



**RENEWAL ANNUAL INFORMATION FORM**

**For the fiscal year ended  
December 31, 2003**

**May 14, 2004**

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**SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS**

Certain statements contained in this Annual Information Form constitute forward-looking statements. The use of any of the words "anticipate", "continue", "estimate", "expect", "may", "will", "project", "should", "believe", "intend", "plan", "seek" and similar expressions are intended to identify forward-looking statements, but are not the exclusive means of identifying forward-looking statements in this Annual Information Form. Additionally, statements concerning future matters such as the development of new products, enhancements of technologies, sales levels, expense levels and other statements regarding matters that are not historical are forward-looking statements.

Although forward-looking statements in this Annual Information Form reflect the good faith judgment of CSI's management, such statements can only be based on facts and factors currently known by the Company. Consequently, forward-looking statements are inherently subject to known and unknown risks, uncertainties and other factors that may cause actual results or events to differ materially from those anticipated in such forward-looking statements. Factors that could cause or contribute to such differences in results and outcomes include without limitation those discussed under the heading "Risk Factors", as well as those discussed elsewhere in this Annual Information Form. The expectations reflected in those forward-looking statements are reasonable but no assurance can be given that these expectations will prove to be correct and such forward-looking statements included in, or incorporated by reference into, this Annual Information Form should not be relied upon. These statements speak only as of the date of this Annual Information Form. CSI undertakes no obligation to revise or update any forward-looking statements in order to reflect any event or circumstance that may arise after the date of this Annual Information Form. The Company urges you to carefully review and consider the various disclosures made in this Annual Information Form, which attempt to advise interested parties of the risks and factors that may affect the Company's business, financial conditions, results of operations and prospects.

## GLOSSARY OF TERMS

Certain capitalized words and terms used throughout this Annual Information Form are defined below:

"**ABCA**" means the *Business Corporations Act* (Alberta);

"**Annual Information Form**" means this renewal annual information form of CSI dated May 14, 2004;

"**AMPS**" means the Advanced Mobile Phone Service, a standard system for analog signal cellular telephone service. The term originally used by AT&T refers to its cellular technology. The AMPS standard has been the foundation for the industry in the United States, although it has been slightly modified in recent years. 'AMPS-compatible' means equipment designed to work with most cellular telephones;

"**ASP**" means applications service provider;

"**AVL**" means automatic vehicle location, the ability to pinpoint the location of a vehicle within a given range;

"**CDMA**" means Code Division Multiple Access, a digital technique used by cellular network carriers to transmit voice or data by assigning each user a code and spreading the transmission over several frequencies;

"**Circuit Switched**" means a switching technique that establishes a dedicated and uninterrupted connection between the sender and the receiver;

"**Common Shares**" means the common shares in the share capital of the Corporation and "Common Share" means any one of them;

"**Corporation**" or "**CSI**" or "**CSI Wireless**" or "**Company**" means CSI Wireless Inc., a corporation incorporated pursuant to the *Business Corporations Act* (Alberta);

"**CSI LLC**" means CSI Wireless LLC, a wholly owned subsidiary of CSI Wireless Corporation, incorporated pursuant to the laws of the state of Delaware, with operations located in California;

"**DGPS**" means differential GPS, a method of obtaining improved position accuracies (in the order of 1 to 5 meters) from an otherwise limited stand-alone GPS. This is accomplished through broadcasting differential corrections from a fixed known location to a GPS unit equipped with a DGPS receiver;

"**EDGE**" means Enhanced Data Rates for Global Evolution;

"**GIS**" means geographic information system;

"**GPRS**" means General Packet Radio Service, an extension to the GSM standard to include packet data services.

"**GPS**" means Global Positioning System, consisting primarily of a constellation of 24 satellites controlled by the U.S. Department of Defense. The system is designed to provide world wide positioning services with an accuracy of approximately 10 to 15 meters;

"**GPS Unit**" is the operating business unit of CSI which designs, manufactures and markets precision GPS positioning products for multiple markets including precision farming, marine navigation, geographic information systems and hydrographic surveying;

"**GSM**" means the Global System for Mobile communications, the leading global standard for digital cellular telephone systems;

"**OEM**" means original equipment manufacturer;

**"Packet Switched"** means a technique for sending digital data in packets through a network to a remote location;

**"PCB"** means printed circuit board;

**"RTK"** means real-time kinematic, a positioning technique that delivers very high accuracy positioning on the order of a few inches;

**"Satloc"** means Satloc LLC., a wholly-owned subsidiary of CSI Wireless Corporation, incorporated pursuant to the laws of the State of Delaware, with operations located in Arizona;

**"TDMA"** means Time Division Multiple Access, a digital technique used by cellular network carriers to transmit voice or data by assigning each user a particular time slot on a frequency allowing a large number of users to access (in sequence) a single radio frequency channel without interference by allocating unique time slots to each user within each channel;

**"Telematics"** or **"telematics"** means in-vehicle communications of data and/or voice to provide services such as roadside assistance, security, and location-based connectivity.

**"Telemetry"** or **"telemetry"** means a wireless system for the transmission of data (either digital or analog) for remote monitoring;

**"TSX"** means the Toronto Stock Exchange;

**"UMTS"** means Universal Mobile Telecommunications Services, the European term for wireless systems based on the IMT-2000 standard;

**"Wireless"** refers to radio-based systems that allow transmission of telephone and/or data signals through the air without a physical connection, such as a metal wire or fiber optic cable;

**"Wireless Unit"** is the operating business unit of CSI that designs, manufactures and markets telematics and fixed wireless telephone products.

## ANNUAL INFORMATION FORM

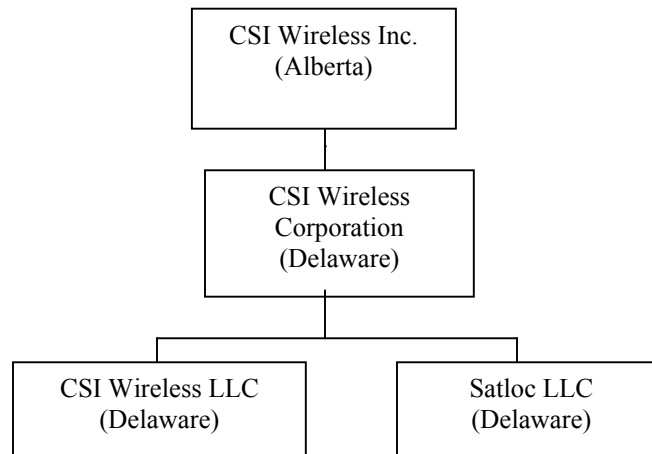
### CERTAIN INTERPRETATION MATTERS

Unless the context otherwise requires, all references to the "Corporation", "CSI Wireless", "CSI" or the "Company" include CSI Wireless Inc. and its predecessors and subsidiaries as a whole. Certain terms have the meanings specified in the Glossary.

### THE CORPORATION

CSI was incorporated as Canadian Systems International Inc. under the laws of the Province of Alberta on July 31, 1990. On October 26, 1992 the Corporation changed its name to Communication Systems International Inc. Effective April 30, 1996, the Corporation amended its articles to effect, among other things, a redesignation of the Corporation's Class A Common Shares to Common Shares, a stock split of the Common Shares on a 12,500 for 1 basis and to delete the "private company" share transfer restrictions. On June 21, 2000 by articles of amendment, the Corporation changed its name to CSI Wireless Inc. CSI designs and manufactures innovative, cost-effective, Wireless and GPS products for mobile and fixed applications in the Consumer, Agriculture, Marine, Automotive and other related markets. The Corporation's registered and head office is located at 4110 – 9<sup>th</sup> Street S.E., Calgary, Alberta, T2G 3C4.

#### Corporate Structure



The Corporation has three wholly-owned subsidiaries: CSI Wireless Corporation, a corporation incorporated under the laws of the state of Delaware; Satloc LLC ("Satloc"), a limited liability corporation incorporated under the laws of the State of Delaware; and CSI Wireless LLC ("CSI LLC"), a limited liability corporation incorporated under the laws of the state of Delaware. In this annual information form, the "Corporation", the "Company", "CSI Wireless" and "CSI" refer to CSI Wireless and its subsidiaries as a whole unless the context otherwise requires. CSI Wireless is organized into two operating business units: the Wireless Unit and the GPS Unit. The Wireless Unit has 42 employees and the GPS Unit has 95 employees. In addition, 16 employees, including the President, perform corporate functions that are not directly attributed to either operating unit.

#### General Development and History of the Corporation

The Corporation commenced operations in 1990 with the introduction of its first radio receiver product. In 1993, CSI introduced and sold its first DGPS radio beacon product, the MBX-1 unit, which plugged into a regular GPS system to provide differential corrections enhancing the user's overall positioning accuracy. In 1994, the Corporation broadened its product line by offering a printed circuit board ("PCB") card to OEM customers that

require the differential corrections gained by inserting the PCB card into their electronic equipment. In 1995, the Corporation introduced a combined self-contained GPS/DGPS unit.

In October 1996, CSI acquired ownership of the beacon receiver technology used for DGPS utilized by it and entered into an exclusive license arrangement for the loop antenna (except for one pre-existing license) utilized with its technology.

In March 1997, the Corporation completed an initial public offering of 2,400,000 Common Shares for gross proceeds of \$6 million and its Common Shares commenced trading on the TSE.

In June 1997, CSI acquired all of the outstanding shares of Leading Edge Technologies Ltd. ("Leading Edge"), a manufacturer of a variety of cables, including those used by the Corporation. CSI purchased the shares for cash consideration of \$130,000. Leading Edge was dissolved effective December 31, 2003.

In December 1997, CSI introduced its SBX-2 intelligent radio beacon receiver engine and introduced an L-band receiver product that received both satellite and beacon station differential correction data. CSI also released its ABX-3 automatic differential beacon receiver in April 1998 being the first of a new series of high performance dual channel digital DGPS beacon receivers targeted at the leisure marine and in-shore fisheries market.

In April 1999, CSI's new "smart antenna", the SBA-1, was commercialized and made available for distribution. The SBA-1 combines the SBX-2 with CSI's low cost antenna and is utilized primarily in the marine industry.

On June 24, 1999, CSI, through its wholly owned subsidiary Satloc (1999) Inc., acquired certain portions of the business and assets of Satloc, Inc. (the "Satloc Assets") with an effective date of April 4, 1999. Satloc, Inc. was founded in 1992 and was a global supplier of aerial and ground-based precision guidance systems using DGPS technology and had gained acknowledgment in the industry for its GPS aerial swath guidance systems for agriculture and other applications.

The acquisition of the Satloc Assets provided several strategic advantages to CSI including:

- New products - the combined research and development expertise, using complimentary technologies, assists the Corporation in generating competitive, low-cost products.
- New markets - the acquisition has added market share in the aerial guidance systems market, along with several DGPS guidance applications for other markets, including precision agriculture and GIS.
- Distribution - the Satloc Assets have been integrated into CSI's worldwide sales channels and distributors and users have access to a wider variety of products from a single source.
- Critical mass - the acquisition has provided operating cost efficiencies and has permitted further expansion into the U.S. market and abroad.

Total consideration paid for the Satloc Assets was \$6.1 million, consisting of subordinated debt for \$2.2 million and cash of \$3.9 million. Contingent consideration of up to \$1.55 million (USD) (approximately \$2.3 million CDN) of Series 1 Shares is payable over a five year period subject to the future performance of the "Satloc" business. As at the date hereof, 1,511,000 Series 1 Shares have been issued and are outstanding. The Series 1 Shares are not convertible before April 1, 2004, except in the event of a change in control of CSI. The conversion price is the greater of \$1.00 (CDN) or the 30-day average trading price prior to April 1, 2004 (the "Conversion Date"). The conversion price is subject to anti-dilution provisions and adjustments for currency fluctuation until the Conversion Date at which time the conversion price will be fixed. In no event will more than 5,000,000 Common Shares be issued to satisfy conversion rights of the Series 1 Shares. The Series 1 Shares are redeemable at the request of the holder on or after April 1, 2004 and by CSI after April 1, 2007.



In September 1999, CSI submitted applications for provisional patents on two key technologies, one for the AVL-1, which is focused on using differential technology in vehicular applications and the other on the filter architecture used in the new SBX-3 beacon receiver released in September 1999.

