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## Guardian Angel (Ireland)

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# Guardian Angel (Ireland)<sup>1</sup>

It was the summer of 2006 and three friends of many years had come up with a business idea that they believed could be a money-spinner for all of them. Maria Harrison, Krystle Malone and Marie Lyons had all been students at the Dublin Institute of Technology and had recently completed their degree in Marketing. As part of their programme, they had taken a course on Entrepreneurship by way of interest rather than any deep-rooted desire to start their own business. But now, they are about to meet a venture capital company to ask for €300,000 to get the business started. They would never have dreamed, as they walked into their first class on entrepreneurship that six months later they would be in this position.

As part of the coursework in the Entrepreneurship class, students were asked to develop a business opportunity and to write a Business Plan to evaluate that opportunity. Maria, Krystle and Marie spent a great deal of time brainstorming for a business opportunity but none of the ideas generated appealed to them. Indeed, it felt like that the harder they worked, the less attractive the business ideas became. One night, after many more hours of fruitless effort, they needed to take a break and so went to the kitchen to have a coffee. In the background, a television was disturbing the peace that they needed to concentrate and, as Marie went to turn it off, an advertisement appeared showing the threat posed by carbon monoxide in the home. By way of conversation, Marie mentioned the advertisement to Maria and Krystle, who both commented on an article that they had recently read for another class in college on the number of people who die each year in their homes from smoke inhalation and from gas leaks. “Wouldn’t it be great if there was something that acted as an alarm for all three of them at the same time” said Marie. Maria and Krystle looked at her as if she had suddenly won the lottery. “That’s it” they shouted, “that’s our business idea, a single alarm system that caters for all three dangers. Now all we need to do is write the Business Plan!!”

Over the months that followed, the three friends spent a large amount of their time working on this project, frequently to the detriment of their course work for other classes. Eventually they completed the plan and quite proudly submitted it to their lecturer. Indeed, the plan was so good that they presented the same one to a venture capitalist two months later, but this time it was for real!

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<sup>1</sup> This case was prepared by Dr Thomas M. Cooney as the basis for class discussion rather than to illustrate either the effective or ineffective handling of a business situation. The case was first published in “Irish Cases in Entrepreneurship, Vol. 2” which was edited by C. Henry (2007) and published by Blackhall Publishing.

As they sat waiting in the reception area of the venture capital company, the three friends began to wonder how they managed to get this far so quickly. They started to think about their business plan and whether it would be robust enough for the venture capitalists. Was there enough detail? Would the figures stand up? Suddenly, the door opened and a polite voice said: “Sorry for keeping you. They are ready for you now. Please come in”. This was it. Had they done all their homework? They were about to find out!

# **BUSINESS PLAN for 'GUARDIAN ANGEL'**

## **EXECUTIVE SUMMARY**

- Guardian Angel is a combined natural gas, CO, and smoke detection system.
- Guardian Angel is cubed shaped, approximately five inches in width, four inches in length, and two inches in breadth. The face of the unit has a reset button, a speaker and a digital LED display.
- The product is light, weighing approximately 200 grams. It is battery operated using a 9V battery and it also incorporates a battery failure alert.
- The circuit board is manufactured to meet ISO 9000 standards and to meet UL BS9000, and UL796 standards. The finished product will meet all CE standards.
- The primary goal of the company is to become the market leader in the domestic gas and smoke detection market in Ireland by the end of Year One.
- The key market trends for natural gas, CO, and smoke detection are all highly favourable.
- The success of the company will be based on the organization's ability to effectively communicate the need for this product to its target audience through its marketing campaign.
- The firm's primary research segmented the Irish market and identified two core target markets which are the grey market and family households with children.
- No other three-in-one carbon monoxide, natural gas, and smoke detection systems are available in hardware stores in Ireland.
- The GasMaestro (Canadian product) is only available in one outlet in Ireland, through a family run business in Co. Kildare.
- The company has opted to sell Guardian Angel at a price lower than direct and indirect competitors.
- The company will distribute Guardian Angel throughout the fifty locations of the four main hardware stores in Ireland. It will also be available through the internet.
- The company is going to opt for shock advertisement as the theme for the marketing campaign using a variety of different media.
- The company will outsource the production of all parts to a number of different suppliers.
- A minimum of €300,000 is required in order to establish Saviour Life Ltd.
- The accounts foresee the company turning over a profit of €16,045 in Year Two and €145,761 in Year Three.

# **MANAGEMENT**

## **Introduction**

The idea for Saviour Life Limited was developed in 2005 by Marie Lyons, Maria Harrison, and Krystle Malone. The company will go into operation on January 1<sup>st</sup> 2007. The business idea was developed when an awareness campaign regarding the dangers of carbon monoxide (CO) in the home was launched in 2004. This campaign brought to the management team's attention a hazardous problem which has the potential to exist in every building in Ireland. Concurrently running were safety campaigns regarding the safe use of natural gas in the home and fire safety. The management team sought out a three-in-one solution for these dangers in the home and found that unless the internet was used, a solution was not easily available to purchase in Ireland. The company consulted with an engineering advisor who confirmed it would be possible to manufacture such a product in Ireland. After conducting research the decision was made to produce a three-in-one natural gas, CO, and smoke detection system. The name Guardian Angel was chosen for the detection system because other firms producing this product have chosen to use informative and scientific names such as Gas Maestro. In contrast to this, Guardian Angel is making an emotional, yet informative appeal to its target audience. The product will act like a guardian angel over the premises into which it is installed.

