GO BOATING WITH SILVERTIP

by

Andrew C. C. Lee
B.Sc. University of Wisconsin-Madison, 1996

Katherine Qiao
M.Sc. Sichuan University, 1993

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Name: Andrew C. C. Lee, Katherine Qiao

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Supervisory Committee:

Dr. Aidan Vining
Senior Supervisor
Faculty of Business Administration

Dr. Ian McCarthy
Supervisor
Faculty of Business Administration

Date Approved: 4/12/03

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Author: _____

Andrew C.C. Lee

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Go Boating with SilverTip

Author: _____

Katherine Qiao

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Date

ABSTRACT

This business plan presents a strategic analysis for a new entrant serving the boat security market. An unmet need is perceived for boat owners to have direct interaction with their boats by an effective two-way communication system. The solution is to research and develop a novel boat security system using telematics technology to satisfy the niche market. The mobile security devices industry is in its infancy and is still highly fragmented. There is no dominant player in the marine customer segment yet. Firms in the mobile security devices industry are developing their own core competencies to compete with differentiation strategies. Rivalry among existing firms is moderate, while there are moderately high barriers for new entrants. The bargaining power of both intermediate and final customers is relatively high. The threat of new products and emerging technologies is high. These new products and technologies may become close substitutes.

Appropriate strategic directions need to be formulated for the company to be successful and profitable in a long term. This business plan identifies the target market as new buyers of recreational boats. An effective distribution strategy is to sell to boat dealers and to establish strong dealership networks to build up the company's brand equity and customer base. The optimal entry strategies are internal market development through strong relationships with dealers and slow skimming for pricing and promotional activities. The financial projection is for the company to be profitable in the near future. By leveraging its assets and core competencies, the company will be able to offer a complete security and safety solution for people to go boating.

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1 INTRODUCTION

This introductory section gives the overall objectives of the business plan, a description of SilverTip, including its business scope and company structure, and an introduction to the product concept.

1.1 Objectives of the Business Plan

Our main task is to develop a professional business plan for a start-up company - SilverTip. This business plan serves three major objectives for SilverTip. The first objective is to help the company seek additional funding from venture capitalists and/or angel investors to launch its marketing component. The second objective is to help the company to evaluate its strategic alternatives, and then to propose an appropriate entry strategy for its products. The third objective is to develop a detailed marketing plan for the company to achieve its goals in the boat security market. This business plan has three major components:

- The first component is the analysis of the concept. This includes an introduction to the company, a description of the product, a definition of the mobile security devices industry, and an industry analysis from the perspective of a new entrant.
- The second component is the market opportunity assessment. This includes an assessment of the business concept, an evaluation of the market in terms of profitability, an analysis of the core competencies of SilverTip and a description of the projected market share and trends.

- The third component is the recommended plan. This includes the recommended strategies for marketing, financing and implementation.

In this business plan, we will examine some additional questions raised by SilverTip. These include:

- Which service would the customer prefer: a self-monitored service or a central monitored service?
- What are the major threats and competitors in the market?
- How to convince venture capitalists that this is an attractive business and a rewarding investment?
- How to launch the product/service successfully and to establish a dominant position in the market?

1.2 The Company - SilverTip

1.2.1 Company Description

SilverTip is a new company created to continue the development of and commercialize security products and telematics for marine applications. SilverTip's main goal is to research and develop telematics products to serve the boat security market. Another goal is to be profitable and to become a dominant player in the boat security market. The company is a Canada corporation incorporated on February 28, 2003 under the Canada Business Corporations Act (CBCA). The company was formed with assets and intellectual property developed by the founder, Ian McEachern, over the course of

2002. Ian McEachern holds the controlling interest of the company. Currently, SilverTip is preparing for its first product launch in the first quarter of 2004 (SilverTip, 2003).

1.2.2 Company Structure

SilverTip has a functional structure. There are three major divisions in the company: the management team, the engineering team and the marketing team. The CEO is the head of the management team with the director of engineering and the director of marketing reporting to him. Most staffs are contract-based at this time.

1.3 The Boat Security Concept

The boat security market is a niche market that has not been served properly. According to the market research done by SilverTip, over 55,000 boats were stolen in the United States (US) in 2000. In Canada, over $60,000,000 ($ are in Canadian except otherwise stated) worth of boats is stolen every year, and 80% of these stolen boats are not recovered (SilverTip, 2003). The current boat security market is highly fragmented. There exists no dominant player. At the same time, there is an unmet need for customers to look for advanced security systems that can bring them peace of mind. For example, customers may want real-time information about the location and status of their boats via direct communication with their boats. SilverTip's boat security systems will use global positioning systems (GPS) tracking capabilities and cellular network technology with conventional alarm features. The company will provide security products to fill the unmet need in the current boat security market.

2 SILVERTIP'S PROJECTED PRODUCTS

This section gives a detailed description of SilverTip's products, including the boat security system architecture, characteristics, and applications.

2.1 Product Description of the Two-way Boat Security System

SilverTip is researching and developing advanced security systems for boats. The core product is characterized by its GPS tracking capabilities and global system for mobile communications (GSM) / general packet radio service (GPRS) communications functions, in addition to the traditional alarm system features. The core product is for boats that are in the $40,000 to $200,000 price range. According to SilverTip, the core component of the product is a single circuit board with six modules. The board is approximately 4" x 6" and is protected in a waterproof case which is about 4" deep. The unit includes a GPS device to determine location, a cellular module to call the boat owner if it is tampered with or moved, and a 32-bit processor running Linux to control the whole system. The security system has the usual alarm points for door sensors and can optionally have floor pressure sensors, pressure sensor pads, glass break detectors, and smoke detectors. It also has analog sensors for monitoring engine and other optional points. To interface with the unit, the user can browse the system, via web enabled cell phone, computer web browser, short message service (SMS), or touch-tone commands by regular telephone.

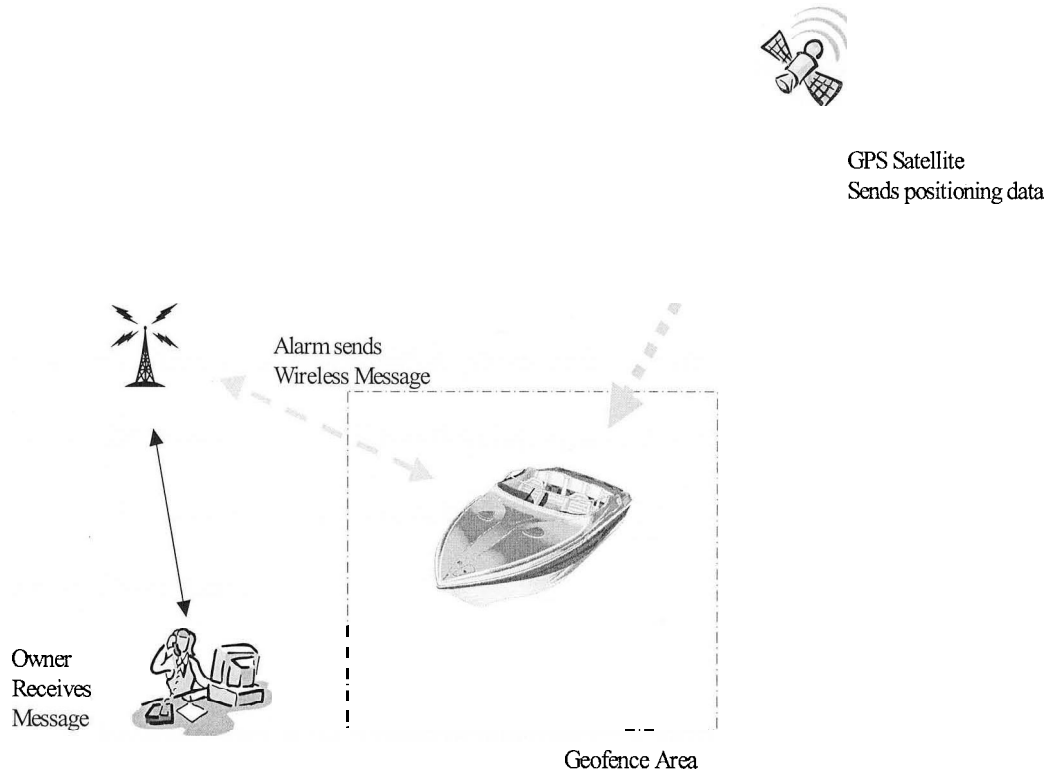

Figure 1: SilverTip's Boat Security System Architecture

Source: SilverTip Marine Inc. Internal Document (2003) by permission

A "product" is defined for strategic purposes as anything the company sells separately (Boardman & Vining, 1996). SilverTip's products fall into three categories: the original equipment manufacturers (OEM) product for boat builders, the security system bundled with a communications airtime package for boat owners and charter companies, and the security system for customers who use their own communications service providers. The circuit board with modules and the software are the core components of the products. SilverTip is developing a high-end security system, ESP3000, and a low-end security system, ESP1000. ESP1000 is a simpler version of ESP3000 with fewer features.

2.2 Characteristics of the Two-way Boat Security System

According to SilverTip, ESP3000 is designed with an embedded reduced instructions set computing (RISC) processor as the controlling module. The system includes an embedded GPS receiver, a GSM/GPRS radio transceiver, a micro-controller, and a backup gel-cell type battery. The micro-controller will interface directly to all external inputs used to detect intrusion or alarm conditions. In addition, it also interfaces with the remote keyless entry sub-system.

The GPS receiver, which is capable of running in ultra low power mode, provides highly accurate, quick location fixes. This allows the system to implement a "geo-fencing" function. That is, the system will raise an alarm and alert the owner that unauthorized movement has occurred, if the boat is driven, or towed out of some pre-programmed range of the initial arming location, such as its normal parking location. In

addition, the system can track the location of a stolen boat, allowing law enforcement units to recover the boat.

ESP3000 uses GSM/GPRS communications channels to call the owner, or designated parties, if an alarm has been triggered. It is capable of sending a text or binary message via SMS, an email message, a specially formatted message via transmission control protocol (TCP) or user datagram protocol (UDP) over to the Internet, or a voice message. The messages can be sent to multiple addresses to ensure that the owner and other designated parties receive the alarm notification.

Another feature of ESP3000 is that the central processing unit (CPU) provides a user interface function. The system allows the owner to remotely interface with the device. The owner can log into the security system, determine its status, change configuration, and determine the boat's location. The interface is provided via a standard web browser, which allows the owner to access the system from anywhere using a computer, a wireless-enabled handheld computer, or a browser-enabled cell phone.

ESP1000 has fewer features than ESP3000. Table 1 compares the ESP3000 and ESP1000. The major difference is that the ESP1000 does not provide the capability for boat owners to communicate directly with their boats. ESP1000 is developed to meet the needs of commercial charter companies where system cost is an important factor in the purchasing decision.

Feature	ESP3000	ESP1000
Real-time vehicle location with street address	Yes	Yes
Nationwide coverage	Yes	Yes
Tracking via web and phone	Yes	Yes
Continuous tracking on the web, which shows history of a vehicle track over time	Webtech	Webtech
Remote start and door unlock via web and phone	Yes	Yes
Alarm notifications to any phone or e-mail address	Yes	Yes
Confirmation of all commands	Yes	Yes
Embedded GPS	Yes	Yes
Geo-fencing Alarms	Yes	Yes
Available to consumers in retail stores	Yes	Yes
Free monthly status e-mail check with every plan	Yes	Yes
Remote Vehicle Shutdown	Yes	Yes
Sensor Inputs Digital	8	8
Sensor Inputs Analog	3	3
Switched Outputs	4	4
Service Plan required	No	Yes
Web based back end service required	No	Yes
Direct communication with the system	Yes	No
Hood/Engine Compartment Switch	Yes	Yes
Door Switch	Yes	Yes
Optional Switch	Yes	Yes
Pressure Sensor Switch	Optional	Optional
Nema 4 rated enclosure	Yes	Yes
Deck Equipment Switch	Optional	Optional
Electronics Switch	Optional	Optional
Fire Detector	Optional	Optional
Smoke Detector	Optional	Optional
Temperature Sensor	Yes	Yes
Battery Voltage Sensor	Yes	Yes
Bilge Water Level Sensor	Yes	Yes
Cell phone micro browser access	Yes	No
User Security Levels	Yes	No
Silent Alarm Mode	Yes	Yes

Feature	ESP3000	ESP1000
Arm Aboard Mode	Yes	Yes
Valet/Service Mode	Yes	Yes
Set Geo-fence Radius	Yes	Yes
Arm Geo-fence with Keyfob	Yes	Yes
User Definable Custom Actions	Yes	No
Output GPS Data in Nema format (into to VHF Digital Distress or Charter)	Optional	Optional
Interface to Satellite modem (for out of cellular network coverage)	Optional	Optional
Voice Prompts for Touch Tone Command	Yes	No
Ignition Kill	Yes	Yes
Fuel Pump Kill	Yes	Yes
Backup Battery	Yes	Yes
User Definable Custom Outputs	Yes	Yes
User Definable Zone Names	Yes	No
User Definable Sensor Names	Yes	No

Table 1: Feature Comparison of ESP3000 and ESP1000
Data Source: SilverTip Marine Inc. (2003)

The boat owners can enjoy peace of mind with the SilverTip security systems installed on their boats. The system will send an alarm notification and determine the location of the boat, should an intruder step on board or should the boat be moved out of its defined holding zone. The system will also raise an alarm so that corrective actions can be taken before the boat sinks, if water level in the boat becomes too high.

2.3 Future Products

The company is planning to develop a number of products that meet the different needs of customers. This will include security products from low-end to high-end with different features and various service options such as self-monitored or central monitored.

3 ANALYSIS OF THE MOBILE SECURITY DEVICES INDUSTRY

3.1 An Introduction to Mobile Security Devices and Telematics

3.1.1 Mobile Security Devices (MSD)

Human being is the oldest form of security device and the most common form of security device is security guard. Keys and locks are other simple forms of non-electronic security devices for access control. We often refer to these non-electronic security devices as "passive" security devices because they don't have "intelligence" to response to different situations. "Security" means freedom or protection from danger or worry by the Oxford Advanced Learner's English dictionary. According to the Private-Sector Liaison Committee (PSLC) of the International Association of Chiefs of Police (IACP), mobile security devices (MSD) are defined as small, easily transported devices to combine cellular phone technology with the GPS capabilities that can emit a panic or distress signal along with instant information on the location of the transmitting unit.

Mobile security devices usually require electrical power from batteries to operate. These MSD are more powerful and "intelligent" today as they use telematics technology. The advantages are that MSD can perform monitoring and tracking functions regularly. In addition, MSD can have different programmed responses to different situations. This can be done by connecting the device to a central monitoring station or by utilizing pre-programmed instructions. MSD can be much more than just a simple alarm that makes sound when they detect unauthorized intrusion. They can perform advanced security functions, such as constant tracking and monitoring activities, recording these activities to log files in the database or sending information directly to law enforcement units for reaction and activating remote control commands.

3.1.2 Telematics – An Emerging Technology

The current MSD are "intelligent" because they use an emerging technology called telematics. Telematics is the combination of GPS with two-way wireless communication for routing, tracking and navigation services (Gray, 2002). Although telematics is still in its infancy, it is making inroads into the transportation industry, in both the commercial and consumer sectors. Telematics technology has made an impact on automobile safety and security. In addition, telematics technology can be used for other motor vehicles, such as boats, trucks, and construction vehicles. Furthermore, telematics technology can also be used in personal safety and medical emergency situations.

3.1.3 Types of Electronic Security Business

Figure 2 indicates the percent contribution of revenues generated by the various types of electronic security products in 2002. The figure shows that customers are more willing to spend their money in security systems to prevent burglaries than on other systems.