In March of 2000, the Corporation completed a rights offering of 1,635,221 Common Shares for gross proceeds of \$2.6 million.

In June 2000, the Corporation completed an offering of 945,946 special warrants for gross proceeds of \$2.4 million.

On June 30, 2000, CSI completed the acquisition of all of the issued and outstanding shares (the "Wireless Link Shares") of Wireless Link Corporation ("Wireless Link"). Wireless Link, founded in 1987, was a privately held company located in Milpitas, California, primarily engaged in the business of developing, manufacturing, licensing and selling technology and products associated with location-based wireless data communications applications. Wireless Link's products included wireless modems and asset-tracking products.

The acquisition of Wireless Link provided several strategic advantages to CSI including:

- **Technology** - Wireless Link has an extensive proprietary technology portfolio and expertise covering a wide range of wireless platforms.
- **Integration** - Certain of the Wireless Link products combine wireless and GPS technology. CSI has a high level of expertise in GPS technology that will contribute to the success of these products.
- **Markets** - The addition of wireless technology and products brings access to markets that are forecast to grow dramatically in the near term.

Total consideration paid for the Wireless Shares consisted of the issuance by CSI of an aggregate of 4,400,000 Common Shares. In addition, CSI agreed to issue an additional 1,000,000 Common Shares as incentive shares, for no additional consideration, for the benefit of certain management and employees of Wireless Link. The Corporation also granted to employees of Wireless Link an aggregate of 950,000 options to purchase Common Shares.

### **Three Year History**

#### ***2001***

On February 23, 2001 the Corporation completed an offering of 3,153,866 Special Warrants, issued at a price of \$3.25 for gross proceeds of approximately \$10.3 million.

#### ***2002***

Effective January 31, 2002, the Company completed an internal reorganization which resulted in the creation of CSI Wireless Corporation, a US holding company, which in turns wholly owns Satloc LLC and CSI Wireless LLC. Satloc LLC was created and then merged with Satloc (1999) Inc., and continues to carry on the operations of Satloc (1999) Inc. as a limited liability corporation. CSI Wireless LLC was created and then merged with Wireless Link Corporation, and continues to carry on the business of Wireless Link as a limited liability corporation.

On June 26, 2002, subsequent to amending the terms of the outstanding share purchase warrants, 705,000 warrants were exercised at a price of \$2.65 per share for proceeds of \$1.9 million.

During 2002, the Wireless Business Unit released new products including the Motorola-branded FX800t fixed wireless telephone, and the Asset-Link 100 and Asset-Link 200 telematics products. The GPS Business Unit released a number of new products including the Vector heading sensors and Seres smart antenna.

On November 21, 2002, the Corporation completed a private placement of 3,287,309 Common Shares and 1,643,655 share purchase warrants. The shares were issued at a price of \$1.30 per share for gross proceeds of \$4.3

million. The warrants entitled the holders to acquire an aggregate of 1,643,655 Common Shares at a price of \$1.80 per share. 1,563,462 warrants were exercised in December 2003 and the balance of 80,193 warrants were exercised in January and February 2004.

### **2003**

During 2003, CSI Wireless announced, among other things, the following developments:

- On May 28, 2003, CSI Wireless announced that it had signed an agreement with FleetBoss Global Positioning System Solutions Inc. ("FleetBoss") to supply a customized version of CSI Wireless' Asset-Link 200 product as hardware for FleetBoss' systems for monitoring fleet vehicles. The agreement provided that FleetBoss will purchase approximately \$2 million of Asset-Link 200 units from CSI Wireless during the following 24 months.
- On June 17, 2003, CSI Wireless announced that it had received purchase orders from RHS Inc. for CSI Wireless' Outback S® and Outback 360® products valued at approximately \$11 million.
- On July 2, 2003, CSI Wireless announced that it had been awarded a patent on its ceramic frequency filter for differential GPS correction signals. The patented filter is a key element in CSI Wireless' MBX3 Differential GPS Receiver.
- On July 15, 2003, CSI Wireless announced that it had been awarded a patent for its antenna splitter technology found in the AVL-1 Antenna Signal Splitter, which uses the vehicle's standard AM/FM radio antenna to receive accuracy enhancing differential GPS signals for the automotive market.
- On August 11, 2003, CSI Wireless announced that it had successfully closed an offering of 3,305,750 units issued at a price of \$1.60 per unit for gross proceeds of approximately \$5.3 million. Each unit was comprised of one Common Share and one warrant to purchase a Common Share at a price of \$2.00 until August 8, 2005.
- On October 1, 2003, CSI Wireless announced that it had been denied a claim against a previous customer for alleged breach of contract and that total expenses, including legal fees, tribunal hearing charges, inventory write-offs and other costs related to the claim were expected to be approximately \$1.2 million in the third quarter of 2003.
- On October 6, 2003, CSI Wireless announced that Brian Hamilton, the Company's Executive Vice-President and Chief Financial Officer, resigned and that Cameron Olson, the Company's Vice-President of Finance for the Wireless Business Unit had been named the Company's new Chief Financial Officer.
- On October 16, 2003, CSI Wireless announced the launch of its new GSM-based Asset-Link™ 400 asset tracking and telematics product.
- On December 2, 2003, CSI Wireless announced that it had received an initial \$2.1 million purchase order from RHS Inc. for CSI Wireless' new GPS Assisted Automatic Steering System that RHS Inc. has named eDrive®.
- On December 8, 2003, CSI Wireless announced the introduction of two new products for the global aerial guidance market, namely, LiteStar II, a low-cost entry-level guidance system, and AerialACE, an automated variable rate flow control system for aerial spraying.
- On December 17, 2003, CSI Wireless announced that it had expanded its partnership with BrightStar Corporation to develop a GSM version of its fixed wireless telephone.

- On December 18, 2003, CSI Wireless announced that in November and December of 2003 a total of 1,782,000 Common Share purchase warrants were exercised by the holders thereof resulting in the receipt of proceeds of \$3.1 million.

## **RECENT DEVELOPMENTS**

On March 3, 2004, the Corporation completed a private placement pursuant to prospectus exemptions under applicable securities legislation of an aggregate of 5,000,000 special warrants ("Special Warrants") at a price of \$3.25 per Special Warrant for gross proceeds of \$16.25 million. The Special Warrants were issued pursuant to a special warrant indenture dated as of March 3, 2004 between the Corporation and Computershare Trust Company of Canada (the "Trustee"). Each Special Warrant entitled the holder thereof to acquire one Common Share at no additional cost at any time until the Expiry Time on the earlier of: (i) the sixth (6th) Business Day following the day upon which a receipt for a final prospectus relating to the distribution of Common Shares issuable upon the exercise of Special Warrants had been obtained from or on behalf of the securities commission or similar regulatory authority in each of the Filing Jurisdictions; and (ii) July 3, 2004 (the "Expiry Time"). Any Special Warrants not exercised prior to the Expiry Time were deemed to have been exercised immediately prior to the Expiry Time without any further action on the part of the holder. Receipt for a final prospectus qualifying the distribution of 5,000,000 Common Shares of the Corporation, issuable upon exercise of the 5,000,000 Special Warrants, was obtained by the Corporation on March 30, 2004. Accordingly, on April 7, 2004, the Corporation issued 5,000,000 Common Shares on the deemed exercise of the Special Warrants.

## **BUSINESS OF THE CORPORATION**

This section discusses the major events or conditions that have influenced the general development of the Corporation over the last three completed financial years, as applicable, including significant acquisitions and dispositions that have occurred.

### **WIRELESS BUSINESS UNIT**

#### **General**

Through its Wireless Unit, CSI Wireless designs, manufactures and markets cost-effective wireless products for mobile and fixed applications in commercial and consumer markets. The Company has been developing cellular technology and products since 1987 and has created an extensive portfolio of intellectual property that enables it to develop products that operate on a variety of wireless platforms. In the third quarter of 2002 the company launched its fixed wireless telephone for markets where wireless products compete against local phone companies and for developing countries that lack sufficient wired infrastructure. In the telematics product line, the Company's Asset-Link™ family of products offers solutions for mobile asset management, safety and security and fleet management. All of these products are positioned to provide one of the few solutions in the industry that use chipset level designs and the associated depth of technology, working in both analog and digital standards that allows CSI to significantly differentiate its product offering.

#### **Industry Background and Trends**

The wireless communications industry has seen significant growth with over 158.7 million current cellular subscribers in the United States according to the Cellular Telecommunications Industry Association ("CTIA"), up from 34 million subscribers in 1995 (CTIA website: [www.ctia.org](http://www.ctia.org) - May 8, 2004). This growth has occurred as a result of declining cost, broadening network coverage, expanding product features and improved reliability. While the majority of wireless use has been voice-based, the transmission of wireless data for commercial and consumer applications is beginning to enjoy significant growth. The industry remains in transition as digital 2.5 generation ("2.5G") networks begin to reach the major metropolitan markets, and initial market trials of 3<sup>rd</sup> generation ("3G") wireless protocols are in process. In rural areas, the traditional analog (or AMPS) cellular standard remains the primary means of wireless connectivity. Providing ubiquitous nation-wide digital coverage will not likely be possible for several years, and therefore companies like CSI Wireless, that produce multi-mode (analog and digital) hardware continue to enjoy an advantage for mobile markets. The telematics market growth to date has been based

primarily on analog cellular products, and as a result, there is a large opportunity to not only provide OEMs with a transition to digital technology, but to also address the estimated emerging opportunity for the retrofit of commercial and consumer vehicles currently utilizing analog devices. For new customers, service growth in mobile resource management and telematics is expected to be split evenly for the next few years between commercial sectors and consumer devices.

### ***Wireless Communications Technologies***

The North American public wireless voice and data communications industry is comprised of several technologies used together or individually by over 75 wireless service providers ([www.rca-usa.org](http://www.rca-usa.org) - May 2004).

*First Generation Technologies - Analog Circuit-Switched.* The Advanced Mobile Phone Service ("AMPS") is a circuit-switched, analog wireless technology and is currently the most widely used North American wireless technology due to its broad geographic coverage. AMPS operates using Frequency Division Multiple Access ("FDMA") that assigns each user a unique frequency channel for the duration of its telephone conversation. Because there are a limited number of frequency channels available in a given cellular area, AMPS telephone networks have a limited capacity that can result in loss of service in high usage areas.

*Second Generation ("2G") Technologies - Digital Circuit-Switched.* Since the early 1990's, digital techniques that convert analog voice signals into digital data for transmission have been developed to improve the efficiency, security and reliability of wireless transmission and to enable advanced services such as text messaging. These technologies are used in conjunction with FDMA circuit-switched technology and increase capacity by sharing the frequency channels between users.

Time Division Multiple Access ("TDMA") is a digital wireless technology that increases the number of potential users in an area by assigning each user a specific timeslot on a common frequency channel, thereby allowing up to eight users to transmit on the same channel. TDMA has had pre-eminence in the western hemisphere with more than 48% of the geographic markets covered, however, many TDMA operators are converting their networks to GSM technology, which dominates the global market. Globally, TDMA subscribers represent about 8% of worldwide cellular subscribers (EMC World Cellular Database – March 2004).

The Global System for Mobile Communications ("GSM") established in Europe is the international standard, and the worldwide leader, for digital wireless transmission. GSM claims approximately 72% of the global digital wireless market with global subscribers in excess of 1 billion. This represents an increase of almost 400 million subscribers since the beginning of January 2002 (EMC World Cellular Database – March 2004). Many carriers have announced plans to convert their networks to GSM in the coming years, therefore, these subscriber numbers are expected to continue to increase.

Code Division Multiple Access ("CDMA") is a 2G digital technology that splits wireless signals into pieces that are tagged with a user's code. These pieces are spread over several frequencies and are reassembled at the receiver. Like TDMA and GSM, this process permits a much more comprehensive use of the available frequency channels. CDMA subscribers represent about 14% of worldwide cellular subscribers, with a global subscriber base of 202 million (EMC World Cellular Database – March 2004).