## **Business Objectives:**

- To establish the Guardian Angel brand as a household name by the end of Year One,
- To become market leader in the domestic gas and smoke detection market in Ireland by the end of Year One,
- To reach sales of 15,132 units in Year One, 26,093 units in Year Two, and 33,853 units in Year Three,
- To promote innovation within the company and have a new home safety product ready for the market by the end of Year Four.

## **Mission Statement**

The mission for Saviour Life Ltd. is 'to manufacture new creative safety products for the home to the highest standards possible to meet the needs of its customers and to create superior value for all stakeholders'.

## **Organisational Structure**

Saviour Life Ltd. is to be registered as a private limited company. A registered company is recognized in law as a legal person independent of its members. This means that all members in the firm have limited liability. The benefits of a private limited company also include the fact that the firm can raise additional finance by the issuing of shares. Saviour Life Ltd. will have six employees in Year One; three directors, one quality control technician, and two operatives. A third operative will be hired in Year Two. The founders Marie Lyons, Maria Harrison, and Krystle Malone will make up the Board of Directors in the company. Each director will be in charge of a number of duties within the firm. A Board of Directors meeting will be held once every two weeks for the first year in business to share information and evaluate how each section of the firm is operating. If at the end of the first year the business is operating smoothly and each section of the firm is running in conjunction with the others, then the Board of Directors meetings will be held every month.

Maria Harrison will be in charge of dealing with clientele (such as retail stores). One of her major responsibilities is to build good customer relationships with the clients and to secure sales. Maria will also be the Managing Director. Krystle Malone will organise the accounts for the firm. A registered accountant will be hired to prepare the accounts and it will be Ms. Malone's responsibility to liaise with the accountant. When a regular turnover becomes established she will hire full time professional accountant. Ms. Malone will be responsible for ensuring that all debts are collected on time and that all creditors are paid promptly. She will be in charge of presenting financial statements at every Board of Directors meeting. She will also be accountable for ensuring that all staff wages are correct and paid on time. Marie Lyons will be in charge of deliveries which will involve distributing the products to retailers and maintaining appropriate stock levels. Her responsibilities will include ensuring there is enough of each material required for the product available to meet stock orders and that stock orders are filled on time without delay.

Operatives will require no prior experience or qualifications. The Quality Control Technician (QCT) will supervise the operatives each day. They will also be responsible for training in new operatives and inspecting input components and batches of the completed products. The QCT will require a relevant qualification such as a degree in electrical and control engineering. Key Advisors will be appointed such as a registered accountant, who will view the accounts on a regular basis, a solicitor who will provide legal services when necessary, and an engineer who will be the company's operations advisor.

## SWOT Analysis

Through extensive research the strengths, weaknesses, opportunities, and threats to Saviour Life Ltd. have been identified and are listed below in bullet point form.

<p><b>Strengths</b></p> <ul style="list-style-type: none"><li>• A highly qualified advisory board.</li><li>• Committed, dedicated and motivated founders.</li><li>• Three directors with marketing qualifications.</li><li>• Three directors with extensive work experience in a variety of other firms.</li><li>• The product is in demand in the Irish domestic market.</li></ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"><li>• No established brand name.</li><li>• No market share.</li><li>• The management team has no experience of running a company.</li><li>• Only have one initial product.</li></ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"><li>• CO and natural gas safety awareness campaigns are currently running in Ireland.</li><li>• Continuous fire safety campaigns are conducted by the National Safety Council (NSC) in Ireland and other television channels available in the country.</li><li>• No other company is manufacturing this product in Ireland.</li></ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"><li>• The availability of similar products such as Gas Maestro on the internet.</li><li>• The threat of new entrants entering the Irish domestic market such as Qtronics and selling their products through retail outlets.</li><li>• The threat that another cheaper and simpler solution to the problems will be produced.</li></ul>

## PRODUCT DESCRIPTION

Guardian Angel is a combined natural gas, CO, and smoke detection system. An alarm will sound if any of these toxic fumes are present in the air at dangerous levels. **The sensors** in the Guardian Angel have an operating range of -40 °C to 55 °C. This is more than sufficient for the domestic market (where normal temperature is 22°C). The **natural gas** detection sensor will sound an alarm when the concentration of gas in the surrounding air reaches the five percent lowest explosion limit. When the alarm sounds the digital LED display will flash “GAS”. The **smoke** detector has an ionization type sensor. Ionization detectors respond to invisible by-products of combustion. They operate by sensing for a change in the electrical conductivity across the detection chamber. The advantage of the ionization detector is that it will sense smoke even when it is still invisible to the human eye, while photoelectric smoke detectors look for the presence of visible by-products of combustion in the detection chamber.

The CO detection sensor will sound an alarm if CO is present at a given concentration for a certain period of time. This is determined by a complex formula that mimics the accumulation of CO in the haemoglobin of a person's red blood cells, this calculation is done by an internal microprocessor. When the alarm sounds the digital LED display will flash "CO". By using three separate sensors to detect the two gases and the smoke, this means the unit boasts 100% sensitivity for the three substances.

