power – using electric to run the machine and use to support the pressurized gas.
- Laser beam – use thermal energy to remove stain and dirt from the glass.
- Remote control and automated cleaning- remote control allow users to control the machine around the window and automation allow the machine to work on it own.
- Anti-dropping algorithm – to stop the machine from falling once the power suddenly off.
- Sensor- used to detect the existence of dirt and stain on windows surface for
- Motor-powered suction- draws in air to allow the machine hold onto the glass while moving.
- Power level detector- to alert user when the power level is low.

1.7 Unique features

The uniqueness of the product that set it apart from competition of all cleaning devices are:-

- Laser beam
To diminish tough dirt as well as layers of dust without ordinary conventional cleaning; water and soap.
- Anti-dropping logarithm
Cling to the glass window to prevent the device from the abrupt decline.
- Automated cleaning
The cleaning device is designated to be able to work on its own.