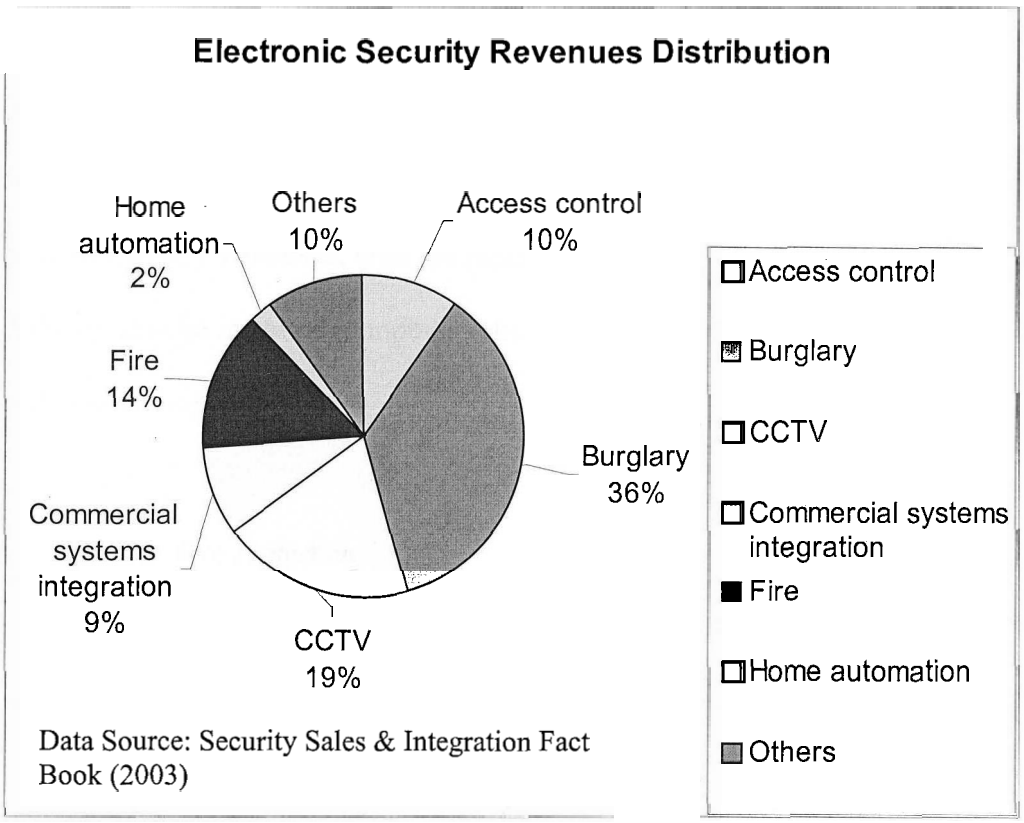

Figure 2: Electronic Security Revenues Distribution

3.1.3.1 Access Control

According to the Security Industry Association (SIA), access control means the use of qualifying devices or identification methods at various access points to control the passages of people and vehicles into and out of an area or structure. It limits access to a building to those people who have authorization to enter through selected points. In short, it can control "who goes where and when" (SIA, 2003). Mechanical locks and keys are the most basic form of access control, but electronic and remote access control devices are emerging rapidly.

3.1.3.2 Closed Circuit Television (CCTV)

According to the descriptions of SIA, CCTV is any private video system that is used to visually monitor a location for security or industrial purposes. A CCTV system can be recorded and viewed on-site or viewed remotely. CCTV is usually installed in buildings. The large amount of data that is transmitted is usually transmitted through cables (SIA, 2003). However, with the rapid development of wireless technology, today CCTV may also be installed in mobile vehicles and high bandwidth digital video data may also be transmitted for remote video verification.

3.1.3.3 Fire Protection

The SIA describes fire alarm signalling systems as consisting of a fire alarm control panel, initiating devices (smoke detectors, heat detectors, water flow switches, and pull stations) and notification devices (horns, strobes, and bells). The system automatically sends a signal to notify building occupants and remote monitoring stations that a fire alarm condition exists (SIA, 2003).

3.1.3.4 Home Automation

According to SIA, home automation is the use of a microprocessor-based intelligence to integrate or control electronic products and systems in the home. Examples of products to be controlled or integrated are floodlights, coffee makers and computers. Systems include security systems, heating and cooling systems, lighting control systems and audio/video home theatre systems (SIA, 2003). Today, home automation includes mobile homes such as boats and recreational vehicles (RV).

3.1.3.5 *Intrusion Detection/Burglary Alarm System*

Intrusion detection systems, or burglar alarms, detect unauthorized entry into your premises. Intrusion systems can act as a deterrent to break-ins at a business, home or mobile vehicle. This kind of system includes the sensing devices that detect break-in attempts. When the sensor is activated, it sends a signal to a control panel, which triggers a loud alarm and/or notifies a central monitoring station. Intrusion detection / alarm systems are widely used in mobile vehicles today. This is the most basic function provided by MSD.

3.1.3.6 *Security Monitoring and Tracking*

Monitoring is the key reporting link in electronic security. The two main types of monitoring services are proprietary monitoring[1] and contract monitoring[2]. Security monitoring is an alarm sensor interfaces with a communications device to deliver a message for response. In most cases, the activation of an alarm triggers a signal, then the central monitoring station processes the data it receives for proper actions and responses. For more advanced security monitoring functions, users can do the monitoring themselves. They can login to a special designed website to get specific information, to track the mobile units visually and to control the mobile units remotely through the Internet.

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[1] Proprietary monitoring is a business maintaining a monitoring station on its protected premises, or performing those functions for its own properties off-premises.

[2] Some alarm companies monitor the alarm systems they install by maintaining their own central monitoring stations, but the majority of alarm companies contract with third party central stations to provide professional monitoring services to their clients.

3.1.4 A Brief History of Electronic Security Monitoring

According to SIA, electronic security monitoring has over one hundred years of history. At first, direct wire technologies dominated the industry after Edwin Holmes had draped cotton-coated wires across Boston to the first central station in America. Then, the "tape dialler" was invented replacing direct wire technologies. On alarm activation, the alarm would access the user's standard telephone line and play a pre-recorded message to the police or fire department. In the early 1970s, another technological breakthrough, the creation of the digital communicator, resulted in major improvements to electronic security monitoring. This development has led to the contracted central monitoring services today (SIA, 2003). At the present time, with telematics technology, the SIA has identified the new and existing markets for central monitoring stations as listed below (Goldfine, 2002):

- Communication between dealers, marketing, monitoring through the Internet
- Remote video verification
- Remote access control
- Global positioning systems (GPS)-based monitoring
- Simple network management protocol (SNMP)-based, event-driven monitoring
- Two-way voice and interactive
- Medical and elderly monitoring

3.1.5 Use of MSD with Telematics in Boat Security

Mobile security devices and monitoring services are finding new markets and applications with the recent advancements in telematics technologies. MSD can have all of the different electronic security functions described in the above sections. However, the security monitoring, tracking and reporting functions are the key features of MSD. The question is whether the emerging wireless technologies can make these MSD "smart" enough, so that the users can track, monitor and communicate with them directly. This is what SilverTip believes is going to happen in the boat security market and, thus, the company is developing security systems that can interact directly with the users. This will give the users more control over their boats.

3.2 Competitive Forces in the MSD Industry

This section examines the competitive forces in the MSD industry in detail. First, we will introduce a framework that is going to be used to analyze the MSD industry. Then we will describe the general industry characteristics such as size, growth and profitability of the MSD industry. After that we will identify the key competitors in this emerging industry and describe the nature and intensity of competition among existing competitors. This will be followed by a detailed examination of each of the competitive forces that will affect the MSD industry. After that, we will describe the key success factors in this industry and the overall industry prospects. Finally, we will conclude with the implications for SilverTip from this analysis.

3.2.1 A Framework to Analyze the MSD Industry

For the purpose of this industry analysis, we focus on the MSD industry. We use Michael Porter's Five Forces framework to identify the major competitive forces in this industry and how these forces shape the strategy of competitors (Porter, 1979). We are using an adapted version of the Porter's framework to evaluate the MSD industry due to the special nature of this industry. This model consists of the basic Five Forces Model initially developed by Michael Porter plus two additional forces. The result is seven forces:

- Competitive forces among existing firms
- Barriers for new entrants
- Threat of substitutes products and emerging technologies
- Bargaining powers of the suppliers
- Bargaining powers of the buyers
- Effects of government regulations
- Effects of complementors

3.2.2 Size of the MSD Industry

The MSD industry was expected to grow exponentially when the concept was first introduced in the 1990s. An article from the October 1998 issue of the Security Sales and Integration magazine estimated that there were about 150,000 MSD in use at the time. That number was expected to increase to between one million to three millions by the year 2000. The MSD industry has the potential to be a US$ 300 billion industry

within the next 20 years (Jones, 1998). At that time, analysts were anticipating the MSD industry to grow rapidly because no one can tell how popular these security devices would become. However, due to the dot-com and high-tech meltdown, the events of 9/11 and the current economic situation, the MSD industry has not grown as rapidly as expected. Undeniably, some companies in the commercial MSD industry for asset and vehicle tracking had experienced success. Most of the experts in GPS field are still expecting the MSD industry (using telematics technology) to be growing reasonably in the near future (Gray, 2002). According to a research study done by the ABI Research Inc., the size of the total global OEM telematics market was US$ 2.4 billion in 2002 with most of the revenue coming from hardware sales.

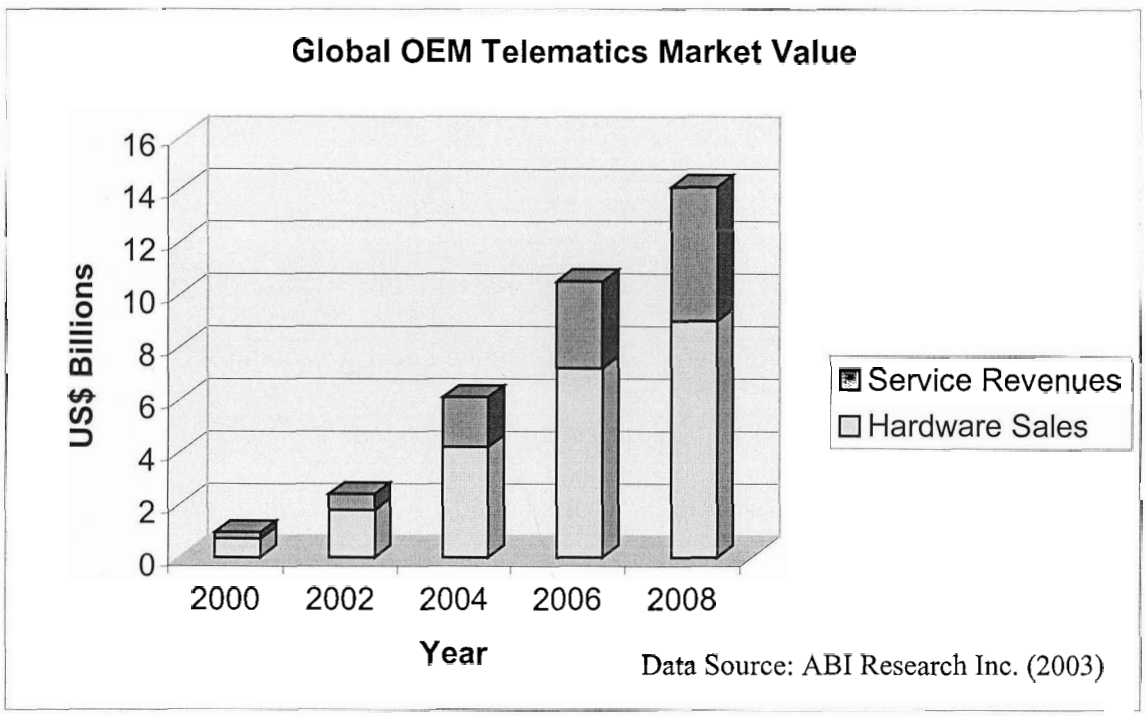

Figure 3: Size of Global OEM Telematics Market

3.2.3 Strategic Groups within the MSD Industry

A strategic group is a set or cluster of firms that compete against each other directly via the pursuit of similar strategies (Boardman & Vining, 1999, p.45). There are several major strategic groups within the MSD industry. They are the specialty high-end boat security systems provider, the low-end boat alarm systems provider, the advanced security or fleet management systems, the global car alarm systems provider and the global security services provider. The strategic groups are shown in Figure 4.

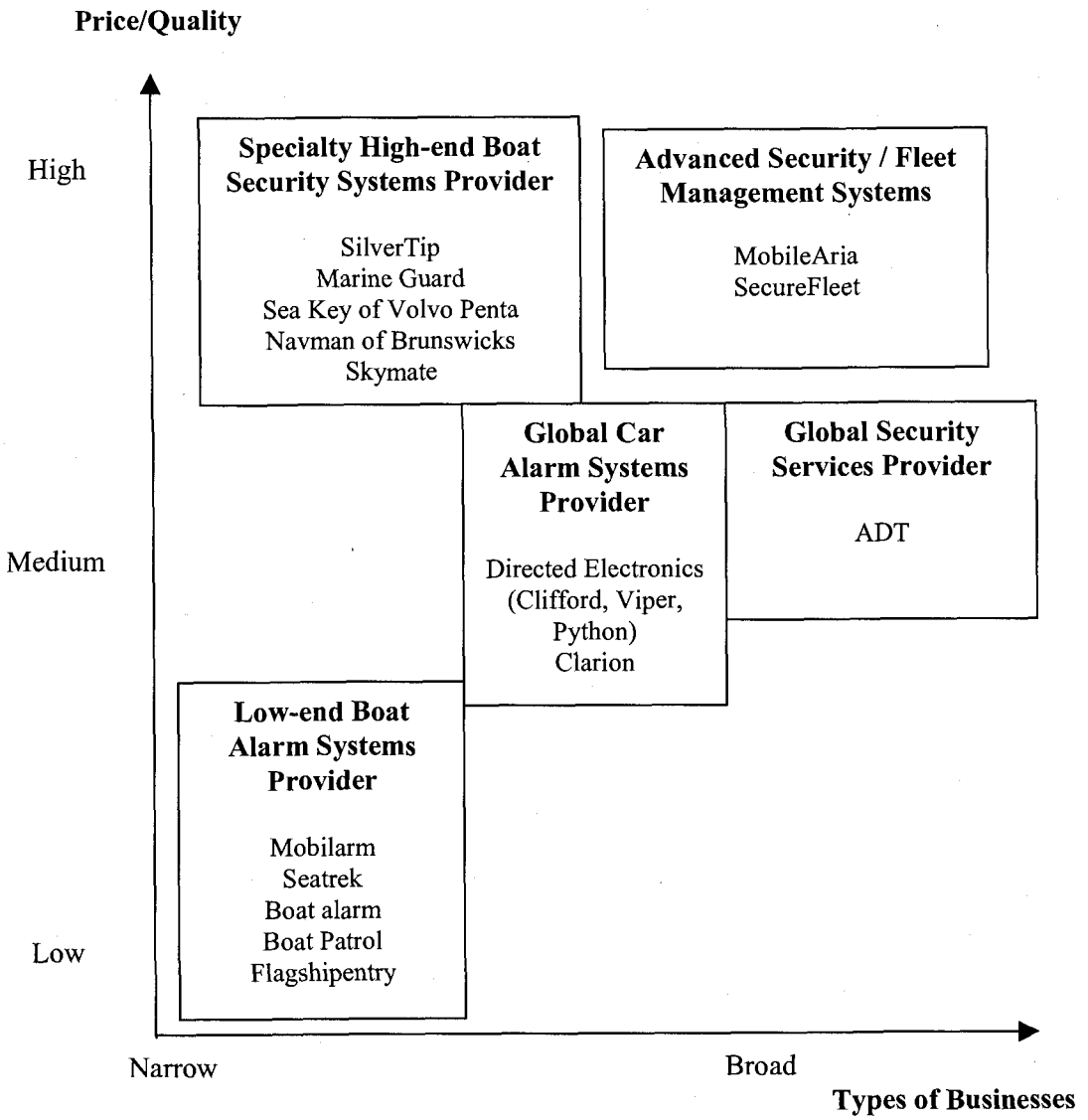

Figure 4: Strategic Groups Map of the MSD Industry

3.2.4 Growth of the MSD Industry

An article from the SIA Research Update Report for Second Quarter 2003 has indicated that the world security market is expanding. The world market for security products and systems is forecast to expand almost 9% annually through 2006, reaching US$ 65 billion. The annual percent growth in 2001 was averaged around 8% in North America (SIA Research Update, 2003). It is a conservative estimate that the MSD industry will be growing as fast as the rest of the market since this is an emerging market.