*Digital Control Channel.* Control channels are digital channels that are used by the cellular networks for the transmission of information related to call initiations between cellular systems and cellular customers. Once a cellular call is initiated, the message is handed over to a voice channel by the network. Other cellular service providers also utilize these control channels to send small data messages over existing cellular networks and provide reliable transmission technique for applications that require lower data rate communications such as fixed telemetry and fleet management. Control channel data, currently implemented only on analog systems, is expected to migrate rapidly to digital networks. Cellemetry LLC and Aeris Communications, Inc. ("Aeris") are the exclusive operators of control channel services on analog networks in both North and South America.

*Second Generation Technologies – Digital Packet-Switched.* Circuit-switched wireless networks require that users be assigned a frequency channel and maintain the connection throughout the conversation, after which time the

connection is terminated. Users are charged based on the total connection time. Using "packet-switched" technologies, cellular users remain connected to the wireless network without having a channel assigned unless data is being transferred. Therefore, cost is based only on the data transferred, not the time connected. This is accomplished because data is accumulated in "packets" and sent in short bursts enabling a very efficient utilization of frequency channels. Relative to circuit-switched technologies, these technologies result in significant improvements in technical and economic performance.

*Emerging Technologies – Third Generation ("3G") Technologies.* 3G technologies will replace or augment existing networks with new standards. The primary 3G technologies being developed are:

- Enhanced Data Rates for Global Evolution ("EDGE")
- CDMA-2000
- Wideband CDMA ("wCDMA")

GPRS, 1XRTT and EDGE are sometimes referred to as 2.5G technologies as they represent an intermediate step in the digital wireless networks evolution prior to full 3G implementation. These technologies offer data speeds to users that are far better than 2G with much lower capital costs than 3G rollouts.

The ultimate transition to 3G technologies will require not only additional hardware and infrastructure investment, it will also require additional spectrum. Since the US has not yet auctioned its 3G spectrum, the dates for 3G deployment in the US remain questionable. Some carriers in Europe, who paid large amounts for European 3G spectrum, are petitioning governments for partial refunds based on world-wide delays in the deployment of 3G networks. As a result of these, and other factors, most analysts don't expect widespread deployment of 3G technologies for three to five years. Notwithstanding these delays, 3G technologies when they do arrive, will provide data transmission rates that will enable a much broader range of applications.

### ***Wireless Data Applications Markets***

Historically, the success of the wireless data transmission applications, such as those used in the automotive telematics and asset management markets, has been restricted by several factors including the high cost of wireless service and hardware, a lack of ubiquitous and reliable coverage, and business processes and systems that did not support the implementation of wireless technologies. However, recent developments in the industry have begun to mitigate these issues:

- *Broad coverage* – The growth in wireless networks has resulted in full coverage of North America through a variety of service providers and technologies.
- *Wireless service cost improvements* – The increase in the number of cellular subscribers has resulted in a reduction in cost associated with wireless service. In addition to reductions in the cost of voice networks, new data services such as those offered by Aeris.net, Cellemetry, digital SMS messaging and the introduction of new data services like GPRS, 1XRTT, and EDGE, are reducing the cost of service for data applications.
- *Wireless hardware cost reductions* – New technology and the expanding user base are resulting in a continuing reduction in the cost of wireless hardware.
- *Increasing data transmission rates* – Emerging technologies, such as GPRS, 1XRTT and EDGE, are increasing data transmission rates improving the effectiveness of many wireless data applications.
- *Systems Integrators* – Systems integrators and application service providers are developing services that simplify the implementation of wireless data applications across the wireless vertical markets.

- *Early entrants* – Early adopters of wireless data applications, such as utilities companies and public safety organizations, are demonstrating that existing products and services can be adopted efficiently and effectively and result in significant operating advantages.

As a result of the improvements in the environment for wireless data communications, numerous applications are being identified and pursued by product manufacturers, wireless networks, systems integrators, ASPs and end users. These include applications in the following vertical markets.

*Telematics.* Telematics, a term originally coined by Mercedes Benz, refers to in-vehicle communications of data and/or voice to provide roadside assistance, security, location-based connectivity or other driver and passenger needs. Examples include an automatic call for emergency assistance, including precise location information, if an airbag is deployed; the ability to have a wireless, hands-free conversation with a call centre following an accident; or the ability of a remote call centre to open car doors where the keys have been locked in the car. Allied Business estimates that telematics services revenues are expected to exceed \$5 billion by 2009 up from \$1.5 billion for 2003.

*Fleet and Asset Management.* Businesses that employ large or high-value mobile fleets such as taxis, rental cars, transport trailers, heavy equipment, agricultural equipment, armoured cars and delivery trucks often bear unnecessary costs associated with lack of information regarding the location and operation of these fleets. By having complete location and other operating information, efficiency can be improved by optimizing fleet utilization, freeing up operating capital, reducing operating costs and improving customer service. In addition to operating improvements, losses from theft of both vehicles and cargo can be reduced, geographic fences can be defined and operating performance can be monitored.

*Fixed Wireless Local Loop.* Fixed wireless local loop ("WLL") refers to the use of wireless technologies to provide voice and data communication services to residential or business customers rather than connecting such customers to networks using copper wire. Typically, WLL has been seen as a solution to reduce the infrastructure costs associated with providing widespread telecommunications in developing countries.

The significant advances in wireless technologies and systems supporting wireless commercial and consumer applications have resulted in the infrastructure being in place for dramatic growth in wireless data applications. This infrastructure is expected to continue to grow at a significant pace as emerging technologies come into place and as hardware manufacturers and systems integrators continue to develop applications that result in effective and efficient products that streamline activities for businesses and individuals.

### **The CSI Wireless Solution**

CSI Wireless designs, manufactures and markets cost-effective telematics and fixed wireless telephone products for mobile and fixed applications in commercial and consumer markets.. The Company's technology portfolio includes a wide variety of wireless protocols that enable a range of solutions dependent on business and personal needs. The following characteristics describe the competitive advantages associated with the Company's products.

*Breadth of Proprietary Wireless Technologies.* CSI Wireless has been a pioneer in wireless communications technologies since 1987 and has developed a proprietary portfolio of wireless technologies that serve a wide range of applications. This wide range of technologies is incorporated into our products enabling customers to select the technology most appropriate for the needs of the specific application with respect to data rate, frequency of messages, geographic coverage, cost and others. Table 1 describes the Company's existing wireless technology portfolio.

Table 1 - Wireless Core Technology

Air Interface	Network	Status
AMPS	AMPS Cellular	In Production
Aeris MicroBurst	AMPS Cellular Control Channel	In Production
TDMA PCS	TDMA 800/1900	In Production
GSM	GSM, GPRS and AMPS	In Development
ReFLEX Paging	ReFLEX Paging	In Development

The Company will continue to incorporate appropriate emerging wireless standards into its products as the respective networks become available on a broad basis. The Company's strategy includes integration of GPS technology with all of the protocols listed above. The wireless technology roadmap the Company plans to follow at this time is:

Planned Release	Wireless Technology
Q2 2004	GSM/GPRS/AMPS
Q4 2004	ReFLEX
2005	EDGE
2006	Global UMTS (WCDMA)

*Proprietary Positioning Technologies.* CSI Wireless has been a leader in designing high precision positioning technologies since 1990 and is one of only a few companies competing in the wireless location markets owning both wireless and positioning technologies. The Company has a proprietary portfolio of technology related to GPS, differential GPS and antenna technologies. These technologies are an important component of devices that access wireless vertical markets requiring wireless location solutions.

*Strong Partnerships in the Fixed Wireless Market.* CSI Wireless has established and continues to develop two very strong relationships for its fixed wireless products. CSI has a strategic relationship with Brightstar Corp., one of the leading distributors of Wireless products in Latin America, and through Brightstar, CSI has developed a relationship with Motorola. The primary fixed wireless product designed and manufactured through CSI Wireless - the FX800t - is branded by Motorola. In 2003 CSI expanded its relationship with Brightstar with an agreement to develop a GSM based fixed wireless phone that will be sold globally. Through CSI's relationship with Brightstar, CSI has strong opportunities to sell products in Latin America. Through its relationship with Motorola, CSI has access to a recognized brand for Wireless products, and also has benefited from Motorola's strength in product quality, manufacturing and global presence.

*Price.* While the Company uses an external manufacturing partner to achieve low wireless product manufacturing costs and high quality, its proprietary radio and GPS designs, and its radio and GPS design capabilities, provide it with a cost advantage over many of its competitors. In addition, CSI has also focused on reducing the cost in customer applications. As an example, the Company has incorporated control channel technologies into its products providing a low cost alternative to customers requiring low data rate transmission capabilities.

*Telematics Market & Application Knowledge.* CSI is a pioneer in the aftermarket telematics and mobile resource management field. Through its work in telematics and mobile resource management it has developed an understanding of market needs, applications and the required elements to delivering end customer solutions. Having delivered a number of end customer solutions into various verticals in these markets, CSI is uniquely positioned to help many of the new solutions providers succeed in addressing their target markets.

*Ease of Use.* CSI Wireless' products are designed for ease of use and also to allow customers to customize the product to address specific application or vertical market requirements. The Company offers its customers several unique features including: a customer configurable application layer; a developer's kit and software tools that support the integration of the product into the customers systems; a unique protocol for communication with telematics devices designed specifically to work with cellular networks; and a series of alternative installation tools to simplify the overall installation process. In addition, the products are designed to be scalable, allowing for

functionality consistent with customer and application need, yet providing manufacturing efficiencies through economies of scale.

*Quality.* The Company's products are engineered to high standards and are subjected to extensive testing. The Wireless Unit has adopted an external manufacturing strategy and has established relationships with large manufacturing companies that meet the highest quality standards (including ISO 9000 Certification).

### **Business Strategy**

CSI Wireless' objective for the Wireless Unit is to be a leading global provider of wireless communications devices in the telematics and fixed wireless telephone markets.. Key elements in the Company's wireless business strategy include:

*Expand Technology Portfolio.* The Company's research and development capabilities have been, and will continue to be the key driver to success in the rapidly evolving wireless markets. The Company intends to continue to expand its technology offerings by developing its wireless and positioning technology portfolios and by implementing strategies to protect its proprietary technology.

*Implement Disciplined Product Development.* Formal product development processes are necessary to increase the assurance that the Company develops the right products, on-time, on-budget and on-schedule. These processes will link the following activities:

- Business Development (Ideas Inventory, Opportunities Identification)
- Product Management (Business Case, Marketing Specifications, Complete Product Life Cycle Management, Communications, Reporting, Beta Testing)
- Program Management (Engineering Project Management, Design Verification Testing)
- Production Management (Design for Manufacturability, Design for Test, Materials Optimization, Production Planning)
- Product Termination Management

*Diversify Markets.* Recent history has shown that new markets for technology advance at varying rates based upon many factors that are difficult to predict. In the near term, the Company intends to target the following vertical markets to which it will supply relevant hardware solutions:

- Consumer Telematics in niche verticals.
- Safety & Security Telematics
- Fleet and Asset Management
- Fixed Wireless Local Loop

In addition to diversity of market verticals, the Company is also focused on diversifying the regional markets into which products are sold, with a goal of increasing the non-North American sales concentration.

*Develop Multi-Market Multi-Protocol Products.* CSI Wireless is developing products that incorporate a variety of wireless communications technologies intended to serve different vertical markets and customer needs.

*Expand and Develop Strategic Relationships.* The wireless communications industry environment is extensive, competitive and rapidly changing. Management believes that in this environment, it is critical to develop and maintain strategic relationships with suppliers, communications network suppliers, systems integrators, original



equipment manufacturers, and industry associations. These relationships provide the Company with access to broad distribution channels, new sales opportunities, technology insights and market intelligence.

*Broaden Procurement Power.* The wireless communications hardware industry has been faced, and in management's opinion will continue to face, severe components shortages as a result of the dramatic growth in demand for wireless products. The Company is developing and implementing strategic procurement strategies to enhance its purchasing power.

*Enhance Manufacturing Quality and Capacity.* The Wireless Unit has adopted an External Manufacturing ("EM") strategy in order to focus its capital on the development of technology and products designed to achieve its business strategy. The Company has established relationships with EM companies designed to ensure a high quality product with capacity for production growth in the face of expanding market opportunities.

*Pursue Focused Acquisitions.* Where appropriate, the Company will supplement internal growth and technology development with acquisitions when such acquisitions are viewed by management as assisting in the acceleration of the achievement of the Company's business strategy.

