

# **HEMISPHERE GPS INC.**

## **ANNUAL INFORMATION FORM**

**For the fiscal year ended  
December 31, 2012**

**March 26, 2013**

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## **SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS**

Certain statements contained in this annual information form ("Annual Information Form") constitute forward-looking statements. These statements relate to future events or our future performance. All statements other than statements of historical fact may be forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as "seek", "anticipate", "plan", "continue", "estimate", "expect", "may", "will", "project", "predict", "potential", "targeting", "intend", "could", "might", "should", "believe" and similar expressions. These statements involve 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. We believe 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 this Annual Information Form should not be unduly relied upon. These statements speak only as of the date of this Annual Information Form.

In particular, this Annual Information Form contains forward-looking statements pertaining to, but not limited to, the following:

- financial results;
- new and emerging markets;
- customer adoption of technology and products;
- technological developments;
- adequacy of facilities;
- dividend policy;
- plans to invest resources in research and product development;
- focus on expansion and its anticipated effect on growth opportunities;
- opportunities to mitigate seasonality;
- our business strategy;
- expectations regarding the ability to raise capital;
- the Restructuring (as defined herein); and
- research and capital expenditures programs.

The actual results could differ materially from those anticipated in these forward-looking statements as a result of, but not limited to, the risk factors set forth below and elsewhere in this Annual Information Form:

- fluctuation in foreign exchange or interest rates;
- negative conditions in general economic and financial markets;
- departure of key personnel or consultants;
- competition;
- reliance on key suppliers and third parties;
- inability to introduce new technology and new products in a timely manner;
- legal claims for the infringement of intellectual property and other claims;
- changes in income tax laws and other government regulations;
- availability of key supplies and components;
- losses from credit exposures;
- changes in the Global Navigation Satellite System ("GNSS") and other systems outside of our control;
- incorrect assessments of the value of acquisitions;
- misappropriation of proprietary information;
- conflicts of interest;
- product liability;
- successful development of new and emerging markets that we serve;
- damage or loss of use of physical facilities;
- other legal risks;
- stock market volatility and market valuations; and
- other factors discussed under "Risk Factors".

With respect to forward-looking statements contained in this document, we have made assumptions regarding, among other things: future technological developments; availability of key supplies, components, services, networks and developments; future exchange rates; the cost of expanding Hemisphere GPS' product lines; the impact of increasing competition; the nature and outcome of legal proceedings; the continuity of existing business relationships; conditions in general economic and financial markets; availability of skilled labour; and our ability to obtain financing on acceptable terms.

Management has included the above summary of assumptions and risks related to forward-looking information provided in this Annual Information Form in order to provide shareholders with a more complete perspective on Hemisphere GPS' current and future operations and such information may not be appropriate for other purposes. Readers are cautioned that the foregoing lists of factors are not exhaustive. The forward looking statements contained in this Annual Information Form are expressly qualified by this cautionary statement. Readers should also carefully consider the matters discussed under the heading "Risk Factors" in this Annual Information Form. Except as required by law, we undertake no obligation to publicly update or revise any forward-looking statements.

## **GENERAL MATTERS**

This Annual Information Form contains company names, product names, trade names, trademarks and service marks of Hemisphere GPS® and other organizations, all of which are the property of their respective owners.

## **CORPORATE STRUCTURE**

Hemisphere GPS Inc. (the "Corporation", "HEM", "Hemisphere GPS", "us", "we", or "our", where the context requires, also includes our predecessors and our subsidiaries) was incorporated as Canadian Systems International Inc. pursuant to the *Business Corporations Act* (Alberta) (the "ABCA") on July 31, 1990. On October 26, 1992 the Corporation changed its name to Communication Systems International Inc. On June 21, 2000, the Corporation changed its name to CSI Wireless Inc. On May 9, 2007, the Corporation changed its name to Hemisphere GPS Inc.

Effective April 30, 1996, the Corporation amended its articles to effect, among other things, a re-designation of the Corporation's Class A common shares to common shares of the Corporation ("Common Shares"), a stock split of the Common Shares on a 12,500 to 1 basis and to delete the "private company" share transfer restrictions. Hemisphere GPS designs and manufactures innovative, cost-effective, Global Navigation Satellite Systems ("GNSS") products for applications in ground agriculture, air agriculture, marine and other markets.

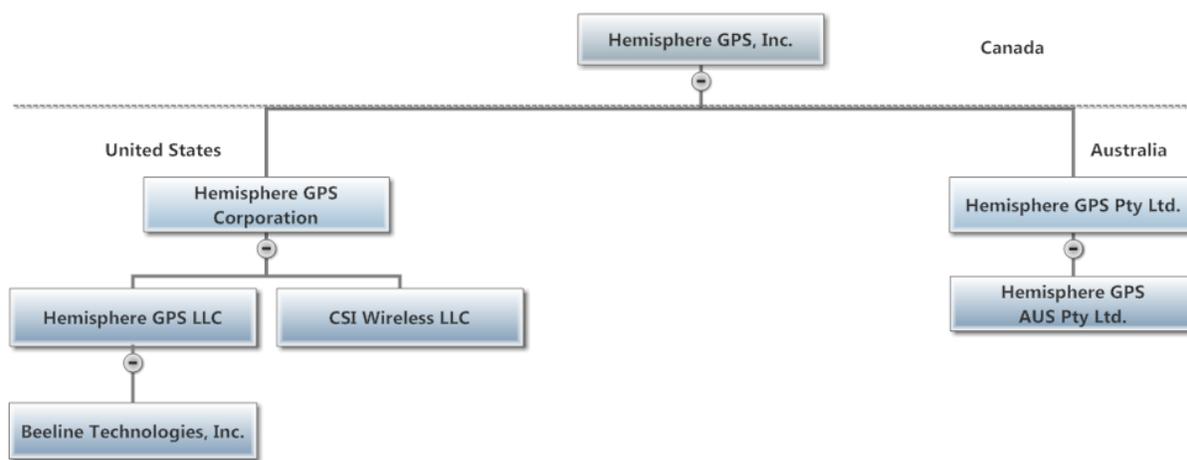
Our registered and head office is located at 4110 – 9<sup>th</sup> Street S.E., Calgary, Alberta, T2G 3C4. The Corporation is currently transitioning its head office to Hiawatha, Kansas, and its Calgary head office location will be officially closed on May 31, 2013.

### **Inter-Corporate Relationships**

Hemisphere GPS Inc. has four subsidiaries incorporated under the laws of the state of Delaware: Hemisphere GPS Corporation, Hemisphere GPS LLC, CSI Wireless LLC and BEELINE Technologies, Inc. Hemisphere GPS Corporation was previously named CSI Wireless Corporation, before a name change in April 2008. Hemisphere GPS LLC was previously named Satloc LLC, before a name change in November, 2005. Hemisphere GPS Corporation is a wholly owned subsidiary of the Corporation and Hemisphere GPS Corporation holds 100% of the shares of CSI Wireless LLC and Hemisphere GPS LLC. BEELINE Technologies, Inc. is a wholly owned subsidiary of Hemisphere GPS LLC.

Hemisphere GPS Inc. has two subsidiaries incorporated in Australia. Hemisphere GPS Pty Ltd. is incorporated under the laws of the Australian State of Victoria. Its wholly-owned subsidiary, Hemisphere GPS AUS Pty Ltd. is incorporated under the laws of the Australian State of Queensland. Hemisphere GPS AUS Pty Ltd. was previously named BEELINE Technologies Pty Ltd., before a name change in February 2008. Hemisphere GPS AUS Pty Ltd. previously held 100% of the shares of a subsidiary named Spatial Networks Pty Ltd. that was incorporated under the laws of Queensland. This subsidiary was dissolved in 2008.

The following chart reflects our corporate structure as at the date hereof. Each of the subsidiary companies is a wholly owned subsidiary of its parent:



### GENERAL DEVELOPMENT OF THE BUSINESS

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. All financial information referenced in this Annual Information Form is denominated in US dollars, unless otherwise indicated.

#### Three Year History

##### 2010

On January 12, 2010, we introduced A22™ GNSS antenna which improves noise mitigation characteristics and provides strong performance in difficult radio frequency environments.

On January 12, 2010, we launched the *Outback eDriveX™* hydraulic auto-steering system and the *Outback A220™* smart GNSS antenna. These products provide centimetre-level accuracy for a wide range of agriculture applications.

On January 13, 2010, we introduced *G100™* all-in-one steering and guidance system for auto-steer ready agricultural vehicles.

On March 1, 2010, we announced that *Outback Guidance®* by Hemisphere GPS is expanding its aftermarket sales network throughout Australia.

On March 19, 2010, we announced that the Board of Directors of Hemisphere GPS adopted a Shareholder Rights Plan (the "Rights Plan") for which shareholder approval was obtained at our annual and special meeting of shareholders held on May 18, 2010. The Rights Plan is designed to provide shareholders and the Board of Directors with adequate time to consider and evaluate any unsolicited bid made for Hemisphere GPS, to provide the Board of Directors with adequate time to identify, develop and negotiate value-enhancing alternatives, if considered appropriate, to any such unsolicited bid, to encourage the fair treatment of shareholders in connection with any take-over bid for Hemisphere GPS and to ensure that any proposed transaction is in the best interests of our shareholders.

On March 25, 2010, we announced the launch of new Earthworks™ Business Unit that designs and manufactures products for the construction market, together with the launch of the X200™ 2D excavator machine guidance system.

On April 19, 2010, we introduced *GateMate*™ - a portable Alpine Ski racing gate placement and tracking system.

On May 13, 2010, we announced the availability of new installation kits for the high-performance *Outback eDriveX* auto-steering system.

On May 20, 2010, we announced the availability of supplemental software release for *Outback S3* that allows users to configure and operate *Outback AutoMate* from the *S3* user interface.

On June 21, 2010, we announced the release of the *Crescent*™ *Vector II*™ Original Equipment Manufacturer ("OEM") board and a broad range of *Crescent Vector II* GNSS compass products: *V101*™ *Series*, *VS101*™ *Series*, and *LV101*™ OEM board.

On August 11, 2010, we announced the supply of *LV101*™ GNSS compass to TECHNOMASTER, a marine electronics engineering firm in Brazil.

On August 12, 2010, we announced the addition of three new Earthworks dealers to the Corporation's distribution network to serve a range of territory including mid-Atlantic and Western States.

On August 17, 2010, we announced the availability of two new antennas: *A52*™ and *A21*™. *A52* is used in challenging environments as it has superior multipath mitigation and *A21* is primarily used in aerial applications.

On August 23, 2010, we announced the release of the Earthworks *X300*™ excavator guidance system which measures and displays three-dimensional excavator positioning to operators, vastly improving excavation proficiency and accuracy and greatly reducing rework.

On September 2, 2010, we announced the availability of the *R131*™ DGNSS receiver which provides a feature-packed rack-mountable DGNSS solution.

On September 8, 2010, we announced the introduction of next generation *Eclipse II*™ GNSS receiver technology and the release of the *Eclipse II* OEM board.

On September 22, 2010, we announced the release of *miniEclipse*™ – a compact dual frequency GNSS OEM board.

On September 30, 2010, we launched *eDriveX* in Brazil under the Stara S.A. brand SPEED DRIVEx.

On October 5, 2010, we announced the release of *R320*™ – the first GNSS receiver built using the *Eclipse II* OEM board.

On October 18, 2010, we announced the release of *HQ*™ – a real-time web-based asset tracking tool that allows companies to track position and position-related data of aircraft and other assets such as spotter vehicles and loader trucks.

On November 10, 2010, we introduced the *VersaSteer*™ interface (*VSt*™), a new electric steering wheel option for the *Outback eDrive*™ automated steering system.

On November 15, 2010, we announced the expansion of our OEM agreement with ComNav Marine Ltd. to manufacture a GNSS compass available under a private branding agreement for ComNav Ltd.

