



**Immunovaccine Inc.**

**ANNUAL INFORMATION FORM**

**FOR THE YEAR ENDED DECEMBER 31, 2011**

**April 19, 2012**

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## **I. INTRODUCTION AND FORWARD LOOKING STATEMENTS**

The information contained in this Annual Information Form is stated as at December 31, 2011, unless otherwise indicated. Unless otherwise indicated or if the context otherwise requires, “Immunovaccine”, “the Corporation”, “we”, “us” and “our” refer collectively to Immunovaccine Inc., 1344 Summer Street, Suite 412, Halifax, Nova Scotia, Canada, B3H 0A8 and to its subsidiary, ImmunoVaccine Technologies Inc. (“**IVT**”).

Unless otherwise indicated, all dollar amounts are expressed in Canadian dollars and references to “\$” are to Canadian dollars. Certain statements in this Annual Information Form may constitute “forward-looking” statements which involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Corporation, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. When used in this Annual Information Form, such statements reflect current expectations regarding future events and operating performance and speak only as of the date of this Annual Information Form. Forward-looking statements involve significant risks and uncertainties, should not be read as guarantees of future performance or results, and will not necessarily be accurate indications of whether or not such results will be achieved. A number of factors could cause actual results to differ materially from the results discussed in the forward-looking statements, including, but not limited to, the factors discussed under “Risk Factors and Uncertainties”. Although the forward-looking statements contained in this Annual Information Form are based upon what management of the Corporation believes are reasonable assumptions, the Corporation cannot assure investors that actual results will be consistent with these forward-looking statements and should not be unduly relied upon by investors. These forward-looking statements are made as of the date of this Annual Information Form.

Actual results and developments are likely to differ, and may differ materially, from those expressed or implied by the forward-looking statements contained in this Annual Information Form. Such statements are based on a number of assumptions which may prove to be incorrect, including, but not limited to, assumptions about: (i) general business and economic conditions; (ii) the Corporation’s ability to successfully develop new products; (iii) positive results of pre-clinical and clinical tests; (iv) the availability of financing on reasonable terms; (v) the Corporation’s ability to attract and retain skilled staff; (vi) the products and technology offered by the Corporation’s competitors; (vii) the Corporation’s ability to protect patents and proprietary rights; and (viii) the Corporation’s ability to manufacture its products and to meet demand.

Investors should not place undue reliance on forward-looking statements as the plans, intentions or expectations upon which they are based might not occur. Forward-looking statements include, among others, statements with respect to research and development of new technologies, proprietary rights, skilled staff and future financings. Readers are cautioned that the foregoing list of factors is not exhaustive. Each of the forward-looking statements contained in this Annual Information Form are expressly qualified by these cautionary statements.

## **II. CORPORATE STRUCTURE**

The Corporation was incorporated on May 18, 2007 under the name of Rhino Resources Inc. pursuant to the *Canada Business Corporations Act*. On September 2009, the Corporation changed its name to Immunovaccine Inc. and consolidated its outstanding share capital on a 5 to 1 basis. The Corporation’s head and registered office is located at 1344 Summer Street, Suite 412, Halifax, Nova Scotia, Canada, B3H 0A8.

The Corporation has one wholly-owned subsidiary, ImmunoVaccine Technologies Inc., which is incorporated under the laws of Nova Scotia.

### **III. GENERAL DEVELOPMENT OF THE BUSINESS**

#### ***Overview***

Immunovaccine is a biotechnology company focused on the development and advancement of its patented DepoVax™ vaccine-adjuvanting platform through therapeutic cancer and infectious diseases vaccine candidates. The DepoVax™ platform produces a strong, high-quality immune response that has a specific and sustained immune effect, which enables the Corporation to pursue vaccine candidates in cancer, infectious diseases and animal health. The Corporation's adjuvanting technology platform is being used in multiple vaccine candidates, including two cancer vaccine candidates in Phase I clinical trials. Immunovaccine has research collaborations for infectious diseases and other cancer vaccine candidates with several leading biotechnology companies and research organizations, including the National Institutes of Health and the National Cancer Institute. In addition to the Corporation's human health vaccine strategy, it continues to capture value from animal health vaccine applications. Pfizer Animal Health has licensed the Corporation's delivery technology platform to develop vaccines for livestock.