Andrew Cole, senior vice president of the strategy firm Adventis, recently has forecasted that telematics services would grow from US$ 4.2 billion in 2005 to US$ 21.8 billion in 2010. Forward Concepts sees a US$ 500 million market this year for equipment, subscription fees and airtime minutes, growing to US$ 3 billion by 2006 (Smith, 2002).

3.2.5 Profitability of the MSD Industry

In the MSD industry, revenue not only comes from the selling of equipment, but it also comes from recurring monthly revenue (RMR). RMR may depend on the client's airtime usage and the extended services employed such as central monitoring, tracking, navigation and concierge services. In general, a dealer charges clients a monthly fee ranging between US$ 14.95 and US$ 34.95. The dealer can collect from US $6 to US $24 in RMR. Also, the equipment mark-up is about US$ 400 to US$ 500 per vehicle (Gray, 2002). At this early stage of the emerging MSD industry, the major source of revenue is coming from hardware sales. However, as more and more users are using the telematics services, the business model is expected to change. It is reasonable to forecast that the

service revenue may contribute to half of the total revenue, with the hardware sales make up the other half, after 2010.

3.2.6 Number and Size of Competitors in the MSD Industry

In general, the MSD industry is still fragmented with small high-tech firms dominating and growing, especially in the boat security market. However, some of these high-tech firms have been acquired by large motor vehicle manufacturing companies, so the industry structure may become oligopolistic in the near future. Today, there are many buyers and sellers in the market, each of which is "small" relative to the market. Each firm in the market produces similar products and uses similar technologies. Buyers and sellers have perfect information about each other and there are no transaction costs involved. Industry players can enter into and exit from the market freely. Therefore, these firms are operating in a nearly perfectly competitive market.

3.2.7 Profile of Key Competitors in the MSD Industry

3.2.7.1 Marine Guard Network

Marine Guard targets the marine customer segment and has three products to meet the needs of owners of various sizes of boats. These products all use telematics technology. The products offer customers the local tracking option with cellular monitoring and the worldwide tracking option with GPS satellite monitoring. Marine Guard also gives its customer the option to have their boats monitored by a central station. The products have comprehensive features such as sensors, personal notification,

geo-fencing and SOS buttons. Marine Guard also provides a web portal for customers to access information, to monitor and to track their boats.

Marine Guard is trying to provide a complete solution to meet the needs for everyone in the marine customer segment. The company is selling to both the final customers and the intermediate customers. There are currently 13 dealers licensed to install Marine Guard's products: 11 in the US, 1 in Canada and 1 in Australia.

3.2.7.2 Sea Key of Volvo Penta

Sea Key of Volvo Penta focuses on the marine customer segment and markets its product as the first telematics solution for the marine customer segment. Sea Key promotes its product to be used in a number of situations including medical emergency, out of fuel or run aground, mechanical malfunction, lost /need direction/ bad weather, lost of battery power, boat taking on water, boat stolen, tracking and concierge services. Sea Key also provides a well-designed web portal for customers to access information, to monitor and to track their boats. Currently, Sea Key is targeting boat manufacturers to get them to install the company's boat security system on their new boats. Genmar is the first big-time builder to adopt the Sea Key system throughout its product lines, bundling its existing FirstMate program (which is already handled at Volvo's VAS center and includes Sea Tow dispatch assistance, fishing information, a boat operation help line, and other services) with Sea Key, and calling it FirstMate+. Then the final customers will pay an annual membership fee of US$ 360 for the basic monitoring services. Brand recognition is the major competitive advantage for Sea Key of Volvo Penta.

3.2.7.3 Navman of Brunswicks

Navman is a high-tech company recently acquired by the largest boat manufacturer, the Brunswicks Corporation. Navman OEM Division offers an impressive line of standard, off-the-shelf solutions designed to meet the demanding needs of OEM system integrators worldwide. The product line includes a wide variety of robust GPS navigation receivers, timing modules and specialized antennas. Navman also offer wireless system level solutions that integrate GPS with communication technologies such as GSM/GPRS, CDPD, DGPS, Bluetooth and 802.11. The competitive advantage of Navman comes with its association with the Brunswicks Corporation.

3.2.7.4 Skymate

Skymate, based in Virginia, USA, is a member of the National Marine Manufacturers Association (NMMA) and the National Marine Electronics Association (NMEA). It has five regional representatives for the Mid-Atlantic and Northeast, the Southeast, the Gulf coast, the West coast and the Caribbean. Skymate is targeting the North American market with a total of 43 dealers and 2 of which are located in BC. Skymate is using the Low Earth Orbit (LEO) satellite technology for communication instead of cellular technology. Therefore, the monthly charges for communication will be more expensive. Nevertheless, Skymate provides a web portal for users with features like monitoring and tracking their boats, weather forecasts, send and receive e-mails, send messages via fax or voice and news services via Yahoo Alerts. Skymate's strong relationships with dealers and the wide distribution network in North America are its major competitive advantages.

3.2.7.5 Almex Marine

Almex Marine, based in Toronto, Ontario, is a sister company of Almex Ltd. Security Products. It focuses on the very high-end market of the boat security and monitoring. It sells boat CCTV products as well as boat tracking and communication products. Almex Marine's tracking and communication products only use the satellite communication technology. Almex Marine sells its GPS tracking and fleet management software called the Capsat Manager separately. Almex Marine is the direct distributor for a number of manufacturers in the US, Canada and Japan for their CCTV products. These CCTV equipments manufacturers are Bosch-Philips-Burle, Cantronic, Muxlab-NHC communications, Raymax Co. and Videolarm.

3.2.7.6 GEOSat Solutions

GEOSat Solutions (formerly known as DBS Systems) has extensive experience in manufacturing portable satellite antenna systems for the marine market. It has a wide range of satellite products including satellite phones and antenna systems. The company has a new product called SeaTrac that can track and monitor vessels with software installed on hand-held devices or laptop computers. This product has all of the basic functions such as vessel location tracking, on-board systems monitoring and real-time text messaging. However, SeaTrac does not provide a web portal for users to login. This product is based on satellite communication technology; therefore, the product price and the monthly charges are more expensive than the telematics solutions. GEOSat Solutions has an online store for direct selling of SeaTrac to the end-users instead of going through dealers.

3.2.7.7 Directed Electronics

Recently, Directed Electronics, the world's largest aftermarket vehicle security company is shipping its three new GPS tracking systems to authorized dealers – the Viper, the Python, and the Clifford GPS tracking systems. These GPS tracking systems use telematics technology, hence users can have 2-way command and control of certain vehicle functions via web or telephone from anywhere in the world. If Directed Electronics decided to target the marine customer segment, it may be able to dominate the boat security market and drive out small competitors. Entry barriers are very low for Directed Electronics since they already have the core competencies of the technology, the reputation and the customer base. At this time, Directed Electronics is focusing its three new GPS tracking systems as its logical extension for the security product lines for automobiles.

3.2.7.8 ADT

ADT is an international company providing various kinds of security services. ADT has introduced a product called MobileSafety, which is a small enough unit to be carried for 24 hour mobile monitoring and tracking with GPS technology. With the touch of a button, users can be connected with the ADT MobileSafety Customer Monitoring Centre where a trained ADT MobileSafety professional can determine the location and alert police, medical services, roadside assistance, or provide travel information. ADT also provides a web portal for customer to access information, to monitor and to track their vehicles through the Internet. Currently, this product focuses on the personal safety customer segment, which is consistent with the other ADT core security product lines.

However, the entry barriers for ADT to enter the boat security market are very low since the company already processes the core competencies of the technology, the reputation and the customer base.

3.2.7.9 Summary of Other Competitors in the MSD Industry

There are many other firms competing in the MSD industry since this is a new and emerging business. The competitors identified above are only some of the major ones that have the potential to influence the boat security market and to pose a direct threat to SilverTip. There are numerous others firms producing MSD to serve the various customer segments in a variety of forms. A summary to describe these competitors follows:

- There are a number of firms offering only a limited solution with their MSD. This means they only provide the basic personal notification through cell-phones and e-mails. However, there is no web portal for users to go to the Internet to get information, to track or to navigate.
- There are many firms partnered with large automobile manufacturers to research the use of telematics technology in automobiles and to develop MSD to be installed in high-end automobile product lines. The automobile customer segment is the largest. Approximately 75% of all motor vehicles stolen are automobiles. The competition will be high in this area. Firms in the MSD industry currently underestimate the potential in other customer segments, such as the marine customer segment.

- The application of MSD is virtually unlimited. Besides the common tracking and locating of objects and vehicles, MSD can also be used for vehicle diagnostic and maintenance purposes. It can be combined with other services to provide a complete safety and security solution to the various customer segments. Currently, there are only a few firms that market as a complete solution for security and safety. Most firms are only serving the automobile customer segment.

3.2.8 Factors Affecting Rivalry in the MSD Industry

3.2.8.1 Level of Product Differentiation Affecting Rivalry

The MSD industry is a highly fragmented, emerging industry. Firms in this industry compete on product features rather than on prices. Firms try to differentiate their products from others. Firms are trying to manufacture products that will best serve the particular needs of a specific customer segment so as to dominate that market. Firms also spend a large amount of money on research and development in the MSD industry. The ultimate goal of firms competing in a particular customer segment is to set the industry standards in that segment. This will enhance the reputation of the firm, so that it can become the market leader.

Since this is a manufacturing business, firms try to differentiate themselves on product features and capabilities rather than on advertising. Undeniably, brand name is still an important purchasing factor for customers to buy the product. Overall, product differentiation reduces the rivalry among firms in the MSD industry.

3.2.8.2 *How Technological Change and Core Competencies Affect Rivalry*

Most of the MSD today are using similar underlying technology. New wireless technologies are emerging rapidly, and firms usually adopt the lowest cost and most efficient communication technology. Firms in the MSD industry are trying to develop their own core competencies to become the industry standard setters. This increases the rivalry among firms in the MSD industry.

3.2.8.3 *High Switching Costs Decrease Rivalry*

The switching costs in the MSD industry are relatively high. Costs per system installed range from US$ 300 to US$ 1200, averaging between US$ 600 and US$ 700 (Jones, 1998). After customers have chosen the MSD that can best serve their needs, they usually ask the dealers to install the MSD system into their vehicles. This can cost the customers another US$ 200 to US$ 300. High switching costs reduce rivalry among firms since customers are less likely to change from one product to another.

3.2.8.4 *Market Growing Slower than Expected Increase Rivalry*

In 1998, it was estimated that MSD have the potential to be a US$ 300 billion industry within the next 20 years (Jones, 1998). Due to the dot-com implosion, the events of 9/11 and the current economic recession, most of the proponents of telematics who may have been swept by dot-com optimism a few years back have now grounded themselves (Gray, 2002).

The fact that the MSD market is growing much slower than anticipated has increased rivalry among existing firms within the MSD industry.

3.3 Threat of Potential Entrants

The following section examines some of the barriers for a new entrant in the MSD industry. We can conclude that the entry barriers are moderately high in the MSD industry.

3.3.1 Product Differentiation is Key

Product differentiation is the key entry barrier in the MSD industry. The MSD are differentiated in various areas such as product features, brands, convenience, ease of use and tracking capabilities. The most important point behind the product design is its ability to satisfy the particular needs of the target customers. Although the underlying technology may be similar, products are very different when adapted to different customer segments within the industry. Therefore, experience within a specific market segment is very important for differentiated product design. This serves as a major barrier for entering the MSD industry.

3.3.2 Capital Requirements are Low but R&D Costs are High

The capital requirements to produce the hardware for the MSD are moderate. The initial start-up cost and the R&D costs are the major cost components in this industry. Manufacturing and assembling of the hardware can be outsourced, so there is no need to have a large capital investment for facilities. However, continuous research and development costs may be substantial.

3.3.3 Low Cost Product Design Can Easily be Imitated

Intellectual property laws protect the product designs; however, reverse engineering of the product is not difficult. If the particular product design for a specific niche market is serving the needs of their customers and the firm is making profit, other new entrants can easily produce a similar product to compete in that market. This reduces the barriers to entry.

3.3.4 Access to Effective Distribution Channels is Essential

The access to effective distribution channels such as dealers and manufacturers is a major source for revenue. This is particularly important for smaller firms that do not have the reputation and brand recognition in the market. Most MSD are complementary products to be installed in mobile vehicles such as cars, trucks and boats. Successful partnerships with reputable dealers can help promote the product and gain publicity. Firms that have access to an effective network of dealers and manufacturers will have a definite advantage. This increases the barriers for new entrants to enter this industry.

3.4 Substitutes

3.4.1 New Wireless and Location Technologies

Mobile security devices are the combination of security monitoring and GPS tracking functions coupled with effective wireless communication technology. Today, the most effective wireless communication technology is the cellular network in terms of cost, distance and coverage. However, the threat of substitutes may exist if there is a technological breakthrough in emerging wireless technology such as Bluetooth and Wi-Fi

technologies. Other location technologies such as E-OTD and U-TDOA also exist. This increases the power of substitutes in the MSD industry.

3.4.2 Other Forms of Security Devices

Other forms of security devices may provide reduced functions and capabilities, along with significantly lower costs. Some "passive" security devices include the "Club", steering wheel locks and chains are examples. These "passive" security devices act as substitutes; however, they can act as complementary products as well. Overall, this increases the power of substitutes.

3.5 Power of Suppliers

To determine the bargaining power of suppliers in the MSD industry, we need to examine the hardware components required from the suppliers. The normal components inside a typical MSD are the GSM/GPRS module, the circuit board with micro-controller, the microprocessor and the GPS module. Most of the other functions are built-in onto the circuit board and these components can be obtained from multiple suppliers. Therefore, the bargaining power of suppliers is moderately low.

3.5.1 Hardware Components Available from Multiple Suppliers

The hardware components for MSD can be obtained from multiple sources. These components are very similar in functions and are interchangeable with one another. This reduces the bargaining power of the suppliers.

3.5.2 Switching Costs are Low Due to Hardware Components Not being Unique

There are multiple suppliers providing generic hardware components. The main process is the assembly of the various components to make the unique MSD. Therefore, the switching cost from one supplier to another is relatively low.

3.5.3 No Credible Threat of Suppliers Integrating Forward

The assembly of MSD is not a significantly attractive business for the suppliers. Hence, forward integration by suppliers does not pose a threat. The suppliers would rather concentrate their efforts to develop their core competencies on a special hardware module to sell to other larger markets. This reduces the power of the suppliers.

3.5.4 Importance of Volume to Suppliers

The number of units required by different MSD producers from the respective suppliers varies greatly. In general, if the order is in large quantity, the power of the suppliers decrease, since the MSD producer becomes a major customer. However, if the firm can only afford to produce in small quantity, the power of the suppliers increases accordingly.