*Invest in Intellectual Capital.* CSI Wireless believes that the people in all levels of the organization have been, and will continue to be the key factor in the achievement of its objectives. As such, the Company will continue to place a high priority on its intellectual capital.

## **Products**

CSI Wireless uses the communications technology it designs to build wireless products that allow commercial and individual users to communicate and to maintain contact with their stationary or mobile assets.

*Asset-Link™.* The Company's *Asset-Link™* product line uses public wireless networks to give enterprise management real time visibility to infrastructure, vehicles, cargo and people. The *Asset-Link™* product line is a technologically integrated solution for mobile asset management that combines cellular connectivity, GPS, and embedded intelligence to collect, process and deliver business information. This product is used by customers in automotive telematics, safety and security applications, fleet management and asset management applications such as truck and trailer fleets, heavy equipment and automobile rentals.

*Fixed Wireless Telephone.* The Company's first Fixed Wireless Telephone is branded by Motorola, with a product name of FX800t. It is a fixed base three watt digital (TDMA) wireless telephone, providing increased transmit power (three watts) when compared to the majority of other products currently sold in the market. This product resembles a typical desktop or wall-mounted telephone but communicates wirelessly using cellular networks rather than linking to traditional copper wire telephone networks. The phones are used as part of wireless local loops, primarily in rural areas and developing countries where current landline systems are either unavailable or inadequate. In developing countries, wireless local loop telephone systems often represent the fastest and most cost-effective method of providing basic telecommunications services. The Company is currently developing a similar fixed wireless telephone based on the GSM technology standard.

*Location Tag.* The Company's newest telematics product category is the Location Tag. Location Tags are portable, small, low-cost, battery-operated devices that can be easily tracked using the Internet. This product will use the ReFLEX paging network for wireless communications, as well as highly sensitive GPS technology for strong location performance in challenging environments. At this time, CSI anticipates that this product will be released in late 2004.

The following table outlines the key elements of the Wireless Unit product line:

Product	Applications	Technology	Status
Asset-Link™	Safety and Security Fleet Management Telematics	Cellemetry or MicroBurst™/GPS AMPS/GPS AMPS/GSM/GPS	In Production In Production In Development
Fixed Wireless Telephones - Motorola FX800t	Wireless telephone delivery to residential and commercial locations	TDMA 800 GSM GSM/GPRS	In Production In Development In Development
Location Tag	Asset Tracking	ReFLEX Paging	In Development

## Research and Product Development

The primary objective of the Company's engineering group is a clear focus on the product development supporting key contracts and supporting progression along the Company's technology roadmap. Opportunities with low strategic or economic value will not be pursued.

### *Current Activities*

CSI Wireless has targeted major application service providers who service the key telematics market segments including rental car tracking, fleet management, delivery and service vehicles, and construction/agricultural equipment. CSI is developing a family of low-cost high performance products for this market. The Asset-Link™ family of products will include several wireless protocols to match networks throughout North America and the world. CSI Wireless is developing a GSM-based Asset-Link™ product to address the needs of these application/telematics service providers' international partners, as well as the digital product needs of North American customers. Management believes that by offering these companies a single protocol (Asset-Link™ PDI-Packet Data Interface) that operates over the AMPS and GSM cellular networks in the U.S., and that will also operate over the GSM networks of the world, the usefulness of these products to multi-national customers will be greatly enhanced.

CSI Wireless is completing cost reduction activities on its current fixed wireless telephone. The Company is also currently developing a GSM-based fixed wireless telephone for release prior to the end of 2004. As the GSM wireless standard is utilized by over 70% of global wireless subscribers, this product will greatly increase the addressable fixed wireless telephone market. The Wireless Unit has also recently commenced the development of the Location Tag utilizing the ReFLEX paging technology and highly sensitive GPS.

## Marketing, Sales and Distribution

The Wireless Unit does not typically distribute its products directly to end-users. Rather, the Company has adopted a strategy of distributing its products through major OEMs, system integrators and service providers. OEMs typically integrate products into their own products and supply value-added services to end users through their own firmly established dealer and parts distribution networks. System integrators and service providers usually provide end-to-end solutions directly to the end user by reselling CSI's products and value-added services to specific vertical markets (e.g. AirIQ, PeopleNet, and Datacom).

In 2001, a comprehensive Channel Partner Program was put in place to expand the Company's relationships with significant customers and to improve the discipline with which the Company manages customer relationships. In 2002, that program was further expanded with Product Training classes included with Development Kits and a more focused effort to establish CSI as the hardware supplier of choice with telematics market makers.

CSI Wireless has developed relationships with approximately 5 key distribution partners who the Company believes are or will become key market leaders in their chosen verticals. These manufacturers, systems integrators and

service providers integrated CSI Wireless' PDI protocol into their customer solutions. All of these partners will be encouraged to sign up as a channel partner where they will receive marketing assistance, training, applications engineering support and sales leads in return. Currently CSI has 12 companies signed up to the channel partner program. The purpose of this program is to ensure that CSI Wireless provides maximum support to the market-makers and leverages its ability to distribute dramatically more product than has been sold directly to its customers.

The Wireless Business Unit of CSI Wireless sells its products primarily to customers in the Americas, however, overseas sales are expected to expand once the GSM-based telematics and fixed wireless telephone products are introduced. Of the Wireless Unit's 200 sales, approximately 91% (83% in 2002) were to customers in the United States, 8% (15% in 2002) were in Canada, and approximately 1% (2% in 2002) were in other countries.

## Customers

Table 1 provides a representative selection of CSI's Wireless Unit customers:

Original Equipment Manufacturers	Systems Integrators/ Service Providers	Distributors (Branding)
PeopleNet Communications Corporation	AirIQ Inc. HeavyTrack.com, Inc. Datacom Wireless Corporation Fleetboss GPS Solutions Inc. Aercomtec	Directed Electronics (Viper, Clifford) Brightstar Corporation (Motorola)

Many of the manufacturers that use CSI Wireless' products are their own systems integrators, using the Company's products and software to build solutions for their customers. For example, CSI Wireless' customer, AirIQ Inc., is a systems integrator. They take the Asset-Link™ 200 product and build it into a solution to provide fleet and asset management solutions for their customers, which include a number of rental car companies

On December 17, 2002, CSI announced that it had signed a Supply Agreement with Datacom Wireless Corporation, based in Montreal, Quebec, to supply Asset-Link™ 100 telematics hardware for Datacom's MOBILUS stolen vehicle recovery system. Datacom deployed several thousand units throughout 2003.

On January 9, 2003, the Company announced an agreement with Directed Electronics, Inc., one of the world's largest after-market vehicle security system and remote vehicle starter manufacturer. CSI's Asset-Link™ product will be the hardware device in this product offering which will be marketed under the Directed Electronic's brands Viper, Clifford, Python and Automate. Directed Electronic's largest retail dealers include Best Buy and Circuit City in the United States and Best Buy and Future Shop in Canada.

On May 28, 2003, CSI announced an agreement with Fleetboss Global Positioning System Solutions Inc. to supply a customized version of CSI Wireless' Asset-Link 200 product as the core hardware for FleetBoss' systems for monitoring fleet vehicles.

## Competition

CSI Wireless views its primary competitors by product as follows:

Product	Key Competitors
Asset-Link™	Motorola, Inc. Trimble Navigation Limited Aercept WebTech Wireless
Fixed Wireless Telephone	Telular LG Axesstel, Inc. Curitel Pantech
Location Tags	Trimble

### Manufacturing

CSI Wireless outsources most of its wireless device manufacturing to MACK Technologies (Mexico). By outsourcing manufacturing activities, CSI Wireless benefits by:

- allowing for focus on core competencies which include research & development and sales & marketing.
- gaining access to the latest equipment, process knowledge and manufacturing expertise without making capital investment in facility costs.
- realizing significant financial benefits through high efficiency and superior capital utilization to a business model that leverages these resources among multiple customers.
- capturing the lowest total component costs through global volume purchasing programs.
- producing high quality products in a ISO certified facility.

Management believes that the drivers of success in the manufacturing area include:

1. Quality Systems
  - (a) Component engineering and standardization
  - (b) Document control
  - (c) Engineering change ("EC") management
  - (d) Quality audits
2. Time to Market
  - (a) New Product Introduction ("NPI") programs and reviews.
  - (b) Flexibility in design change and product enhancements.
  - (c) Responsiveness to customer requirements and market demand.
3. Product Cost Reduction

- (a) Design Cost Reductions
- (b) Supply Chain programs and Vendor cost reduction programs/negotiation
- (c) Component selection at the design level.

## **Facilities**

The Wireless Unit currently leases approximately 7000 square feet of office space in Milpitas, Santa Clara County, California. A significant component of the Unit's research and development, activities are located in this leased facility. In addition, the Wireless Unit utilizes space in the Calgary facilities.

## **Personnel**

At April 15, 2004, the Wireless Unit had 42 employees, in total, with 22 in Research and Development, 11 in Sales and Marketing, 6 in Operations and 3 in Finance and Administration. Of these totals, 15 engineers, 2 Sales and Marketing employees and 1 part-time Administrative employee work out of the Milpitas location.

## **GPS BUSINESS UNIT**

### **General**

Through its GPS Unit, CSI Wireless designs, manufactures and markets precision GPS positioning products for multiple markets including aerial and ground precision agriculture, geographic information systems and marine navigation. The Company's products include precision aerial and ground guidance systems, high accuracy DGPS receivers, autonomous GPS receivers, OEM engines (PCB-based GPS and DGPS sensors), and GPS and DGPS antennas.

### **Industry Background**

#### ***The Global Positioning System***

The United States Department of Defense ("DoD") operates a reliable, 24 hour per day, all weather global positioning system. This system consists of ground control facilities and a constellation of 24 satellites (plus active spares) orbiting the Earth at an altitude of approximately 22,000 km.

*How GPS Works.* GPS satellites transmit coded information to users at band frequencies (1.575 GHz) that allows user equipment to calculate a range to each satellite. GPS is a timing system, that is, ranges are calculated by timing how long it takes for the GPS signal to reach the user's GPS antenna. The GPS receiver calculates the range by referencing the time of transit of the signal to the speed of light.

To calculate a geographic position, the GPS receiver uses a complex algorithm incorporating satellite coordinates and ranges to each satellite. Reception of any four or more of these signals allows a GPS receiver to compute three-dimensional coordinates. Tracking of only three satellites reduces the position fix to two-dimensional coordinates (horizontal with fixed vertical). The GPS receiver calculates its position with respect to the phase center of the GPS antenna.

*GPS Services.* The positioning accuracy offered by GPS varies depending upon the type of service and equipment available. For security reasons, two GPS services exist: the Standard Positioning Service (SPS) and the Precise Positioning Service (PPS). The US DoD reserves the PPS for use by its personnel and authorized partners. The SPS is provided free of charge, worldwide, to all civilian users.

In order to maintain a strategic advantage, the US DoD has in the past artificially degraded the performance of the SPS so that the positioning accuracy was limited to 100 meters 95% of the time. This intentional degradation is called Selective Availability. On May 1, 2000, Selective Availability was reduced to zero, effectively turning off the degradation. The intention of this change was to stimulate the development of applications that utilize GPS technology, together with the related social and economic benefits.

With Selective Availability effectively turned off, autonomous GPS is able to achieve a horizontal accuracy of about 10 to 15 meters, with 95% confidence.

### ***Differential GPS***

The purpose of differential GPS or DGPS is to remove the effects of ionospheric errors, timing errors, and satellite orbit errors, with the goal of enhancing system integrity and position accuracy. Prior to May 1, 2000, DGPS also reduced the impact of SA.

*How it Works.* DGPS involves setting up a reference GPS receiver system at a point of known coordinates. This receiver makes distance measurements, in real-time, to each of the GPS satellites, which include any errors present in the system. The base station receiver calculates what the true range should be without errors, knowing its own coordinates and those of each satellite. The difference between the known and measured range to each satellite is the range error. This error is the amount that must be removed from each satellite distance measurement in order to correct for errors present in the system.

*Real-Time DGPS.* To correct for system errors in real-time, the GPS base station transmits the range error corrections to remote receivers using wireless communications. The remote receiver corrects its satellite range measurements using these differential corrections, yielding a more accurate position. This approach is the predominant DGPS strategy used for real-time applications.