Guardian Angel is cubed shaped, approximately five inches in width, four inches in length, and two inches in breadth. The face of the unit has a reset button, a speaker, and a digital LED display. The reset button allows the user to switch off the alarm when it sounds. The speaker transmits the alarm sound and the digital LED displays information in relation to the cause of the alarm. The product is light, weighing approximately 200 grams. It is battery operated using a 9V battery and it also incorporates a battery failure alert.

The unit should be installed on to the ceiling or high on a wall. It is mounted by means of a formed aluminium mounting plate. This plate is screwed to the ceiling or wall and the unit can easily slide on and off. This makes the task of changing batteries quick and simple. It is an aesthetically pleasing product which does not "stand out". The plastic casing of the alarm unit will be manufactured from the heat resistant plastic Polypropylene (PP). This plastic is currently used in smoke alarm manufacture and is most suited, as it is very robust.

The circuit board is manufactured to meet ISO 9000 standards and to meet UL BS9000, and UL796 standards. The finished product will meet all CE standards. The Guardian Angel will have a two year full replacement warranty. It will be packaged in a cardboard box with instructions included inside the box. The firm will be promoting continuous innovation among employees and plans to have a new home safety product ready for the market by the end of year four. The engineering advisor will be consulted throughout the innovation process.

## **TARGET MARKET**

### **Market Information**

**Natural Gas Trends:** Since the establishment of Bord Gáis under the 1976 Gas Act, the growth in demand for natural gas has grown year on year. To date the company provides almost half a million households with access to natural gas as well as 16,500 industrial and commercial users



([www.bordgais.ie](http://www.bordgais.ie)). 90% of households have central heating in Ireland. In urban areas gas has overtaken the use of oil, with 37.8% using gas, compared to 32.5% of households using oil ([www.cso.ie](http://www.cso.ie)). A market segmentation of heating appliances used in Irish homes was conducted in 2002. The results showed that 24.2% (311,696 households) use a Gas Fire. Research conducted by Media Live show that 33.2% of adults are living in a house with a gas cooker ([www.medialive.com](http://www.medialive.com)). Natural Gas is completely safe when it is sealed inside pipes and used properly. However, leaks can occur and people can forget to turn off gas appliances. If there is a flame lit or a spark in the area of a leak, it could cause an explosion. To combat this problem the gas companies have added a chemical called mercaptan to make natural gas smell distinctive. However, this alone is not a sufficient way to deal with the potential risk of gas leaks. Saviour Life Ltd's research confirms that people are still highly concerned about the dangers of gas in the home.

**Fire Trends:** Statistics show that a person is six times more likely to die in a fire if they live in a home without a working smoke alarm ([www.nihe.gov.uk](http://www.nihe.gov.uk)). Of the 37 people who lost their lives in the Republic of Ireland in 2003, smoke alarms were only found to be working in two cases. Past research conducted by the National Safety Council (NSC) found that those at greatest risk are the under 12's and over 60's. Deaths caused by fire have fallen slightly in recent years but the NSC fears that they will drastically rise again due to their findings in a recent telephone poll of smokers. The research revealed that 42% of respondents indicated their intention to entertain at home more often as a direct result of the smoking ban enforced by the Irish Government. When people consume alcohol the chances of them falling asleep unexpectedly dramatically rise and now, with more smokers consuming alcohol at home, this could result in more people falling asleep while a cigarette is still lighting. Most fatal fires occur at night when people are asleep. Working smoke alarms cut the risk of dying in a home fire by 50%. Currently approximately 70% of all households in Ireland have a smoke alarm, which means that 70% of the primary target market is already safety conscious. Through the firm's informative marketing campaign this segment can also be made aware of the hazards of natural gas and carbon monoxide in the home.

**Carbon Monoxide Trends:** Carbon Monoxide is easily produced in the home when appliances burning fossil fuels such as gas, coal, or oil do not completely combust. Carbon monoxide is a colourless, odourless, tasteless, and toxic gas, and is often referred to as the "silent killer". When inhaled it inhibits the blood's capacity to transport oxygen throughout the body. Early symptoms include flu-like symptoms such as fatigue, weakness, dizziness, nausea, and headaches. Advanced symptoms include disorientation, unconsciousness, and convulsions, ultimately causing permanent brain damage, mental and speech disorders, hearing impairment, coma, or death. A national

campaign called “Carbon Monoxide - The Silent Killer” has been launched to inform people in Ireland of the dangers of CO in the home. When the campaign is completed it will be an appropriate time to launch Guardian Angel in Ireland. Saviour Life Ltd. will enter the marketplace offering a solution to this problem.

The success of the company will be based on the organization’s ability to effectively communicate the need for this product to its target audience through its marketing campaign. This will be done by exploiting the company’s strengths which include the management team’s marketing skills. Saviour Life Ltd. will be investing €144,000 in Year 1 and €60,000 in each subsequent year into sales promotions and marketing.

### **Key Competitors**

Similar three-in-one products to Guardian Angel are available overseas. Companies manufacturing these products include Qtronics who produce the GasMaestro. Although Irish customers can order them over the internet, customers must go on the internet searching for the product. Since only 537,000 homes in Ireland are connected to the internet, this means that 750,958 homes have no means of finding out about or buying the products. The GasMaestro is only available in one outlet in Ireland, Lowtown Marine Services Ltd. The firm sells the product for €150. The firm specializes in selling stock required for boats and offers marine services.

