

**HOSEPOWER**  
MAKE TOILET GREAT AGAIN

# SMART WATER HOSE

By HJF CORP

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## CHAPTER 1

### 1.1 Introduction

What do we expect to see towards the year 2020? A flying car, a human-like robot or a hoverboard? Frankly, we do not think, that is what we need in 2020 after all but, what we should expect is a cleaner, tidier and more hygienic toilet. Toilet hygiene and tidiness always being overlooked and not taken seriously. The current toilet design will not be discussed further, however, the person's experience and practicing behaviour with the toilets environment itself are the primary focus here. Toilets facilities are available in many countries. Variety of toilets design, different flushing systems or flushing mechanism exists. Cleansing facilities such as water taps and hose supply, toilet papers and hand dryer equipped inside the toilets (Hamid, Toyong, & Rahman, 2016). However, the user's behaviour and lack of awareness often make toilet become unhealthy.

In our observation in FSK, UiTM Puncak Alam, at least one out of three toilet stall water hose on every floor is not place correctly on it place. The water hose is left on the floor. More aggravating condition, some of the toilet stall left the water pipe open. This situation can lead to a bigger problem soon. For example, if the water hose is left on the floor, the bacterial growth will take place and this can generate unpleasant smell (Barbosa & Thompson, 2016). Plus, unclose water pipe can promote water wastage and this condition is very inflict a financial cost. So, our company come with the idea of "Smart Water Hose" in order to tackle this problem.

However, throughout the project, we faced some limitation for example we lack of expertise in sales marketing. We are looking forward to add someone who is expert in marketing to our team to improve our product sales in the future.

## CHAPTER 2

### 2.1 Product Definition

Smart Water Hose is an integration of water tap and water hose. It is design to make toilet more tidy and hygienic. This Smart Water Hose features a self-retractable hose and automatic turn off water tap. To operate the water hose, the user just pull the hose and the water will flow out automatically. After using the water hose, the user can just let go the hose and it will retract to its original state and turn water off automatically.

### 2.2 Product Classification

This Smart Water Hose is a completely new product. There is no similar or existing product in the market at the moment and it is the first of its kind. Thus, this product still in the test marketing stage. Our company still need to test and configure several setup until the product is ready to be market. Hopefully this product can replace the conventional water tap and water hose so that we can make toilet more tidy and hygienic. We also hope this product can penetrate global market and establish in the market as soon as possible.

### 2.3 New Product Development Process

#### 2.3.1 Research and Development

New product is often characterized by very high rate of failures. In order to avoid this to happen due to very limited historical and preliminary data, our company have done research thoroughly to invent this product. The idea of this product came from the observation of problem most toilet especially public toilet experienced, which are untidy and wastage of water. After several discussions and brainstorming, we came to the idea that we must fit the product to the user instead of fit the user to the product. This is because, there are still many people lack of awareness or acted in ignorance about toilet hygiene. No matter how educated they are, but if they are lack of awareness, they will still left the hose on the floor after use the hose.

All of our team members come with their ideas respectively and after the idea be gathered, we screen all the idea to expect the market needs and of course, meet the objective of the invention. So, we consent with the idea of Smart Water Hose. Our team have done survey by collecting data from respondents. We introduced the product and interviewed some of the

students, lecturers and faculty maintenance team in the FSK building and explained to them about the technology of Smart Water Hose and majority of them favour the product. They profess that this product is practicable and smart.

### 2.3.2 Product Design and Features

Smart Water Hose is connected to the water outlet to displace the conventional water tap. The main characteristic of this product is its self-retractable hose and automatic turn off water flow. For the moment, its frame is made from copper and the hose made of high end nitrile rubber to maintain the quality of being trustworthy and performing consistently well after using over and over again. This product has a low risk of injury and causes no harm to the user. Using the best materials on the market and through multiple research to invent the product, we can guarantee the product's durability. The special features of the product is that the water tap is coated with silver lining on the inside to avoid microbial growth. In addition, this product offers features that can tackle the problems properly as well as can satisfy the market needs.

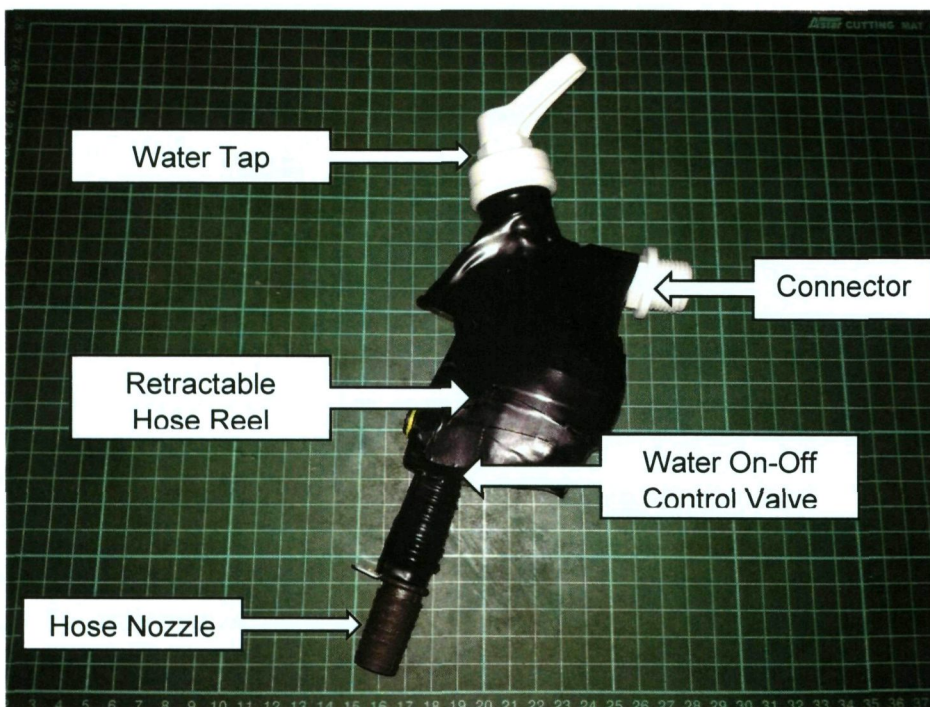


Fig 1 : The design of Smart Water Hose

### 2.3.3 Concept Testing