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**ENT 600 – TECHNOLOGY ENTREPRENEURSHIP**

**SMOKE AND HAZARDOUS GASES  
DETECTOR (S.H.A.Z.D)**

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BACHELOR OF APPLIED CHEMISTRY

**GROUP** : AS245 5S

**PROJECT TITLE** : NPD – SMOKE AND GAS HAZARDOUS DETECTOR

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## EXECUTIVE SUMMARY

This business is based on partnership where it consists of five members which hold important positions in the company such as general manager, administration manager, financial manager, marketing manager and operational manager. The business capital is amounted to RM74,880 where the total contribution of each member is RM15,000 and the rest is from bank loan.

Smoke Hazardous Gas Detector is one of the most popular electronic detector product at our company. Smoke Hazardous Gas detector is a company which focuses on the awareness of the dangerous and toxicity of air in the environment. Due to previous case of Kim Kim River in Pasir Gudang on March, the odourless and colourless gas affect many lives which causes critical sickness and even death. Hence, the demand on awareness for getting a gaseous detector is high so that earlier detection of toxic gas emission can be detected. This is why our product gives a lot of benefits to our company and we are highly confident that our market can be easily developed and spread throughout Malaysia.

To make our product more effective and attractive, we add up a few innovation and extra components to increase the productivity. The unique feature that is beneficial is it is portable detector which can be carried anywhere and easy to install. In addition, it has a power capability of 10000 mA per hours and also have digital screen to show the level of toxicity of air and concentration of the chemical gaseous smoke. When the concentration of dangerous gas has exceeded the limit, the detector will emit sound and Light as a signal of danger and stay away from the location that had been detected. Normally, hazardous gas detector only can be applied in huge industries and not to households or offices so, with our new innovation, lot of people will experience this benefit for the sake of their safety and health. With the loan given as support from the bank, our team are hoping that Smoke Hazardous Gas Detector able to achieve outstanding demand from consumer. Our vision is to make our company a well-known established and satisfied by our customer in order to expand our Gas Detector to attract lots of companies, offices, industries or even housing area to deal with us with a fair price. This will be achieved by the complete cooperation and effort among the partners to promote our company

# CHAPTER 1

## PRODUCT DESCRIPTION

### 1.1 Introduction

The product to be developed is a Smoke and Hazardous Gas Detector also known as S.H.A.Z.D. Certain hazardous gas is odourless, colourless and also flammable and cannot be detected easily by human sensor without suitable tools. Thus, this product can be used to indicate the present of hazardous gas and also can be used to indicate the overexpose smoke from fire. Moreover, according to the problem that happened a Kim Kim River in Johor that hazardous gas such as dioxin has been exposed to the air without any warning and precaution to the community has causing serious health problem to the people live near the river. So, this product can give precaution to the user so that safety action can be taken

### 1.2 Purpose of development

The purpose of the product development are:

- To detect hazardous gases and smoke.
- To give warning to the user if the hazardous smoke and gases level are high.
- To allow user to recharging their battery phone

### 1.3 Product Concept

The concept of this product development are:

- Portable hazardous gases and smoke detector
- Detect hazardous gases and smoke
- Contain power bank capability (10000 mAh)

## **1.4 Application**

Double A size battery are used as power supply of the product, the ON and OFF button is used to operate the product. The product also contain digital screen to display the concentration level of hazardous gases. When the concentration is high the warning lamp and siren will be activated to alert the user about the dangerous situation. Besides, the product provide energy source (power bank capability) to user to recharge their battery phone or use it for other purposes.

### **1.4.1 Functions**

The function of the product are:

- The product used to detect hazardous gases and smoke.
- The product allow user to recharge their phone because it has power bank capability

## **1.5 Unique features**

The unique feature of the product are:

- The product is portable that can be carried everywhere
- Power capability as much as 10000 milliampere per hours
- Digital screen to show the concentration level of hazardous gases and smoke detected