#### ***History***

The Corporation commenced operations in March 2000, based on animal health research pioneered at Dalhousie University in Halifax, Nova Scotia, when it was contracted by the Department of Fisheries and Oceans to develop a contraceptive vaccine to control the seal population. The Corporation was able to develop a vaccine delivery system that demonstrated effectiveness such that 90% of seals, 10 years after vaccination, were still contracepted after a single dose.

From 2000 to 2004, the Corporation concentrated its research efforts on animal contraception for both wildlife and companion animals, while also working on vaccines for infectious diseases in livestock with CSL Animal Health, a division of CSL Limited, which was subsequently acquired by Pfizer Animal Health. In 2004 and continuing through 2008, the Corporation began establishing its VacciMax® platform for various human applications, while simultaneously developing a scalable manufacturing process for the VacciMax® platform.

The Corporation continued its research and by 2008, developed a lipid depot-based vaccine delivery and enhancement technology called the DepoVax™ platform, an improvement on the Corporation's original VacciMax® platform. The patented DepoVax™ platform is a combination of antigens plus adjuvanting immune enhancers formulated in liposomes, and then in oil. The DepoVax™ platform creates a "depot effect" that holds the vaccine at the site of injection, prolonging the immune system's exposure to the vaccine, resulting in rapid, potent and long-lasting cellular and/or humoral immune responses.

The DepoVax™ platform is easy to use, chemically stable, scalable and has broad applications. The Corporation has also tested the platform with several commercial vaccines such as for H5N1 pandemic influenza and hepatitis B, as well as other research collaborations with anthrax, meningitis and melioidosis. In all cases, the pre-clinical studies in animals demonstrated significantly higher immune responses after a single dose with the DepoVax™ platform when compared to two or three doses of a control vaccine or other commercially available vaccines.

## ***Recent Developments***

Since January 1<sup>st</sup>, 2012, the Corporation has announced it had:

- received the “Best Early-Stage Vaccine Biotech” award at the 5th Vaccine Industry Excellence (ViE) Awards ceremony during the World Vaccine Congress Washington 2012 in Washington, D.C. The annual ViE Awards honor the efforts, accomplishments and positive contributions of companies and individuals within the vaccine industry. The “Best Early-Stage Vaccine Biotech” was awarded to Immunovaccine based on the Corporation’s strong early clinical trial results in immunotherapy and key collaborations that have expanded its product pipeline in infectious diseases, addiction and bio-defense vaccines.
- signed a research agreement in March 2012 with Weill Cornell Medical College to advance a vaccine for treating cocaine addiction. The new vaccine would stimulate the body’s own immune system to prevent cocaine molecules from reaching the brain, blocking the addictive effects of the drug. The vaccine could become one of several methods of intervention intended to help people in rehabilitation programs;
- received gross proceeds of \$2,788,201.50 through its non-brokered Private Placement completed on March 7, 2012. Immunovaccine issued 9,294,005 common shares of the Corporation at the price of \$0.30 per common share;
- entered into a research collaboration with the US National Institutes of Health (NIH) and a commercial partner in February 2012 to advance the development of next generation biodefense vaccines against the most threatening biological agents. These novel vaccine candidates will be evaluated as part of a US NIH funded study, starting in the first quarter of 2012; and
- vaccinated the first patient with DPX-Survivac in December 2011. The goal of the Phase I clinical trial is to establish the safety and immune activity of DPX-Survivac in patients with advanced ovarian cancer.

## ***Overview of the Last 3 Years***

The following events significantly influenced the general development of the business of the Corporation:

### ***Year ended December 31, 2011***

During the year ended December 31, 2011, the Corporation announced it had:

- received clearance from Health Canada in October 2011 for its Clinical Trial Application (CTA) for a Phase I and II clinical trial with DPX-Survivac. The decision allows the Corporation to proceed with preparations in Canada to test the safety and efficacy of its immunotherapeutic vaccine in patients with advanced-stage ovarian cancer;
- welcomed Wayne Pisano, former President and Chief Executive Officer of Sanofi Pasteur, to the Corporation’s Board of Directors in October 2011;
- appointed John J. Trizzino as Chief Executive Officer and Director to the Board of Directors, in September 2011. As a senior executive with more than 25 years of broad industry

experience, Mr. Trizzino has been instrumental in creating joint ventures, licensing agreements and sales to major pharmaceutical companies and government agencies;