Positioning using corrections generated by DGPS radio beacons provides a horizontal accuracy of 1 to 5 meters with 95% confidence. Positioning using corrections generated by Wide Area Augmentation Systems ("WAAS") of other L-Band differential networks provides a horizontal accuracy of 1 meter or better with 95% confidence. CSI's SLX2 GPS technology is capable of centimetre level accuracy with short range (1 to 10 km) base station and radio link.

### ***Differential GPS Services***

The Company currently offers receiver equipment that is compatible with three main correction services: beacon DGPS, L-band satellite DGPS, and Space Based Augmentation Systems ("SBAS").

*Beacon DGPS.* Many marine authorities around the world have installed networks of medium frequency (283.5 to 325 kHz) beacons that broadcast free GPS correction information to users. When in range of a beacon, these signals may be used to differentially correct a GPS position. The achievable accuracy depends on the sophistication of the GPS receiver used, however, it will range from 1 to 5 meter accuracy.

An advantage of this free of charge service over satellite-based services is that beacon signals are able to provide excellent coverage around obstacles, similar to how AM radio signals are able to penetrate tree canopy or diffract around obstacles such as buildings and other structures. The disadvantages include its susceptibility to noise interference by man-made equipment and the decreasing applicability of correction information as users move away from the base station.

*L-Band DGPS.* Currently, two private organizations provide differential corrections to the positioning industry by transmitting correction data via an L-band communication satellite. These two services are the OmniSTAR system (provided by OmniSTAR, Inc.) and the Racal Landstar system (provided by Racal Electronics Plc). Both services are subscriber-based, however, their advantage is that they provide signal coverage to the majority of the world.

As networks of reference stations are used to provide correction information throughout the coverage regions, the correction data is optimized so that it does not degrade as readily as single reference station services, such as beacon

DGPS. The value of this feature is improved consistency of performance as compared to conventional services, improving the confidence of system users. Although the performance of L-band systems is more consistent than single base station systems, the overall accuracy provided is similar.

As these services broadcast in the L-band, similar to GPS, they are line of sight signals. The satellite must be in view of the antenna at all times, or acquisition may be lost.

*Space Based Augmentation Systems.* Space Based Augmentation Systems ("SBAS") usually refer to wide area DGPS systems constructed for aviation use. The most notable network is the US Federal Aviation Administration's ("FAA") Wide Area Augmentation System ("WAAS"). This network is similar to that of OmniSTAR in that it uses satellite transponders to relay correction information back to Earth.

These free of charge systems have been developed primarily for aviation navigation. They use a different methodology for correcting GPS errors than beacon or L-band services. Instead of attempting to solve for the sum of errors as observed by measurements to each satellite, this system attempts to solve for each error separately. The advantage of this approach is that if the errors, including satellite orbit, clock, and ionospheric errors can be determined separately, a more consistent level of accuracy can be achieved in comparison to range measurement methods. Even though the elegance of this correction technique will likely improve the consistency of accuracy further over L-band services, it will provide a similar level of overall accuracy when compared to beacon and L-Band services.

Another benefit of WAAS, and other compatible SBASs, is that their signal is broadcast at the same frequency as GPS, allowing suitably designed GPS receiver systems to track both GPS and WAAS. This saves overall system cost as compared to requiring a separate differential receiver for beacon or L-band. However, a drawback of transmitting data at the GPS frequency is that the signal is line of sight, increasing the potential for loss of the signal.

As these systems are being developed for regional coverage, the FAA's WAAS provides excellent coverage to the majority of the United States and parts of Canada and Mexico. Coverage over other regions of the world is the responsibility of respective regional authorities. The overall goal of SBAS is to develop an interoperable GPS augmentation system covering the majority of air traffic routes. It is likely that this will ultimately provide coverage to the majority of the world.

In addition to WAAS, SBASs are currently under construction in other regions of the world. The European Space Agency is deploying the European Geostationary Overlay System ("EGNOS"). The Japan Civil Aviation Bureau ("JCAB") is developing the MTSAT Satellite-based Augmentation System ("MSAS"). Efforts to begin the construction of similar and compatible GPS augmentation systems by other aviation authorities around the world will likely occur in the next few years.

### **The CSI Wireless Solution**

CSI Wireless has been a leader in the design and manufacture of competitive, high accuracy GPS positioning devices since 1990. The following characteristics describe the competitive advantages associated with the Company's GPS products.

*Technology.* The Company's technology portfolio has been expanded beyond DGPS technology through development and strategic acquisitions. Today, the GPS technology portfolio includes strong proprietary technology in GPS, DGPS and guidance. The GPS Engineering team has become known in the industry for innovation and creativity as a result of achievements such as:

- CSI Wireless was the first company to successfully bring a combination GPS/beacon receiver module to market able to offer a competitive price-point and a compact form-factor.
- CSI developed an AM/FM beacon antenna coupler that uses the existing AM/FM vehicle antenna for supply of the beacon signal to the beacon receiver.

- The Company developed a high quality beacon receiver design that provides superior immunity to man-made noise, resulting in high performance under noisy conditions.
- The new SLX-2 and SX1 module provides sub-5 cm accuracy positioning for advanced applications by incorporating Real-Time Kinematics ("RTK") technology.
- Cost reductions have been continually achieved through initiatives such as the combination of GPS and differential receivers in one module to share common resources and the design of integrated antennas.
- The Company has developed a GPS heading sensor that combines two GPS receivers and two antennas into a single enclosure to provide heading information to within a half-degree accuracy.

*Range of Options.* The Company's DGPS products are compatible with all three primary sources of differential corrections currently available: beacon, L-Band and SBAS. This provides customers with the option of selecting the technology that is most compatible with the application considering several factors including the required precision and cost. To date, none of the DGPS correction sources has proven itself as an industry standard as each service has advantages and disadvantages when compared to the others.

*Price.* The GPS Unit has distinguished itself as a low-cost provider of GPS positioning devices while maintaining a high level of performance, features and quality. The Company continues to pursue means of reducing the cost of its products in order to maintain its competitive advantage. For example, the Company created a higher degree of silicon integration between the GPS and DGPS components for certain of its products, thereby giving rise to significant cost savings.

*Reliability.* The Company's products are designed to meet very high standards with respect to reliability in a wide range of applications and environments. For example, the Company has implemented a difficult agricultural standard (EP455) against which to evaluate its products. This will ensure that its products are able to withstand the harshest environments.

*Quality.* CSI Wireless has selected component suppliers that meet very high standards for quality, and assembles its GPS products internally, continuously maintaining a high standard of quality control and documentation to ensure continued high quality products.

*Ease of Use.* The Company's products are designed for simple integration with its customers' applications and/or products. In addition, a significant investment is made in customer support in an effort to ensure that customers have the resources that they need to get full benefit from the products. For example, the Company adds and modifies software, as required, to permit tailored integration of its products with customer applications.

## **Business Strategy**

*Expand Technology Portfolio.* The GPS Unit's success in the past has been driven by the ability of the research and development team to develop new positioning technology, respond to environmental and market changes, and apply creativity and innovation in the development of new products that meet the evolving demands of its customers. The Company intends to continue to focus on technology leadership and innovation.

*Optimize Product Cost.* The Company intends to continue to aggressively pursue opportunities to reduce or optimize the cost of its products by balancing functionality, performance and quality with customer need and through design and manufacturing improvements.

*Expand and Develop Strategic Relationships.* Management believes that strategic relationships with suppliers, OEMs and other customers enable it to realize value from the Company's technology while avoiding or reducing the dedication of resources to many areas. For example, the Company's relationship with RHS Inc. to design and build the Outback family of guidance products has increased the Company's share of the ground agricultural market significantly.



*Enhance Manufacturing Quality and Capacity.* The Company has focused on the maintenance of high quality standards for manufacturing. Time and resource investments in quality development, design and manufacturing processes are designed to ensure that the Company's products will continue to meet the needs of its customers for functionality, performance and quality.

*Pursue Focused Acquisitions.* Where appropriate, the Company intends to supplement internal growth and technology development with acquisitions where this will accelerate the achievement of the Company's business strategy.

*Invest in the Company's Intellectual Capital.* CSI Wireless believes that the people in all levels of the organization have been, and will continue to be the key factor in the achievement of its objectives. As such, the GPS Unit will continue to place a high priority on its intellectual capital.

## **Products**

### ***Precision Agriculture Products***

CSI Wireless' precision guidance products for agricultural use include the AirStar M3, SwathStar M3, CornerPost and the Outback® line of products.

The AirStar M3 is a high-performance aerial guidance system, while the SwathStar M3 is a high-performance land-based guidance system. Both are very accurate for spraying, swathing, mapping, yield monitoring and soil sampling.

The CornerPost, introduced in June 2002, is for use with CSI's ground-based agricultural guidance systems. Because the CornerPost can achieve one-inch accuracy, it is ideal for precisely spaced row-crops while planting, cultivating, bedding and installing irrigation. The CornerPost eliminates crop damage that occurs if planting, cultivating or other equipment deviates only a few inches to the left or right from prescribed rows.

CSI Wireless' precision guidance products for the agriculture industry include the extremely popular Outback® S, Outback® 360 and Outback eDrive, all of which were developed and built under contract for RHS Inc. RHS has a well-established distribution network in North America, and recently established similar networks in Central and South America, Australia and Europe.

The Outback® S features a highly accurate DGPS and Wide Area Augmentation System (WAAS) receiver. It enables farmers to navigate their fields with minimal overlap, whether in straight lines or contours, in any visibility – including darkness. Eliminating overlap saves enough time, fuel, fertilizer and insecticide that Outback® S purchasers say they typically recoup the costs of their new, easy-to-install-and-operate guidance systems in only 12 to 18 months.

The Outback® 360 is an accessory product to the Outback® S. It is a computerized visual aid system that features a high-resolution colour display that effectively enables farmers to look down from the sky – monitoring the progress of their tractors and farming implements as they move across their fields, while collecting and processing data.

In December 2003, CSI Wireless and RHS Inc. introduced their new GPS-assisted automatic steering system named eDrive as part of the Outback® product line. eDrive is an easy-to-install after-market addition to the Outback® S that automatically steers tractors and self propelled sprayers along straight or contoured lines, enabling the driver to focus their attention on monitoring their sprayers, combines or other equipment to achieve greater efficiency. A key benefit of this technology is the reduction in driver fatigue allowing the machinery to operate for more hours each day or through the night if necessary.

### ***OEM***

CSI Wireless' OEM products, most of which are designed to serve markets other than agriculture, include the SBX-3A, the SLX-2, the Evolution and the SX-1.

The SBX-3A is a Differential GPS engine that augments a separate GPS receiver with free accuracy-enhancing correction data from networks of stations located throughout the world. The resulting positioning accuracy of the GPS receiver is between one and five metres.

The SLX-2 is a Differential GPS engine equipped to receive additional accuracy-enhancing data from two global sources – the fee-charging OmniSTAR system, and/or freely available SBAS such as the United States' WAAS, the EGNOS, and Japan's MSAS.

The Evolution and SX-1 are printed circuit board (PCB) modules that CSI Wireless introduced in April 2002. They are the industry's first truly affordable methods of receiving DGPS and SBAS signals all on one circuit board. The Evolution can achieve accuracies of two or three metres, and is ideal for various applications including marine. The higher-performance SX-1 features CSI Wireless' unique COAST™ and e-Dif™ technology that enable it – like the SLX-2 – to continue to effectively use out-dated differentially corrected data for up to 40 minutes without any significant accuracy degradation. The SX-1 is accurate to less than one metre, and ideal for applications such as precision guidance in agriculture, geographic information systems (GIS) and mapping.

### ***GPS Heading Sensors***

CSI Wireless introduced its Vector line of GPS heading sensors in late 2002.

Representing an entirely new core technology for the Company, the sensors enable users to maintain very accurate headings at substantially less than the cost of traditional gyrocompasses, or of competing GPS systems. The Vector line incorporates CSI Wireless' exclusive COAST™ technology as described below.

The Vector PRO is designed primarily for marine use. The Vector Sensor is targeted for the rapidly emerging "machine control" market – including agricultural and heavy construction equipment. These applications depend on very accurate headings.