On November 29, 2010, we announced the launch of *eDriveX* in Europe under the CLAAS brand, GNSS Pilot.

On December 6, 2010, we announced the availability of new installation kits for the *Outback eDriveX* auto-steering system for auto-steer ready tractors.

On December 6, 2010, we introduced background maps, the first software mapping application for use in the aerial agriculture application market.

On December 7, 2010, we announced the availability of *Satloc® Bantam™*, a mid-level GNSS guidance solution for the aerial agriculture application market.

On December 9, 2010, we announced an OEM alliance with Foton Lovol to launch *Outback Guidance* precision farming products in China.

## **2011**

On January 5, 2011, we were recognized for the third consecutive year as one of Alberta's fastest growing companies by *Alberta Venture* magazine.

On February 7, 2011, we announced the release of two compact GNSS compass products; the *V102™* all-in-one and the *H102™* OEM module.

On February 8, 2011, we announced an agreement with Wellington West Capital Markets Inc. as lead underwriter on behalf of a syndicate of underwriters for the issuance of 5,228,859 Common Shares, on a bought deal basis, at a price of Cdn\$1.53 per Common Share for gross proceeds of approximately Cdn\$8,000,000 (the "Offering"). The underwriters were also granted an option, exercisable in whole or in part, for a period of 30 days following the closing of the Offering, to purchase up to an additional 784,313 Common Shares, which would increase the total gross proceeds of the Offering to approximately Cdn\$9,200,000.

On February 10, 2011, we announced an OEM alliance with YTO Group Corporation, to utilize *Outback Guidance* precision farming products in China.

On February 16, 2011, we announced the introduction of *eTurns™* - the agriculture industry's first autoturn solution available for multiple brands of farm machinery.

On March 2, 2011, we announced that the Offering had closed. The option granted to the underwriters was not exercised.

On March 10, 2011, we announced that we had signed a software license agreement with Deere & Company that allowed for the continued compatibility of our *eDriveX* automated steering system for aftermarket installation on existing John Deere machinery.

On April 6, 2011, we were recognized for the 4<sup>th</sup> consecutive year on the Branham300 List as one of Canada's Top Information and Communication Technology Companies.

On May 31, 2011, we introduced the *LX-2™*, a new second generation L-Band differential GNSS OEM receiver board. *LX-2* is designed for use by IOEMS that want to augment the *Crescent® P100™* and *P200™* series boards with L-Band differential capability.

On June 9, 2011, we announced our agreement to supply our *Crescent* GNSS technology and components to TechGeo. TechGeo, a leading manufacturer of geodetic GPS solutions based in Juiz de Fora, Brazil, integrated Hemisphere GPS' *Crescent* GNSS engine into a feature-packed smart antenna product, named *Zênite*.

On June 15, 2011, we announced the availability of long range RTK for *Outback Guidance* systems featuring Hemisphere GPS' *Eclipse* GNSS receivers at the Western Canada Farm Progress Show in Regina, Saskatchewan.

On July 18, 2011, we announced the release of a new *Earthworks*® excavator grade control system for small to medium-sized contractors. The simple and affordable *Earthworks X100* displays bucket position relative to desired grade to improve the operator's accuracy and efficiency when digging foundations, trenching, cutting a slope and in many other excavation applications.

On August 16, 2011, we launched the *eDriveVSi*<sup>TM</sup>, our electric steering wheel option to the Australian market.

On August 30, 2011, we announced new *Outback Guidance* solutions, including the enhanced *eDriveX* features and the A320/A321 smart antennas, at the Farm Progress Show in Decatur, Illinois.

On September 6, 2011, we announced the all new *A3I*<sup>TM</sup> antenna. The *A3I* is a multi-band precision antenna suitable for use with most precision GNSS receiver to maintain tracking of GNSS and differential correction signals in high-noise and interference environments.

On September 12, 2011, we announced the new *S320*<sup>TM</sup> GNSS survey receiver, *XFI*<sup>TM</sup> data collector, and survey software.

On October 20, 2011, we announced a new OEM development agreement with CLAAS Agrosystems whereby we will develop next generation precision farming solutions for integration into CLAAS machinery.

On November 21, 2011, we expanded our multi-year OEM agreement with Navico, Inc. to provide a GNSS compass to Navico which was privately branded the Simrad HS70.

On December 15, 2011, we announced the availability of the improved *G100*<sup>TM</sup> all-in-one guidance and steering system for agriculture machinery.

On December 19, 2011, we announced our partnership with AgSync Inc. ("AgSync") and our release of *HQ Sync*<sup>TM</sup> – a seamless bridge between our HQ real-time web-based asset tracking tool and the AgSync work order management system.

## **2012**

On January 10, 2012, we announced the release of Satloc G4 - a comprehensive and advanced aircraft guidance system for aerial applicators.

On January 18, 2012, we announced our entrance into the emerging data services market in precision agriculture with a purchase agreement to acquire the assets and operations of AgJunction a cloud-based data management software platform from GVM, Inc. (the "Acquisition"). On January 31, 2012, we announced completion of the Acquisition. Pursuant to the Acquisition, Hemisphere GPS purchased the *AgJunction* assets and operations for consideration of US\$2.0 million in cash and 5,447,410 Common Shares. As additional purchase consideration, Hemisphere GPS agreed to pay cash earn-out payments to a maximum of US\$0.5M and 2,723,705 Common Shares upon the achievement of revenue growth targets for each of the 2012 and 2013 fiscal years.

On February 16, 2012, we announced an alliance with Carlson Software to provide a roadmap for new, integrated solutions for land survey, mapping, construction, mining and other key machine control markets.

On March 13, 2012, we announced the Vector V103<sup>TM</sup> GPS compass and Vector V113<sup>TM</sup> GPS compass designed for professional, commercial marine, and machine control applications.

On March 14, 2012, we announced the new Vector H320 OEM module.

On March 28, 2012, we announced the Eclipse<sup>TM</sup> P300 and Eclipse P301 OEM modules - the next generation high-performance compact modules for RTK GNSS applications.

On April 26, 2012, we were recognized for our commitment to growth and innovation throughout 2011 by landing a spot on the Branham300 List for the fifth consecutive year. Hemisphere GPS was ranked 68th among the top 250 Canadian Information and Communication Technology (ICT) companies recognized.

On April 30, 2012, we announced, along with Stara S.A. Indústria de Implementos Agrícolas ("Stara"), an expanded OEM partnership as part of Stara's new SpeedDrive X system.

On May 2, 2012, we announced the EquiPiste™ integrated snow grooming management system. EquiPiste provides visual guidance, snow depth status and event logging for snow grooming operators, mountain managers and snow road operations.

On May 16, 2012, we announced the new AgJunction Mobile for iOS, an enhancement to AgJunction®, its precision agriculture data services platform.

On May 18, 2012, we announced that AgJunction reached a major milestone by collectively managing data on 20 million unique farm acres in the U.S. and Canada.

On May 22, 2012, we announced new weather features available in AgJunction through the advanced weather data service of Weather Decision Technologies®, Inc. (WDT).

On May 24, 2012, we announced the integration of the John Deere AgLogic fleet logistics management solution with AgJunction, its precision agriculture data services platform.

On June 20, 2012, we announced that all Outback Guidance Centers throughout Canada now accept AgriCard, a leader in agribusiness credit with over 25,000 customers.

On June 27, 2012, we announced the affordable A325 GNSS Smart Antenna. This new design incorporated professional-level centimeter and sub-meter positioning accuracy powered by Hemisphere GPS' Eclipse™ receiver technology and includes L-band and Bluetooth communications support.

On July 23, 2012, we announced multiple enhancements to the eDriveX automated steering system.

On July 25, 2012, we announced new patents for machine control and other GNSS related technology.

On August 3, 2012, we announced distribution partnerships in Brazil and China for our flagship S320™ GNSS survey receiver.

On August 27, 2012, we introduced Outback MAX™ with Outback ConnX™ — the next generation Outback Guidance® system that redefines simplicity in precision farming.

On September 5, 2012, we announced that Mr. Rick Heiniger had resigned from his position as Vice Chairman of the Board to accept the appointment as President and Chief Executive Officer of Hemisphere GPS to replace Mr. Steven Koles, who had resigned from his position as President and Chief Executive Officer and as a director of Hemisphere GPS.

On October 2, 2012, we announced the new S320™ network rover and XF2™ handheld data collector.

On October 4, 2012, we announced the Vector VS330™ and Vector VS131™ GPS compass products, which provide high performance heading, position, heave, and attitude data.

On November 14, 2012, we announced a restructuring that will include relocating the Corporation's headquarters to Hiawatha, KS and divesting all non-agricultural operations (the "Restructuring"). The Restructuring is expected to continue through June, 2013, with the bulk of the costs being recorded in the fourth quarter of 2012. Total workforce, including employees and contractors, will be reduced from 250 to about 170. Of the reduction in workforce, approximately 40 employees are associated with Precision Products, and approximately 40 are associated

with the outsourcing of manufacturing, closure of the Calgary office and streamlining of the organizational structure. The existing agricultural business will not be interrupted during this process

### **RECENT DEVELOPMENTS**

On January 31, 2013, we announced that we signed and closed a definitive agreement to sell the business assets associated with our non-agricultural operations to the Canadian subsidiary of Beijing UniStrong Science & Technology Co. Ltd. ("UniStrong") for cash of \$14.96M. Hemisphere GPS' non-agricultural operations include the Corporation's precision products portfolio and related infrastructure serving marine, land survey, construction, mapping, and OEM segments. Included in the sale were the intellectual property rights associated with the non-agricultural operations necessary to support the continued growth of those operations globally, including trademarks associated with the "Hemisphere GPS" identity. The Hemisphere GPS brand was not part of the Corporation's agriculture identity. In addition, as part of the transaction, UniStrong and Hemisphere GPS have formed a strategic alliance and a collaborative business relationship covering supply chain management, customer support, non-competition, and perpetual technology cross-licensing.

As part of the Restructuring, on January 31, 2013, the Corporation also announced that it had completed the transition of its Calgary-based manufacturing activities to its external manufacturing partner, and had closed its Calgary-based manufacturing activities. The transition of the Corporation's head office to Hiawatha, Kansas continues, and the Calgary location will be officially closed on May 31, 2013.

On January 31, 2013, the Corporation announced that it plans to change its corporate name to "AgJunction Inc." subject to shareholder approval at its annual shareholders meeting, scheduled for May 15, 2013.

On February 28, 2013, the Corporation announced its new AgJunction executive leadership team. See "Directors and Officers".

### **SIGNIFICANT ACQUISITIONS**

We did not complete any significant acquisitions during the year ended December 31, 2012 for which disclosure is required under Part 8 of National Instrument 51-102 – *Continuous Disclosure Obligations*.

### **DESCRIPTION OF OUR BUSINESS**

#### **General**

We design, manufacture and market products and applications incorporating Global Navigation Satellite System ("GNSS") technology that provide intelligent automation and navigation solutions through the sophisticated integration of GNSS positioning, and other technologies for precision machine guidance, steering and flow control. More particularly, our products offer accurate positioning and machine control capabilities at favourable price points in robust outdoor environments. In the year ended December 31, 2012, we had a specific focus on the following markets: ground agriculture, aerial agriculture, marine, and survey and construction. Our product lines include high-accuracy Real Time Kinematic ("RTK"), differential GNSS ("DGNS") and autonomous GNSS receivers, OEM engines (PCB-based GNSS sensors), ground and aerial guidance solutions, machine control and auto-steering systems for agriculture, and guidance and machine control solutions for construction. On January 31, 2013, we signed and closed a definitive agreement to sell the business assets associated with our non-agricultural operations, including the Corporation's precision products portfolio and related infrastructure serving marine, land survey, construction, mapping, and OEM segments. See "Recent Developments".