3.6 Power of Buyers

There are two types of buyers for MSD. The first types of buyers are intermediate customers such as dealers, manufacturers and wholesalers. They typically buy the MSD, and then provide value-added services to earn additional profit such as installing the MSD in the vehicle for the end-users. The second types of buyers are final customers.

They are the end-users of the MSD. In general, the bargaining power of buyers in the MSD industry is moderately high.

3.6.1 Intermediate Customers are the Main Distribution Channels

The bargaining power of the intermediate customers is high because they are the main distribution channels for the MSD producers. The intermediate customers can make their own buying decisions. Moreover, they can influence the buying decisions of the final customers. This increases the bargaining power of the buyers.

3.6.2 Buyer Concentration vs. Firm Concentration

The buyers of MSD are moderately concentrated. This is an emerging technology, so only the early adopters are using these security devices. However, many firms think that this is a potentially profitable business to enter. Therefore, many of them have already started their own mobile divisions. The growth of the industry is slower than predicted due to economic recessions, the buyer concentration decreases while the firm concentration increases. This increases the power of the buyers.

3.6.3 Brand Identity is Important

It is hard to convince end-users to buy a security product if they don't recognize the brand. Therefore, brand building in the target market is very important. One way to build a particular brand is to educate the customers through dealers and manufacturers. This increases the power of both the intermediate customers and the final customers.

3.6.4 Products Represent a Small Fraction of Cost

A good security monitoring system with GPS tracking capabilities normally costs around US$ 1000. It represents a very small fraction of the cost of a luxury car, a recreational boat or a truck. This reduces the power of the buyers.

3.6.5 Intermediate Customers Pose a Credible Threat of Integrating Forward

If the MSD industry turns out to be profitable, it is very easy for the vehicle manufacturers to integrate forward. This is logical and easy for these car manufacturers, boat makers and construction vehicle makers to build the MSD into their vehicles as one of their attractive features. Moreover, it is also easy for dealers to integrate forward to develop their own MSD because they best understand the needs of their final customers in a specific customer segment.

3.7 Government Regulations

The MSD industry is still very young and the telematics technology is an emerging technology. Therefore, there is no formal government regulation to govern the use and manufacturing of MSD. However, the law enforcement units are concerned about the widespread usage of MSD in the near future. There was a concern that law enforcement units may not have adequate resources to respond. Early in 1998, the IACP/PSLC had meetings with the MSD manufacturers and monitoring companies. The IACP/PSLC had included representatives from the Central Station Alarm Association (CSAA), the National Burglar and Fire Alarm Association (NBFAA), the Security Industry Association (SIA), the Alarm Industry Research and Educational Foundation

(AIREF) and the National Sheriffs Association (NSA) as well prominent law enforcement officials (Jones, 1998). As a result, the IACP/PSLC had prepared a document with guidelines called "Response to Mobile Security Alarm Devices Guidelines for Employers and Law Enforcement".

3.8 Complementors

The MSD industry is only at its infancy, so there is still a lot of room for the development of complementary products. Imagination is the only limiting factor and sky is the limit. However, there are several kinds of complementary products that have already emerged at the time of this discussion.

3.8.1 Recreational and Commercial Vehicles

Mobile security devices are going to be installed in a variety of recreational vehicles such as cars, boats and commercial vehicles such as buses, trucks and construction equipments. They are considered to be complementary products naturally.

3.8.2 Mobile Communication Systems in Motor Vehicles

The most obvious complementary products that can make use of telematics technology are the mobile communication systems in motor vehicles. They can be installed as hands-free mobile phones in automobiles or as an addition method of communication to the line-of-sight very high frequency (VHF) radio transmission in boats. Moreover, voice recognition systems to instruct the computer to locate directions while driving can also be useful.

3.8.3 Mobile Entertainment and Information Systems in Motor Vehicles

Another complementary product that can make use of the telematics technology is the entertainment system in mobile vehicles. Imagine that the passengers can surf the Internet to get weather reports and news updates while the driver is driving. They can also watch digital video disk (DVD) movies and download music from the Internet. Data can be stored in the hard drive of the information system in the motor vehicles and accessed anytime.

3.8.4 "Passive" Security Products

While we mentioned that "passive" security products such as the "Club", steering wheel locks and chains may be considered as substitutes for mobile security devices, they may be thought of as complementary products as well. We say this because most customers will use more than one security products to ensure the safety and security of their vehicles if they are aware of the unsafe situations. This is the same as installing an alarm system in the home and it does not mean that traditional key-locks for access control are not necessary. They are complementary products and yet multiple levels of security may be required.

3.8.5 Monitoring and Emergency Assistance Services

Other complementary services such as towing services, roadside assistance and emergency assistance services are essential. The key benefit of the MSD is its ability to notify users in various situations, so that proper responses can be formulated.

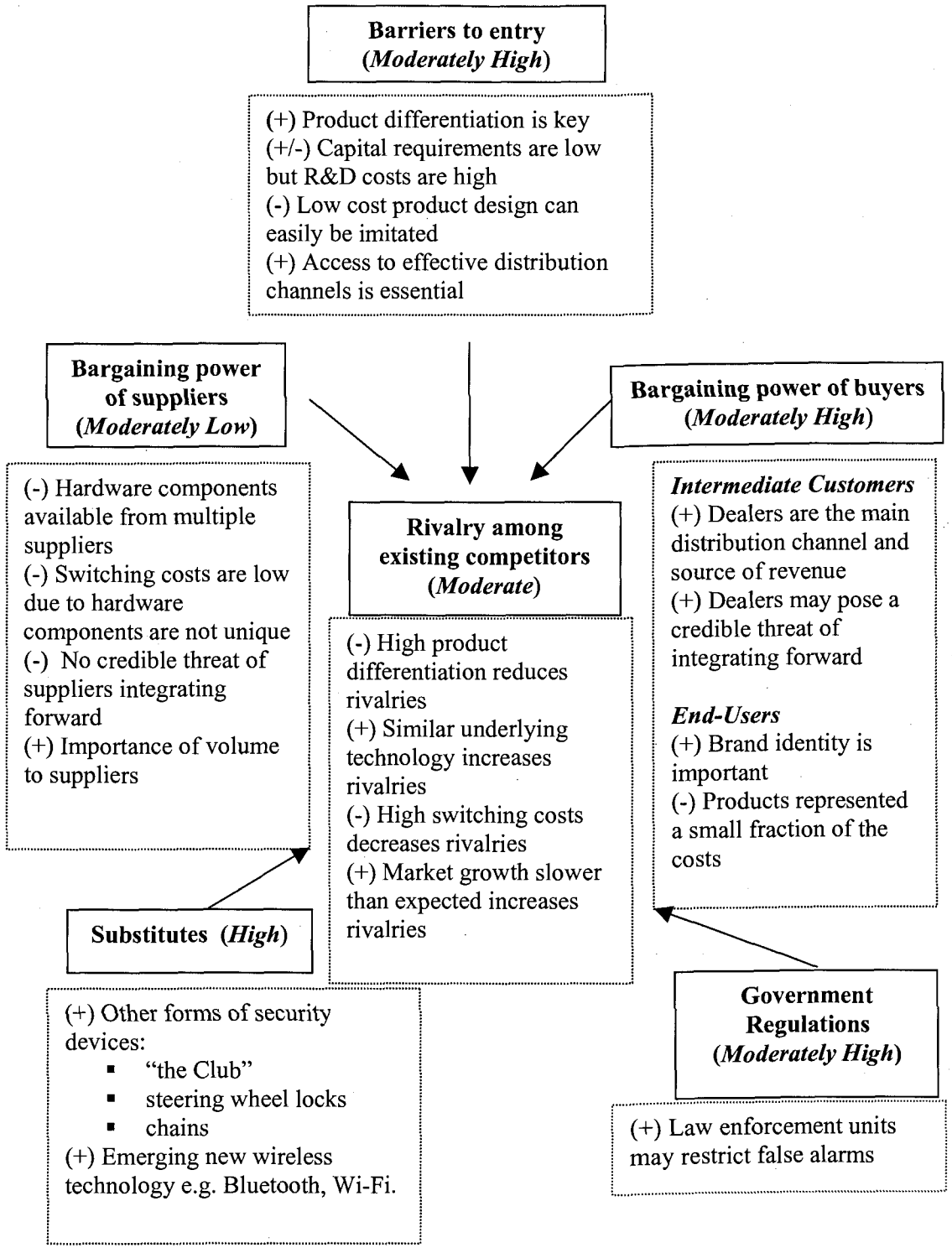

Figure 5: Summary of Competitive Forces in the MSD Industry

3.9 Key Success Factors

The future outlook for the MSD industry has changed. Although the MSD industry may be profitable eventually, it is not going to be an overnight blossom. Therefore, it is essential for firms to pursue more realistic strategies. Firms may need to put up with a fight on the road to success and focus on long-term profitability. There are six key factors for firms to be successful in the MSD industry.

3.9.1 Flexibility with New Wireless Communication Technologies

Telematics converges GPS with two-way wireless communication for routing, navigation services as well as asset and vehicle-tracking capabilities and other extended services (Alaird, 2001). However, there are many emerging wireless communication technologies such as 3G, Bluetooth and Wi-Fi and no one knows which technology will become the future standard. Therefore, it is essential for firms to have enough design flexibility for their MSD to accommodate the various wireless technologies. This will avoid large R&D costs associated with re-designing the MSD systems.

3.9.2 Strategic Partnership with Large Motor Vehicle Manufacturers

It is essential for small, start-up firms deciding to pursue the telematics technology to partner with well-known motor vehicle manufacturers or dealers for the sharing of research and development costs. Having access to the well-known, "deep-pocket" companies will help the firm not only to develop MSD that are more technologically sound but also to gain publicity.

3.9.3 Access to Effective Distribution Channels

It is advantageous for firms to have effective distribution channels to gain revenue and to avoid huge advertising costs. Having access to effective distribution channels means having access to a large customer base, which in turn will increase revenue and brand recognition for the firm.

3.9.4 Reduction of False Alarms for Effective Dispatch of Law Enforcement Units

It is very important for firms in the MSD industry to develop MSD that are reliable and reduce the probability of false alarms. Hence, the law enforcement units can response effectively and efficiently to real emergency situations.

3.9.5 Balance of Central Monitoring and Direct Interaction

The central monitoring service option for MSD users is essential. The central monitoring service is not just for revenue generating purposes, although extended services may mean additional revenue. The real purpose of central monitoring is for safety purposes and to respond in emergency situations. This will provide peace of mind for the subscribers. However, giving customers the power to directly interact with their MSD is also preferred. Therefore, the balance for direct interaction activities and the central monitoring activities is a key success factor.

3.9.6 Worldwide Reliable Coverage of Cellular Networks

Having access to the right cellular networks is essential for users of MSD. The compelling feature of the MSD is to be able to use telematics technology to track and to

communicate everywhere in the world without delay. However, if the signal is lost due to poor coverage, these MSD will be useless and users will be frustrated.

3.10 Industry Prospects

Mobile security devices industry is going through the realization of the true potential of telematics technology. As described by an analyst from Gartner G2, telematics, like many other innovative technologies will go through a three-stage process. The stages are visibility, maturity and customer acceptance. The visibility stage was between 1994 and 2000. During 2001, a "gold rush" mentality dominated the MSD industry based on over-inflated revenue expectations. The telematics technology is going through its maturity stage today. The customer acceptance stage will begin after 2004. The bad news is that short-term demand for mobile security devices and telematics services will stay low until 2004. The good news is consumer interests in MSD using telematics technology are growing. A study done by Gartner G2 has reported that almost 50% of the US consumers are likely to get some sort of MSD with telematics in their next vehicle allowing them to use their mobile phones in a hands-free and voice-activated manner. Moreover, nearly two-fifths want an SOS button in their next vehicle that connects to emergency services. One-third of the US consumers want vehicle-tracking capabilities to help recover their vehicles in case of theft. Finally, the strongest growth in consumer interest is to remotely diagnose the vehicle's performance to prevent malfunctions and to simplify or automate the maintenance process. Consumers' likelihood to get such applications in their next new vehicle grew by 133%. As the analyst from Gartner G2 said telematics offerings need to become an integral element of

a broader mobile service offering that addresses consumers' information and communication needs at home, at work and in the vehicle (Koslowski, 2002).

3.11 Implications for SilverTip

SilverTip's boat security system has the potential to be successful in the MSD industry. The fact that the MSD industry is undergoing its "cooling down" period right now is advantageous for small high-tech companies to prepare for the launching of their products. With the customer acceptance stage beginning in 2004 as forecasted by the analysts, SilverTip is at the right time for its final product testing. SilverTip is also preparing for its first product launch in the first quarter of 2004.

The analysis has shown that product differentiation is key in the MSD industry. The firms compete on differentiation rather than on price. It is essential for SilverTip to understand the "real" needs of the niche market they plan to serve and to differentiate their security products according to these needs. SilverTip is designing the products in-house and differentiating its products as being "smart" enough for direct interaction with end-users. This way, SilverTip can also develop its core competencies.

Another important conclusion from this analysis is that MSD must have flexible and upgradeable designs, so that it can stay with the next generation wireless communication technology. SilverTip's boat security system can be easily upgraded to include additional functions by the addition of new modules on the circuit board.

The analysis has also shown that access to effective distribution channels is essential for revenue generating activities. SilverTip has begun the process of searching for boat dealers to handle the installation of the product and to establish relationships

with boat manufacturers. Strategic partnerships with well-known boat manufacturers or dealers can increase publicity and customers' confidence. The virtual integration business model with selected partners can be adapted by SilverTip to leverage its relationships with its suppliers and buyers.

4 ASSESSMENT OF MARKET OPPORTUNITY

This section assesses the business opportunity based on the quality of the business concept, the market size and trends, the core competencies of the company, and the management team.

4.1 Quality of the Business Concept

There is a perceived need for boat owners to interact with their boats directly in the boat security market. Based on our online research, most boat security products available in the market use the central monitoring service. Some companies claim that their products provide two-way communications. However, they are actually using a remote control that can only communicate within a few meters in distance. SilverTip's products actually use the cellular network to enable the user to directly communicate with their boats virtually from any where in the world. Currently, boat owners have to call the call-centres to get the status of their boats, or manipulate the alarm functions on their boats. Using this method, customer calls are usually handled by human operators or by the computer server automatically. From a user's perspective, there is a delay in response from several minutes to several hours in emergency situations. While the direct interaction capability enables the user to communicate with their boats instantly. This function not only provides a real-time status check of the boat for customers, but also increases the power of boat owners as they have direct control of their boats. SilverTip perceives this is an important differentiating feature of its boat security products.

Currently, there is no dominant player in the marine customer segment. The big players of the MSD industry are more concerned with the automobile customer segment.

Since this segment is the largest, it is more cost-effective for global companies, such as ADT and Directed Electronics, to concentrate their marketing efforts in this segment. In other words, the marine customer segment may not provide enough incentives for these global companies to enter. This provides a window of opportunity for SilverTip to enter this niche market and to become a dominant player.

Wireless technology used in boat security products is a relatively new concept; this provides another opportunity for SilverTip. Wireless security products are in the early stage of the product life cycle. The potential of this market has not been materialized while there is a growing interest in it (Fhilo, 2002). Current products in the market are not prevailing and their features need to be improved. SilverTip's products will provide customers with reliable and useful features that can help the company to capture market share more quickly.