- elected Brad Thompson, Ph.D., and Kimberly Stephens, C.A., as new Directors at the June 2011 Annual General Meeting. Dr. Thompson is the co-founder and Chief Executive of Oncolytics Biotech Inc. Ms. Stephens is Immunovaccine's Chief Financial Officer. Dr. William A. Cochrane, Wade K. Dawe, James W. Hall and Albert Scardino were re-elected to serve on the Board of Directors until the next annual meeting of shareholders. Mr. Scardino also assumed the duties of the non-executive Chairman of the Board;
- received clearance from the US Food and Drug Administration (FDA) in June for its Investigational New Drug (IND) application for a Phase I and II clinical trial with DPX-Survivac, a therapeutic cancer vaccine. DPX-Survivac will be tested in patients with advanced ovarian cancer. The Phase I and II multicenter clinical trial is designed to assess the safety, immunogenicity and clinical efficacy of the DPX-Survivac vaccine. Patients will be treated with the DPX-Survivac vaccine after completing debulking surgery and chemotherapy treatments. The vaccine will be administered to patients who will also receive an immune modulating drug to enhance the effect of the vaccine on cancer cells. The Phase I portion of the clinical trial design is an open label dose ranging study to identify the optimal dose of DPX-Survivac to use in the Phase II portion of the trial;
- completed a detailed analysis of immune responses from patients enrolled in the Phase I clinical trial assessing the safety and tolerability of DPX-0907 in June 2011. The Phase I trial met the primary objective of safety with overall results demonstrating that DPX-0907 is generally well tolerated by all patients and is considered safe at both dose levels. The secondary objective was to assess whether administration of DPX-0907 could generate an immune response specific to the seven cancer antigens. Immunovaccine performed a detailed analysis of patients' blood samples that showed cell mediated immunity (CMI) to vaccine targets in all 3 breast cancer patients, 5 of 6 ovarian cancer patients and 3 of 9 prostate cancer patients. Both the 0.25 mL and 1 mL dose levels produced a targeted immune response in vaccinated patients;
- signed a research agreement with Cuban-based CIMAB S.A. In the agreement, the CIMAvax-EGF peptide antigen will be formulated in Immunovaccine's DepoVax™ delivery system to potentially enhance the immunogenicity of a novel therapeutic vaccine candidate. The Corporation is currently preparing initial experiments;
- received the resignation of Dr. Randal Chase from the Board of Directors in April 2011 and his three month notice to terminate his contract as President and Chief Executive Officer. Dr. Chase remained President and Chief Executive Officer until July 13, 2011, while the Board completed an executive search for his replacement;
- released positive interim immunogenicity results for the Phase I clinical trial of its therapeutic vaccine candidate, DPX-0907, in patients with breast, ovarian and prostate cancer in April 2011. The analysis showed that the DPX-0907 vaccine elicited an antigen-specific immune response in the majority of ovarian cancer patients analyzed. This preliminary evaluation examined vaccine responses in the first 15 patients enrolled in the clinical trial; three with breast cancer, five with ovarian cancer, and seven with prostate cancer;

- received an award of \$2.9 million from the Atlantic Canada Opportunities Agency (ACOA), under the Atlantic Innovation Fund (AIF) in March 2011. This non-dilutive funding will enable Immunovaccine to develop new diagnostics to identify specific subsets of cancer patient populations that would benefit most from receiving DepoVax™-based vaccine therapies. This funding will also help the Corporation develop additional methods for measuring vaccine activity, which will help the Corporation design future Phase II clinical trials;
- received an official Notice of Allowance from the US Patent and Trademark Office for a new US patent specific to the DPX-0907 therapeutic cancer vaccine. The new US patent application titled “Cytotoxic T-lymphocyte-inducing immunogens for prevention, treatment, and diagnosis of cancer” provides additional intellectual property protection in the US for the seven antigens used in Immunovaccine’s DPX-0907; and
- appointed Ms. Kimberly Stephens, C.A. as Chief Financial Officer in January 2011.

