

**ENT 600****NEW PRODUCT DEVELOPMENT (NPD) REPORT**

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**INTELLIGENT GAS LEAKING DETECTOR**

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## 1.0 EXECUTIVE SUMMARY

The name of the innovation: Intelligent Gas Leaking Detector

- The innovation is a portable detector device for detect any hazardous gases leaking inside the building.
- The gas leaking detector becomes easier as the device used IoT software for safety and security purpose.

The purposes of the innovation:

- To prevent any leakage of gases inside the building.
- To avoid any harm or dangerous incident related to the uncontrolled gas burning.
- As a smart safety device that able to activate the alarm system and also sending the alert messages using IoT signals to the users within a short time.

The target market:

- The households in Malaysia

## **2.0 INTRODUCTION**

### **2.1 PROBLEM STATEMENT ISSUES**

Life is so important that people would literally spend a lot of money and their fortune just to maintain health and their safety. Safety is the most important aspect in any scope of work even working in a small office, the risk is much higher in the industrial area such as chemical lab, factory, and any places that include hazardous substances in their daily works. The main or common problem that occurs in the factory is gas leakage. Gas leakage is very dangerous because it can lead to an explosion, air pollution and of course death. In 2016, the United State of America have been reported to have the highest number of individual suffering due to gas leakage exposure which is estimated to be around 2.7 Million people (U.S. Poison Control Centers).

The main reasons of this to be happened is because the gas leakage from the factory or some nuclear plant were not properly monitored by the authorities and underestimated by the resident on how hazardous the pollution can be. Living under air pollution can cause a lot of health problem and fatalities such as breathing restriction, asthma, brain damage and much more. This problem can be solved if there is some early notices or better monitoring system that will save a lot of life, this is where our product can be a lifesaver.

## 2.2 METHODOLOGY

There are two methods that been used to collect data for this new product development. This include:

i) Observation

the problems were identified from examining the engineering students during making experiments that required the use of hazardous gasses.

ii) Making a Survey

The team conducted an engineering student social media survey through the WhatsApp group for some input and opinions on the new product development, the questions that are:

- 'Have you ever experienced any gas leakage accident before?'
- 'Do you prefer a gas detector that is portable?'
- 'If there is a portable gas detector with a solar supply that the user can monitor using apps, would you consider buying the product?'

Based on the survey we made, 11 out of 40 people respond yes, they had experienced gas accidents. There is a lot of factors that lead to the accident. Most of the time is because of carelessness and malfunction of equipment. 31 responses prefer the gas detector to detect gas, show gas level and send alert signal to user while 6 responses prefer to detect gas and show gas level.

There are 26 responses want the gas detector to be portable while 14 do not. There are many different and good reasons why the gas detector preferred to be portable. 34 responses consider to buy the product while 6 responses say no.