4.2 Market Size and Trends

The market is cyclical for new boat buyers. The number of new boats purchased in recent years has not increased significantly due to poor macro economic performance worldwide. The preferences for different styles of boats also have been shifting over the years. The target markets for SilverTip's products are new boat buyers buying recreational boats. These boats are typically 18' to 36' long with Jet-drive, Stern-drives or Inboards. The prices of these new boats are ranging from $20,000 to $500,000. Geographically, there are three market segments that SilverTip is planning to target. They are Canada, the US, and the rest of the world.

4.2.1 United States Market

SilverTip has estimated that the total market size in the US for its boat security products will be more than 106,000 units in 2004. According to the market research conducted by SilverTip, the total revenue for people buying new recreational boats will be around US$ 8.6 billion. In 2002, a total of about 310,000 boats were sold in the US (NMMA, 2003). Of these, approximately 100,000 boats were of the type that had Jet - drives, Stern-drives or Inboards installed. Table 2 shows the historical data of boats sold in the US during the period from 1991 to 2002.

By looking at the historic boat sales data in the US, we can see that since 1991, the number has been growing steadily. Based on this information, SilverTip has provided an estimation of the projected potential market in the US as shown in the following Bar Chart (Figure 6). SilverTip has used the straight-line approximation technique for this estimation. The number will start at approximately 106,000 units in 2004 and will reach 116,000 units in 2008.

Year	Outboard Boats	Inboard Boats	Sterndrive Boats	Jet Boats	Total
1991	195,000	9,800	73,000		277,800
1992	192,000	9,950	75,000		276,950
1993	205,000	10,175	75,000		290,175
1994	220,000	11,400	90,000		321,400
1995	231,000	12,360	93,600	14,700	351,660
1996	215,000	11,350	94,500	14,100	334,950
1997	200,000	12,400	92,000	11,700	316,100
1998	213,700	17,600	77,700	10,100	319,100
1999	230,200	19,100	79,600	7,800	336,700
2000	241,200	21,600	78,400	7,000	348,200
2001	217,800	21,800	74,100	6,000	319,700
2002	**212,000**	**22,300**	**69,300**	**5,100**	**308,700**

Table 2: Historic Boat Sales in the US

Data Source: National Marine Manufacturers Association (2003)

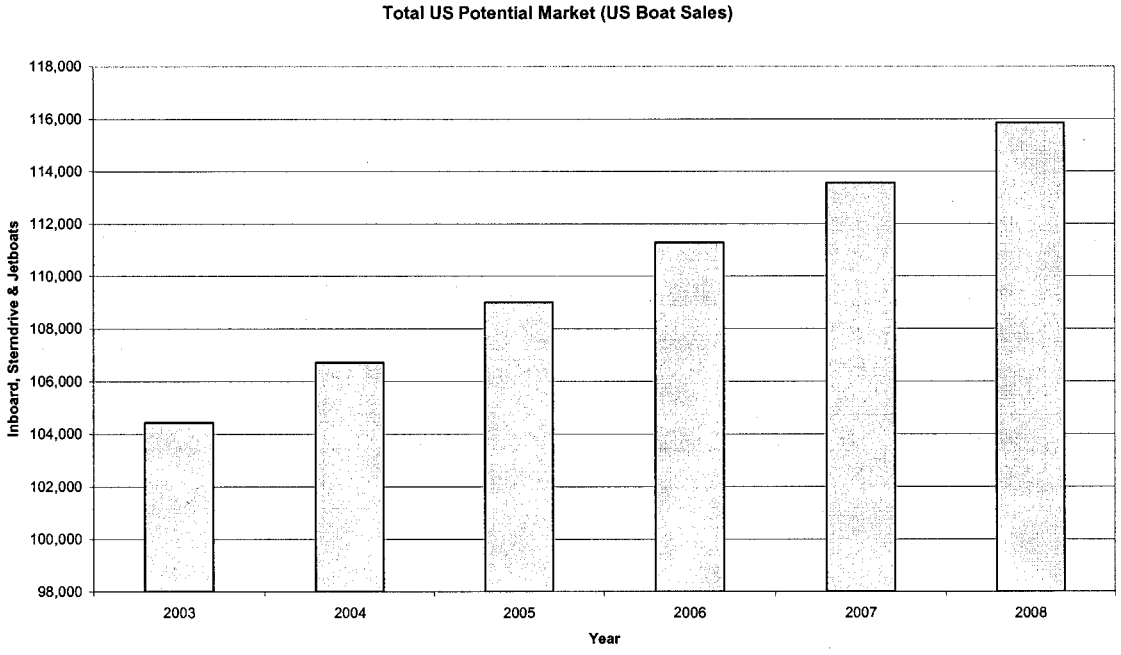

Figure 6: Projected Potential Market in the US

Source: SilverTip Marine Inc. Internal Document (2003) by permission

4.2.2 Canadian Market

The total revenue for the recreational boat sales market in Canada is over $500 million. Statistics on the total number of new boats licensed in Canada [3]during the period of 1992 to 2002 is shown in Table 3. Table 3 shows that the Canadian market has been declining gradually for the last 10 years. This decline can be explained by the fact that the licensed boat statistics has included the numbers for commercial fishing boats. The commercial fishing industry has been in a sharp decline for the last 10 years due to dwindling fish stocks and government moratoriums on commercial fisheries (SilverTip, 2003).

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Ontario	21723	17345	18557	19627	22216	18793	19836	19877	19139	16817	16762
Quebec	8663	8580	8986	8487	8756	8810	6645	6375	5793	6224	7275
British Columbia	5384	5694	6166	5375	5172	5047	4532	3831	4091	3268	3353
Alberta	2842	2886	3286	3420	3359	3444	3551	3382	3846	3224	2984
Newfoundland	1138	805	738	482	629	1029	824	912	813	841	747
Prince Edward Island	246	114	298	392	270	287	239	428	93	82	85
Nova Scotia	964	901	909	1042	1101	1077	1117	121	1230	826	731
New Brunswick	1878	1060	1184	1158	1013	1109	1029	949	850	677	657
Manitoba	1377	1356	1305	1462	1874	764	1156	696	2714	1418	1374
Saskatchewan	1368	1266	1406	1410	1277	1373	1525	1514	1379	1319	1467
Yukon	73	54	70	82	61	62	56	88	44	35	54
North West Territories	105	89	100	65	71	88	147	78	67	88	45
Total	7149	5645	6010	6093	6296	5789	6093	4786	7190	5286	5160

Table 3: Boats licensed in Canada

[3] Statistics provided by Barbara Letcher, Constituency Assistant to Hon. Stephen Owen, PC, QC, MP.

Four provinces in Canada make up approximately 85% of the total market (SilverTip, 2003). They are Ontario, Quebec, B.C. and Alberta. SilverTip is planning to target all these four provinces and to start in B.C. due to geographical convenience.

The Canadian boat sales market is a mature business. However, since the baby boomers will retire in the next 5 to 10 years, their lifestyles may change. This may drive up the potential boat sales in Canada significantly. Baby boomers are wealthier compared to other groups in the population. They constitute a large portion of the entire population in North America. SilverTip has forecasted that the baby boomers may purchase more expensive high-end boats such as boats with sleeping accommodation. The trend is to move away from the smaller family ski type boats. Expensive high-end boats will normally require more advanced boat security systems for protection. This enables the boat owners to monitor and track their large investments more easily.

SilverTip has estimated that about 28.7% to 33.0% of boats licensed in Canada would be of sufficient value to warrant a premium security system. SilverTip has made this assumption based on the fact that the US market had a similar percentage for the last 10 years. The following Bar Chart (Figure 7) shows the estimated number of boats licensed in Canada for the last 10 years. SilverTip has assumed that the Canadian boat sales market size will stay approximately the same after 2002.

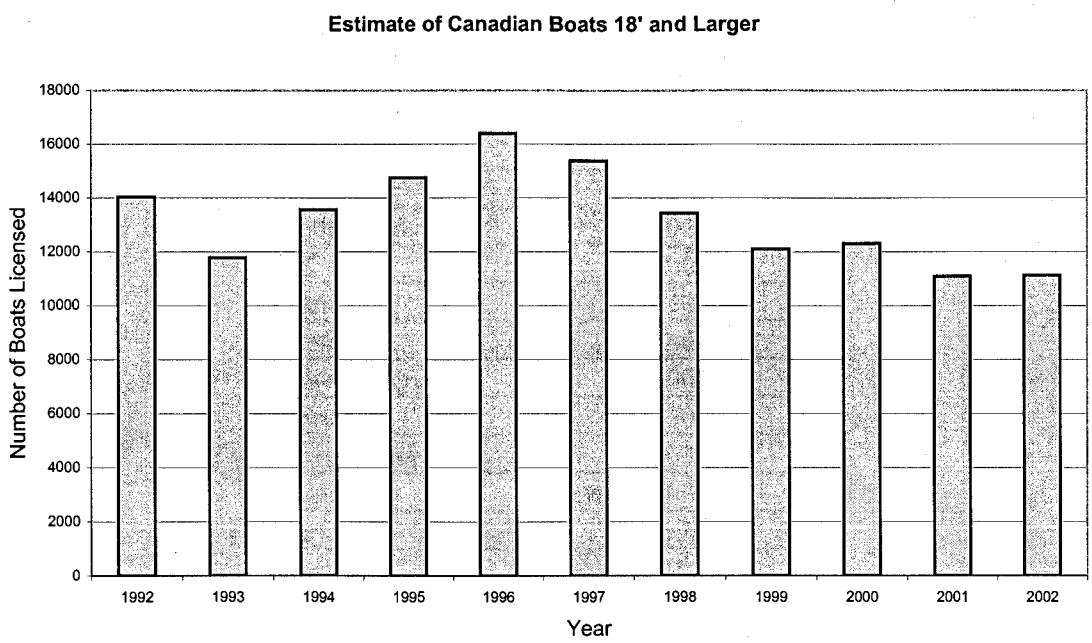

Figure 7: Estimate of 18' and Larger Boats Licensed In Canada
Source: SilverTip Marine Inc. Internal Document (2003) by permission

4.2.3 International Market

SilverTip has also estimated that the market size for the rest of the world, excluding Canada and the US, will be approximately 30% of the US market. In other words, the total potential market will be about 30,000 units per year for the rest of the worlds. The International Boat Industry has estimated that there are 17,000,000 boats registered in the USA. The rest of the world, excluding Canada, has approximately 7.5 million boats registered. Table 4 shows the number of boats registered in other countries. The total number of boats registered in the top five countries is roughly equal to that of Canada's.

Sweden	1200000
France	1000000
Italy	800000
Finland	690000
Norway	620000
Australia	550000
Netherlands	500000
UK	500000
Germany	420000
Denmark	366000
New Zealand	300000
Spain	130000
Switzerland	103000
Greece	100000
Portugal	60000
Austria	28000
Belgium	15000
Ireland	10000

Table 4: Registered Boats World Wide

Data Source: International Boat Industry (2003)

4.2.4 Total Projected Markets

Table 5 shows the total projected market segments for SilverTip's boat security products worldwide.

	2004	2005	2006	2007	2008
US	106,719	109,002	111,285	113,567	115,850
Canada	11,100	11,211	11,323	11,436	11,551
Rest of the World	32,016	32,701	33,385	34,070	34,755
Total Market	149,835	152,913	155,993	159,074	162,156

Table 5: Total Projected Global Market

Data Source: SilverTip Marine Inc. (2003)

According to the market research conducted by SilverTip, it is estimated that the potential US market for SilverTip's products is about 100,000 units per year. The

potential Canadian market is about 10,000 units per year. Internationally, the potential market for the rest of the world is estimated to be 30% of the US, that is, about 30,000 units per year. In conclusion, the potential markets are large enough for SilverTip to be profitable in this business.

4.3 Core Competencies of SilverTip

SilverTip has researched and developed its boat security system in-house. Therefore, SilverTip has gained technical expertise in designing the system and using telematics technology. The founder of SilverTip has many years of experience in the development of data communications system, voice communications system, wireless communications systems and satellite systems. To continue with this innovation, SilverTip is planning to develop a number of products to serve the boat security market. SilverTip is also planning to apply for patents to protect the company's intellectual property prior to the release of its first products. With these core competencies in technical expertise, the company will be capable to develop similar products to serve other customer segments in the future.

SilverTip is going to provide a complete security and safety solution for the boat owners, not just another security product. SilverTip will develop its core competencies by strategic partnerships with complementary service providers. By establishing a strong network with both its suppliers and buyers, SilverTip will be able to secure its leading position in the market for a long period of time.

SilverTip is trying to establish a large distribution network for selling its boat security products in North America. SilverTip may achieve a sustainable competitive

advantage by securing the best distributors in the major areas of the market (Aaker, 2001, p.7).

4.4 Management Team

The management team of SilverTip has considerable technical and management experiences with start-up ventures. The key management personnel include veteran professionals in engineering, marketing, legislation and administration.

Ian McEachern, the president and CEO, has 19 years of experience in the wireless communications industry. He has extensive management experience with both established companies and start-up ventures. His management experience included serving as the Vice President New Opportunities and Chief Technology Officer at Norsat, a publicly traded company on TSE and NASDAQ. He was also President and Chief Technology Officer at SpectraWorks, and a member of the senior management team that started IMT Communications Inc. (SilverTip, 2003).

Brad Nickson, director of marketing, has 13 years of experience successfully running his own marketing firm. Mr. Nickson has the expertise in creating marketing programs, such as corporation identity creation, strategic branding management, and direct marketing campaigns (SilverTip, 2003).

David Perry, director of engineering, has had extensive experience managing complex hardware and software development projects at Mitel, Fore Systems, and Marconni. His expertise is in developing products for low cost manufacturing in the telecom industry (SilverTip, 2003).

The Board of Directors and the Board of Advisors are also experienced in various disciplines and areas.

4.5 The Entry Decision

Based on the assessment of the quality of the business concept, the market size and trends, the core competencies of the company and the reliability of the management team, we conclude that a business opportunity exists for SilverTip. Moreover, this is the right time for SilverTip to enter the boat security market since the economy is starting to climb back up. SilverTip is going to satisfy the unmet needs of the boat security niche market and provide a complete solution for security and safety concerns.

5 ENTRY STRATEGIES FOR SILVERTIP

After the external analysis and the market opportunity assessment, it is concluded that SilverTip has the potential to be successful in the boat security market. It is essential for SilverTip to formulate an appropriate entry strategy to leverage its assets and core competencies. We will look at the entry strategies from the product-market perspective and the price-promotion perspective.

5.1 Entry Strategy from the Product-Market Perspective

According to Robert and Berry, the selection of the right entry strategy depends on the level of a firm's familiarity with the product market to be entered. Roberts and Berry further suggested that there are eight entry strategies for firms to enter into new product-markets (Robert & Berry, 1985). Although the framework was originally developed for existing firms to enter new business areas for the purpose of diversification, we have adapted the framework and applied it from the perspective of a start-up firm. The eight entry strategies are internal development, internal venture, acquisition, joint venture or alliance, venture capital and nurturing, educational acquisition, licensing from others and licensing to others.

Technologies or Services Embodied in the Product			
Market Factors	**Base**	**New/Familiar**	**New/Unfamiliar**
New/Unfamiliar	Joint Ventures	Venture Capital *Or* Educational Acquisitions	Venture Capital *Or* Educational Acquisitions
New/Familiar	Internal Market Development *Or* Acquisitions *Or* Joint Ventures	Internal Ventures *Or* Acquisitions *Or* Licensing	Venture Capital *Or* Educational Acquisitions
Base	Internal Base Development *Or* Acquisitions	Internal Product Development *Or* Acquisitions *Or* Licensing	Joint Ventures

Table 6: Summary of Product-Market Entry Strategies
Source: Adapted from Roberts, Edward B. & Berry, Charles A. (1985)

As illustrated in Table 6 above, there are three levels of familiarity with the technologies or services embodied in the product that can be described as base, new/familiar and new/unfamiliar. SilverTip's familiarity with the technology or service is in the base category since the technology or service is embodied within its boat security products. With respect to the market factors, the three levels of familiarity are defined as base, new/familiar and new/unfamiliar as well. SilverTip is familiar with the market

because of extensive research, experienced staff, and links with the boat security market as a customer. Hence, it is in the new/familiar category. Then from the above matrix, we can determine that the appropriate entry strategy may be either internal market development or acquisition or joint venture.