Vistec Limited is reputedly Ireland’s number one gas detecting company. They target industrial and commercial enterprises, along with government buildings, colleges, hospitals, and hotels. Mac Alarms was established in Ireland in 1988 and employs over 10 engineers. The company provides a comprehensive range of fire detection devices to Government, Public Sector institutions, commercial, and industrial organisations. Chubb is the leading provider of security and fire protection services to the business industry in the UK and Ireland. All three of the companies mentioned here focus on the industrial and boating market but do not focus on the domestic market. Saviour Life Ltd.’s primary target market will be the domestic market. Indirect competition includes standard smoke alarms and CO alarms. SafeLincs provides a range of quality smoke alarms and CO alarms which are manufactured in Ireland. The firm is solely a virtual company and all purchases must be made via the internet. Kidde and E1 detectors have the largest presence in hardware stores throughout the country but do not offer a three-in-one solution. Saviour Life Ltd will be offering a three-in-one solution.

## Unique Selling Point

The product is easily purchased and easily installed. Guardian Angel will be distributed in hardware stores across the country as well as on Saviour Life Ltd.'s website. No other three-in-one carbon monoxide, natural gas, and smoke detection systems are available in hardware stores in Ireland.

## Market Research

Both quantitative and qualitative primary research was undertaken for the purposes of examining the viability of the business idea. The objectives of the **quantitative research** were:

- To discover if the Irish market is aware of the dangers of Natural Gas, Fire, and Carbon Monoxide within the home,
- To determine the level of concern existing in relation to the dangers of Natural Gas, Fire, and Carbon Monoxide in the Irish market place,
- To investigate if there was a market in Ireland for the Guardian Angel,
- To identify the market segments towards which Guardian Angel should be targeted,
- To find out how many people would be willing to purchase the Guardian Angel.

To achieve these objectives the management team created a questionnaire containing ten key questions.

As the Guardian Angel is to be launched nationally, a quota sampling was utilised to make the results more representative of the whole country. A minimum of 25 respondents were required from both the Dublin suburbs and rural towns. 100 questionnaires in total were distributed on November 24<sup>th</sup> 2005. 50 questionnaires were handed out in Rush town's primary supermarket. 25 were handed door to door in South Dublin, and 25 were handed out door-to-door in Ratoath, Co. Meath. 84 surveys were returned and entered into SPSS for analysis.

The main objective of the **qualitative research** conducted was to develop a foundation for a marketing strategy. An in-depth interview was conducted with a person from each target segment. The interviewees were Jim Murphy, a 29 year old builder, and Jack Dempsey, a 56 year old building contractor. Probing techniques were used to reveal their true attitudes and opinions on how Guardian Angel should best be marketed.

## **Analysis of Quantitative Research**

The following are some of the main results from the market research:

- 70% of all respondents are aware of the dangers of CO in the home.
- 83.7% are aware of the dangers of natural gas in the home.
- 86% of respondents are concerned about fire in the home.
- Results highlighted that no correlation exists between gender and concern about CO, natural gas, and fire exposure in the home. Therefore a marketing campaign that is not gender specific will be designed.
- The results show that people over 50 years of age and upward are the most concerned about the three potential risks in the home.
- Analysis revealed that the age of people's children was not a determining factor as to whether respondents were concerned about the three toxic fumes in the home. Therefore "age of children" as a contributory factor in segmenting the market place was dismissed.
- Of the non-family households that responded, 50% are not concerned with fire, 100% are not concerned with CO, and 50% are not concerned with the dangers of natural gas in the home. For this reason non-family households will not be a primary target market.
- Of the couples with children that responded, an average of 75% of this segment was concerned with the dangers of the three toxic fumes in the home. Of the lone parents that responded, on average over 50% were concerned with the dangers of the three toxic fumes in the home. Therefore family units will be one of the primary target markets.
- 82% of respondents confirmed they would purchase a combined natural gas, CO, and smoke detection system.

## **Analysis of Qualitative Research**

Throughout the in-depth interviews, it was noted that the type of advertisements with the highest recall were those created by the NSC relating to road deaths in Ireland. The results of the interviews led the management team to opt for shock advertisement as the main theme of Guardian Angel's marketing campaign. Shock advertisement was chosen because both target segments representatives felt that this form of advertisement is the best way to market a product that protects people against dangers. One respondent stated that after seeing the latest campaign from the National Road Safety Council, he was distraught. He claimed that "You have to be shocked when you see an ad in order for it to really make an impact. You need to look at the ad and think, oh god, imagine if that happened to my family, to my child".

## **Profile of Target Market**

Savour Life Ltd. will be targeting all 1,287,958 households in the ROI. The firm's primary research segmented the Irish market and identified two core target markets. These are the grey market and family households with children. There are 787,547 people over 55 years of age in Ireland. This segment will be referred to as the grey market. People in this age category have more disposable income than people in other age categories and the company's research showed that they are the most concerned about these three threatening health hazards. The Central Statistics Office estimates that by the year 2020 the number of Irish consumers over 55 will triple. For the second target market, there are 690,101 family households with children in the state. It is expected that this number will stay even over the next decade.