## **Industry Background**

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

The United States' Department of Defense (DoD) operates a reliable, 24-hour-per-day, all-weather GNSS system referred to as the *Global Positioning System* or "*GPS*". 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 the GPS System Works:*

GPS satellites transmit coded information to users at two frequency bands (1.575 GHz and 1.2276 GHz) that enable 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 multiplying the time of transit of the signal by 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 enables 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 centre of the GPS antenna.

GPS and other GNSS signals are also broadcast in a frequency range known as the "*L-Band*". At these frequencies, the radio signals are *line-of-sight* signals. That is, the satellite must be in view of the antenna at all times or the signal may be lost. Signal loss can be caused by tree canopies, hills, buildings or other physical objects.

Other GNSS systems operate in a similar manner to the GPS GNSS system although each has unique approaches to developing the position solution. Other GNSS systems include Russia's *GLONASS* system, Europe's *GALILEO* system, and China's *COMPASS* system – each in varying levels of deployment and operation.

### ***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, though less accurate than the PPS, is available to all users.

In order to maintain a strategic advantage, the US DoD used to artificially degrade the performance of the SPS so the positioning accuracy was limited to 100 metres, with 95% confidence. This intentional degradation was called Selective Availability. On May 1, 2000, Selective Availability was reduced to zero, effectively turning off the degradation. The intent, which has proven to be quite successful, was to stimulate the development of applications that utilize GPS technology, together with the related social and economic benefits.

With Selective Availability no longer in place, autonomous GPS (utilizing the SPS) is able to achieve a horizontal accuracy of better than 10 meters, with 95% confidence.

### ***Differential GNSS***

The purpose of Differential GNSS ("*DGNSS*") systems and techniques is to remove the effects of errors with the goal of enhancing GNSS system integrity and positional accuracy. Errors that impact accuracy include ionospheric errors, timing errors, multipath interference and satellite orbit errors. Prior to May 1, 2000, DGNSS also helped to reduce the impact of Selective Availability.

### *How DGNS Works:*

DGNS generally involves setting up a reference GNSS receiver system at a point of known coordinates. This receiver makes distance measurements, in real-time, to each of the GNSS satellites, which include any errors that are present in the system. The reference 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 to correct for errors present in the system.

### *Real-Time DGNS:*

To correct for system errors in real-time, the GNSS reference receiver transmits the range error corrections to remote receivers using various forms of wireless communications. The remote receiver uses these differential corrections to correct its satellite range measurements, providing a more accurate position. This approach is the predominant DGNS strategy used for real-time applications.

### *Wide-Area DGNS ("WADGNS"):*

A version of differential GNSS that provides error corrections over a large geographic area and employs multiple, widely distributed reference receivers. The data from the reference receivers is typically processed at a centrally located facility before being distributed to the end-user.

### ***Differential GNSS Techniques and Services***

We offer Crescent® and Eclipse™ receiver equipment that is compatible with the five main sources of differential corrections: Beacon DGNS, L-Band Satellite WADGNS, Space Based Augmentation Systems ("SBAS WADGNS"), our proprietary Carrier phase-based Local DGNS known as L-Dif™, and Real Time Kinematic ("RTK").

### *Beacon DGNS:*

Many marine authorities around the world have installed networks of medium-frequency (283.5 to 325 kHz) beacons that broadcast free DGNS correction information to users. When in range of a beacon, these signals may be used to differentially correct a GNSS position. The achievable accuracy depends on the sophistication of the GNSS receiver used and ranges from one to five metres, with 95% confidence.

An advantage of the free beacon 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 canopies or diffract around obstacles such as buildings and other structures. The disadvantages include Beacon DGNS' 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 WADGNS:*

Currently, a number of private organizations provide, for a subscription fee, differential corrections to the positioning industry by transmitting correction data via an L-band communication satellite. They include the OmniSTAR®, Navcom and Veripos systems and provide almost worldwide signal coverage.

Because L-Band WADGNS features networks of reference stations to provide correction information throughout the coverage regions, the correction data is optimized so it does not degrade as readily as single reference station services, such as beacon DGNS. This feature results in improved consistency of performance when compared to conventional services, which improves 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 with a horizontal accuracy of 1 meter or better, with 95% confidence. Newer L-Band systems, such as Omnistar HP, can provide accuracies at the decimetre level when used with dual-frequency GNSS receivers.

Because these services broadcast in the L-Band, similar to GNSS signals, they are line-of-sight signals and the satellite must be in view of the antenna at all times or the signal may be lost.

#### *SBAS WADGNSS:*

The most notable SBAS system for users in North America is the US Federal Aviation Administration's Wide Area Augmentation System ("WAAS"). Others include the European Geostationary Overlay System ("EGNOS") and Japan's MTSAT Satellite-Based Augmentation System ("MSAS"). They are similar to L-Band DGNS in that they use satellite transponders to relay correction information back to Earth, however, they are free-of-charge systems that have been developed primarily for aviation navigation. Other countries, including China and India are developing SBAS systems.

SBAS WADGNSS systems determine the individual constituents of the satellite ranging errors, rather than generating one lumped error correction as is done by Beacon DGNS and some commercial L-Band WADGNSS systems. These constituents include satellite orbit, clock, and ionospheric errors. A more consistent level of accuracy can be achieved in comparison to the lumped error correction method. SBAS systems provide a similar level of overall accuracy to commercial L-Band services at about 1 metre, with 95% confidence.

Another benefit of SBAS WADGNSS systems is that their signals are broadcast at the same frequency as GNSS, enabling suitably designed GNSS receiver systems to track both the GNSS and SBAS signals. This reduces overall system costs, compared to requiring a separate differential receiver for Beacon DGNS or for L-Band WADGNSS. However, a drawback of transmitting data at the GNSS frequency is that the signal is line-of-sight – increasing the potential for signal loss.

WAAS provides exceptional coverage of most of the US, southern Canada and Mexico. SBAS coverage over other regions of the world is the responsibility of respective regional aviation navigation authorities. The overall goal of SBAS systems is to develop an interoperable GNSS augmentation system covering the majority of air traffic routes.

#### *Local DGNS (L-Dif™):*

These systems utilize portable base station receiver units that calculate and broadcast localized code and carrier phase corrections to mobile GNSS receivers ("rovers"). The corrections are processed in the rover GNSS receiver to achieve accuracy and repeatability that is not possible with code-only DGNS methods such as Beacon DGNS or SBAS WADGNSS systems. Multiple rover receivers can operate using a single local base station. Our *BaselineX™* product, described in more detail below, is an example of a Local DGNS solution.

#### *Real Time Kinematic or "RTK":*

RTK systems are a highly sophisticated form of Local DGNS system that can provide accuracy to the centimetre level. RTK is a technique used predominantly in land survey and other high precision applications where the carrier phase measurements of the GNSS are processed for higher real-time positioning accuracy. Similar to Local DGNS, RTK systems use a base station receiver in conjunction with the mobile unit for the mobile unit to calculate its relative position. Our dual-frequency Eclipse™ receiver technology utilizes RTK to deliver centimetre level accuracy.

### **The Hemisphere GPS Solution**

Hemisphere GPS has been a leader in the design and manufacture of competitive, high-accuracy, cost-effective GNSS positioning devices and applications since 1990. The following characteristics describe the competitive advantages associated with our products.

#### *Technology and Applications:*

Originally, the focus of our technology and products was on Differential GNSS receivers. However, our technology portfolio has been expanded beyond GNSS technology through research and development, and through strategic

acquisitions. Today, our technology portfolio continues to grow to include strong proprietary technology in GNSS and DGNSS, as well as advanced applications for guidance, machine control, steering, flow control, data management, and other automation. Our GNSS engineering team has become known in the industry for innovation and creativity as a result of achievements such as:

- Developing the Crescent® GNSS technology – our own application-specific integrated circuit ("ASIC") providing our GNSS receivers with greater accuracy and performance than previously available for lower cost. Our GNSS technology leadership is further demonstrated in our eDif® and COAST® software that provides enhanced GNSS coverage where no differential exists or in difficult conditions.
- Developing an L-Dif™ solution with centimetre-level accuracy for advanced applications by incorporating RTK technology with our single-frequency Crescent GNSS technology platform. This enables higher accuracy at lower cost compared to competing systems.
- Achieving continual cost reductions through initiatives such as integrating GNSS and differential receivers in a single module to share common resources.
- Developing a GNSS-based heading sensor system that replaces expensive competing systems by combining two GNSS receivers and two antennas into a single enclosure to provide heading information to within half-degree accuracy.
- Developing the Eclipse™ dual-frequency GNSS receiver technology and associated digital and RF ASICs to obtain centimetre accuracy levels when using RTK measurement techniques. This technology offers affordable and versatile precise GNSS positioning platform to system integrators and OEM partners.
- Enabling our GNSS systems to track and acquire the GLONASS satellite signals and supporting Galileo signal tracking once that capability is authorized for commercial use.

#### *Range of Options:*

Our products offer a range of options to customers. For example, our Outback Guidance® family of products starts with basic visual guidance for agricultural applications. Beyond this entry point, customers can expand their guidance capability with auto-steering, rate control and high performance products as their comfort with the technology grows. Our DGNSS products are compatible with all primary sources of differential corrections currently available: Beacon differential GNSS, L-Band, WADGNSS, SBAS WADGNSS and Local DGNSS, including RTK. This provides customers with the option of selecting the technology that is most compatible with their application while considering several factors including the required precision and cost.

#### *Price:*

Hemisphere GPS has distinguished itself as a provider of high performance GNSS guidance and positioning devices at market-leading prices. We continue to pursue cost reduction efforts to maintain our competitive advantage for the customer segments that we target. For example, we introduced Eclipse dual-frequency GNSS receiver technology, which provides high performance and functional versatility for lower cost than competing systems.

#### *Reliability:*

Our products are designed to meet very high standards of reliability in a wide range of applications and environments. For example, we have implemented a difficult agricultural standard (EP455) against which we evaluate our products. Meeting these standards will ensure our products can withstand the harshest environments.

#### *Quality:*

We have implemented a quality management system focused on providing our customers with products of high value and quality and focused on continuous improvement. Further, we have selected GNSS component suppliers and manufacturing partners that meet our high standards for quality. Through our internal processes, and the outsourced manufacturing of certain of our products, we are able to maintain a high standard of quality control and documentation to ensure continued production of high-quality products. In 2009, our quality management system was certified to the international ISO 9001:2008 standard.

### *Ease of Use:*

Our products are designed for ease of use. The Outback product line, targeted to farming customers, provides for simple, out of the box installation and use. Our products are designed for simple integration with our customers' applications and/or products. A significant investment is made in customer support to ensure that our customers have the resources they need to achieve full benefit from the products.

## **Business Strategy**

### *Product Innovation:*

Our success has been driven by our ability to develop new positioning, guidance and machine control technologies, to respond to environmental and market changes, and to apply creativity and innovation in the development of new products that meet the evolving demands of our customers. We will continue drive product leadership through focus and innovation.

### *Develop Strategic Relationships:*

We believe that strategic relationships with suppliers, OEMs, dealers, distributors and other customers are critical to long-term success. We will continue to develop existing and new strategic relationships.

### *International Expansion:*

In the near-term, the North American market is a significant opportunity where we are well positioned through our distribution networks and product portfolio. We believe that focus on international expansion is important to position for mid to longer-term growth opportunities and to buffer the seasonality associated with our exposure to the North American agricultural markets. Key emerging markets include South America, China, Eastern Europe and India.

### *New Vertical Markets and Applications:*

We have achieved strong positions in the ground agriculture, aerial agriculture and other markets. To support mid to longer-term growth, we seek expansion to new vertical markets, such as agriculture data management, where we can leverage our core strengths in positioning, guidance, machine control, steering and flow control technologies and applications.