The Vector PRO is a "smart antenna" system that combines two GPS receivers and two antennas into a single enclosure about a half-metre long. Using a sophisticated moving base station Real-Time Kinematic (RTK) technique, the Vector ST provides heading information to within half-degree (0.5) accuracy – enough to replace gyrocompasses for many applications at a fraction of the cost. It is capable of receiving accuracy-enhancing data from land-based DGPS beacon stations and from space-based WAAS, EGNOS and MSAS.

The Vector Sensor is similar to the Vector PRO in that its two receivers are housed in a single enclosure. However, each of the Sensor's two antennas is housed in separate enclosures. Users can increase the distance between the antennas, which then increases heading accuracy. With the antennas two meters apart, the Vector Sensor computes heading information with better than 0.15 degree accuracy, matching or exceeding the accuracy of competitors' products while being significantly more affordable.

### ***Integrated GPS Receivers***

One of CSI Wireless' newest integrated receivers is the ultra-compact Seres. Introduced in February 2002, it is a combined DGPS/SBAS receiver and antenna system that is designed to serve several markets including precision guidance in agriculture, GIS and mapping. The Seres features CSI Wireless' exclusive COAST™ technology, and is also compatible with CSI's unique e-Dif™ software.

CSI Wireless' other integrated receivers include the DGPS MAX, GBX Series, MBX-3, SLXg3 and SLXg3 Combo. They are intended for a wide variety of applications including marine and land navigation, precision guidance in agriculture, asset-tracking, GIS and mapping. The DGPS MAX, which is CSI's flagship integrated receiver, features DGPS, SBAS, OmniSTAR and capability, plus COAST™ technology.

## ***GPS Software***

CSI Wireless has a growing variety of innovative GPS software products, including several that significantly enhance the location-sensing capabilities of other CSI products.

This software includes COAST™, which enables DGPS receivers to use original differential or accuracy-enhancing data for up to 40 minutes without seriously degrading accuracy. COAST™ makes various CSI Wireless receivers less likely than competing products to be affected by trees, buildings and other obstacles that temporarily block differential signals. COAST™ enables the receivers to "coast" through temporary signal outages with minimum impacts on accuracy. CSI Wireless products that incorporate COAST™ include the Seres, SX-1, SLX-2, Vector PRO, Vector Sensor and DGPS MAX.

In June 2002, CSI Wireless received a U.S. patent for its new e-Dif or "extended differential" software that enables standard GPS receivers to achieve the much higher accuracy available from DGPS, without any help from accuracy-enhancing differential signals.

e-Dif enables a standard GPS receiver, capable of only 10-metre or 15-metre accuracy, to internally generate differential corrections that improve its accuracy to one metre – without the expense or potential uncertainties of differential signals. e-Dif computes corrections that last for as long as 40 minutes, after which the receiver re-computes a fresh set of corrections for another 40 minutes.

e-Dif can save customers the cost of subscription fees for DGPS signals in regions such as South America, Africa and Australia where the signals are not free. Even in North America, where the signals are free, e-Dif is a valuable back-up against signal outages. And in northern latitudes, including many parts of Canada, e-Dif can achieve better accuracy than what is possible using free differential signals from public satellite networks such as WAAS, or when a receiver is on the fringe of land-based radio beacon networks.

CSI Wireless has integrated e-Dif software into many products including the DGPS MAX, SLX-2, SLXg3, SLXg3 Combo, Seres, AgIQ and Outback™ S.

## **Research and Product Development**

The focus of the GPS Unit's research and development team is on expanding the Company's core GPS positioning and guidance technologies and the development of new products. Management of the Corporation believes that research and product development is the primary factor contributing to success and the primary barrier to entry into the GPS industry. Accordingly, CSI Wireless intends to continue to invest significant resources in research and product development activities.

*OEM Modules.* A new family of low-cost GPS modules have been completed, which incorporate the new Zarlink GPS chip-set. This is expected to reduce costs and improve margins on products using the SLX2 design. Management of the Corporation considers that this opportunity will increase reliability and the cost of certain of its products. Work has begun on GPS intellectual property that will permit the Company to be free of its dependence on IC suppliers for GPS hardware. This new platform will provide much greater flexibility and performance than is currently available with the Zarlink chipset.

*Integrated Positioning Units.* The completion of the integrated beacon receiver and H-field antenna has enabled the Company to go one step further and create a truly smart antenna which houses high end GPS and beacon receivers with an H-field beacon antenna and GSP antenna. In the first quarter of 2003, the Company also completed the development of a smaller integrated GPS/beacon receiver called the MiniMax, which is expected to open up new opportunities.

*Heading Device.* In late 2002, the Company finished development of the "GPS Heading Sensor". Utilizing two GPS antennas separated by a known distance and two GPS engines on a single board, the heading or direction is calculated to extreme accuracy. This heading is of great benefit to vessels, and or equipment. In the case of vessels, this heading can be used to orient radar antennas. Two configurations of this product were completed, a packaged

receiver with remote antennas, and a smart antenna. The remote antennas allow the user to select the level of accuracy required, by increasing the separation between them. The all-in-one smart antenna has a 0.5 meter baseline between the antennas, which provides 1 degree of accuracy 95% of the time.

*Precision Guidance Systems.* The M3 Swathstar and M3 Airstar guidance systems build upon the success of their predecessor guidance systems. A great deal of focus has been placed on cost reduction, ergonomics, ease of use and overall system functionality. In addition, in late 2003, the Company completed development of the automatic steering technology for use with the Company's ground precision agriculture products.

*Antennas.* The Company is currently investigating methods of reducing build cost of antenna designs in addition to simplifying manufacturing processes. It is anticipated that this process will provide a considerable savings in overall system cost and result in improved efficiencies.

### **Marketing, Sales and Distribution**

CSI Wireless is focused on providing low cost precision technology and products to growing commercial and consumer GPS markets. CSI Wireless does not typically sell these products directly to end-user customers. The CSI Wireless strategy for distribution of its GPS positioning products continues to be through large OEMs and dealer networks with established channels for multi-country distribution. This strategy eliminates the need for the Company to devote significant resources to developing these distribution channels on its own. As part of its distribution strategy, CSI Wireless has developed strategic relationships with suppliers, OEMs and distributors that enable the Corporation to participate in a broader range of high growth commercial and consumer GPS-enabled markets.

The GPS Unit serves global markets. Of the GPS Unit's 2003 sales, approximately 74% (78% in 2002) occurred in the United States, approximately 10% (4% in 2002) occurred in Europe, 6% (4% in 2002) occurred in Canada and approximately 10% (14% in 2002) occurred in other areas of the world.

CSI Wireless' GPS positioning products currently serve the precision agriculture, marine, geographic information systems and other OEM markets. The Company's DGPS products are focused on markets where an accuracy level of five meters or less is required.

The Company's precision guidance products provide solutions for precision agriculture, GIS and mapping applications including ground based chemical applicators, yield monitoring, soil sampling, crop scouting and other precision farming applications.

From a customer's perspective, the primary benefits provided by DGPS and GPS are more accurate navigation, improvements in productivity and safety, and savings in costs and time. For example, in marine applications CSI Wireless' commercial customers typically use the Company's products for accurate navigation allowing vessels to maintain accurate headings while navigating, at substantially less cost than traditional gyrocompasses.

Further examples of the benefits provided by DGPS and GPS are in precision farming applications. The Company's guidance products result in savings to users through reduced overlap and reduced driver fatigue. In addition, CSI Wireless' products can be used in conjunction with devices that monitor the grain yield on harvesting equipment. This yield monitor constantly records the harvest yield and in conjunction with a DGPS system, allows yield-by-field location maps which can be used in subsequent years to increase or decrease the type and amount of fertilizers and other additives used. Significant cost savings can be achieved by using these types of precision farming techniques.

### **Competition**

CSI Wireless encounters competitors in each of its target markets and expects competition to intensify as acceptance and awareness of GPS technology increases. One of the Company's main competitors is Trimble Navigation

Limited ("Trimble"), believed to be the GPS industry leader. Trimble's GPS products currently address the survey and mapping, tracking and communications, navigation, precision agriculture and military systems markets. Other competitors offering products similar to those of the CSI Wireless include NovAtel Inc., Thales Navigation Inc., Beeline Technologies Inc., and Raven Industries. In addition, the Company expects to face competition from new market entrants over time.

Management is of the view that the principal competitive factors in the markets the Corporation serves include: ease of use, physical characteristics, power consumption, product features (including DGPS), product reliability, price, size of installed base, vendor reputation and financial stability of the vendor. Management of the Corporation believes its products compete favourably with competitors' products on the majority of the foregoing factors. The Corporation recognizes it may be at a competitive disadvantage against companies with greater financial, marketing, service and support and technological resources.

The Corporation also faces competition from various low-end, analog-based (as opposed to digital-based) manufacturers of DGPS receivers. Management believes the Corporation's primary advantage to be that CSI's digital-based products are viewed as being more reliable for every day operation and CSI products have a coverage range that is approximately 100% larger than the analog-based products.

### **Manufacturing**

The Company manufactures and populates all printed circuit boards and completes the final assembly and quality assurance testing of OEM modules, integrated positioning units and antennas in-house at the Calgary facility. The Operations Department of the GPS Unit provides production engineering to ensure that CSI Wireless' products can be manufactured in large volumes, technical production problems are corrected and averted, and alternative production methodologies are introduced to remain competitive. In addition, vendor and subcontractor qualifications are reviewed by the engineering group and test engineering is provided to guide the department in achieving specifications and ensuring product integrity. The Company sources its assembly materials and components from a variety of suppliers. All of the Corporation's suppliers are at arm's length. Alternate supply sources for all components is a desired goal for CSI Wireless, but currently is not available in all cases.

The Corporation is determined to maintain its position as a low-cost producer and to ensure that production processes are responsive, smooth and flexible to serve the needs of its customers.

### **Facilities**

The GPS Business Unit conducts its operations from facilities in both Calgary Alberta and Scottsdale Arizona, with a combined area of 41,000 square feet to manufacture and assemble its products, carry out its research and development, sales and marketing and finance and administration activities. The facilities are being leased by CSI and are anticipated to be adequate to support annual GPS Unit sales for the foreseeable future.

### **Personnel**

The GPS Unit currently has 95 employees in total with 26 in Research and Development, 18 in Sales and Marketing, 49 in Manufacturing Operations and 2 in Administration. Of these totals, 13 Engineers, 6 Operations employees, 10 Sales and Marketing employees, and 1 Administrative employee works out of the Scottsdale location.

## **DIVIDEND POLICY**

The Corporation has not paid any dividends on the Common Shares during the last five financial years. The future payment of dividends will be determined by the board of directors of the Corporation and will be dependent on the financial needs of the Corporation to fund future growth, the general financial condition of the Corporation and other relevant factors. The Corporation does not intend to pay dividends on its Common Shares in the foreseeable future.

## CAPITAL STRUCTURE

### General Description of Capital Structure

The Corporation is authorized to issue an unlimited number of Common Shares, an unlimited number of first preferred shares, issuable in series (the "First Preferred Shares") and an unlimited number of second preferred shares, issuable in series ("Second Preferred Shares"). As at May 14, 2004, an aggregate of 32,677,290 Common Shares, 1,511,000 First Preferred Shares and no Second Preferred Shares were outstanding. The holders of Common Shares are entitled to vote at any meeting of CSI's shareholders (other than meetings of a class of shares of the Company other than the Common Shares); to receive any dividends declared on the Common Shares by the board of directors of CSI, subject to the rights of any shares of CSI ranking in priority to the Common Shares; and to receive the remaining property of CSI on dissolution.

### INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

There were no material interests, direct or indirect, of directors and senior officers of the Corporation, any shareholder who beneficially owns more than 10% of the outstanding Common Shares, or any known associate or affiliate of such persons, in any transaction within the last fiscal year and in any proposed transaction which has materially affected or would materially affect the Corporation except as disclosed in following:

- On March 4, 2003, the Corporation repurchased 700,000 Common Shares from a director for cash consideration of \$1,184,700 at the purchase price per share prescribed by the exempt issuer bid rules under the *Securities Act* (Alberta). The paid up capital of these shares was \$1,340,749, and as such, \$156,049 was treated as contributed surplus. Previously, the Corporation had advanced US\$750,000 to this director as an interest-bearing loan, secured by the 700,000 shares held by the director. Subsequent to the Corporation repurchasing the shares from the director, the loan was repaid in full.