***Year ended December 31, 2010***

During the year ended December 31, 2010, the Corporation announced it had:

- released preliminary safety results for its Phase I clinical trial of DPX-0907 in December 2010. In this trial, patients with advanced stage breast, ovarian or prostate cancer received three subcutaneous injections of either 0.25 mL or 1 mL of DPX-0907, three weeks apart. The Corporation announced that as of December 14, 2010, 21 patients had been vaccinated with DPX-0907, with no dose limiting toxicities (DLTs) or serious adverse events (SAEs) reported;
- signed a collaborative research agreement with OncoTherapy Science Inc., of Kawasaki City, Japan, in November 2010, to explore the efficacy of their novel peptide cancer antigen in the Corporation’s DepoVax™ vaccine delivery and enhancement platform. Initial research results were promising and the two companies are evaluating opportunities for potential additional testing;
- successfully manufactured test batches of DPX-Survivac and established the analytical methods to support the release of future clinical trial batches in November 2010. The Corporation will focus the Phase I and II clinical development plan for DPX-Survivac on ovarian cancer;
- received positive results of a pre-clinical study testing the efficacy of combining CEL-SCI Corporation’s rheumatoid arthritis (“RA”) vaccine antigen CEL-2000 and DepoVax™ in November 2010. The study demonstrated that CEL-2000 formulated in the DepoVax™ vaccine delivery platform effectively slowed the progression of RA and induced statistically significant reduction in Arthritic Index score compared to the untreated control group. The Corporation is evaluating opportunities for the two companies to advance the combined technologies;
- signed a collaborative research program with the National Research Council Canada, in October 2010, to evaluate the efficacy of a carbohydrate-based vaccine formulated in DepoVax™, which can produce significant antibody levels specific to the carbohydrate target and capable of neutralizing meningococci. This research has been initiated and is on-going;



- positive results of an efficacy study testing the formulation of a melioidosis antigen in DepoVax™ in October 2010. The study, conducted in collaboration with Defence Research and Development Canada, demonstrated that two doses of the combination Melioidosis-DepoVax™ vaccine provided 100% protection against an infection model, as opposed to three doses of the control vaccine, which only provides partial protection. These studies enabled Immunovaccine to demonstrate the enhancement capabilities of the DepoVax™ platform and helped initiate new partnerships with organizations conducting research in bio-defense;
- signed a pre-clinical research collaboration with IRX Therapeutics, Inc., in October 2010, to evaluate the combination of IRX's primary cell-derived biologic IRX-2 and DepoVax™-based therapeutic cancer vaccines. IRX Therapeutics, Inc. is developing immune therapies that activate a patient's immune system to defeat cancer and related diseases. Initial research results were promising. There are currently no on-going studies and the Corporation will evaluate opportunities for additional testing in the future;
- completed a public offering (the "Offering") of 7,465,100 units at a price of \$1.00 per unit for aggregate gross proceeds of \$7,465,100 on September 16, 2010. Each unit consisted of one common share and one-half of one common share purchase warrant, with each whole warrant entitling the holder to acquire one common share of the Corporation at an exercise price of \$1.30 for a period of three years, expiring on September 16, 2013;
- appointed Mr. Albert Scardino to its Board of Directors in July 2010;
- entered into an agreement with Merck KGaA, in July 2010, to in-license EMD 640744, an investigational therapeutic Survivin-based antigen to be used in the Corporation's cancer vaccine known as DPX-Survivac, designed to target multiple solid tumors and hematological malignancies. The Corporation intends to build on the current on-going Phase I study for EMD 640744 by formulating Survivin in its DepoVax™ vaccine platform. The license agreement grants the Corporation exclusive world-wide rights, under issued patents and patent applications, to develop and commercialize Survivin for multiple cancer indications. Under the terms, the Corporation will pay Merck KGaA success-based milestone payments and royalties as a percentage of product sales. Merck KGaA, based in Darmstadt, Germany, is a global pharmaceutical and chemical company with total revenues of approximately €7.7 billion in 2009 and approximately 33,600 employees in 64 countries, according to its public filings;
- signed a research agreement in June 2010, with Oncothyreon Inc. ("Oncothyreon") to formulate Oncothyreon's ONT-10, a therapeutic vaccine product candidate, in the Corporation's DepoVax™ vaccine platform for pre-clinical testing. Oncothyreon, based in Seattle, is recognized for developing innovative oncology immunotherapeutics. Initiation of the research was delayed and the Corporation is evaluating research plans for testing the combination of the two companies' technologies;
- signed a collaborative research agreement in June 2010, with Vaxil BioTherapeutics ("Vaxil") to explore the efficacy of Vaxil's cancer antigens in the Corporation's DepoVax™ vaccine platform. Vaxil, based in Israel, is a pioneer in the development of novel T-cell synthetic vaccines for both therapeutic and prophylactic use. Initial research results were promising. There are currently no on-going studies and the Corporation will evaluate opportunities for additional testing in the future;