### *Optimize Product Cost:*

We continue to aggressively pursue opportunities to reduce or optimize the cost of our products through product design, manufacturing efficiencies and procurement strategies, with an objective to balance functionality, performance and quality with customer needs.

### *Enhance Manufacturing Quality and Capacity:*

All manufacturing activities have been outsourced to a trusted partner that will reduce costs, increase capacity, and continue to provide a high-level of quality.

### *Quality Certification:*

In our interest to continually improve our quality management process, we underwent an intensive initiative to review, enhance and audit our operating practices. This raised the standards of our organizational discipline and enabled us to obtain certification of our quality management system to the international ISO 9001:2008 standard in 2009. The certification reinforces our commitment to customer satisfaction through high-quality design, development, assembly, testing, delivery, and technical support.

### *Pursue Strategic Growth:*

We believe that we have the products, brands, people and intellectual property that can continue to support organic growth. However, we will supplement internal growth and technology development with strategic growth initiatives such as partnerships, alliances, and acquisitions when and where we believe they will accelerate the achievement of our business strategy. We cannot predict whether any opportunities will result in partnerships, alliances, or acquisitions and there can be no assurance that suitable candidates will be identified or acquired on favourable terms, or that the acquired operations will be profitably operated or integrated into our operations.

### *Invest in our Intellectual Capital:*

We believe the employees in all levels of our organization have been, and will continue to be, the key factor in achieving our objectives. As a result, we continue to place a high priority on our intellectual capital.

## **Agriculture Products**

### ***Outback Guidance Products***

In 2012, Hemisphere GPS introduced Outback MAX™ with Outback ConnX™ — the next generation Outback Guidance® system that redefines simplicity in precision farming. Working seamlessly with Outback eDriveX™ with eTurns™, the Outback MAX integrated display terminal provides a full array of features including section and variable rate control, Eclipse™ L1/L2 GPS and GLONASS guidance, and video support for up to 4 monitoring cameras.

In addition to Outback MAX, our Outback Guidance product line for agricultural markets includes our *Outback S-Lite*, *Outback S*s, *Outback S3*, *Outback eDriveTC*™, *Outback VSi*, *Outback BaselineX*™, *Outback AC110*™ and *Outback eDriveX* product, featuring *eTurns* the "Industry's first Aftermarket and multi- tractor platform auto-turn solution. We recently released the *Outback AC110* integrated rate and section controller as well as our second generation dual frequency, GPS + GLONASS, smart antenna *A320* and *A321* base station.

*Outback S-Lite*, *S*s and *S3* family of products offers DGNSS guidance systems featuring WAAS and RTK differential solutions powered by our own high-accuracy Crescent GNSS technology. Using Crescent technology, our Outback products enable 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 pesticide that farmers say they typically recoup the costs of their easy-to-install and operate guidance systems in less than 12 months. *Outback S-Lite* is a low-cost, portable, entry-level GNSS guidance solution for non-precision spraying, spreading, and broad-acre tillage and seeding. The *Outback S3* and *S*s products provide increased functionality and accuracy required for more sophisticated growers. They can eliminate the need for foam markers and are expandable to work with *Outback AutoMate* for additional boom section control automation. The performance of the *Outback S*s can be improved by combining the products with the *Outback eDriveTC*. The top-end *Outback S3* is fully expandable to centimeter level automated steering with the *eDriveX* product, may offer integrated section and rate control with *AC110*, and be upgraded to RTK level positioning performance with single frequency *BaseLineX* or dual frequency *A320* and *A321*.

*Outback eDriveTC* and *Outback VSi* work with *Outback S3* and *Outback S*s to provide GNSS-assisted auto-steering that enables farmers to drive their tractors and other self-propelled agricultural equipment hands-free, along straight, contoured or pivot lines. Each system significantly increases the driving accuracy and enables operators to focus their attention on monitoring sprayers, combines or other equipment achieving even greater efficiency. A key benefit is the reduction in driver fatigue – enabling the machinery to operate for more hours each day, or through the night if necessary. In addition, the *Outback S3* and *eDriveX* can be used in conjunction with precision farming techniques focused on improved efficiency, productivity and yields such as "strip-till" farming which requires highly accurate planting and application of fertilizer and other chemicals.

*Outback A320* and *A321*, featuring Hemisphere GPS' *Eclipse II* GNSS, RTK, and *SureTrack*™ technologies, provide accuracy to the centimeter level for agricultural applications while also being more affordable than competing systems. *Outback A320* is a rover smart antenna that can be installed in a wide array of vehicle

applications while the A321 is available as a portable or fixed base station receiver that calculates and broadcasts localized corrections to rover products. A320 and A321 offer a wide range of communication options including 900 and 400MHz radios as well as connectivity options for cellular based network connections.

*Outback AC110* is an automatic rate and section control product that works directly with *Outback S3*. *Outback AC110* monitors and controls liquid or anhydrous application rate and implement sections to minimize overlaps and skips. It offers single product rate control, up to ten section automatic control, manual section control, and user adjustable section overlap. Machine and rate controller specific interface kits are available for a wide variety of vehicles and applications.

### ***Air Agriculture Products***

Our Air Agriculture products include guidance systems, rate control, cloud-based software and related services for the aerial application market. This includes spraying and spreading equipment, pattern and mission control software, automated constant or variable flow control for liquid and dry materials, prescription mapping, asset tracking, cloud-based file pushing/pulling, imagery-based services and more. Products include *Satloc G4*, *Satloc Bantam*, *LiteStar II™*, *Intelliflow®*, *IntelliGate™ Controller*, *MapStar™* and *HQ Asset Tracker™*.

*Satloc G4* is our top end aircraft guidance system for aerial applicators. It delivers a high-level of guidance performance through an intuitive lightbar and graphical display while enabling aerial application companies to leverage cloud-based services in order to make their jobs more efficient. *Satloc G4's* connectivity feature offers pilots the ability to transfer application data wirelessly, accept work orders and maps through the Internet, access the guidance system from remote locations such as the office, truck or mobile device, and directly communicate through Skype™ audio and video. *Satloc G4* contains the processing power of the Intel® Core™ i7 processor and Microsoft® Windows® 7, 64-bit Operating System. It lends itself to a high level of instant communication, data retrieval and transfer, knowledge center access, and improved training and troubleshooting methods. Combining this with *G4's* guidance patterns, background maps, and automated liquid and dry rate control capability, pilots are able to fly and apply with improved performance, efficiency, and safety.

*Satloc Bantam* is our mid-level aerial guidance system for aerial applicators. *Bantam* allows pilots to fly and spray precise patterns using constant rate flow control reducing fuel, flying time and application costs. The system is lightweight and rugged, perfectly designed for specialty installations in helicopters and smaller aircraft.

*LiteStar II* is an entry-level guidance system. It was designed to offer basic guidance features to customers needing only the essentials to work on spray jobs. It is lightweight and inexpensive.

*Intelliflow* enables liquid flow control for aerial guidance applications. Our *IntelliGate Controller* delivers precise application for dry materials in aerial guidance applications. Both products have the capability to operate in variable rate mode or automatically turn on and off inside and outside of field boundaries.

*MapStar* is a unique multi-featured pre-flight and post-analysis desktop software that provides the operator with important information regarding the entire application and essential flight parameters. Common GIS formats can be converted within this software to allow ease of use with other software platforms.

*HQ Asset Tracker* is a real time tracking system that operates with cell or satellite modems. Logins are performed through a website managed by *AgJunction* and users can track their aircraft and other assets. The *Satloc G4*, *IntelliStar* and *Satloc Bantam* can output configurable data sets to be broadcast, recorded and viewed live on our website. Managers, ground crews and all support staff can now make better decisions with real time knowledge of key status data such as arrival times and remaining load per aircraft. *HQ* can send work orders directly to the *Satloc G4* to significantly reduce setup and management time. *HQ* provides for the exchange of information between our customers and third-party companies for improved management services.

## ***AgJunction***

Hemisphere acquired the *AgJunction* business from GVM, Inc. in early 2012 to serve as a cloud-based services unit focused on providing enhanced data management services to the Agriculture market. The *AgJunction* platform supports agriculture retailers, pilots and farmers to move information to and from agriculture equipment, both in the air and on the ground, in the following ways:

1. Cloud-based Software - *AgJunction* offers users flexibility by storing and managing agriculture data in the cloud enabling faster access, mobility, and greater flexibility for the customer. The system includes easy to use tools to process and analyze data from yield monitoring, imagery, planting, as-applied and other sources.
2. Services - Soil laboratory and agronomist integration allows for quick and efficient conversion of data collected into prescription maps which can be wirelessly delivered to the rate controller. This helps to create models to decrease input costs and increase yields through map based applications.

## **Other Agriculture Products**

Our products for agricultural use also include non-Outback products focused on OEM and commercial customers based on customized hardware and software system solutions to meet specific customer applications. These include our high volume, industry leading single frequency *A100* receiver using our *Crescent* GNSS technology and our newest Dual Frequency, GPS+GLONASS, *A320* receiver. In addition, the newly released Hemisphere GPS *G100* smart antenna product brings "plug and play" GNSS guidance and steering to agriculture vehicles.

## **Precision Products**

In the year ended December 31, 2012, our Precision Products lines were focused on non-agriculture markets such as marine navigation, survey, construction and other industrial applications. These products include OEM boards and finished products, GNSS compass products, integrated GNSS and DGNSS receivers and antennas.

On January 31, 2013, we signed and closed a definitive agreement to sell the Corporation's non-agricultural operations, including the Corporation's Precision Products lines and related infrastructure. See "Recent Developments". **The following description of the Corporation's Precision Products lines is at December 31, 2012, prior to the disposition of the Corporation's non-agricultural operations on January 31, 2013.**

## ***Original Equipment Manufacturer Products***

The Corporation's OEM products were made up of the following classes of receivers; *Crescent LI<sup>TM</sup>* GNSS, *Eclipse dual-frequency RTK GNSS*, *Crescent Vector*, *SBX-4<sup>TM</sup>* beacon and the *LX-1 L-band boards*.

The *Crescent single-frequency GNSS OEM board* is a 12 channel, L1 GNSS receiver that features integrated SBAS differential support, the capability to utilize Beacon DGPS and L-Band WADGNSS corrections. It also incorporates the Corporation's COAST<sup>TM</sup> and extended differential technologies ("e-Dif®") that enable it to continue to effectively use out-dated differentially corrected data for up to 40 minutes without any significant accuracy degradation. The *Crescent GNSS OEM board* can also be augmented for centimeter and decimeter accuracy applications with the Corporation's RTK and exclusive L-Dif technology.

The *Eclipse dual-frequency GNSS OEM board* delivers reliable high accuracy dual-frequency GPS + GLONASS constellation solutions through exclusive techniques for reducing code measurement noise and mitigating multipath signals. *Eclipse* fits a wide range of applications with support for a variety of differential GNSS solutions including RTK, OmniSTAR L-Band (HP and XP) and SBAS (WAAS, EGNOS, MSAS, etc.). Integration is simplified with *Eclipse* multiple serial and USB ports and upgradeable firmware for establishing the desired configuration and quick access to new features. Based on the Corporation's successful *Crescent LI* GNSS technology that incorporates exclusive techniques for reducing code measurement noise and mitigating multipath signals, *Eclipse* delivers

reliable centimetre-level accuracy. The performance and versatility of the *Eclipse* board allows OEM customers to integrate it into a wide variety of precise applications including survey instruments and GNSS machine control.

The *SBX-4 OEM Beacon DGNSS module*, introduced in November 2006, is the newest in the long-lived family of SBX modules, and offers a Beacon DGNSS engine that augments separate GNSS receivers with free correction signals from land based beacon stations.

The *LX-1 OEM L-Band WADGNSS module* provides the capability to augment a separate *Crescent* GNSS or miniEclipse with OmniSTAR L-Band error corrections.