## **MARKETING**

### **Pricing**

Saviour Life Ltd. opted for a competitive pricing strategy. Even though the company does not have strong direct competition in Ireland, the product is available online from other sources. Saviour Life Ltd. has opted to sell the Guardian Angel at a lower price to the other direct and indirect competitors, yet still selling above cost price and therefore generating a profit.

### **Distribution**

As mentioned previously, the target for the company is to distribute Guardian Angel throughout the fifty locations of the four main hardware stores in Ireland. The company's online service will accommodate individuals who wish to purchase the product online directly from the company. Management is also confident of securing contracts with two construction companies to purchase a minimum of 500 Guardian Angel's annually. The cost of delivering the products will be incorporated into the selling price. The company can guarantee to have all orders delivered within three days. The company plans to outsource the online individual service to DHL to guarantee delivery within three days of ordering and distribute the bulk retailer's orders by means of a delivery van. The product will be stored on the company's rented premises, ready for delivery at the factory base in Dublin, and will be delivered from base to retailer.

## Promotion

From the qualitative primary research conducted, it has been concluded that the company will need to demonstrate to its target audience the consequences of not having a Guardian Angel in their home as opposed to the benefits of purchasing it. In general, people tend to remember the negative aspects of things as opposed to the positive and so this should be the basis for the campaign. It has been established that people can relate to reality television. The company's research shows that there is no benefit in focusing on an informative campaign with definitions and scientific explanations as it has been found that people will not listen, as they cannot relate to such talk. In order for a marketing campaign to be successful it must have a high recall rate. After conducting in-depth interviews, it has been concluded that the company is going to opt for shock advertisement as the theme for the marketing campaign. The reason why shock advertising has been chosen is because the relevant qualitative primary research identified that this is deemed to be the most effective form of advertisement in terms of highlighting the dangers and safety.

A total of €144,000 has been allocated to the marketing budget for Year One, when the product will be launched. A further €60,000 will be spent in Marketing in Year Two, and again in Year Three. The company plan to use an array of marketing channels in the campaign to advertise the Guardian Angel, including the following:

- **TV advertising:** Shock advertisements will be used to market the Guardian Angel and the ads will run in the evening time to appeal to both target markets. The advertisements will be broadcast on Irish television channels during peak viewing hours when the target markets will be exposed to the ads. Suitable times would include commercial breaks of the following programmes, The 6 O'Clock News, Coronation Street, Eastenders, Fair City, PrimeTime, and The Late Late Show. All of the aforementioned programmes are related to both target markets and it is felt that advertising at these times would give maximum exposure.
- **Radio Advertising:** The company believes that an array of different radio channels need to be discussed when advertising the product on radio in order to appeal to both target markets. A solution to this problem is a radio advertising package. A suitable package advertising a 30 seconds ad for 23 slots during prime listenership times to Radio 1, 2FM, and Lyric FM has found to be appropriate to cover the target markets, and also fits to the marketing budget requirements.
- **Print Advertising:** Print advertisements will be included in the newspapers read by the target audiences. The company will aim to advertise in The Irish Independent, as it has over 180,000 daily readers and it currently holds 21.3% of the 35+ market, and research from Media Live

confirms that The Irish Independent holds the highest percentage of 35+ readers in the country. The Guardian Angel will also be advertised in The Sunday Independent, as it has over one million readers and it currently holds 38% of the 35+ market, and research from Media Live confirms that The Sunday Independent holds the highest percentage of 35+ readers in the country. Both the Irish Independent and the Sunday Independent offer an opportunity to advertise in their property section which would cover advertising to home owners buying, selling, or just having a general interest in property.

- **Outdoor Advertising:** Saviour Life Ltd. has decided to work with a promotions company called 'Viacom' to organise all of their outdoors advertisements. The reason why the company will chose Viacom is that it offers a wide range of outdoor advertising possibilities such as Exploding Bus T-signs, Luas opportunities, Café tent cards, Radius street furniture, The Outbox, and a range of other new ambient media opportunities.
- **The Internet:** A website will be created which will contain information about the Guardian Angel and the campaign and allow customers to purchase online if they wish to do so from anywhere around the globe.

## **OPERATIONS**

### **Location**

Saviour Life Ltd. will lease a unit in the National Digital Park on Citywest Business Campus, Co. Dublin. The location is conveniently located adjacent to the N7, and is just two miles from the M50 orbital motorway and is a thirty minute drive from the Dublin city centre. The business park is ideally located and will allow suppliers, the company's delivery van, and staff easy access to and from the premises. The lease contract will include the following: two car parking spaces, general maintenance, fully fitted toilet facilities, small kitchen area with a sink, heating, air conditioning, lighting, one desk, and chair. The chosen premise conforms to all health and safety standard requirements for the work place.