Since SilverTip is a start-up company and is unknown to the recreational boat customers, it has little bargaining power to deal with established firms in the market. Therefore, the acquisition or joint venture strategies may not be the best choice for SilverTip at this time. SilverTip is planning an entry strategy using the internal market development by establishing strong relationships with boat dealers. SilverTip's entry strategy is to introduce its innovative security products to enter the niche recreational boat market by first selling to dealers. SilverTip is planning to sell to selected dealers at lower prices in the beginning to boost sales. SilverTip is planning to adapt a new kind of business model called "virtual integration". According to Michael Dell, virtual integration means the firm basically stitches together a business with partners that are treated as if they are inside the company (Magretta, 1998). The focus of this business model is on how to coordinate activities to create the most value for customers. SilverTip is planning to market as a firm that provides the "complete security and safety solution for boating". SilverTip can partner with selected dealers to provide training materials to have the product properly installed on boats. Moreover, SilverTip can partner with companies like SeaTow to provide on-water assistance, roadside trailer assistance and concierge services in case of emergency. Furthermore, SilverTip can partner with central monitoring centres like WebTech to provide the option for central monitoring and emergency response services.

5.2 Entry Strategy from the Price-Promotion Perspective

According to the lecture notes of Professor Buksazar in spring 2003, there are four entry strategies dependent on the price and promotion factors. They are rapid skimming, slow skimming, rapid penetration and slow penetration (Buksazar, 2003). The slow skimming entry strategy will be appropriate for SilverTip if the budget allocated for promotional activities is limited. The slow skimming strategy is often used when the price of the product is high but the budget for promotion is low. There are some characteristics of this slow skimming strategy that can apply to SilverTip. First, SilverTip is planning to distribute the product through a large network of authorized dealers. The market will be aware of the product through dealer's recommendations. Second, the market is relatively price insensitive since the price of the boat security system only constitutes a small proportion of the price of a new boat. Finally, existing patents erect barriers for new entrants and other strategies are unaffordable for SilverTip. Therefore, the slow skimming is an appropriate entry strategy for SilverTip in terms of price and promotion factors.

PROMOTION / PRICE	HIGH	LOW
HIGH	Rapid Skimming	Rapid Penetration
LOW	Slow Skimming	Slow Penetration

Table 7: Summary of Price-Promotion Entry Strategies
Source: Adapted from Buksazar, Ed. (2003)

6 MARKETING FOR SILVERTIP

In this section, we are going to use a segmented approach to identify the target market. Then, we are going to describe the customers and customer segments. Finally, we are going to describe the marketing components in the areas of pricing, distribution, advertising and promotions.

6.1 Marketing Objectives – A Segmented Approach

SilverTip's short-term goal is to be profitable and its long-term goal is to become a dominant player in the boat security niche market. A segmented approach is employed to achieve these goals. Segmentation is the process of dividing potential customers into groups with similar needs and developing marketing programs to meet those needs. Targeting is the process of selecting which are the most appropriate customer segment(s) to serve in the market (Lilien & Rangaswamy, 2003, p.63).

6.2 Customer Segmentation

This section describes the potential customers as well as specific customer segments. We use the product – customer matrix to help identify what products SilverTip will provide and their explicit links with specific customer segments (Boardman & Vining, 1996).

6.2.1 Potential Customers

SilverTip's boat security products are designed to target customers who purchase boats with prices ranging from $40,000 to $200,000. This is the high-end customer segment in the boat security market.

6.2.2 Customer Segments

The purpose of segmenting customers is to develop an appropriate competition strategy for the target segment. A product-customer matrix is a two-dimension array with products or groups of products on one axis and customers or groups of customers on the other axis (Boardman & Vining, 1996). Table 6 provides a summary of SilverTip's products and customer segments. Products include three categories: Enhanced Security Product with Air Package, Enhanced Security Product, and OEM Product. ESP3000 is the high-end security system with GPS tracking functions and cellular communications capabilities. ESP1000 is a simpler version of ESP3000 without the 32-bit processor, therefore without direct communication functions. The airtime package is the data communications option that SilverTip offers to customers with the ESP3000 system and ESP1000 system. The airtime package is a value-added component for SilverTip. SilverTip pays a lower price for communications services from Rogers AT&T, a communications service provider. Technically, customers can purchase one of SilverTip's products and then go to buy an airtime package directly from Rogers AT&T or another communications service provider. Therefore, SilverTip can sell the system bundled with an airtime package, or sell the system alone. SilverTip can also customize the system for boat builders and allow the boat builders to install the security system as an option for new boats.

Based on how customers use the products, the marine customer segments fall into two categories: intermediate customers and final customers. Intermediate customers include boat dealers, boat equipment distributors, boat manufacturers, and marine insurance underwriters. Final customers include individual boat owners (new boat

owners and existing boat owners), and commercial boat companies (charter companies and boat rental companies)

	CUSTOMERS					
	Intermediate Customers				Final Customers	
PRODUCTS	Boat Dealers	Boat Equipment Distributors	Boat Builders	Marine Insurance Underwriters	Individual	Commercial
ESP+AirPackage						
ESP3000+AirBrown					X	
ESP3000+AirSilver					X	
ESP3000+AirGold					X	
ESP1000+AirBrown						X
ESP1000+AirSilver						X
ESP1000+AirGold						X
ESP						
ESP3000	X	X	X	X	X	
ESP1000	X	X	X	X		X
ESP OEM						
ESP OEM 3000			X			
ESP OEM 1000			X			

Note: X indicates potential market segments for a product

Table 8: Summary of Silvertip's Products and Customer Segments
Data Source: SilverTip Marine Inc. (2003)

SilverTip's potential customers can also be divided based on their geographic locations. These are Canada, the US and the rest of the world.

6.2.3 Characteristics of Customer Segments

Boat Dealers

Boat dealers sell boat security products as complementary products and value-added services. The motivation for boat dealers to sell SilverTip's products is that the dealers stand to make more profits per sale. According to SilverTip's current distribution strategy, boat dealers will be the major distribution channels for SilverTip's products. The boat dealers will be trained to install and to configure the security system for customers. They will also be responsible for maintenance. Therefore, the dealers not only earn more initial profits from selling the product but also they get additional profits by providing installation and maintenance services.

Boat dealers may sell security products for multiple vendors rather than one exclusively. This may cause competition for SilverTip's products.

Boat Equipment Distributors

The distributors have more power than dealers because dealers get the products from distributors. However, the involvement of distributors will decrease SilverTip's price advantage and profitability. Moreover, distributors may reduce Silvertip's bargaining power in distribution.

Boat Builders

Boat manufacturers that build high-end boats may provide customers with security products as a standard option in their boats. Usually security product vendors have to provide mass customization for boat manufacturers. For such potential corporate

accounts of SilverTip, the purchasing process will be relatively long because it often involves several decision makers within the company. However, once the first order is signed, it is likely to have a very positive network effect within the boat industry. It is very effective for SilverTip to establish its reputation and accountability by selling products to boat manufacturers.

Marine Insurance Underwriters

Marine insurance underwriters are SilverTip's potential intermediate customers as well as complementors. SilverTip will need to produce effective security products to be successful in this customer segment. Boat owners will be more willing to buy the product if they can get a discount on their insurance premiums. The insurance underwriters will be willing to recommend SilverTip's products if they can deter boat thefts and increase boat safety. This, in fact, will reduce insurance claims and generate more values for the customers as well as the insurance underwriters.

Individual Boat Owners

Two sub-categories of this segment are new boat owners and existing boat owners. New boat owners are likely to buy the security products for their boats. In addition, the price of the security product costs only a small portion of the new boat. Existing boat owners are not as likely to buy the security products if their boats have been safe so far. This is due to the fact that they may not perceive the need to install security systems on their boats. Also, buying a new security system for an existing boat means spending extra money.

Commercial Customers

Two types of commercial customers are noteworthy. They are the marine charter companies and the boat rental companies. Charter companies manage fleets of boats, such as water taxis, charter boat fleets and harbour patrols. SilverTip's products will allow charter companies to monitor the operation and the location of their boats, to schedule maintenance proactively and hence to reduce down time due to fewer breakdowns. The system will also allow the company to locate and to send assistance to boats when they are in trouble. Charter companies usually rent out boats and buy insurance for their boats. Therefore, they may prefer boats with reliable security systems installed. The commercial customer segment has great potentials.

US Market

The US market has high purchasing power and volume. SilverTip's products will qualify under NAFTA as Canadian products. Therefore, SilverTip's products may be qualified as duty free. However, competition is also strong in the US market. For example, one of the key competitors, Marine Guard is based in the US.

Cross-border businesses may also encounter additional challenges. The biggest challenge will be the airtime component of the product. Currently, SilverTip has no affiliation with any communications service provider except for Rogers AT&T in Canada. SilverTip is planning to send its product to AT&T Wireless in the US for approval. According to SilverTip, its arrangement with AT&T Wireless may be different from that with Rogers AT&T.

Canadian Market

The Canadian market offers about one tenth of the sales of the US market. The four major provinces, Ontario, Quebec, British Columbia (B.C.) and Alberta constitute 85% of the Canadian market. SilverTip is a Vancouver-based start-up company. It will be relatively easy to start the business in the surrounding areas first.

European Market

Europe has harmonized wireless communications standards, and as a group, Europe is an attractive market. However, each country in Europe has unique characteristics. In addition, finding distributors, dealers and partners presents a challenge to SilverTip, due to the geographical distances and cultural differences,

6.3 Differentiation Features of the SilverTip's Boat Security System

The key feature that differentiates SilverTip's products from all others is the ability to enable boat owners to communicate directly with their boats. This direct interaction feature provides boat owners with real-time interaction with their boats. In other words, it means cost saving for boat owners. There will be no service charge except for airtime charges around $30 to $50 per month (SilverTip, 2003).

SilverTip's high-end security system, the ESP3000, will be positioned as a high-end product in the target market. According to SilverTip, the ESP3000 includes some important features that are not offered by others. Such advanced security features designed specifically for the marine environment are the Nema 4 rate enclosure, the bilge

water level sensor, the arm aboard mode, and the output GPS data in Nema format (SilverTip, 2003).

6.4 Target Market and Marketing Strategy

SilverTip is planning to achieve its goals in three marketing stages.

6.4.1 Stage One - Market Penetration Strategy

The first stage is to use a Market Penetration Strategy (Shapiro, Wong, Perreault & McCarthy, 2002 p.49). SilverTip is trying to increase sales of its core products in one customer segment. At this stage, SiverTip is targeting those new recreational boat buyers in Canada. This customer segment is going to be served primarily by boat dealers. SilverTip is planning to establish at least 10 boat dealers across Canada. To start with, the company will build a dealership network around B.C., near the company's headquarters. This stage will provide SilverTip the opportunity to become a big fish in a small pond. This stage will also help SilverTip to better understand the customers' needs. Then, SilverTip will be able to answer some of the marketing questions like what motivates customers to buy now, and why some customers prefer other brands. Finally, SilverTip can perform an effective analysis and plan for the next stage.

6.4.2 Stage Two - Market Development Strategy

The second stage is to use a Market Development Strategy (Shapiro, Wong, Perreault & McCarthy, 2002 p.50). SilverTip will try to increase sales by selling the company's current products to new markets. In this stage, SilverTip will be advertising through different media to reach the new target customers, such as commercial and OEM

customers. The company will also need to develop new channels for distribution, searching for more dealers in the US and in the rest of the world.

6.4.3 Stage Three - Product Development Strategy

The third stage is to use a Product Development Strategy (Shapiro, Wong, Perreault & McCarthy, 2002 p.50). SilverTip will offer new or improved products for the current market segments. In this stage, SilverTip will add and/or improve its product features to create different product function levels and to add more product lines to satisfy its target customers. The company will leverage customer-based assets such as brand equity, distribution channels, and sales force to achieve lower costs.

6.5 Pricing Strategy

Pricing strategy must be aligned with the firm's business objectives. Price setting of the offered products is often a dilemma for a firm. Lowering the price is usually a good way to increase the market share. However, it will also generate lower profit margin. This means the firm will need more external financial support for the first few years. Increasing the price will help the firm to earn a greater profit margin and to create a more prestige image for the products. However, this may reduce the customers' willingness to buy. There is a trade off between profit margin and market share. As mentioned before, SilverTip's business goals are to make profits and to become the dominant player in the boat security niche market. Therefore, a target-return pricing strategy will help SilverTip to accomplish its business goals. A target-return objective sets a specific level of profit as the objective (Shapiro, Wong, Perreault & McCarthy, 2002, p.532).

Another factor that affects the pricing strategy is competitors' pricing. Table 9 describes the prices of some major competitors' products that have similar features to those of SilverTip's.

	Marine Guard 40	Marine Guard 44	Marine Guard 48	Clifford GPS	Clifford GPS + ESP2 System	Sea Key (OEM)
MSRP (US$)	826.25	1052.50	1299.50	699	1,200	600

Note: Prices listed above are Manufacturer's Suggested Retail Price (MSRP)

Table 9: Summary of Major Competitors' Prices
Data Source: SilverTip Marine Inc. (2003)

ESP3000 and ESP1000

From Table 9 above, we can see that the price range falls between US$ 700 to US$ 1300. SilverTip's ESP3000 will be sold in the range of US$ 1000 to US$ 1500. SilverTip's ESP1000 will be sold at US$ 700. With these prices, SilverTip will be competitive and still have a profit margin of 10% to 15% (SilverTip, 2003).

Airtime Package

SilverTip is planning to provide its customers with airtime packages that will facilitate communications between boat owners and their boats. An airtime package is a value-added component in SilverTip's products. SilverTip can get discounted prices for data communication services as a value added reseller from Rogers AT&T. Theoretically, SilverTip's customers can subscribe to airtime packages from communications service

providers, such as Rogers AT&T, Fido, or SilverTip. SilverTip is planning to resell the airtime packages at lower rates as a way to build up the SilverTip brand. Although Fido's airtime rates are lower than that of Rogers AT&T, its signal is weaker and coverage areas are more limited. Therefore, boat owners are not likely to use Fido's services.

6.6 Distribution

SilverTip is planning to sell through dealers and distributors to reach the individual final customers. The company is beginning to establish relationships with boat dealers across Canada and the US. The Canadian market is less competitive but the potential market is smaller; the US market is more competitive but the potential market is much bigger. Ideally, SilverTip will start with dealers in the areas of B.C., then go to Ontario, Alberta, Quebec, Washington State, Oregon, California and Minnesota to establish a strong distribution network across North America for the first product launch. However, SilverTip may have alternative plans if its marketing budgets are limited.

SilverTip is planning to create a special program to reward those dealers who sell more SilverTip's products (SilverTip, 2003). SilverTip will train their dealers to install the security systems and to provide basic diagnostic services for customers. SilverTip will offer a higher margin for dealers as an incentive to sell its products.

The sales and marketing team of SilverTip will handle corporate accounts and OEM customers through direct selling. SilverTip will have a sales team dedicated to serve corporate accounts. The corporate purchasing process usually involves several layers of decision making in an organization. Corporate accounts and OEM customers may require customized solutions from SilverTip.