The *Crescent Vector OEM and related modules* are high accuracy GNSS compasses and positioning systems designed primarily for the marine market and other machine control pointing and positioning applications. The *Crescent Vector* products incorporate the Corporation's COAST technology in order to maintain consistent, accurate positioning during periods of differential signal loss and utilized a built in gyro for augmentation of heading.

### ***GNSS Heading Sensor Products***

The *Vector™* line of GNSS heading sensor finished products enable users to maintain highly accurate headings at substantially less than the cost of traditional gyrocompasses. The *Vector* line also incorporates the Corporation's exclusive COAST technology.

*Crescent V100 Series* and *Crescent VS100 Series* are targeted primarily to the marine survey industry, but are also used for other machine control applications – including use to navigate port handling and heavy construction equipment. Each has the capability to utilize accuracy enhancing data from Beacon DGNSS, SBAS DGNSS, as well as Local DGPS.

*Crescent V100* is a "smart antenna" system that combines a dual GNSS receiver and two antennas into a single enclosure with 50cm spacing between antennas. Using a sophisticated moving base station RTK technique, the *Vector* provides heading information (at 0.3 degrees accuracy) sufficient to replace gyrocompasses for many applications at a much lower cost.

*Crescent V102* is the same as the *V100 Series* except with a shorted 27cm spacing between internal antennas. This more compact design and lower cost version has a reduced compass heading accuracy of 0.75 degrees.

*Crescent VS100* is made up of a separate GNSS receiver and two separate antennas. Users can increase the distance between the antennas which increases the heading accuracy, enabling a broad range of machine control applications. Both the *V100 Series* and *V102* have OEM variants that are private labelled and sold through complimentary sales channels.

### ***Integrated GNSS Receivers and Antennas***

The *Crescent A100 Smart Antenna* combines the *Crescent* GNSS receiver technology with an antenna in a single enclosure and offers an affordable, compact solution with professional level accuracy. *A100* features integrated SBAS WADGNSS support, the Corporation's exclusive COAST and e-Dif technologies.

The *Eclipse S320 Smart Antennas* offer versatile, portable battery powered solutions with centimetre-level accuracy powered by the Hemisphere GPS *Eclipse* dual-frequency GNSS receiver technology in rugged, all-in-one enclosures. The durable enclosures house the receivers, antennas and radio modems, all in one package. Dual-serial, CAN, and pulse output options make these RTK and OmniSTAR® HP/XP receivers compatible with almost any interface.

The *Crescent R100 Series* of GNSS receivers are intended for a wide variety of applications including land navigation, precision guidance in agriculture, asset-tracking, GIS, and mapping. The *R100* series features integrated SBAS WADGNSS support, as well as the Corporation's exclusive COAST and e-Dif technologies. In addition, the

*R100* series has the capability to utilize accuracy enhancing data from Beacon DGNS, L-Band WADGNSS and Local DGNS.

The *Eclipse R320* GNSS receivers offer higher accuracy GNSS (GPS+GLONASS) RTK positioning for similar applications as the *Crescent R100*, but with more accuracy and faster reacquisition times.

### ***GNSS Software***

The Corporation had a growing variety of innovative GNSS software products, including several that significantly enhance the location-sensing capabilities of the Corporation's other products.

The *PocketMAX™* utility software is provided to support, configure and troubleshoot all Precision *Crescent*, *Eclipse* and *Vector* based products. It was constantly being updated to add support for new products and capabilities.

The embedded software includes *COAST*, which enables DGNS receivers to use original differential data for up to 40 minutes without seriously degrading accuracy. *COAST* makes all Hemisphere GPS 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.

The Corporation updated its patented *e-Dif* or "extended differential" software that enables standard GNSS receivers to achieve higher accuracy without any help from accuracy-enhancing differential signals. *e-Dif* enables a standard GNSS receiver, capable of only 2 to 3 metres accuracy, to internally generate differential corrections that improve its accuracy to less than one metre without the expense or potential uncertainties of differential signals. *e-Dif* computes corrections with a very slow error drift rate, typically maintaining sub-metre accuracy for as long as 40 minutes, and is often a practical solution for much longer periods of time.

*e-Dif* can save customers the cost of subscription fees for DGNS signals in regions such as South America, Africa and Australia where no differential signals are available for free. Even in North America, where signals are free, *e-Dif* is a valuable back-up against signal outages. In northern latitudes, including many parts of Canada, *e-Dif* can achieve better accuracy than what is possible using free differential signals from SBAS systems such as WAAS, or when a receiver is on the fringe of land-based radio beacon networks.

### **Research and Product Development and Specialized Skills and Knowledge**

The focus of Hemisphere GPS's research and development team is on expanding our core GNSS positioning technologies and on developing new products and applications. We believe that our research and product development capabilities are critical factors contributing to our success and primary barriers to potential competitors' entry into the GNSS industry. Accordingly, we intend to continue investing significant resources in research and product development.

Our research and development team includes individuals with specialized skills in the following disciplines, among others: electrical engineering, radio-frequency engineering, geomatics engineering, mechanical design, system architecture and software design. Although the availability of these resources is limited, we have not experienced significant problems accessing the required skill and knowledge required for our research and development activities.

### **Intellectual Property and Intangible Properties**

We have developed a significant portfolio of intellectual property including technology, product designs, software, patents, trademarks and brand names, among others. As of December 31, 2012 we held 50 patents and had 58 patents pending in USA, Canada and Australia in addition to a few other international filings. As at the date hereof, we hold 25 patents and have 31 patents pending in USA, Canada and Australia in addition to a few other international filings.

## **Marketing, Sales and Distribution**

Our strategy for sales and distribution of our products in our Air, Precision Products and non-North American Ground Agriculture product lines has generally been through large OEMs, dealer networks and distributors with established channels for multi-country distribution. This strategy eliminates the need to devote significant direct resources to developing these distribution channels on our own. This strategy has enabled us to participate in a broader range of high-growth commercial and consumer GNSS-enabled markets.

For sales of Ground Agriculture products in North America and Australia, we have established over 300 Outback Guidance Centres ("OGC"). Each OGC is responsible to support sales of our Outback line of products to end-user customers in defined territories. Outside of North America and Australia, we have established relationships a variety of distributors for the Outback product line who sell to the end-user customers.

In 2012, revenues associated with agriculture markets continued to comprise approximately 80% (2011 – 78%) of our revenue, with North American revenues making up for 71% (2011 – 67%) of total revenues.

Our Agriculture division serves global markets. Of our 2012 sales, 49% (2011 – 47%) occurred in the United States, 22% (2011 – 20%) occurred in Canada, 14% (2011 – 14%) occurred in Europe, 6% (2011 – 7%) occurred in Australia and 9% (2011 – 12%) occurred in other areas of the world including South America and Asia, among others. From a customer's perspective, the primary benefits provided by our products are increased accuracy in navigation, improvements in productivity, increased safety and savings in costs and time. For example, in farming applications, our guidance products result in savings to users through reduced overlap and reduced driver fatigue. In addition, our products can be used in conjunction with precision farming techniques focused on improved efficiency, productivity and yields such as "strip-till" farming which requires highly accurate planting and application of fertilizer and other chemicals. Significant cost savings can be achieved by using these types of precision farming techniques.

In marine applications, our commercial customers typically use our products for accurate navigation – enabling vessels to maintain accurate headings while navigating at substantially less cost than traditional gyrocompasses.

## **Competition**

We have competitors in each of our target markets and expect competition to intensify as acceptance and awareness of GNSS technology increases. One of our main competitors is Trimble Navigation Limited ("Trimble"). Trimble's products currently address the survey and mapping, tracking and communications, navigation, precision agriculture, construction, and military systems markets. Other competitors offering products similar to those of Hemisphere GPS include Topcon Positioning Systems, Novariant Inc., Leica Geosystems, NovAtel Inc. and Raven Industries. In addition, we expect to face competition from new market entrants over time.

We believe the principal competitive factors in the markets we serve include: price, ease of use, physical characteristics, power consumption, product features (including accuracy), breadth of solution, product reliability, size of the installed base, brand reputation, vendor reputation, and financial stability of the vendor. We believe that our products compete favourably with competitors' products on many of the foregoing factors and as a result, we have achieved a strong market position in certain of our markets including ground agricultural guidance and auto-steering, aerial agricultural guidance and flow control and marine heading sensors. We recognize that some of our competitors may have access to greater financial, marketing, service and support and technological resources. See "Risk Factors".

## **Manufacturing**

In 2012, we outsourced our manufacturing and we assemble lower volume finished goods, integrated positioning units and antennas in-house at our Hiawatha, Kansas facility. To a lesser extent, we also perform some assembly activities in our other facilities.

Our operations department provides production engineering services internally and for our external manufacturing partner to ensure that our 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. We source our assembly materials and components from a variety of suppliers. All of our suppliers are at arm's length. Alternate supply sources for all components is a desired goal, and is evaluated on a regular basis, but currently is not available in all circumstances.

The continued utilization of our Enterprise Resource Planning ("ERP") system has assisted us to improve the effectiveness and efficiency of our operations, including inventory management and manufacturing. In addition, we have undertaken a number of initiatives focused on improving our effectiveness in quality, procurement, inventory management, design cost, product-life cycle management, among others.

We are determined to maintain our position as a low-cost, high-quality producer and to ensure that production processes are responsive, smooth and flexible to serve the needs of our customers.

### **Facilities**

We conduct operations from facilities in Calgary, Alberta; Scottsdale, Arizona; Hiawatha, Kansas; Winnipeg, Manitoba and Brisbane, Australia; with a combined area of approximately 86,000 square feet to manufacture and assemble products, carry out research and development, sales and marketing, and finance and administration activities. We own a 42,000 square foot facility in Hiawatha, Kansas and lease the facilities in other locations. The Corporation is currently transitioning its head office to Hiawatha, Kansas, and its Calgary head office location will be officially closed on May 31, 2013.

### **Personnel**

At December 31, 2012, we had 250 employees in total, with 86 in research and development, 62 in sales and marketing, 55 in operations and 47 in administration.

### **Anticipated Changes in the Business**

As at the date hereof and other than as disclosed herein, including with respect to the proposed Restructuring, we do not anticipate that any material change in our business will occur during the balance of the 2013 financial year. See "General Development of the Business" and "Recent Developments".

### **Reorganizations**

As at the date hereof and other than as disclosed herein, there have been no material reorganizations of the Corporation and or any of our subsidiaries within the three most recently completed financial years or proposed for the current financial year. See "General Development of the Business".

## **DIVIDEND POLICY**

We have not paid any dividends on the Common Shares during the last three financial years. The future payment of dividends will be determined by our Board of Directors, and will depend on the financial needs of the Corporation to fund future growth, the general financial condition of the Corporation, capital expenditure requirements, potential acquisition opportunities, debt position and other conditions that the Board of Directors may consider relevant at such future time, including the satisfaction of the liquidity and solvency tests imposed by the ABCA for the declaration and payment of dividends. We do not intend to pay dividends on our Common Shares in the foreseeable future.

## 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 March 25, 2013, an aggregate of 66,457,166 Common Shares, no First Preferred Shares and no Second Preferred Shares were issued and outstanding.

The following is a summary of the rights, privileges, restrictions and conditions attaching to each class of shares.

### Common Shares

The holders of Common Shares will be entitled to one vote at all meetings of our shareholders except at meetings of which only holders of a specified class of shares are entitled to vote. The holders of Common Shares will be entitled to receive, subject to the prior rights and privileges attaching to any other class of our shares, such dividends as may be declared by us. Holders of Common Shares will be entitled upon any liquidation, dissolution or winding-up of the Corporation, subject to the prior rights and privileges attaching to any other class of shares of the Corporation, to receive the remaining property and assets of the Corporation.