### MARKET FOR SECURITIES

The Common Shares of the Corporation are listed and posted for trading on the TSX under the symbol "CSY".

### PRICE RANGE AND TRADING VOLUME OF THE COMMON SHARES

The following table sets forth the price range and trading volume of the Common Shares as reported by the TSX for the periods indicated.

<u>Period</u>	<u>High</u>	<u>Low</u>	<u>Volume</u>
<u>2003</u>			
January	1.70	1.20	526,085
February	1.66	1.58	404,300
March	1.95	1.20	573,200
April	1.49	1.22	320,586
May	1.50	1.19	723,526
June	1.78	1.35	977,130
July	1.95	1.51	1,211,069
August	1.92	1.53	1,597,779
September	1.85	1.61	1,365,796
October	1.79	1.41	1,340,003
November	2.26	1.79	4,848,882
December	2.23	1.86	2,206,101
<u>2004</u>			
January	3.04	1.85	5,258,166
February	3.68	2.82	6,713,053
March	3.42	2.46	7,511,200
April	3.25	2.60	3,214,163

### **DIRECTORS AND OFFICERS**

CSI's board of directors is currently comprised of 7 individuals. The directors are elected by the shareholders by ordinary resolution, and hold office until the next annual meeting of the Corporation. The names, municipalities of residence, the offices held by each in CSI, the principal occupation of the directors and officers, the period served as director and the number of securities of the Corporation owned by such individual is as follows:

<u>Name and Municipality of Residence</u>	<u>Office Held</u>	<u>Period as Director</u>	<u>Principal Occupation</u>
Stephen A. Verhoeff Calgary, Alberta	President, Chief Executive Officer and a Director	1990 - Present	President and Chief Executive Officer of the Corporation.
Brian J. Hamilton <sup>(1)(3)</sup> Calgary, Alberta	Director	1996 - Present	Independent Businessman since October 2003. Prior thereto, Executive Vice-President and Chief Financial Officer of the Corporation.
Hamid Najafi Los Altos Hills, California	Director	June, 2000 - Present	President of Broadlink Research, Inc., a private technology company, since January 2003. Prior thereto, Chief Technology Officer of the Corporation since June 2000. Prior thereto, President of Wireless Link.
Michael W. Brower Felton, California	Director	June, 2000 - Present	President and founder of Fall Creek Consultants, Inc., a private technology consulting firm since June 2002. Prior thereto, Marketing Manager of Axiom Corp. Prior thereto, Senior Vice President of the Corporation and Wireless Link.

Name and Municipality of Residence	Office Held	Period as Director	Principal Occupation
Michael J. Lang <sup>(1)(2)</sup> Calgary, Alberta	Non-executive Chairman of the Board	1996 - Present	Chairman of StoneBridge Merchant Capital Corp. (a private investment company) and former Vice-Chairman of Beau Canada Exploration Ltd.
Howard W. Yenke <sup>(2)</sup> Medford, Massachusetts	Director	1996 - Present	Retired Executive
Paul L. Camwell <sup>(1)(3)</sup> Calgary, Alberta	Director	1998 - Present	Chief Technology Officer and Vice President for Extreme Engineering Ltd., an engineering and technology firm.
Colin Maclellan Calgary, Alberta	Chief Operating Officer	N/A	Chief Operating Officer since October 2003, and Senior Vice President and General Manager, Wireless from March 2002 to October 2003. Prior thereto, Vice President of Nortel Networks global wireless operations.
Theresa J. Lea Calgary, Alberta	Vice President and General Manager, GPS Business Unit	N/A	Vice President and General Manager, GPS, of the Corporation
Cameron B. Olson Calgary, Alberta	Chief Financial Officer and Vice President, Finance	N/A	Chief Financial Officer since October 2003 and Vice President, Finance of the Corporation since May 2000. Prior thereto, Director, Marketing Financial Services with PanCanadian Petroleum Ltd.
Chris Carver Calgary, Alberta	Vice President Product Marketing, Wireless Business Unit	N/A	Vice President Product Marketing, Wireless of the Corporation since October 2000. Prior thereto, President of Motal Networks, a private technology company.
Phil Gabriel Calgary, Alberta	Vice President Sales, Wireless Business Unit	N/A	Vice President Sales, Wireless of the Corporation
Marc Saks Calgary, Alberta	Vice President, Product Development, GPS Business Unit.	N/A	Vice President, Product Development, GPS since January 2004. From 2002 to January 2004, Director of Canadian Research and Development at MCK Communications Inc., a public telecommunications company. During 2001 and 2002, Director of the Smart Antenna Division of Arraycom Inc., a private technology company. Prior thereto, Director of Product Development at Classwave Wireless Inc., a private wireless company.



Name and Municipality of Residence	Office Held	Period as Director	Principal Occupation
Michael Cummiskey Calgary, Alberta	Vice President, Business Development, Fixed Wireless and Radio Products, Wireless Business Unit.	N/A	Vice President, Business Development, Fixed Wireless and Radio Products, Wireless Business Unit. Prior to CSI, Business Development Manager at PraireComm Inc.

## Notes:

- (1) Members of the Corporation's Audit Committee.
- (2) Members of the Corporation's Compensation Committee.
- (3) Members of the Corporation's Corporate Governance Committee.

## MANAGEMENT

### **Stephen A. Verhoeff, Calgary, Alberta** **President, Chief Executive Officer and a Director**

Stephen Verhoeff is President and CEO of CSI Wireless. He has been leading the company since its incorporation in 1990. His responsibilities include overseeing all aspects of corporate operations including marketing, financial reporting, manufacturing and administration. Before co-founding CSI, Mr. Verhoeff was President of Network Innovations Inc., a private corporation engaged in selling data communications equipment in Western Canada. He has a Bachelor of Commerce degree from the University of Calgary and a certificate in telecommunications management from Calgary's Mount Royal College.

### **Colin Maclellan, Calgary, Alberta** **Chief Operating Officer**

Colin Maclellan was appointed Chief Operating Officer in November 2003 after serving as Senior Vice-President and General Manager of CSI's Wireless Business Unit. Mr. Maclellan joined CSI in early 2002 after a 16-year career with Nortel Networks. At Nortel, he held a variety of executive positions including Vice-President of Nortel's global wireless operations and Vice-President of Nortel's overall Calgary operations – responsible for 2,800 employees and an annual revenue base that virtually doubled during his tenure. Mr. Maclellan was also responsible for Nortel's base station manufacturing activities for TDMA and CDMA technologies, and for its introduction of UMTS. He also worked with Nortel's GSM team in France and established manufacturing operations for Nortel in Brazil and China. He has an Electrical Engineering degree from the University of Toronto and a Masters in Business Administration from the University of Western Ontario in London.

### **Theresa J. Lea, CMA, Calgary, Alberta** **Vice-President, and General Manager, GPS Business Unit**

Theresa Lea is Vice-President and General Manager for CSI Wireless' GPS Business Unit. She joined CSI in 1997 as controller and was promoted to Vice-President in 1999 and to her current position in 2003. Ms. Lea is responsible for all functional areas of the GPS Unit. Before joining CSI, Ms. Lea held controller and senior financial positions in private and public companies in the steel fabricating, food processing and automotive industries. She completed her education and obtained her Certified Management Accountant designation while employed by the KPMG accounting and management firm between 1984 and 1988.

### **Cameron B. Olson, C.A., Calgary, Alberta** **Chief Financial Officer and Vice-President, Finance**

Cameron Olson is CSI Wireless' Chief Financial Officer and Vice President of Finance, with responsibilities for the Company's overall financial management and strategy. Before becoming CFO in 2003, Mr. Olson was Vice-

President of Finance for CSI's Wireless Business Unit. Prior to joining CSI in 2000, Mr. Olson held senior treasury and finance positions with Encana Corporation (known then as PanCanadian Petroleum Limited) and before that was a senior manager in taxation with Price Waterhouse. He holds a Chartered Accountant designation and earned his Bachelor of Commerce degree in Finance from the University of Calgary.

**Chris Carver, Calgary, Alberta**  
**Vice-President, Product Marketing, Wireless Business Unit**

Chris Carver is Vice-President of Product Marketing for CSI's Wireless Business Unit. He joined CSI in 2000, bringing significant product management, wireless and marketing experience, including 15 years of successful consumer product development work with firms such as Magellan Systems, Orbital Sciences and BAE Systems. Before CSI, Mr. Carver was President of Motal Networks, the first company to deliver e-mail and Internet to corporate jet passengers. Earlier, he led the product marketing efforts at Infomove, one of the first companies to bring the Internet to users in automobiles. He has a Masters Degree in Engineering from Cornell University and an MBA from the University of Pittsburgh, with a concentration in telecommunications.

**Phil W. Gabriel, CSP, Calgary, Alberta**  
**Vice President, Sales, Wireless Business Unit**

Mr. Gabriel joined CSI in 1996 as a key business development consultant. He helped establish worldwide OEM and distribution agreements for CSI's differential GPS technologies that have sparked significant company growth. After CSI's acquisition of Wireless Link in 2000, Mr. Gabriel became an essential part of CSI's new Wireless Business Unit. Before joining CSI, Mr. Gabriel was National Sales Manager for AlliedSignal Aerospace, leading its Aeromarine Division business in marine electronics, airport runway systems and weather radar sales distribution. He also held a variety of positions – including Service Manager and Sales Engineer – in the then-fledgling computer peripherals industry. Mr. Gabriel is a Certified Sales Professional (CSP) who holds a diplomas in Electro-technology, plus Business and Marketing diplomas from McGill University in Montreal.

**Marc Saks, Calgary, Alberta**  
**Vice President, Product Development, GPS Business Unit**

Marc Saks joined CSI in January 2004 as Vice-President, Product Development, GPS Business Unit and leads a product development team that is responsible for ensuring CSI Wireless' GPS Business Unit continues to be a global market leader. Mr. Saks has almost 20 years of experience in wireless technologies, data communication, software and hardware design and development, and telecommunications. He has held senior management positions in product development, R&D, engineering and project management. Mr. Saks joined CSI after a succession of increasingly responsible roles with several leading wireless/high-tech companies including Ericsson Communication, Nortel Networks, Verso Technology, ArrayComm Inc. and Classwave Wireless. Mr. Saks has a Bachelor of Mathematics and Computer Science from Concordia University in Montreal and Masters of Engineering.

**Michael S. Cummiskey, Calgary, Alberta**  
**Vice President, Business Development, Fixed Wireless and Radio Products, Wireless Business Unit**

Michael Cummiskey joined CSI in November 2003 as Vice President of Business Development for CSI Wireless' fixed wireless and radio products. He is the leader of all customer and marketing activities related to these product lines, which include CSI's very successful Motorola-branded fixed wireless telephone. Before joining CSI Wireless, Mr. Cummiskey developed an impressive record in leadership, business development and sales involving close relationships with major wireless hardware manufacturers, carriers and distributors. At PrairieComm, Inc., a major supplier of integrated wireless chipsets and software, Mr. Cummiskey held the position of Business Development Manager and led a number of design successes with high-profile wireless manufacturers of handsets, PDAs and data cards. Prior to that, Mr. Cummiskey was Global Account Manager for Mentor Graphics Corporation, responsible for managing the global business and technical relationships with Intel Corporation. He has Bachelor of Science degree in Computer Information Systems from Nova Southeastern University in Fort Lauderdale, Florida.

### **Corporate Cease Trade Orders or Bankruptcies**

No director, officer or promoter of CSI has, within the last ten years, been a director, officer or promoter of any reporting issuer that, while such person was acting in that capacity, was the subject of a cease trade or similar order or an order that denied the company access to any statutory exemption for a period of more than 30 consecutive days or was declared a bankrupt or made a voluntary assignment in bankruptcy, made a proposal under any legislation relating to bankruptcy or been subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver-manager or trustee appointed to hold the assets of that person, except as noted below:

- Michael Lang was a director of Environmental Technologies Inc., which was given a cease trade order in 1997. Environmental Technologies Inc. was an affiliate of Beau Canada Exploration Ltd. and traded on the Alberta Stock Exchange. Mr Lang subsequently resigned as a director.