6.7 Advertising and Promotion Strategy

As a start-up company, the budgets allocated for advertising and promotional activities are limited. SilverTip is planning to promote its products using cost effective methods to gain publicity. Advertising in national boat magazines, on radio stations, fliers and the Internet are some of the methods that can be employed.

SilverTip will pursue two types of advertising efforts: product advertising and institutional advertising (Shapiro, Wong, Perreault & McCarthy, 2002, p.523). Product advertising is used to sell SilverTip's products. Its target audiences are final customers and channel members such as boat dealers and boat equipment distributors. According to the market research conducted by SilverTip, most boats are not equipped with security products. Boat security products with GPS tracking function and cellular communications function are still in the early stage of the product life cycle. Therefore, product advertising serves two purposes for SilverTip. Firstly, it is to develop primary demand for SilverTip's products. Secondly, it is to develop selected demand for SilverTip's brand simultaneously (Shapiro, Wong, Perreault & McCarthy, 2002, p.523). Institutional advertising is used to promote SilverTip's company image, reputation and ideas. SilverTip's target audiences are the various service providers such as communications service providers and towing service companies. Institutional advertising will help SilverTip to develop goodwill, to establish strategic partnerships and to improve relationships with various suppliers and buyers.

Geographically, SilverTip will focus its advertising efforts in Canada and in the US. During the product launch period, SilverTip may offer coupons or rebates to promote the initial sales of its products. SilverTip may offer its customers a free basic airtime

package for the first month. Special promotions may be conducted on a regular basis according to the market environment. SilverTip may also participate in major trade shows and industry associations to gain publicity.

6.8 Use of Internet

Internet, as a cost effective media, will be one of the major channels for SilverTip to market its products.

SilverTip's website www.silvertipmarine.com is still under construction. When the web design process is completed, the website will provide information such as company information, product(s) information, authorized dealers information, and customer service information. SilverTip is not planning to sell directly to boat owners online at this time because SilverTip is trying to avoid channel conflicts with its dealers. However, SilverTip will develop a sales and marketing team to handle its corporate accounts. The SilverTip website will also provide some contact information for commercial customers who are interested to learn more about SilverTip's customized solutions. In short, the website mainly serves as a communication and promotion tool.

SilverTip will also establish affiliations with other marine-related websites. SilverTip will also advertise in search engines such as Google to provide direct links to the company's website.

7 FINANCING FOR SILVERTIP

This chapter describes the start-up costs and the various sources of financing required for SilverTip to enter into this business. In addition, the firm has made some financial projections about the business to determine the profitability and the return on its investments. The pro forma financial statements for the next 5 years that include the Balance Sheet, the Income Statement and the Cash Flow Projections can be found in the Appendix. Finally, this chapter investigates the risks associated with the market and the financial projections.

7.1 Start-up Costs

A detailed listing of all the start-up costs cannot be listed due to the confidentiality and sensitivity of the information. A significant portion of the start-up costs is used in R&D of the product. The R&D costs included the design of the hardware product, the development of the web interface and the successful completion of the prototype. The Canadian government, through the Industrial Research Assistance Program (IRAP) funding, has funded most of the costs associated with R&D for SilverTip.

7.2 Sources of Financing

The government, through IRAP funding, has financed nearly all the initial R&D costs for developing the prototype. Most of the other sources of financing come from equity investments and shareholder loans. SilverTip is planning to look for further equity investments. First, there will be a friends and family round of financing. Then, there will be an angel investors round, followed by a venture capitalists round of

financing. Moreover, SilverTip will try to leverage their trade credit terms (90 to 120 days net) with their suppliers. Furthermore, SilverTip will try to have up front or advanced payments from some of its intermediate customers, for example the dealers. Currently, SilverTip is using a very small amount of debt financing, however, it may increase in the future for tax return purposes.

7.3 Financial Projections

SilverTip has perceived that this is going to be a profitable business. The firm can achieve its financial goals in a relatively short period of time. We can see this from the analysis of SilverTip's financial projections for the next five years from 2004 to 2008.

The total sales will be low for the first year, with total sales revenue of $1.2 million. This is mainly due to the new product introduction process and the target market will need time to gain familiarity and confidence of the product. However, sales are expected to pick up very quickly in 2005, reaching the forecasted sales revenue of $9.4 million by the end of 2005. The period from 2004 to 2005 will have the highest increase in sales revenue due to the significant increase in the sales force and customer's acceptance of the product. Moreover, the expected increase in the number of dealers and the expansion of the dealership network both in Canada and the US will also cause this big jump in total sales revenue. Furthermore, SilverTip is planning to launch the OEM version of the product during this period. After the year 2006, sales revenues will be increasing steadily, reaching a total of $63 million by the end of 2008. SilverTip will be competing with a differentiation strategy instead of a low cost strategy; hence the profit margin will be high.

The average gross margin is estimated to be about 40%. This means SilverTip will be able to expand and to gain market share quickly. SilverTip will expect a net loss of $474,000 in 2004. However, net income will become positive the next year, beginning to earn a small profit of $14,000 in 2005. Then, the net income will increase steadily, reaching $2.9 million in 2006. This period from 2005 to 2006 will have the most significant increase in net income. After that, SilverTip still expects a steady increase in net income every year. By 2008, net income will be expected to reach almost $8 million per year. Moreover, SilverTip is going to spend more than half of its net income in R&D again every year. SilverTip will spend more than $3.6 million in R&D in 2008 for innovation in new technologies. This is due to the ever-changing nature in the high-tech business and the highly competitive environment within which the company operates. The planning for continuous innovation shows SilverTip's determination to become the market leader in this business.

	2004	2005	2006	2007	2008
Sales Revenue	$1.2 million	$9.4 million	$27.5 million	$45 million	$64 million
EBIT	-$880,000	-$314,000	$4.2 million	$7.5 million	$11.2 million
Net Income	-$474,000	$14,000	$2.9 million	$5.2 million	$7.7 million
Net Operating Cash Flow	-$923,000	-$1.4 million	$3.1 million	$7 million	$11.3 million
Research & Development	$203,000	$540,000	$1.1 million	$2.2 million	$3.6 million
Return On Equity (ROE)	-265%	1%	57%	50%	43%
Profit Margin	-38.1%	0.1%	10.6%	11.5%	12.1%
Gross Margin	32%	40%	41%	42%	43%
Current Ratio	2.6	5.3	17.6	26.9	30.7

Table 10: Summary of Financial Projections for SilverTip from 2004 to 2008
Data Source: Pro-forma Financial Statements of SilverTip Marine Inc. (2003)

7.4 Profitability and Liquidity Forecast

In terms of profitability, we are going to examine the return on equity (ROE) and the profit margin as illustrated in Table 10 above. ROE is important because it measures

the bang per buck (Higgins, 2001, p.34). Nearly all the new products have a humble beginning, so it is normal to see that the ROE will be negative for the first year or so. The profit margin is going to be relatively small because SilverTip will need to offer a better price to build up the dealership network and the customer base. However, SilverTip will expect sales to pick up in 2005 and the business will be profitable starting 2006. The sales revenue and net income are expected to be growing steadily in this year, with ROE consistently reaching over 50% and the profit margin of more than 10% after 2006. These numbers represent a profitable business.

A current ratio of more than 2 usually means the liquidity of the business is acceptable. A company with a low current ratio lacks liquidity in the sense that it cannot reduce its current assets for cash to meet maturing obligations (Higgins, 2001, p.49). As we can see from Table 10, SilverTip will always maintain its current ratio as 2 or more to have enough cash on hand to keep the company healthy. From the pro forma cash flow statement, we can see that even when the net operating cash flow will be negative in 2004 and 2005, SilverTip will still have a current ratio of more than 2. Moreover, when the net operating cash flow becomes positive, reaching $3.1 million in 2006, the current ratio will start to increase to double digits. This shows the strong financial support and stability behind SilverTip's business model.

7.5 Risks to Financial Projections

7.5.1 Market Risks

The sales of boat security products are directly proportional to the sales of new recreational boats since they are complementary products. In addition, recreational boats are normal goods. Therefore, people are less likely to purchase new boats or accessories for boats during recessions. To mitigate this risk, SilverTip will diversify its product lines. SilverTip is planning to offer other security products to suit existing boat owners. Moreover, SilverTip is also planning to provide customized solutions for boat manufacturers.

Some global security alarm companies in the MSD industry may also target the marine customer segment. Currently, the security tycoons are focusing on the automobile customer segment. However, they may be potential threats to SilverTip since they have similar products using comparable technologies to those offered by SilverTip. The competitive advantages of these rivals are strong financial support and brand recognition. SilverTip can alleviate this risk by taking a pre-emptive move. SilverTip can establish a strong dealership network quickly to secure the best boat dealers.

Since the capital investment is low, other new entrants may produce similar telematics products by reverse engineering and this will increase the competition in the market. To overcome this risk, SilverTip will provide a security solution rather than just a security product. The company will need to partner with complementary service providers such as towing companies and rescue groups, so that customers can get help immediately when their boats are in trouble.

There is always the risk that other new and emerging wireless technologies may become the new standard. SilverTip can reduce this risk by having flexible designs of its products.

7.5.2 Other Risks

It is always difficult to provide very accurate numbers for the pro forma financial statements, as they are only financial projections. Moreover, SilverTip is a start-up company with no financial history. The financial result in some periods may be worse than estimated, and inaccurate forecasts may also cause unnecessary large inventory. To reduce this risk caused by uncertainty in forecasting, SilverTip will monitor its financial status closely and adjust the financial projections on an ongoing basis.

8 IMPLEMENTATION FOR SILVERTIP

The overall implementation plan is a five-stage process involving opportunity identification, product design, product testing, product introduction and life-cycle management. This framework is originally adapted from the new product development process (Lilien & Rangaswamy, 2003 p.234). Currently, SilverTip is at the final product testing stage, preparing for the product introduction stage to the target market.

8.1 Opportunity Identification

The first stage, began in 2002, was to define the market, to generate ideas and to determine if the business was deemed to be viable. SilverTip has done extensive research in the boat security market to identify the niche market with the potential to be most profitable. SilverTip had concluded that this business was viable before it started with its product design stage. The management team has the experience and connections in the recreational boat market. The marketing team has based most of the market data and information on Internet research. Moreover, SilverTip has conducted a survey in the Vancouver boat show and Burkhardt Research Services has analyzed those data. Furthermore, the CEO and the director of marketing of SilverTip have been to many trade shows. They have personally interviewed some of the dealers and customers in those events. Finally, SilverTip has approached some prestigious University and educational institutions in the British Columbia for assistance on both the business analysis and technology development.

8.2 Product Design

SilverTip has successfully obtained funding from IRAP for the research and development of its boat security systems. Currently, the product prototype is ready for demonstration as a result of this funding.

8.2.1 Identifying Customer Needs

SilverTip has identified that there is an unmet need in the boat security market for a "smart" boat security system using telematics technology. SilverTip has perceived that boat owners usually want to interact with their boats directly instead of going through a central monitoring station. This allows boat owners to have more control of their boats, so they can react to various situations at their own discretions.

8.2.2 Product Positioning

SilverTip positions its boat security product as a premium product in the market targeting the customer segment of luxury recreational boats. The company positions its product as a high-end, reliable, usable and affordable boat security system that gives its customers peace of mind.

8.2.3 Segmentation

SilverTip has divided its potential customers into various target segments. The company is employing a step-by-step approach to first target the dealers to establish its brand, then to target the boat manufacturers. SilverTip is hoping its products will become the new industry standard and create a tornado in the market.

8.2.4 Sales Forecasting

SilverTip has forecasted that the revenue will be small in the first year of product launch. The total sales revenue for the first year of the product launch is expected to reach $1.2 million in 2004. However, SilverTip expects the sales to increase and the total sales revenue to be $9.4 million in 2005. Moreover, the company expects to earn a positive net income starting 2005 and a positive net operating cash flow starting 2006.

8.2.5 Product Research and Development

At this stage, the initial R&D for the first release of the product is ready. However, product research and development is a continuous process. The aim is to enhance the product to serve the ever-changing customer needs. Moreover, since telematics is an emerging technology and the market that SilverTip is going to serve is a new market, there is no clear standard at this point. As the technology becomes mature, further R&D activities may be necessary to adapt to the new standards. SilverTip is planning to invest heavily in R&D just to maintain its technology leading position and to continue the innovation of its products.

8.3 Product Testing

Currently, SilverTip is at the final testing stage to ensure that the product is ready for launch. This product testing process will also offer diagnostic information about what changes will improve its chances of success in the market.

8.3.1 Web Interface and Product Integration

The web portal is the spirit of SilverTip's products. Boat owners can login to the web portal through the Internet to track and monitor their boats directly. This is an important feature for SilverTip to differentiate its products from other low-end security products in the market. Therefore, SilverTip is testing the coordination and integration between the software and the hardware to ensure effective communication. At this point, SilverTip has already developed both the security system and the website to communicate with each other.

8.3.2 Ensure All Requirements are Met

SilverTip is checking with its engineering team that the products have met all FCC and other requirements. Moreover, the company is in the process of filing several patents to protect its intellectual property to prevent imitation and to erect barriers for other competitors from entering into this business.

8.4 Product Introduction

Product introduction is the next stage after the testing stage. SilverTip is already planning for this stage, so that the company can get the products to market as quickly as possible. Up to the last stage, there is no revenue generated for SilverTip by the products. The product introduction stage is important for SilverTip to get the products to the market, so that they can start generating revenue. However, SilverTip will need funding for its marketing plan and advertising campaign for the product launch. Therefore, one of the major activities in this stage is for SilverTip to obtain financing from venture

capitalists and/or angel investors to ensure a smooth and successful introduction of the products to the market.

8.4.1 Product Demonstration and Presentation Materials

SilverTip's marketing department is in the process of developing the necessary product demonstration and presentation materials to handout to the selected boat dealers and boat manufacturers during onsite visits to these intermediate customers.

8.4.2 Negotiate with Selected Dealers and Manufacturers

SilverTip's marketing director and CEO have already approached several boat dealers. For example, Captains Village Marina in Scotch Creek, Docksider Marine in Kelowna and Blackfish Marine in Vancouver. These boat dealers have shown interests in SilverTip's products and are currently scheduling for product demonstration dates. The successful introduction of the products to the intermediate customers is a stepping-stone for SilverTip to sell the product to the final customers successfully in the future. The product features and usability will likely increase the company's bargaining power with the intermediate customers. It will also increase the potential sales and market share of SilverTip if the company has agreements with more dealers across North America. Therefore, SilverTip is very careful in selecting its authorized dealers for the installation and continuing customer care.

8.4.3 Establish Close Relationships with Service Providers

SilverTip plans to establish close relationships with some service providers to provide complementary services to its customers. These activities will help to provide a complete marine security and safety solution, thus building the SilverTip brand in the market.

8.4.4 Obtain Funding for Marketing and Advertising Campaign

Funding is important for SilverTip to continue with its business venture. The products are ready and relationships with the dealers are established. Now is the time to let the final customers know that the products are available and to start educating them about the new boat security concept. More funding is necessary for marketing and advertising, so that the company can educate its customers and promote its products. SilverTip is planning to obtain additional funding from venture capitalists and/or from angel investors designated for the marketing and advertising campaigns.

8.4.5 Launch Advertising Campaigns

SilverTip is planning to offer training sessions to authorized boat dealers for proper installation of the products. This is a good way to educate the final customers and to promote the products through these dealers. In addition, we can also use the following cost effective advertising campaigns at the same time to build up SilverTip's brand:

- The marketing team is planning to put up colourful ads in several boat magazines such as Sea World, Boats & Places, Sea Magazine and Boating Magazine to capture customer's attention for the SilverTip brand.
- The marketing team is talking to some local reporters who are interested to write articles about SilverTip's products in the local newspapers such as the Vancouver Sun and the North Shore News. This will help the company to gain publicity.
- The engineering team is planning to include some detailed product information on the company website to attract online users. They also plan to place ads on other websites as referrals.
- The management team is planning to send out e-mails to the members of the Marina to promote the SilverTip brand.
- The management team intends to setup booths in boat shows if the company has enough financial resources. Boat shows will help to promote SilverTip's brand and to reach a large amount of dealers and manufacturers. SilverTip may participate in boat shows in North America and in other parts of the world.