### First Preferred Shares

Our Board of Directors may at any time and from time to time issue First Preferred Shares in one or more series, each series to consist of such number of shares as may, before the issuance thereof, be determined by the Board of Directors. The Corporation has no outstanding First Preferred Shares at this time.

### Second Preferred Shares

Our Board of Directors may at any time and from time to time issue Second Preferred Shares in one or more series, each series to consist of such number of shares as may, before the issuance thereof, be determined by the Board of Directors.

The Second Preferred Shares of each series rank on a parity with the Second Preferred Shares of every other series with respect to accumulated dividends and return of capital. The Second Preferred Shares shall be entitled to a preference over the Common Shares and over any other shares of the Corporation ranking junior to the Second Preferred Shares with respect to priority in the payment of dividends and in the distribution of assets in the event of the liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary, or any other distribution of our assets among our shareholders for the purpose of winding-up our affairs.

The rights, privileges, restrictions and conditions attaching to the Second Preferred Shares as a class may be added to, changed or removed but only with the approval of the holders of the Second Preferred Shares given as specified in our articles. The Corporation has no outstanding Second Preferred Shares at this time.

### Shareholder Rights Plan

On March 19, 2010, our Board of Directors approved the adoption of a shareholder protection rights plan (the "Hemisphere GPS Shareholder Rights Plan"), which was approved by our shareholders on May 18, 2010. Pursuant to the Hemisphere GPS Shareholder Rights Plan, one right ("Right") is attached to each Common Share. The Rights will separate from the Common Shares to which they are attached and will become exercisable upon the occurrence of certain events in accordance with the Hemisphere GPS Shareholder Rights Plan. Subject to adjustment as provided in the Hemisphere GPS Shareholder Rights Plan, each Right will entitle the holder to purchase one Common Share at a price equal to \$50.00 (the "Exercise Price") and, in the event of a "Flip-In Event", as that term is defined in the Hemisphere GPS Shareholder Rights Plan, each Right will constitute the right to purchase from us, upon payment of the Exercise Price and otherwise exercising such Right in accordance with the terms of the Hemisphere GPS Shareholder Rights Plan, that number of Common Shares having an aggregate market price (based on the prevailing market price at the time of the consummation or occurrence of the Flip-in Event), equal to twice the Exercise Price. The Hemisphere GPS Shareholder Rights Plan is similar to plans adopted by several other

Canadian issuers and approved by their security-holders. A copy of the Hemisphere GPS Shareholder Rights Plan is available on our SEDAR profile at [www.sedar.com](http://www.sedar.com).

### Prior Sales

The only securities, other than Common Shares, that were issued by the Corporation during the year ended December 31, 2012 were an aggregate of 900,000 stock options to acquire an aggregate of 900,000 Common Shares with a weighted average exercise price of \$0.67.

### ESCROWED SECURITIES AND SECURITIES SUBJECT TO CONTRACTUAL RESTRICTION ON TRANSFER

To our knowledge, as of March 25, 2013, there are no Common Shares held in escrow or subject to contractual restriction on transfer.

### MARKET FOR SECURITIES

Our Common Shares are listed and posted for trading on the TSX under the symbol "HEM".

The following table shows the price range and trading volume of the Common Shares as reported by the TSX for the periods indicated:

| Period       | High (Cdn\$) | Low (Cdn\$) | Volume    |
|--------------|--------------|-------------|-----------|
| <b>2012</b>  |              |             |           |
| January      | 0.9          | 0.66        | 2,615,900 |
| February     | 1.09         | 0.89        | 1,869,100 |
| March        | 0.98         | 0.77        | 1,374,200 |
| April        | 0.83         | 0.73        | 582,100   |
| May          | 0.79         | 0.7         | 1,456,800 |
| June         | 0.75         | 0.67        | 1,504,900 |
| July         | 0.76         | 0.67        | 2,029,900 |
| August       | 0.68         | 0.57        | 1,319,900 |
| September    | 0.77         | 0.59        | 852,600   |
| October      | 0.74         | 0.68        | 1,278,500 |
| November     | 0.73         | 0.73        | 1,721,800 |
| December     | 0.73         | 0.73        | 685,400   |
| <b>2013</b>  |              |             |           |
| January      | 0.88         | 0.72        | 1,433,600 |
| February     | 0.97         | 0.81        | 2,237,300 |
| March 1 – 25 | 0.82         | 0.72        | 1,125,800 |

### DIRECTORS AND OFFICERS

The names, provinces and countries of residence, positions with the Corporation, and principal occupation of the directors and officers of the Corporation are set out below and in the case of directors, the period each has served as a director of the Corporation.

| Name, Province and Country of Residence                 | Position   | Principal Occupation During the Last Five Years   |
|---|--|---|
| Michael J. Lang <sup>(1)</sup><br>Alberta, Canada       | Director since 1996 and Chairman of the Board                      | Chairman of StoneBridge Merchant Capital Corp. (a private investment company).  |
| Barry D. Batcheller <sup>(2)</sup><br>North Dakota, USA | Director since May 2006 and Chairman of the Compensation Committee | President and CEO of Appareo Systems, LLC since 2005. Prior thereto Director of Technology Growth with John Deere & Company since 2002. Prior thereto, President and CEO of Phoenix |

| Name, Province and Country of Residence                | Position  | Principal Occupation During the Last Five Years  |
|--|---|--|
|  |   | International Corporation.   |
| Mark Anderson<br>Pennsylvania, USA                     | Director since January 2012   | President and CEO of GVM Inc.  |
| Paul G. Cataford <sup>(1) (3)</sup><br>Alberta, Canada | Director since 2004 and<br>Chairman of the Audit<br>Committee                               | President and CEO of ZST Holdings Inc. Prior thereto, President and CEO of University Technologies International Inc. (UTI), from April 2004 to April 2009.  |
| John M. Tye III <sup>(1) (3)</sup><br>Texas, USA       | Director since May 2006 and<br>Chairman of the Corporate<br>Governance Committee            | President and CEO of Learwood Capital, Inc.  |
| Richard W. Heiniger<br>Missouri, USA                   | Director since 2005 and<br>President and Chief<br>Executive Officer since<br>September 2012 | President and Chief Executive Officer of Hemisphere GPS since September 2012. Prior thereto, Chief Executive Officer of RHS Inc. and President of Hemisphere GPS LLC from April, 2005 to May, 2006.  |
| Wes Dittmer<br>Kansas, USA                             | Senior Vice President and<br>Chief Financial Officer  | Senior Vice President and Chief Financial Officer of Hemisphere GPS since February 2013. Prior thereto, Management Consultant from January, 2012 to February, 2013, CFO, NRTC Communications from January 2010 to January 2012, and Vice President, Corporate Development, Embarq Corp, From July 2005 to June 2009. |
| Charlie Wohlers<br>Kansas, USA                         | Vice President of Operations  | Vice President of Operations of Hemisphere GPS since February, 2013. Prior thereto, VP Operations Garsite+TriState Tank Walker Group Holdings from May, 2006 to August, 2012.  |
| Dr. Neil Rutland<br>West end, Queensland               | Vice President Global<br>Engineering  | Vice President of Global Engineering of Hemisphere GPS since January, 2013. Prior thereto, Director of Machine Control for Hemisphere GPS from March, 2010 to December, 2012 and Team Leader, Meteor GC&N from January 2008 to March 2010.   |
| Jeff Farrar<br>Kansas, USA                             | Vice President of Sales   | Vice President of Sales of Hemisphere GPS since November, 2012. Prior thereto, Director of Marketing for Hemisphere GPS from January 2007 to October 2012.   |
| Landon Morris<br>Nebraska, USA                         | Vice President of Marketing   | Vice President of Marketing of Hemisphere GPS since November, 2012. Prior thereto, Vice President, Marketing and Business Development, Solum, Inc. from June 2011 to November 2012, and Vice President of Marketing, MachineryLink from June 2007 to June 2011.  |
| Cameron B. Olson<br>Alberta, Canada                    | Senior Vice President   | Hemisphere GPS' Senior Vice President since February 2013. Prior thereto, Senior Vice President and CFO, Hemisphere GPS from October 2003 to February 2013.  |
| Lisa Smith<br>Alberta, Canada                          | Vice President  | Hemisphere GPS' Vice President since February 2013. Prior thereto, Vice President of Operations from July 2006 to February 2013.   |

Notes:

- (1) Member of the Audit Committee.
- (2) Member of the Compensation Committee.
- (3) Member of the Corporate Governance Committee.
- (4) As at December 31, 2012, Phillip W. Gabriel was the Vice President and General Manager, Precision Products of the Corporation and ceased to be an officer as of January 31, 2013. In addition, as of December 31, 2012, Michael L. Whitehead was the Vice President, Technology of the Corporation and ceased to be an officer as of January 31, 2013.

Our directors will hold office until the next annual general meeting of our shareholders or until each director's successor is appointed or elected pursuant to the ABCA.

As at March 25, 2012, our directors and officers as a group, beneficially owned or controlled or directed, directly or indirectly, 11,941,054 Common Shares or approximately 17.9% percent of the issued and outstanding Common Shares.

### **Cease Trade Orders, Bankruptcies, Penalties or Sanctions**

Except as set forth below, no current director or executive officer of the Corporation has, within the last ten years prior to the date of this document, been a director, chief executive officer or chief financial officer of any issuer (including the Corporation) that, (i) while the person was acting in the capacity as director, chief executive officer or chief financial officer, was the subject of a cease trade or similar order or an order that denied the company access to any exemption under securities legislation, that was in effect for a period of more than thirty (30) consecutive days; or (ii) was subject to an order that resulted, after the director, executive officer or security holder holding a sufficient number of securities of the Corporation to affect materially the control of the Corporation ceased to be a director, chief executive officer or chief financial officer of an issuer, in the issuer being the subject of a cease trade or similar order or an order that denied the relevant issuer access to any exemption under securities legislation, for a period of more than thirty (30) consecutive days, which resulted from an event that occurred while that person was acting as a director, chief executive officer or chief financial officer if the issuer.

Except as set forth below, no current director or officer or security holder holding a sufficient number of securities of the Corporation to affect materially the control of the Corporation has, within the last ten years prior to the date of this document, been a director or executive officer of any company (including the Corporation) that, while such person was acting in that capacity, or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement for compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets.

No current director or officer or security holder holding a sufficient number of securities of the Corporation to affect materially the control of the Corporation has been subject to: (i) any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority; or (ii) any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable investor in making an investment decision.

### **Conflicts of Interest**

The directors and officers of the Corporation may, from time to time, be involved in the business and operations of other issuers, in which case a conflict may arise. See "Risk Factors".

The ABCA provides that in the event a director has an interest in a contract or proposed contract or agreement, the director shall disclose his interest in such contract or agreement and shall refrain from voting on any matter in respect of such contract or agreement unless otherwise provided under the ABCA. To the extent that conflicts of interests arise, such conflicts will be resolved in accordance with the provisions of the ABCA.

### **INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS**

There were no material interests, direct or indirect, of our directors and executive officers, any person or company who beneficially owns or control or directs, directly or indirectly, more than 10% of the outstanding Common Shares, or any known associate or affiliate of such persons, in any transaction within the three most recently completed financial years or during the current financial year that has materially affected or is reasonably expected to materially affect the Corporation.

## **INTERESTS OF EXPERTS**

There is no person or company whose profession or business gives authority to a statement made by such person or company and who is named as having prepared or certified a statement, report or valuation described or included in a filing, or referred to in a filing, made under NI 51-102 *Continuous Disclosure Obligations* by us during, or related to, our most recently completed financial year other than KPMG LLP, our auditors. KPMG LLP has confirmed that it is independent within the meaning of the Rules of Professional Conduct of the Institute of Chartered Accountants of Alberta.

In addition, none of the aforementioned persons or companies, nor any director, officer or employee of any of the aforementioned persons or companies, is or is expected to be elected, appointed or employed as a director, officer or employee of the Corporation or of any associate or affiliate of the Corporation.