### **Manufacturing Process**

The firm will operate from 8am to 5pm with a break between 12:30pm and 1:30pm, Monday to Friday. This results in a total of 40 working hours per week. Initially two people will be employed to assemble the product in Year One. Each worker will produce a maximum of 50 units per day; approximately 400 units will be produced each week. Employees are required to assemble the final

product using outsourced parts by following a number of steps under the supervision of a quality control technician. The quality control technician will train in all new employees. If sale forecasts are exceeded, overtime will be offered to the operatives. In Year Three, Saviour Life Ltd. will be earning a profit. In Year Four a percentage of profits will be retained and reinvested into research and development as the company will develop other safety devices for the home such as 'child proofing' devices. The manufacturing process for the product will be as follows:

1. The plastic base to hold the circuit board and the cover of the product will be manufactured in lots of 5000. The circuit board will be assembled and delivered by ABC Circuits Ltd. as required to Saviour Ltd.
2. On delivery of all parts, 10% will be inspected by the quality control technician. This is known as a batch test and ensures that there are continuous quality systems throughout the entire group of goods. The moulds will be further inspected as an operative assembles each product. All delivered parts will be stocked next to each workstation safely. The batch test will include testing the sensors and reset button. The parts will only be accepted if 95% of the random batch passes the test.
3. Operatives will assemble the product in batches of ten.
4. The batches of completed products will be moved to the work station of the quality control technician.
5. A final inspection will be carried out on all completed products. After each completed product has passed all tests they are moved to the storage section.

The equipment required to make the moulds and the electrical circuits necessary for the product is extremely expensive. For this reason the enterprise will outsource the production of all parts to a number of different suppliers. The base and cover mould to hold the finished circuit will be manufactured by Hard Plastics Ltd, while the electrical circuit board will be produced by ABC Circuits Ltd. Boxes, and bubble wrap which are necessary for the packaging of the product will be outsourced from Bigbox Ltd. The cardboard box and bubble wrap will protect the product as it is delivered from one destination to another.

### **Key Regulatory and Quality Issues**

The organisations chosen to produce the required parts operate under all required standards. Hard Plastics has implemented a quality control system to meet the requirements of EN ISO 9002. ABC Circuits work in accordance with ISO 9001 and guarantees to place orders with manufacturers



meeting certification requirements (i.e. UL, BS9000, CECC, UL796). The "CE Marking" is the manufacturer's or importer's mark of conformity declaring compliance with all applicable directives (safety, machinery, EMC, others). The use of the "CE Marking" and "Declaration of Conformity" is now mandatory for most products and services sold in the EU. The Guardian Angel will comply with all compulsory standards and will have to obtain a CE stamp before it can go on sale.

### **Manufacturability and Other Operating Issues**

The manufacturability was considered in designing every aspect of the product. The engineering advisor found that outsourcing was the most effective and economical way to produce the product. Through outsourcing the two essential components, (the plastic housing and the electric circuit board) from two companies who specialise in these processes, the firm will benefit by not having to purchase any machinery or hire skilled workers to produce the parts. The components are designed by the two organisations in a manner that will allow for the final product to be assembled effortlessly by the operatives of Saviour Life Ltd. This means that the company can hire low skilled workers that can be easily trained in. To ensure reliability the product meets all safety standards (refer to above) and it incorporates a battery failure alert (refer to product description and design). The prototype was put through vigorous tests to ensure the final product would not fail in operation. The organisations chosen to produce the two essential components have both reached satisfactory safety and quality standard regulations.

### **FINANCE**

A minimum of €300,000 is required in order to establish Saviour Life Ltd. The company will be seeking a loan from a financial institution, and will also apply for a grant from the South Dublin County Enterprise Board to raise the funds required. The €300,000 loan will be repaid to the institution over a four-year period incorporating a 5% monthly interest rate. The loan will be received and spent in Year One. €100,000 will be repaid in two €50,000 installments in August and December of Year Two, and a further €50,000 repaid in April and December of Year Three. The remainder of the loan will be repaid in two €50,000 installments in the fourth year of the business plan. The County Enterprise Board offers a number of grants for which Saviour Life Ltd. may be eligible. The company will apply for an Employment Grant as the firm will immediately create six new jobs and a seventh job in the beginning of the second year. The Employment Grant is provided to offset the costs of employing new individuals. A maximum grant of €6,350 is available for every new job created and filled. The grant is given in two installments throughout the first year of the employee's employment. The three directors of the company plan to have full 100% equity. The directors will reinvest 100% of the profits back into the company for the first four years.

It is projected that Saviour Life Ltd. will make a loss in the first year due to initial investment costs and the huge budget allocated for marketing and promotions covering the launch of the Guardian Angel into the market. The company also has a heavy loan to be accommodated in the first year. As the company will head into its second year, the sales are forecasted to increase and the expenditure is expected to reach a steady outflow, the company can afford to pay back some of its loan, reducing the debt. The accounts foresee the company turning over a profit of €16,045 in Year Two and reducing their loan by €100,000. Year Three sees an ever-increasing turnover for Saviour Life Ltd. with estimated profits reaching €145,761 and again reducing the company's debt by another €100,000 leaving only a further €100,000 to be paid off in Year Four. Year One sees a gross profit margin of 11.86 % and similarly in Years Two and Three of 12.43% and 11.28% each respectively. The net profit margin for Year One stands at 2.82% and again, similarly in Years Two and Three at 3.69% and 3.85% respectively.