### **Penalties or Sanctions**

No director, officer or promoter of the Corporation has been subject to any penalties or sanctions imposed by a court or securities regulatory authority relating to trading in securities, promotion or management of a publicly traded issuer or theft or fraud.

### **Conflicts of Interest**

Directors and officers of the Company may, from time to time, be involved with the business and operations of other wireless issuers, in which case a conflict may arise. See "Risk Factors."

## **RISK FACTORS**

The following is a summary of certain risk factors relating to the business of the Corporation. The following information is a summary only of certain risk factors and is qualified in its entirety by reference to, and must be read in conjunction with, the detailed information appearing elsewhere in this Annual Information Form. An investment in the Common Shares of the Corporation involves a significant degree of risk. Prospective investors should carefully consider the following factors, together with other information contained in this Annual Information Form.

### **Dependence on Key Personnel and Consultants**

The success of the Corporation is largely dependent upon the performance its personnel and key consultants. The unexpected loss or departure of any of the Corporation's key officers, employees or consultants could be detrimental to the future operations of the Corporation. The success of the Corporation's business will depend, in part, upon the Corporation's ability to attract and retain qualified personnel, as they are needed. The competition for highly skilled technical, research and development, management, and other employees is high for the wireless data communication industry. There can be no assurance that the Corporation will be able to engage the services of such personnel or retain its current personnel.

### **Financial Results**

Although it is anticipated that the Corporation will incur a profit for the year ended December 31, 2004, the Company has incurred losses in each of the prior 3 years. As such, there is no guarantee that the Company will be profitable in the current year.

### **Competition**

The Corporation is competing in a highly competitive industry that is constantly evolving and changing. The Corporation expects this competition to increase as new competitors enter the market. Many of the Corporation's competitors have greater financial, technical, sales, production and marketing resources. The Corporation competes with companies that also currently have established customer bases and greater name recognition. This may allow competitors to respond more quickly to the wireless market and better implement technological developments.

There is no assurance that the Corporation will be able to compete on the same scale as these companies. Such competition may result in reduced sales, reduced margins or both. The Corporation also expects that additional competition will develop in the wireless asset tracking market from new entrants trying to capitalize on this growth industry.

### **Availability of Key Supplies**

The Corporation has based its estimates of marketing and production costs on information, which is presently considered by management to be reliable, and has assumed the cost effective availability of materials and supplies. CSI is reliant upon certain key suppliers for raw materials and components and no assurances can be given that CSI will not experience delays or other difficulties in obtaining supplies, as a result of trade disputes or other matters. While no single vendor currently supplies more than 10% of the raw materials used by CSI, the raw materials used in certain operations are available only through a limited number of vendors. Although management of CSI believes that there are alternative suppliers for most of its key requirements, if its current suppliers are unable to provide the necessary raw materials or otherwise fail to timely deliver products in the quantities required, any resulting delays in the manufacture or distribution of existing products could have a material adverse effect on the Corporation's results of operations and its financial condition.

### **Dependence on Major Customers**

For the year ended December 31, 2003, 71% (2001- 61%) of CSI's sales were made to its five largest customers. The loss of any of these customers could have an adverse effect on its business.

### **Wireless Industry Technology Risk**

CSI's success in the wireless market may depend in part on its ability to develop products that keep pace with the continuing changes in technology, evolving industry standards and changing customer and end user preferences and requirements. CSI products embody complex technology that may not meet those standards, changes and preferences. In addition, wireless communications service providers require that wireless data systems deployed in their networks comply with their own standards, which may differ from the standards of other providers. CSI may be unable to successfully address these developments on a timely basis or at all. CSI's failure to respond quickly and cost effectively to new developments through the development of new products or enhancements to existing products could cause the Corporation to be unable to recover significant research and development expenses and reduce its revenue.

### **Wireless Data Competition**

The wireless data and communications industry is intensely competitive and subject to rapid technological change. CSI expects competition to intensify. More established and larger companies with greater financial, technical and marketing resources may decide to sell products that compete with the Corporation's. Existing or future competitors may be able to respond more quickly to technological developments and changes or may independently develop and patent technologies and products that are superior to ours or achieve greater acceptance due to factors such as more favourable pricing or more efficient sales channels. If CSI is unable to compete effectively with competitors' pricing strategies, technological advances and other initiatives, its market share and revenues may be reduced.

### **Third Party Wireless Dependence**

Customers can only use wireless products over wireless data networks operated by third parties. If these network operators cease to offer effective and reliable service, or fail to market their services effectively, sales of CSI products may decline and revenues may decrease.

### **Future Acquisitions**

The Corporation may seek to expand its business, through the acquisition of compatible products or businesses. There can be no assurance that suitable acquisition candidates can be identified and acquired on terms favourable to

the Corporation or that the acquired operations can be profitably operated or integrated into the Corporation. In addition any internally generated growth experienced by the Corporation could place significant demands on the Corporation's management, thereby restricting or limiting its available time and opportunity to identify and evaluate potential acquisitions. To the extent management is successful in identifying suitable companies or products for acquisition, the Corporation may deem it necessary or advisable to finance such acquisitions through the issuance of Common Shares, securities convertible into Common Shares, or debt financing, or a combination thereof. In such cases, the issuance of Common Shares or preferred shares or convertible securities could result in dilution to the holders of Common Shares at the time of such issuance or conversion. The issuance of debt to finance acquisitions may result, among other things, in the encumbrance of certain of the Corporation's assets, impede the Corporation's ability to obtain bank financing, decrease the Corporation's liquidity and adversely affect the Corporation's ability to declare and pay dividends to its shareholders.

### **Proprietary Protection**

The Corporation's success will depend, in part, on its ability to obtain patents, maintain trade secrets and unpatented know-how protection and operate without infringing on the proprietary rights of third parties or having third parties circumvent the Corporation's rights. The Corporation relies on a combination of contract, copyright, patent, trademark and trade secret laws, confidentiality procedures and other measures to protect its proprietary information. However, there can be no assurance that the steps taken by the Corporation will prevent misappropriation of its proprietary rights. The Corporation's competitors also could develop technology similar to the Corporation's independently.

Although the Corporation does not believe that its products or services infringe the proprietary rights of any third parties, there can be no assurance that infringement or invalidity claims (or claims for indemnification resulting from infringement claims) will not be asserted or prosecuted against the Corporation or that any such assertions or prosecutions will not materially adversely affect the Corporation's business, financial condition or results of operations. Irrespective of the validity or the successful assertion of such claims, the Corporation could incur significant costs and diversion of resources with respect to the defence thereof which could have a material adverse effect on the Corporation's business.

### **Conflicts of Interest**

Certain directors of CSI are engaged and will continue to be engaged in the design, manufacture and marketing of wireless products and situations may arise where the directors may be in direct competition with CSI. Conflicts of interest, if any, which arise will be subject to and governed by the procedures prescribed by the ABCA which require a director or officer of a corporation who is a party to, or is a director or an officer of or has a material interest in any person who is a party to, a material contract or proposed material contract with CSI to disclose his interest and, in the case of directors, to refrain from voting on any matter in respect of such contract unless otherwise permitted under the ABCA.

### **Product Liability**

The sale and use of the Corporation's products entail risk of product liability. The Corporation has product liability insurance, however, there is no assurance that such insurance will be sufficient or will continue to be available on reasonable terms.

### **Exchange Rate Fluctuation**

As the Corporation sells the majority of its products outside of Canada, fluctuation in exchange rates may affect the Corporation's profitability. The Company is however, in part, naturally hedged against such currency fluctuations, as the majority of the cost of sales and part of the fixed costs are incurred in US dollars.

### **Dependence on New Products**

The Corporation must continue to make significant investments in research and development in order to continue to develop new products, enhance existing products and achieve market acceptance for such products. However, there can be no assurance that development stage products will be successfully completed or, if developed, will achieve significant customer acceptance. If the Corporation were unable to successfully define, develop and introduce competitive new products, and enhance its existing products, its future results of operations would be adversely affected.

### **Reliance on GPS Satellite Network**

The Corporation's products rely on signals from satellites that it does not own or operate. Such satellites and their ground support systems are complex electronic systems subject to electronic and mechanical failures and possible sabotage. The satellites have limited design lives and are subject to damage by the hostile space environment in which they operate. If a significant number of satellites were to become inoperable, there could be a substantial delay before they are replaced with new satellites. A reduction in the number of operating satellites would impair the current utility of the GPS system or the growth of current and additional market opportunities, which, in either case, would adversely affect the Corporation's results of operations. In addition, there is no assurance that the U.S. Government will remain committed to the operation and maintenance of GPS satellites over a long period of time, nor that the policies of the U.S. Government for use of GPS, without charge, will remain unchanged.

### **New and Emerging Markets**

Many of the markets for CSI products are new and emerging. The Corporation's success will be significantly affected by the outcome of the development of these new markets.

### **Physical Facilities**

The Company has facilities at three different locations, as well as component inventory, finished goods and capital assets at third party manufacturing facilities. Tangible property at each location is subject to risk of fire, earthquake, flood, and other natural acts of God. In the event of such acts, there could be delays in production and shipments of product due to both the loss of inventory and / or capacity to produce.

## **MATERIAL CONTRACTS**

The Corporation currently has no material contracts in place outside of the normal course of business.

## **AUDITORS, TRANSFER AGENT AND REGISTRAR**

KPMG LLP, Chartered Accountants, Suite 1200, Bow Valley Square II, 205 - 5<sup>th</sup> Avenue S.W., Calgary, Alberta, T2P 4B9, are the auditors of the Corporation.

Computershare Trust Company of Canada, 600, 530 - 8<sup>th</sup> Avenue S.W., Calgary, Alberta, T2P 3S8, is the Transfer Agent and Registrar of the Corporation.

## **LEGAL PROCEEDINGS**

There are no outstanding legal proceedings material to the Corporation to which the Corporation is a party or in respect of which any of its properties are subject, nor are there any such proceedings known to be contemplated.

## **ADDITIONAL INFORMATION AND DOCUMENTS INCORPORATED BY REFERENCE**

Management's Discussion and Analysis of the financial conditions and results of operations of the Corporation as set out on pages 16 through 22, inclusive, of the Corporation's 2003 Annual Report is incorporated herein by reference. Additional information, including directors' and officers' remuneration and indebtedness to the Corporation,

principal holders of securities of the Corporation, options to purchase securities and interests of insiders in material transactions, where applicable, is contained within the Corporation's Information Circular - Proxy Statement dated March 24, 2004 prepared in connection with the Annual and Special Meeting of Shareholders to be held on May 27, 2004, which information is incorporated herein by reference. Additional financial information is provided in the Corporation's comparative financial statements for its financial year ended December 31, 2003, together with the accompanying report of the auditor, which is included in the Corporation's 2003 Annual Report. Additional information relating generally to the Corporation may be found on SEDAR at [www.sedar.com](http://www.sedar.com).

The Corporation shall provide to any person, upon request to Cameron B. Olson, the Chief Financial Officer of the Corporation, at the head office of CSI, 4110 - 9<sup>th</sup> Street, S.E., Calgary, Alberta, T2G 3C4, at any time, the following documents:

1. When the securities of the Corporation are in the course of a distribution pursuant to a short form prospectus, or a preliminary short form prospectus has been filed in respect of a distribution of its securities:
  - (a) one copy of the current Annual Information Form of the Corporation, together with one copy of any document, or the pertinent pages of any document, incorporated by reference in the Annual Information Form;
  - (b) one copy of the comparative financial statements of the Corporation for its most recently completed financial year for which financial statements have been filed together with the accompanying report of the auditors and one copy of the most recent interim financial statements of the Corporation that have been filed for any period subsequent to its most recently completed financial year;
  - (c) one copy of the information circular of the Corporation in respect of its most recent annual meeting of shareholders that involved the election of directors or one copy of any annual filing prepared in lieu of that information circular, as applicable; and
  - (d) one copy of any other documents that are incorporated by reference into the preliminary short form prospectus or the short form prospectus and are not required to be provided under (i) through (iii) above; or
2. At any other time, one copy of any of the documents referred to in (a)(i), (ii) and (iii) above, provided that the Corporation may require the payment of a reasonable charge if the request is made by a person who is not a security-holder of the Corporation.