## **MATERIAL CONTRACTS**

We currently have no material contracts in place that were entered into outside of the ordinary course of business.

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

KPMG LLP, Chartered Accountants, Suite 2700, Bow Valley Square II, 205 – 5<sup>th</sup> Avenue S.W., Calgary, Alberta, T2P 4B9, are the auditors of the Corporation.

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

## **AUDIT COMMITTEE INFORMATION**

Our audit committee (the "Audit Committee") is appointed by the Board of Directors to assist the Board of Directors in fulfilling its oversight responsibilities. The Audit Committee is composed of three external independent directors. All three are financially literate, meaning they are able to read and understand financial statements of a complexity level comparable to that of the financial statements of Hemisphere GPS. The Audit Committee's Charter is available in Appendix "A" to this Annual Information Form.

### **Audit Committee Members**

#### ***Paul G. Cataford, Calgary, Alberta – Chairman of the Audit Committee***

Paul Cataford has investment, technology and business development experience from more than 14 years in the venture capital/private equity industry. Mr. Cataford is a graduate of the Institute of Corporate Directors' Directors Education Program and also currently serves on the boards of Sierra Wireless Inc. and of a number of private companies. Mr. Cataford has a Mechanical Engineering degree from Queen's University and an MBA from York University's Schulich School of Business.

#### ***Michael J. Lang, Calgary, Alberta***

Michael Lang is the Chairman of StoneBridge Merchant Capital Corp. (a private investment company). Mr. Lang has been involved in the development and financing of businesses throughout his career acting as an officer and director of a variety of companies including Beau Canada Exploration Ltd., Calahoo Petroleum Ltd. and Vicom Multimedia Inc.

#### ***John M. Tye III, Plainview, Texas***

John Tye III is the Chairman of Bigham Brothers Inc. He was formerly President and CEO of AgEquipment Group. He was also a partner in InterAg Technologies. He has extensive industry knowledge being the only individual to have served as Board Chairman of both of the major farm equipment associations – the Equipment Manufacturers

Institute and the Farm Equipment Manufacturers Association. In addition, Mr. Tye has served with several other organizations such as the Conservation Technology Information Center and the Southern Farm Equipment Manufacturers Association.

### **Pre-approval Policies and Procedures – Audit and Non-Audit Services**

We have adopted policies and procedures with respect to the pre-approval of audit and permitted non-audit services to be provided by KPMG LLP as set forth in the Audit Committee charter, which is reproduced in Appendix "A" to this Annual Information Form. The Audit Committee has approved the provision of a specified list of audit and permitted non-audit services that the audit committee believes to be typical, reoccurring or otherwise likely to be provided by KPMG LLP during the current fiscal year. The list of services is sufficiently detailed as to the particular services to be provided to ensure that the Audit Committee knows precisely what services it is being asked to pre-approve and it is not necessary for any member of management to make a judgment as to whether a proposed service fits within pre-approved services.

### **Auditor Service Fees**

The following fees are for services provided by KPMG LLP relating to fiscal years 2011 and 2012.

| Type of Service Provided        | 2011<br>(CDN\$) | 2012<br>(CDN\$) |
|---------------------------------|-----------------|-----------------|
| Audit and Quarterly Review Fees | \$ 293,300      | \$220,000       |
| Tax Fees (compliance related)   | \$33,000        | \$12,700        |
| All Other Fees                  | –               | \$0             |
| Total                           | \$326,300       | \$232,700       |

Audit and quarterly review fees consist of fees for the audit of the Corporation's annual financial statements or services that are normally provided in connection with statutory and regulatory filings or engagements and include fees related to the application of International Financial Reporting Standards.

## **RISK FACTORS**

The following is a summary of certain risk factors relating to our business. The information is only a summary 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.

### **General Economic and Financial Market Conditions**

In 2008 and 2009, we faced extremely negative conditions in global economic, financial and vertical markets. We saw recovery commence during 2010 and continue during 2011 and 2012, However, negative conditions in market and business environments (such as the sovereign debt concerns in Europe in late 2011 and 2012), or adverse geopolitical events, could have a negative impact on our 2013 performance. Our agricultural product sales have typically been affected to some extent each year by drought conditions or floods in certain markets. Should negative weather conditions arise in any of the key markets in 2012, we could realize lower-than-expected revenues in the impacted market areas and this could affect the Corporation's ability to obtain equity or debt financing on acceptable terms.

### **Dependence on New Products**

We must continue to make significant investments in research and development 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 we are unable to successfully define, develop and introduce competitive new products, and enhance

existing products, our future results would be adversely affected.

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

Our success is largely dependent upon the performance of personnel and key consultants. The unexpected loss or departure of any of the key officers, employees or consultants could be detrimental to our future operations. Our success will depend, in part, upon our 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 in the GNSS industry. There can be no assurance that we will be able to engage the services of such personnel or retain our current personnel.

### **Competition**

We compete in a highly competitive industry that is constantly evolving and changing. We expect this competition to increase as new competitors enter the market. Many of our competitors have greater financial, technical, sales, and production and marketing resources. We compete with companies that also have established customer bases and greater name recognition. This may allow competitors to respond more quickly to the GNSS market and better implement technological developments. There is no assurance that we will be able to compete on the same scale as these companies. Such competition may result in reduced sales, reduced margins or increased operating expenses.

### **Third-Party Dependence**

Many of our products rely on signals from satellites, and other ground support systems, that we do 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 GNSS and/or the growth of current and additional market opportunities, which would adversely affect our results of operations. In addition, there is no assurance that the US government will remain committed to the operation and maintenance of GPS satellites over a long period of time; or that the policies of the US government for the commercial use of GPS without charge will remain unchanged.

### **Availability of Key Supplies**

We are reliant upon certain key suppliers for raw materials and components, and no assurances can be given that we 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 us, the raw materials used in certain operations are available only through a limited number of vendors. Although we believe there are alternative suppliers for most of our key requirements, if our 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 our results of operations and our financial condition.

### **Intellectual Property**

The industry in which we operate has many participants that own, or claim to own, proprietary intellectual property. We have received, and may receive, claims from third parties alleging that the Corporation has infringed the intellectual property rights of others and we may commence lawsuits against others who the Corporation believes are infringing upon its rights. Determination of the rights to intellectual property is very complex, and costly litigation may be required to establish if we have violated the intellectual property rights of others. The Corporation's involvement in intellectual property litigation could result in significant expense, adversely affecting the development of its assets or intellectual property or diverting the efforts of its technical and management personnel, whether or not such litigation is resolved in the Corporation's favour. In the event of an adverse outcome as a defendant in any such litigation, the Corporation may, among other things, be required to: (a) pay substantial damages and third party litigation costs; (b) cease the development, use, sale or importation of process that infringe

upon other patented intellectual property; (c) expend significant resources to develop or acquire non-infringing intellectual property; (d) discontinue processes incorporating infringing technology; (e) obtain licences to the infringing intellectual property; and/or (f) incur legal and other costs. The Corporation may not be successful in such development or acquisition or that such licences would be available on reasonable terms. Any such development, acquisition or licence could require the expenditure of substantial time and other/ resources and could have a material adverse effect on the Corporation's business and financial results.

### **Government Regulation**

Our products are subject to government regulation in the United States, Canada, Australia and other regions in which we operate. Although we believe that we have obtained the necessary approvals for the products that we currently sell, we may not be able to obtain approvals for future products on a timely basis, or at all. In addition, regulatory requirements may change or we may not be able to obtain regulatory approvals from countries in which we may desire to sell products in the future.

### **Credit Risk**

We have undergone significant sales growth resulting in a significant growth in our customer base. As a result, we have an increasing exposure to credit risk related to trade balances owing from customers. In the normal course of business, we monitor the financial condition of our customers and review the credit history of new customers to establish credit limits. We establish an allowance for doubtful accounts that corresponds to the credit risk of our customers, historical trends and economic circumstances. Losses could be realized by us if customers default on their balances owing.

### **Technology Risk**

Our success in the GNSS markets may depend in part on our 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. Our products embody complex technology that may not meet those standards, changes and preferences. We may be unable to successfully address these developments on a timely basis or at all. Failure to respond quickly and cost-effectively to new developments through the development of new products or enhancements to existing products could cause us to be unable to recover significant research and development expenses and could reduce our revenue.

### **Future Acquisitions**

We may seek to expand our business and capabilities through the acquisition of compatible technology, products or businesses. There can be no assurance that suitable acquisition candidates can be identified and acquired on favourable terms, or that the acquired operations can be profitably operated or integrated in our operations. In addition, any internally generated growth experienced by us could place significant demands on our Management, thereby restricting or limiting our available time and opportunity to identify and evaluate potential acquisitions. To the extent Management is successful in identifying suitable companies or products for acquisition, we may deem it necessary or advisable to finance such acquisitions through the issuance of Common Shares, securities convertible into Common Shares, debt financing, or a combination thereof. In such cases, the issuance of Common Shares, First or Second 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 in, among other things, the encumbrance of certain of our assets, impeding our ability to obtain bank financing, decreasing our liquidity, and adversely affecting our ability to declare and pay dividends to our shareholders.

### **Proprietary Protection**

Our success will depend, in part, on our ability to obtain patents, maintain trade secrets and unpatented know-how protection, and to operate without infringing on the proprietary rights of third parties or having third parties circumvent our rights. We rely on a combination of contract, copyright, patent, trademark and trade secret laws, confidentiality procedures and other measures to protect our proprietary information. There can be no assurance that

the steps taken will prevent misappropriation of our proprietary rights. Our competitors could also independently develop technology similar to our technology. Although we do not believe that our products or services infringe on 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 us, or that any such assertions or prosecutions will not materially adversely affect our business, financial condition or results of operations. Irrespective of the validity or the successful assertion of such claims, we could incur significant costs and diversion of resources with respect to the defence thereof, which could have a material adverse effect on our business.

### **Foreign Currency Exchange Rate Fluctuations**

Sales of our products are transacted primarily in US dollars. Expenses are incurred in US dollars, Canadian dollars and Australian dollars, and as a result, we are exposed to risk associated with US, Canadian and Australian dollar currency fluctuations. A weakening in the US dollar relative to the Canadian dollar, as was seen over the years 2003 to 2007, and from 2009 to 2011, results in higher relative US dollar expenses when compared to a stronger US dollar. Similarly, a weakening of the US dollar relative to the Australian dollar results in higher relative US dollar expenses.

Substantially all of our sales are denominated in US dollars. A stronger US dollar, compared to the currencies of countries where Hemisphere GPS is selling its products, makes our products more expensive to customers in those countries. As a result a strengthening US dollar, as was seen during the last half of 2008 could have a negative impact on sales to such countries. As our operations are expanding with increased global sales, it is expected that it may be necessary to transact sales in foreign currencies other than US dollars, thus exposing us to additional foreign currency risk.

We entered into derivative financial instruments to manage the foreign currency exposure of Canadian and Australian operating expenses under its board-approved foreign exchange risk management program. Although this program has been implemented, there is no guarantee we will not experience foreign exchange gains and losses in future periods. (Question: did we do this in 2012?)

### **Conflicts of Interest**

Certain of our directors are engaged and will continue to be engaged in the design, manufacture and marketing of electronic products and situations may arise where the directors may be in direct competition with our business. 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 us 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 our products entail risk of product liability. Although we have product liability insurance, there is no assurance that such insurance will be sufficient or will continue to be available on reasonable terms.

### **New and Emerging Markets**

Many of the markets for our products are new and emerging. Our success will be significantly affected by the outcome of the development of these new markets.

### **Physical Facilities**

We have facilities at several 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 events or acts, there could be delays in production and shipments of product due to both the loss of inventory and/or capacity to produce.