- signed a collaborative agreement with the Dana-Farber Cancer Institute, in April 2010, a principal teaching affiliate of the Harvard Medical School. The initial research collaboration involved formulating Dana-Farber's HIV protein antigens in the Corporation's DepoVax™ vaccine delivery platform. The goal of this research was to establish whether this novel vaccine formulation would induce a stronger immune response. The Dana-Farber Cancer Institute is a federally designated Center for AIDS Research and also a designated comprehensive cancer center by the NCI. With staffing changes at Dana-Farber and through ongoing discussions, the focus of the initial research has shifted from HIV protein antigens to evaluating opportunities to collaborate on a cancer antigen candidate;
- published data in the April 2010 issue of the *Journal of Immunotherapy* from a pre-clinical study with its DPX-0907 cancer vaccine in human class I MHC transgenic mice. The study compares the Corporation's novel DepoVax™ vaccine platform to a control vaccine formulation commonly used to deliver peptide antigens in the clinic today. The study shows that the Corporation's DepoVax™ platform promotes antigen specific immune responses; however, unlike the control vaccine, the DepoVax™ formulation does not induce problematic immune regulatory responses;
- initiated the Phase I clinical trial of DPX-0907, a therapeutic cancer vaccine targeting breast, ovarian and prostate cancer in April 2010. DPX-0907 combines seven essential peptide antigens with Immunovaccine's potent DepoVax™ delivery platform; and
- noted that Pfizer exercised a licensing option on the Corporation's vaccine enhancement and delivery platform to develop an additional livestock vaccine in March 2010.

***Nine month period ended December 31, 2009***

During the nine month period ended December 31, 2009, the Corporation announced it had:

- filed an Investigational New Drug Application ("IND") for DPX-0907 and received clearance from the US Food and Drug Administration (the "FDA") to proceed with a Phase I clinical trial for its therapeutic cancer vaccine DPX-0907 in December 2009. Patient recruitment for the Phase I clinical trial commenced by the end of the first quarter of 2010;
- entered into a third License Agreement with Pfizer in November 2009, for the use of the Corporation's platform technology in cattle vaccines;
- entered into a Master Services Agreement with Cato Research Canada Inc., a contract research organization, in November 2009 to assist the Corporation in managing the Phase I clinical trial for DPX-0907;
- entered into a Collaborative Agreement with the National Cancer Institute ("NCI") in Maryland, US in November 2009. The research collaboration involves formulating NCI's cancer vaccine antigens in DepoVax™, the Corporation's vaccine delivery platform. This research has been initiated and is on-going;
- successfully completed its public listing through a reverse take-over transaction with Rhino (the "Rhino Transaction"). The Rhino Transaction was completed on September 30, 2009, in the form of a share exchange whereby Rhino acquired all of the issued and outstanding common shares of IVT in consideration for common shares of Rhino and was renamed

Immunovaccine Inc. Prior to closing, the Rhino shares were consolidated on the basis of one new share for each existing five Rhino shares, and then each existing share of IVT was exchanged for one new common share of Rhino. As the former shareholders of IVT owned approximately 95% of Rhino following the exchange of shares, the transaction was accounted for as a reverse take-over of Rhino by IVT;