**Projected Cashflow for the 12 Months Ended 31st December 2007**

	<i>Jan-07</i>	<i>Feb-07</i>	<i>Mar-07</i>	<i>Apr-07</i>	<i>May-07</i>	<i>Jun-07</i>	<i>Jul-07</i>	<i>Aug-07</i>	<i>Sep-07</i>	<i>Oct-07</i>	<i>Nov-07</i>	<i>Dec-07</i>	<i>Total</i>
Sales			209,520	104,760	139,680	139,680	174,600	174,600	174,600	232,800	232,800	232,800	1,815,840
Vat Refund			10,933										10,933
Enterprise Ireland	19,050					19,050							38,100
	<u>19,050</u>	<u>-</u>	<u>220,453</u>	<u>104,760</u>	<u>139,680</u>	<u>158,730</u>	<u>174,600</u>	<u>174,600</u>	<u>174,600</u>	<u>232,800</u>	<u>232,800</u>	<u>232,800</u>	<u>1,864,873</u>
													-
Trade Suppliers		167,305	75,287	100,383	100,383	125,479	125,479	125,479	167,305	167,305	167,305	167,305	1,489,015
Accountancy				5,000						4,000			9,000
Wages - Directors	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750	3,750	45,000
Wages - Administration	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	31,020
Wages- Direct Labour	3,640	3,640	3,640	3,640	3,640	3,640	3,640	3,640	3,640	3,640	3,640	3,640	43,680
Insurance - All	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	12,348
Motor Expenses	950	600	600	898	600	600	600	600	1,100	600	600	600	8,348
Hire Purchase - Van	2,854	415	415	415	415	415	415	415	415	415	415	415	7,419
Sundry & Rent	8,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	8,500	62,000
Sales Promotion & Marketing	16,000	16,000	16,000	16,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	144,000
Bank Charges			250			250			250			250	1,000
Interest Loan	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	15,000
Vat					46,301		43,243		55,364		64,683		209,591
Corporation Tax													-
Rent													
	<u>40,558</u>	<u>201,074</u>	<u>109,306</u>	<u>139,450</u>	<u>174,453</u>	<u>153,498</u>	<u>196,491</u>	<u>153,248</u>	<u>251,188</u>	<u>199,074</u>	<u>259,757</u>	<u>199,324</u>	<u>2,077,421</u>
Opening Balance		278,492	77,418	188,565	153,875	119,102	124,334	102,443	123,795	47,208	80,934	53,976	87,452
Balance Current Account													
Directors Loans	300,000												
Surplus / Deficit	- 21,508	- 201,074	111,147	- 34,690	- 34,773	5,232	- 21,891	21,352	- 76,588	33,726	- 26,957	33,476	
Closing balance	<u>278,492</u>	<u>77,418</u>	<u>188,565</u>	<u>153,875</u>	<u>119,102</u>	<u>124,334</u>	<u>102,443</u>	<u>123,795</u>	<u>47,208</u>	<u>80,934</u>	<u>53,976</u>	<u>87,452</u>	

**Projected Cashflow for the 12 Months Ended 31st December 2008**

	<i>Jan-08</i>	<i>Feb-08</i>	<i>Mar-08</i>	<i>Apr-08</i>	<i>May-08</i>	<i>Jun-08</i>	<i>Jul-08</i>	<i>Aug-08</i>	<i>Sep-08</i>	<i>Oct-08</i>	<i>Nov-08</i>	<i>Dec-08</i>	<i>Total</i>
Sales	232,800	232,800	232,800	232,800	256,080	256,080	256,080	279,358	279,358	291,000	291,000	291,000	3,131,156
Other Income	9,525					9,525							19,050
	<u>242,325</u>	<u>232,800</u>	<u>232,800</u>	<u>232,800</u>	<u>256,080</u>	<u>265,605</u>	<u>256,080</u>	<u>279,358</u>	<u>279,358</u>	<u>291,000</u>	<u>291,000</u>	<u>291,000</u>	<u>3,150,206</u>
Trade Suppliers	167,305	167,305	167,305	184,036	184,036	184,036	200,766	200,766	209,132	209,132	209,132	234,227	2,317,178
Accountancy				15,500									15,500
Wages - Directors	4,250	4,250	4,250	4,250	4,250	4,250	4,250	4,250	4,250	4,250	4,250	4,250	51,000
Wages - Administration	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	31,020
Wages- Direct Labour	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853	58,236
Insurance - All	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	12,348
Motor Expenses	950	1,150	600	600	600	1,150	600	600	600	1,150	600	600	9,200
Leasing - Van	415	415	415	415	415	415	415	415	415	415	415	415	4,980
Sundry & Rent	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	12,000	78,000
Sales Promotion & Marketing	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	60,000
Bank Charges			270			270			270			270	1,080
Loan Interest	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,042	1,042	1,042	1,042	1,042	13,960
Vat	74,871		76,624		74,090		84,765		88,901		94,866		494,117
Corporation Tax													-
Repay Loan								50,000				50,000	100,000
	<u>268,508</u>	<u>193,837</u>	<u>270,181</u>	<u>225,518</u>	<u>284,108</u>	<u>210,838</u>	<u>311,513</u>	<u>276,540</u>	<u>324,077</u>	<u>235,456</u>	<u>329,772</u>	<u>316,271</u>	<u>3,246,619</u>
Opening Balance	87,452	61,269	100,232	62,851	70,133	42,105	96,872	41,439	44,257	-	462	55,082	16,310
Balance Current Account													8,961
Directors Loans													
Surplus	-	26,183	38,963	-	37,381	7,282	-	28,028	54,767	-	55,433	2,818	-
Closing balance	<u>61,269</u>	<u>100,232</u>	<u>62,851</u>	<u>70,133</u>	<u>42,105</u>	<u>96,872</u>	<u>41,439</u>	<u>44,257</u>	<u>-</u>	<u>462</u>	<u>55,082</u>	<u>16,310</u>	<u>-</u>