### **Legal Risks**

In common with other companies, we are subject to legal risks related to operations, contracts, relationships and otherwise under which we may be served with legal claims. Whether or not the claims are legally valid, such claims may result in legal fees, damages, settlement costs and other costs as well as significant time and distraction of Management and employees. In addition, the outcome of outstanding, pending or future proceedings cannot be predicted with certainty and may be determined adversely to the Corporation and as a result, could have a material adverse effect on the Corporation's assets, liabilities, business, financial condition and results of operations.

### **Volatility of Market Price of Common Shares**

The market price of our Common Shares may be volatile. This volatility may affect the ability of holders to sell the Common Shares at an advantageous price. Market price fluctuations in the Common Shares may be due to the downward revision in securities analysts' estimates, governmental regulatory action, adverse change in general market conditions or economic trends, acquisitions, dispositions or other material public announcements by us or by our competitors, along with a variety of additional factors, including, without limitation, those set forth in this "Risk Factors" section or in the section titled "Special Note Regarding Forward Looking Statements".

### **Dilution**

We may make future acquisitions or enter into financings or other transactions involving the issuance of Common Shares of the Corporation which may be dilutive to current and future holders of our Common Shares.

### **Forward Looking Information May Prove Inaccurate**

Prospective investors are cautioned not to place undue reliance on forward looking information. By its nature, forward-looking information involves numerous assumptions, known and unknown risks and uncertainties, of both a general and specific nature, that could cause actual results to differ materially from those suggested by the forward looking information or contribute to the possibility that predictions, forecasts or projections will prove to be materially inaccurate. Additional information on risks, assumptions and uncertainties are found in the section "Special Note Regarding Forward Looking Statements".

### **Possible Failure to Realize Anticipated Benefits of the Restructuring**

Achieving the benefits of the Restructuring depends in part on factors outside of the Corporation's control, and there can be no assurances or guarantees that the Corporation will realize the anticipated benefits of such Restructuring.

### **Breach of Confidentiality**

While discussing potential business relationships or other transactions with third parties, the Corporation may disclose confidential information relating to the business, operations or affairs of this Corporation. Although confidentiality agreements are signed by third parties prior to the disclosure of any confidential information, a breach could put the Corporation at competitive risk and may cause significant damage to its business. The harm to the Corporation's business from a breach of confidentiality cannot presently be quantified, but may be material and may not be compensable in damages. There is no assurance that, in the event of a breach of confidentiality, the Corporation will be able to obtain equitable remedies, such as injunctive relief, from a court of competent jurisdiction in a timely manner, if at all, in order to prevent or mitigate any damage to its business that such a breach of confidentiality may cause.

## **Income Taxes**

The Corporation files all required income tax returns and believes that it is in full compliance with the provisions of the *Income Tax Act* (Canada) and all other applicable provincial tax legislation. However, such returns are subject to reassessment by the applicable taxation authority. In the event of a successful reassessment of the Corporation, such reassessment may have an impact on current and future taxes payable.

## **Impairment of Goodwill**

Goodwill accounts for a significant portion of our assets. In accordance with our review procedures and International Financial Reporting Standards ("IFRS"), the goodwill is tested for impairment on an annual basis. To the extent that the application of IFRS could require impairment of goodwill, there is a risk that such impairment could have a material adverse effect on our balance sheet and income statement.

## **LEGAL PROCEEDINGS AND REGULATORY ACTIONS**

We are not aware of any proceeding that involves a claim for damages, exclusive of interest and costs, of more than ten percent of our current assets. We are not aware of any (i) penalties or sanctions imposed against the Corporation by a court relating to securities legislation or by a securities regulatory authority in the year ended December 31, 2012; (ii) any other penalties or sanctions imposed by a court or regulatory body against the Corporation that would likely be considered important to a reasonable investor in making an investment decision; or (iii) settlement agreements the Corporation entered into before a court relating to securities legislation or with a securities regulatory authority during the year ended December 31, 2012.

## **ADDITIONAL INFORMATION**

Additional information, including directors' and officers' remuneration and indebtedness, principal holders of our securities and securities authorized for issuance under our equity compensation plans, as applicable, is contained in our information circular for the most recent annual meeting of shareholders that involved the election of directors. Additional financial information is provided in our financial statements and management discussion and analysis for the year ended December 31, 2012, which are available on SEDAR at [www.sedar.com](http://www.sedar.com) and are set forth in our 2012 Annual Report. Documents affecting the rights of security holders, along with additional information relating to us, may also be found on SEDAR at [www.sedar.com](http://www.sedar.com).

## APPENDIX "A"

### AUDIT COMMITTEE TERMS OF REFERENCE.

1. **Establishment of Audit Committee:** The board of directors (the "Board") hereby establish a committee to be called the Audit Committee (the "Committee").
2. **Membership:** The Committee shall be composed of three members or such greater number as the Board may from time to time determine, all of whom shall be "independent", as such term is defined in Multilateral Instrument 52-110, "Audit Committees" ("MI 52-110"). Members shall be appointed periodically from among the "independent" members of the Board. All members of the Committee shall be financially literate, being defined under MI 52-110 and herein as having the ability to read and understand a set of financial statements that present a breadth and level of complexity of accounting issues that can reasonably be expected to be raised by the Corporation's financial statements.
3. **Mandate:** The Audit Committee is appointed by the Board of Directors to assist the Board in fulfilling its oversight responsibilities.

#### **Audit Committee Purpose**

Through discussion with management and the external auditors of the Corporation, the Audit Committee will be responsible to:

- Monitor the management of the principal risks that could impact the financial reporting of the Company;
- Monitor the integrity of the Company's financial reporting process and system of internal controls regarding financial reporting and accounting compliance;
- Oversee and monitor the independence and performance of the Company's external auditors;
- Provide an avenue of communication among the external auditors, management and the Board of Directors, including the resolution of disagreements between management and the external auditors regarding financial reporting;
- Encourage adherence to, and continuous improvement of, the Company's policies, procedures, and practices at all levels;
- Monitor compliance with legal and regulatory requirements; and
- Ensure that effective procedures are in place for the anonymous submission, receipt, retention and treatment of complaints and concerns regarding accounting, internal control and auditing matters.

#### **Audit Committee Duties and Responsibilities**

Primarily through review and discussion with management and the external auditors, the Audit Committee is responsible to:

#### **Review Procedures**

- (a) Review periodically the Committee's Terms of Reference;
- (b) Review the Company's annual audited financial statements and related documents, including the press release and MD&A, prior to filing or distribution. Review should include discussion with

management and external auditors of significant issues regarding accounting principles, practices, and significant management estimates and judgments;

- (c) Following completion of the annual audit, review separately with each of management and the independent auditors any significant difficulties encountered during the course of the audit, including any restrictions on the scope of work or access to required information;
- (d) Review any significant disagreements among management and the independent auditors in connection with the preparation of the financial statements;
- (e) Periodically, in consultation with management and external auditors, consider the integrity of the Company's financial reporting processes and controls. Discuss significant financial risk exposures and the steps management has taken to monitor, control, and report such exposures;
- (f) Review risk management policies and procedures of the Company (i.e., litigation and insurance);
- (g) Periodically review and assess the adequacy of the procedures that are in place for the review of the Company's public disclosure of financial information extracted from or derived from the Company's financial statements;
- (h) Review significant findings prepared by the external auditors together with management's responses;
- (i) Review the principal risks affecting financial reporting;
- (j) Review with financial management and the external auditors, and approve, the company's quarterly financial results and related documents, including the quarterly press releases and MD&A, prior to the public release. By approval of these Terms of Reference for the Audit Committee, the Board delegates the authority to approve these documents on behalf of the Board;
- (k) Discuss any significant changes to the Company's accounting principles prior to their adoption. The Chair of the Committee may represent the entire Audit Committee for purposes of this review;

#### **External Auditors**

- (l) The external auditors are ultimately accountable to the Audit Committee and the Board of Directors, as representatives of the shareholders. The Audit Committee shall review the independence and performance of the auditors and annually recommend to the Board of Directors the appointment of the external auditors or approve any discharge of auditors when circumstances warrant;
- (m) Approve the fees and other significant compensation to be paid to the external auditors;
- (n) On an annual basis, the Committee should review and discuss with the external auditors all significant relationships they have with the Company that could impair the auditors' independence;
- (o) Review the external auditors' audit plan - discuss and approve audit scope, staffing, locations, reliance upon management, and general audit approach;
- (p) Prior to releasing the year-end financial results, discuss the results of the audit with the external auditors. Discuss certain matters required to be communicated to audit committees in accordance with the standards established by the Canadian Institute of Chartered Accountants;

- (q) Consider the external auditors' judgments about the quality and appropriateness of the Company's accounting principles as applied in the Company's financial reporting;
- (r) Approve all non-audit services to be provided to the Corporation by the external auditors' firm, prior to such services being performed, except that by approval of these terms of reference, the Audit Committee hereby approves the following non-audit services to be provided by the external auditors:
  - (i) Tax services connected with the preparation of the Corporation's tax returns, or the tax returns of any of its subsidiaries; and
  - (ii) Due diligence and tax services connected with any mergers, acquisitions or dispositions being considered by the Corporation;
- (s) Review and approve the Company's hiring policies regarding partners, employees and former partners and employees of the present or former auditors;
- (t) When there is to be a change in external auditors, review the issues related to the change and the information to be included in the required notice to securities regulators of such change;

**Legal Compliance**

- (u) On at least an annual basis, review with the Company's counsel any legal matters that could have a significant impact on the organization's financial statements, the Company's compliance with applicable laws and regulations, and inquiries received from regulators or governmental agencies; and

**Other Audit Committee Responsibilities**

- (v) Periodically assess the effectiveness of the committee against its terms of reference and report the results of the assessment to the Board.

4. **Administrative Matters:** The following general provisions shall have application to the Committee:

- (a) The Audit Committee has the authority to conduct any investigation appropriate to fulfilling its responsibilities, and it has direct access to the external auditors as well as anyone in the organization. The Audit Committee has the ability to retain, at the Company's expense, special legal, accounting, or other consultants or experts it deems necessary in the performance of its duties;
- (b) Two members of the Committee shall constitute a quorum. No business may be transacted by the Committee except at a meeting of its members at which a quorum of the Committee is present or by a resolution in writing signed by all the members of the Committee. Meetings may occur via telephone or teleconference;
- (c) Any member of the Committee may be removed or replaced at any time by the Board and shall cease to be a member of the Committee as soon as such member ceases to be a director. The Board may fill vacancies on the Committee by appointment from among its independent members. If and whenever a vacancy shall exist on the Committee, the remaining members may exercise all its powers so long as a quorum remains;
- (d) The Committee shall meet at least four times per year and/or as deemed appropriate by the Chair;
- (e) If deemed necessary by the Chair, agendas shall be circulated to Committee members along with background information on a timely basis prior to the Committee meetings;

- (f) Any issues arising from these meetings that bear on the relationship between the Board and management should be communicated to the Chief Executive Officer by the Board Chair;
- (g) The Committee may invite such officers, directors and employees of the Corporation as it may see fit from time to time to attend at meetings of the Committee and assist thereat in the discussion and consideration of the matters being considered by the Committee;
- (h) The time at which and place where the meetings of the Committee shall be held and the calling of meetings and the procedure in all respects at such meetings shall be determined by the Committee, unless otherwise determined by the by-laws of the Corporation or by resolution of the Board;
- (i) Unless otherwise designated by the Board, the members of the Committee shall elect a Chairman from among the members and the Chairman shall preside at all meetings of the Committee. The Chairman of the Committee shall have a second and deciding vote in the event of a tie. In the absence of the Chairman, the members of the Committee shall appoint one of their members to act as Chairman;
- (j) Minutes of the Committee will be recorded and maintained and circulated to directors who are not members of the Committee or otherwise made available at a subsequent meeting of the Board.