8.4.6 Launch Product

SilverTip is planning to launch the ESP3000 during the initial advertising campaign. At first, SilverTip plans to ship the ESP3000 to the selected dealers at discount prices. These dealers can then re-sell the products to the final customers together with their installation services. This will help the company to build up the dealership network, the initial customer base and the brand. Then SilverTip is going to launch the ESP1000

aiming to sell to the boat manufacturers in larger quantities. This will be contract based and will generate more revenues for the firm.

8.4.7 Track the Launch

It is essential for SilverTip to continue to innovate to be successful in this industry. Therefore, SilverTip is going to track the launch from both the business perspective and the technological perspective. From the business perspective, the marketing team is going to track which channels for advertising are most effective. In addition, the marketing team will track the customers' responses to the first product launch. This can improve the effectiveness of future product launches. From the technological perspective, the engineering team is going to track how the product features meet the needs of the target market and what are the customers' needs for improvements in the future.

8.5 Life-cycle Management

If SilverTip introduces the products successfully into the target market, it will also put in place a life-cycle management process to maintain the growth and profitability of the products. Successful products always invite competition, and the company needs to monitor the market continuously and to have some kind of defensive strategies ready.

8.5.1 Market Response Analysis

SilverTip is planning to monitor the market response by talking to the authorized dealers regularly. It is very important for the marketing team to closely monitor the

customers' responses. New technologies or new standards may emerge to erode existing profits and the company's customer base. It is always advantageous for small high-tech firms to monitor customers' expectations by performing market response analysis regularly.

8.5.2 Fine-tuning the Marketing Mix

From the marketing response analysis, the marketing department can fine-tune the marketing mix (product, price, distribution and promotion) to ensure that the products are indeed satisfying the needs of the target markets. This action not only will increase existing product sales, but also will help to cut the market into finer customer segments. This can enhance both the customer satisfaction and the effectiveness of the virtual integration model.

8.5.3 Competitive Monitoring and Defense

Competition is always emerging in high-tech businesses, especially when the business is profitable. It is a continuous effort for SilverTip to monitor new competitors and to defend its products and customer base. New strategies must be developed when new competitions enter the market. It will be an on-going battle.

8.5.4 Innovation at Maturity

Product innovation is at the heart for high-tech firms to be successful. The management team, the marketing team and the engineering team will be working together

to ensure that the firm looks at innovations from different perspectives. SilverTip will focus on innovation as one of the company's core competencies.

BIBLIOGRAPHY

Books

Aaker, David A. (2001). Developing Business Strategies (6th ed.). New York, New York: John Wiley & Sons, Inc.

Higgins, Robert C. (2001). Analysis for Financial Management (6th ed.). New York, New York: McGraw Hill.

Lilien, Gary L. & Rangaswamy, Arvind (2003). Marketing Engineering (2nd ed.). Upper Saddle River, New Jersey: Prentice Hall.

Shapiro, Stanley J., Wong, Kenneth, Perreault, William D., & McCarthy, E. Jerome. (2002). Basic Marketing—a Global Managerial Approach (10th Canadian ed.). Toronto, Ontario, Canada: McGraw-Hill Ryerson.

Journal Articles

Boardman, Anthony E. and Vining, Aidan R. (1996). Defining Your Business Using Product-Customer Matrices. Long Range Planning, 29 (1), pp.38-48.

Magretta, Joan (1998, March-April). The Power of Virtual Integration: An Interview with Dell Computer's Michael Dell. Harvard Business Review, 76 (2), p.72.

Porter, Michael E. (1979, March-April). How Competitive Forces Shape Strategy. Harvard Business Review, 57 (2), p.137

Roberts, Edward B. & Berry, Charles A. (Spring 1985) Entering New Businesses: Selecting Strategies for Success. Sloan Management Review, 26 (3), p.3

Online Articles

Alarid, S. (2001, December). Telematics: Offering Mobile Safety, Security Spurs Additional RMR. Security Sales & Integration Retrieved September 17, 2003, from http://www.securitysales.com/t_ci_articleView.cfm?aid=164&sid=0

Filho, Eurico D.O. (2002, June). Enabling Advanced Wireless Safety and Security Applications with high-accuracy Location Technology. Technology Communication Systems. Retrieved September 29, 2003, from http://www.trueposition.com/Download/Whitepapers/07.02_securityarticle_wmrc.pdf

Goldfine, S. (2002, July). Monitoring on My Mind. Security Sales & Integration Retrieved September 17, 2003, from http://www.securitysales.com/t_ci_articleView.cfm?aid=941&sid=0

Gray, R. (2002, November). Tracking the Success of GPS. Security Sales & Integration Retrieved September 17, 2003, from http://www.securitysales.com/t_ci_articleView.cfm?aid=1075&sid=0

Jones, A. K. (1998, October). It's estimated that mobile security devices (MSDs) have the potential to be a $300 billion industry within the next 20 years. As many as 3 million systems are expected to be in use by the year 2000. Tight relationships between law enforcement and the alarm industry will help curb false alarms from the fledgling MSD industry. Security Sales & Integration Retrieved September 17, 2003, from http://www.securitysales.com/t_ci_articleView.cfm?aid=68&sid=0

Konrad, R. (2002, May). Telematics left in dot-com dust. News.com Retrieved October 7, 2003, from http://news.com.com/2102-1033_3-917405.html

Pike, B. (2003, March). Anywhere!Anytime! SOS Call center. Power & Motoryacht Retrieved October 7, 2003, from http://www.powerandmotoryacht.com/electronics/0303callcenter/

Smith, B. (2002, June). Lights Dim For Telematics. Wireless Week Retrieved October 7, 2003, from http://www.wirelessweek.com/index.asp?layout=article&articleid=CA221548

Webpages

ADT Security Services. (2003). MobileSafety. Retrieved September 9, 2003, from http://www.adt.com/mobilesafety/

Almex Marine. (2003). Company Website. Retrieved October 9, 2003, from http://www.almexmarine.com/index.html

Clifford of Directed Electronics. (2003). Matrix-GPS Tracking Systems. Retrieved September 9, 2003, from http://www.clifford.com/matrix/gps/default.asp#

Genmar First Mate. (2003). Company Website. Retrieved October 11, 2003, from http://www.genmarfirstmate.com/FirstMatePlus.cfm

GEOSat Solutions. (2003). The SeaTrac Solution. Retrieved November 13, 2003, from http://www.geosatsolutions.com/SeaTrac2.htm

International Boat Industry. (2003). Key Market Facts. Retrieved October 20, 2003, from http://www.ibinews.com/ibinews/key_mkt_facts/index.htm

MarineGuard Network. (2003). Company Website. Retrieved September 9, 2003, from http://www.marineguard.net/

Navman of Brunswicks. (2003). Company Website. Retrieved October 11, 2003, from http://www.navman.com/

National Marine Manufacturers Association. (2003). Boating 2002 – Facts and Figures. Retrieved September 25, 2003 from http://www.nmma.org/facts/boatingstats/2002/

Sea Key of Penta Volvo. (2003). Company Website. Retrieved September 9, 2003, from http://www.penta.volvo.se/us/seakey/seakey.html

Security Industry Association. (2003). Security Industry Overview. Retrieved September 11, 2003, from http://www.siaonline.org/page.asp?c=industry_overview

Security Industry Association. (2003). SIA Research Update. Retrieved September 11, 2003, from http://www.siaonline.org/page.asp?c=mem_research&l=2

Security Sales & Integration. (2003). Industry Statistics. Retrieved September 17, 2003 from http://www.securitysales.com/t_stats_factbook.cfm

Skymate. (2003). Company Website. Retrieved November 15, 2003, from http://www.skymatewireless.com/products/marine_data_systems_compare.asp

Other Sources

Boardman, Anthony E. and Vining, Aidan R. (2003). A Framework for Comprehensive Strategic Analysis. Unpublished document.

Buksazar, Ed. (2003, Spring) Professor of Simon Fraser University. Lecture Notes.

Koslowski, T. (2002, September). Telematics Industry Outlook: Think 'Outside the Vehicle'. Gartner G2 Report.

McEachern, Ian. (2003, August-November) President and CEO of SilverTip Marine Inc. Personal Communication.

Nickason, Brad. (2003, August-November) Marketing Director of SilverTip Marine Inc. Personal Communication.

Wengroff, Jake. (2003, August 12). New ABI Study Proposes Consumer Telematics Industry Must Return to Its Roots. ABI Research News.

APPENDIX: PRO FORMA FINANCIAL STATEMENTS

Pro Forma Balance Sheet As of End of Years
($ in thousands)

Balance Sheet	2004	2005	2006	2007	2008
Assets					
Current					
Cash	$59	$901	$2,088	$5,765	$12,364
Accounts Receivable	$116	$958	$2,247	$3,472	$4,547
Inventory WIP	$98	$808	$985	$1,254	$1,397
Income Taxes Receivable	$0	$0	$0	$0	$0
Total:	$273	$2,667	$5,320	$10,491	$18,308
Capital					
Technology	$102	$290	$623	$922	$1,252
Equipment, Furniture & Fixtures	$22	$31	$45	$63	$78
Accumulated Depreciation	($17)	($80)	($220)	($391)	($608)
Total:	$107	$241	$448	$594	$722
Goodwill	$0	$0	$0	$0	$0
Total Assets	$380	$2,908	$5,768	$11,085	$19,030
Liabilities					
Current					
Operating Loan	$0	$0	$0	$0	$0
Accounts Payable	$55	$182	($23)	$46	$288
Income Taxes Payable	$0	$269	$276	$295	$260
Shareholder Loan	$49	$49	$49	$49	$49
Total:	$104	$500	$302	$390	$597
Long Term Debt	$97	$215	$368	$420	$444
Total Liabilities	$201	$715	$670	$810	$1,041
Equity					
Capital Stock	$700	$2,700	$2,700	$2,700	$2,700
Retained Earnings	($521)	($507)	$2,398	$7,575	$15,289
Contributed Surplus	$0	$0	$0	$0	$0
Total Equity	$179	$2,193	$5,098	$10,275	$17,989
Total Liabilities & Equity	$380	$2,908	$5,768	$11,085	$19,030

Pro Forma Income Statement from 2004 to 2008

($ in thousands)

Income Statement	2004	2005	2006	2007	2008
Sales Revenues					
Product	$1,192	$8,200	$21,520	$32,300	$40,671
Maintenance & Consulting	$53	$1,226	$5,970	$12,718	$23,213
Total	$1,245	$9,426	$27,490	$45,018	$63,884
Cost of Goods Sold					
Opening Inventory WIP	$5	$98	$808	$985	$1,254
Purchases	$856	$5,885	$15,312	$24,893	$35,164
Direct Labour Operations	$53	$141	$361	$549	$680
Benefits	$12	$31	$79	$121	$150
Commissions	$13	$242	$444	$444	$444
Freight	$9	$59	$153	$249	$352
(Ending Inventory WIP)	($98)	($808)	($985)	($1,254)	($1,397)
Total	$850	$5,648	$16,172	$25,987	$36,647
Gross Margin	$395	$3,778	$11,318	$19,031	$27,237
%	**32%**	**40%**	**41%**	**42%**	**43%**
Operating Expenses					
Depreciation	$17	$63	$140	$170	$217
Maintenance	$0	$40	$80	$200	$200
Management / Board Fee	$0	$20	$80	$80	$80
Marketing	$44	$328	$646	$969	$1,220
Office	$19	$98	$181	$300	$401
Professional Dev / Bonuses	$20	$210	$250	$330	$330
Research & Development					
Product Development	$203	$540	$770	$1,145	$1,155
R&D Expenses	$0	$0	$360	$1,064	$2,474
Salaries					
Corporate	$200	$489	$792	$1,490	$2,108
Sales & Marketing	$398	$1,184	$1,815	$2,689	$3,738
Benefits	$176	$487	$743	$1,171	$1,540
Software & Services	$56	$65	$127	$269	$292
Telecommunications	$37	$283	$825	$1,351	$1,917
Travel & Entertainment	$105	$285	$300	$300	$300
Total	$1,275	$4,092	$7,109	$11,528	$15,972

Earnings Before Interests & Taxes	($880)	($314)	$4,209	$7,503	$11,265
Interest					
Long-Term Debt	$4	$16	$34	$38	$43
Operating Expense	($5)	($40)	($39)	($150)	($382)
Total	($1)	($24)	($5)	($112)	($339)
Other Income					
SR&ED Tax Credit	$117	$312	$470	$736	$840
Earnings Before Taxes	($762)	$22	$4,684	$8,351	$12,444
Income Taxes 46%	($288)	$8	$1,780	$3,174	$4,729
Net Income (Loss)	($474)	$14	$2,904	$5,177	$7,715
Profit Margin	-38.1%	0.1%	10.6%	11.5%	12.1%

Pro Forma Cash Flow Projections from 2004 to 2008

($ in thousands)

		2004	2005	2006	2007	2008
Cash Flow						
Cash Receipts						
First Quarter	75%	$934	$7,070	$20,617	$33,763	$47,913
Second Quarter	15%	$156	$1,092	$3,827	$6,373	$9,250
Third Quarter	10%	$39	$423	$1,757	$3,657	$5,646
SR&ED Tax Credit		$117	$312	$470	$736	$840
Total Cash Receipts		$1,246	$8,897	$26,671	$44,529	$63,649
Cash Disbursements						
Net 30 Days Terms						
Purchases	Net 30	$843	$5,788	$15,578	$24,889	$35,078
Marketing		$42	$309	$643	$962	$1,217
R&D Expenses		$0	$0	$315	$1,009	$2,324
Software & Services		$50	$67	$113	$265	$290
Travel & Entertainment		$94	$273	$300	$300	$300
Monthly						
Commissions		$13	$242	$444	$444	$444
Freight		$9	$59	$153	$249	$352
Maintenance		$0	$40	$80	$200	$200
Management / Board Fee		$0	$20	$80	$80	$80
Office		$19	$98	$181	$300	$401
Professional Dev / Bonuses		$20	$210	$250	$330	$330
Salaries						
Corporate		$200	$489	$792	$1,490	$2,108
Sales & Marketing		$398	$1,184	$1,815	$2,689	$3,738
Operations		$53	$141	$361	$549	$680
Product Development		$203	$540	$770	$1,145	$1,155
Benefits		$188	$518	$822	$1,292	$1,690
Telecommunications		$37	$283	$825	$1,351	$1,917
Total Operating Disbursements		$2,169	$10,261	$23,522	$37,544	$52,304
Net Operating Cash Flow		($923)	($1,364)	$3,149	$6,985	$11,345

Non-Operating Cash					
Loan Payments	$0	$0	$0	$0	$0
Captial Lease Payments	$24	$95	$228	$303	$364
Operating Interest (income)	($5)	($40)	($39)	($150)	($382)
Investor Contribution	($700)	($2,000)	$0	$0	$0
Income Taxes	($288)	($261)	$1,773	$3,155	$4,764
Total Non-Operating	($969)	($2,206)	$1,962	$3,308	$4,746
Net Cash Flow	$46	$842	$1,187	$3,677	$6,599
Cash at Beginning of Year	$13	$59	$901	$2,088	$5,765
Cash at End of Year	$59	$901	$2,088	$5,765	$12,364