**Projected Cashflow for the 12 Months Ended 31st December 2009**

	<i>Jan-09</i>	<i>Feb-09</i>	<i>Mar-09</i>	<i>Apr-09</i>	<i>May-09</i>	<i>Jun-09</i>	<i>Jul-09</i>	<i>Aug-09</i>	<i>Sep-09</i>	<i>Oct-09</i>	<i>Nov-09</i>	<i>Dec-09</i>	<i>Total</i>	
Sales	325,920	325,920	337,560	337,560	337,560	337,560	337,560	337,560	337,560	349,200	349,200	349,200	4,062,360	
													-	
													-	
	325,920	325,920	337,560	337,560	337,560	337,560	337,560	337,560	337,560	349,200	349,200	349,200	4,062,360	
Trade Suppliers	234,227	242,593	242,593	242,593	242,593	242,593	242,593	242,593	250,958	250,958	250,958	250,958	2,936,210	
Accountancy				15,500									15,500	
Wages - Directors	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	60,000	
Wages - Administration	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	2,585	31,020	
Wages- Direct Labour	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853	4,853	58,236	
Insurance - All	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	12,348	
Motor Expenses	950	600	600	1,150	600	600	600	1,150	600	600	600	1,150	9,200	
Leasing - Van	415	415	415	415	415	415	415	415	415	415	415	415	4,980	
Sundry & Rent	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	12,000	83,500	
Sales Promotion & Marketing	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	60,000	
Loan Interest	833	833	833	625	625	625	625	625	625	625	625	417	7,916	
Bank Charges			300			300			300			300	1,200	
Vat	95,940		113,069		110,184		112,970		112,874		114,990		660,027	
Corporation Tax													-	
Loan Repay				50,000								50,000	100,000	
	357,332	269,408	382,777	335,250	379,384	269,500	382,170	269,750	390,739	277,565	392,555	333,707	4,040,137	
Opening Balance	-	8,961 -	40,373	16,139 -	29,078 -	26,768 -	68,592 -	532 -	45,142	22,668 -	30,511	41,124 -	2,231	13,262
Balance Current Account														
Directors Loans														
Surplus	-	31,412	56,512 -	45,217	2,310 -	41,824	68,060 -	44,610	67,810 -	53,179	71,635 -	43,355	15,493	
Closing balance	-	40,373	16,139 -	29,078 -	26,768 -	68,592 -	532 -	45,142	22,668 -	30,511	41,124 -	2,231	13,262	

<b><u>Trading Profit &amp; Loss</u></b>	<b><u>2007</u></b>	<b><u>2008</u></b>	<b><u>2009</u></b>
Sales	1,885,488	2,660,843	3,402,146
Other Income	38,100	19,050	-
Total Income	<u>1,923,588</u>	<u>2,679,893</u>	<u>3,402,146</u>
<b><i>Less Cost of Sales</i></b>			
Purchases	1,656,320	2,290,938	2,959,983
Direct Wages	<u>43,680</u>	<u>58,236</u>	<u>58,236</u>
	1,700,000	2,349,174	3,018,219
<b><i>Gross Profit</i></b>	<b><i>223,588</i></b>	<b><i>330,719</i></b>	<b><i>383,927</i></b>
<b><i>Less Administration Expenses</i></b>			
Directors Remuneration	45,000	51,000	60,000
Staff Salaries	31,020	31,020	31,020
Insurance	12,348	12,348	12,348
Accountancy	7,438	12,810	12,810
Bank Charges	1,000	1,080	7,916
Interest Paid	15,000	13,960	1,200
Sundry Rent	51,240	64,463	69,008
Motor Expenses	6,899	7,603	7,603
Sales & Promotion	119,008	49,587	49,587
Depreciation	<u>2,719</u>	<u>2,719</u>	<u>2,719</u>
	291,672	246,590	254,211
<b>Net Profit / Loss</b>	<b><u>- 68,084</u></b>	<b><u>84,129</u></b>	<b><u>129,716</u></b>

**Balance Sheet**

	<u>2007</u>	<u>2008</u>	<u>2009</u>
<b><i>Fixed Assets</i></b>			
Motor Vehicles	10,876	8,157	5,426
<b><i>Current Assets</i></b>			
Trade Debtors	465,600	651,840	698,400
Bank	87,452 -	8,961	13,262
Stock	-	-	-
	<u>553,052</u>	<u>642,879</u>	<u>711,662</u>
<b><i>Less Current Liabilities</i></b>			
Trade Creditors	167,305	234,227	258,000
Vat	155,678	196,714	213,327
Hire Purchase	9,030	4,050	
Loan Directors	<u>300,000</u>	<u>200,000</u>	<u>100,000</u>
	<u>632,013</u>	<u>634,991</u>	<u>571,327</u>
	- 78,961	7,888	140,335
<b>Total Net Assets</b>	<u>- 68,085</u>	<u>16,045</u>	<u>145,761</u>
<b><u>Financed By</u></b>			
P&L Account	-68,084	-68,084	16,045
Profit / Loss	0	84,129	129,716
<b>Retained Profit / Loss</b>	<u>- 68,085</u>	<u>16,045</u>	<u>145,761</u>