- successfully closed private placements, raising gross proceeds of almost \$8.3 million through the issuance of 6,230,399 shares of IVT as part of a brokered private placement at a price of \$0.70 per share for gross proceeds of \$4,361,279 and the issuance of 5,582,614 shares of IVT as part of a non-brokered private placement at a price of \$0.70 per share for gross proceeds of \$3,907,830 (collectively, the “Private Placements”);
- entered into an agreement with Public University Corporation Yokohama City University to review a *Pseudomonas aeruginosa* vaccine, with an exclusive option to license the technology. The goal was to develop a vaccine that generates a stronger immune response to prevent systemic and local *Pseudomonas* infections. According to the Center for Disease Control, *Pseudomonas* infects immunocompromised patients and accounts for 10% of all hospital-acquired infections. After completing a series of experiments, the results have shown that the antibodies generated by the antigen did not protect animals when the challenge *Pseudomonas* strain was introduced. The Corporation will therefore not pursue renewal of the exclusive license option signed with Yokohama University;
- entered into an agreement to exclusively license seven cancer antigens from Immunotope Inc., an antigen discovery company. These proprietary antigens specifically target breast, ovarian and prostate cancers. The Corporation combined the proprietary antigens with its DepoVax™ delivery platform to develop DPX-0907, a therapeutic cancer vaccine. Under the license agreement, the Corporation agreed to an up-front payment, as well as future milestone payments and royalties to Immunotope for use of the antigens;
- signed an agreement with UK-based Scancell Ltd., the operating company of Scancell Holdings Plc (SCLP.PL), which is developing therapeutic cancer and infectious diseases vaccines. This research agreement will explore the potential of using the Corporation’s DepoVax™ delivery system for Scancell’s novel ImmunoBody® DNA vaccines. Preliminary tests were performed however there are currently no plans to progress this research further;
- received notice that it will be granted non-repayable contributions from July 2009 until February 2011 of up to \$260,000 in total from the National Research Council of Canada Industrial Research Assistance Program (NRC-IRAP). The funding, in addition to both technical and business-oriented advisory services, will support the Corporation’s development of a pipeline of proprietary therapeutic cancer and infectious diseases vaccines;
- entered into a Collaboration Agreement with the National Research Council Institute for Biodiagnostics Atlantic in May 2009. This collaboration will develop new 3-D MRI technology to track the effect of the Corporation’s DepoVax™ technology on reducing tumor growth. Initial studies have shown that tumors established in mice and visible by MRI can be eliminated following vaccination with a DepoVax™-based vaccine. These studies enabled the Corporation to demonstrate the enhancement capabilities of the DepoVax™ platform and helped initiate partnerships with organizations conducting research in bio-defense;

- entered into a research partnership with FIT Biotech, a Finland-based clinical stage company that develops DNA vaccines in May 2009. The purpose of the research is to formulate FIT Biotech's GTU® MultiHIV DNA plasmid with the Corporation's DepoVax™ vaccine delivery system to advance a therapeutic HIV vaccine. The Corporation has since found that the ability to raise immune responses against genetic vaccines can vary from plasmid to plasmid. Preliminary tests were performed however there are currently no plans to progress this research further; and
- entered into a 3-year research agreement with Defense Research and Development Canada in April 2009. The research collaboration involves the applicability of the Corporation's DepoVax™ technology for anthrax antigens to reduce the number of doses required to raise strong immune responses against anthrax. Preliminary animal studies revealed that the Corporation's DepoVax™ technology can reduce the number of immunizations required to induce antibodies against this deadly biological threat. The research agreement was expanded in October 2009 to include another priority bioterrorism agent, Glanders. These studies enabled the Corporation to demonstrate the enhancement capabilities of the DepoVax™ platform and helped initiate partnerships with organizations conducting research in bio-defense.

#### **IV. DESCRIPTION OF THE BUSINESS**

##### ***Business model and Strategy***

###### *Operating Strategy*

The DepoVax™ vaccine delivery platform drives the operating strategy for the Corporation. All of the Corporation's vaccines in human and animal health utilize this adjuvanting platform to improve their effectiveness against cancer and infectious disease and for drug addiction and animal health.

The Corporation currently has two cancer vaccine candidates in human trials: DPX-Survivac and DPX-0907. Immunovaccine believes the principles behind a successful anti-cancer vaccine will include the right antigen, the right vaccine delivery technology and the right therapeutic strategy. Antigens used in both DPX-Survivac and DPX-0907 specifically target tumor cells without harming normal, healthy cells. These antigens are combined with the Corporation's DepoVax™ platform to optimize the presentation of these antigens in the body, resulting in an enhanced immune response. To be successful against cancer, the vaccine must be administered at the right moment in the treatment cycle, which the Corporation believes to be soon after a tumor has been identified. Immunovaccine also believes that the effect of the vaccine may be enhanced if an immune modulator is used simultaneously to prevent a patient's immune system from overriding the positive response to the vaccine.

Using the same DepoVax™ adjuvanting platform and working with partners in North America and Europe, the Corporation is also developing vaccines for infectious diseases, including a bio-defense vaccine candidates that will protect against anthrax and multi-filoviruses. Another vaccine in development will be used to treat cocaine addiction. Pre-clinical studies have indicated that the platform may allow the development of single-dose vaccines for a wide range of infectious diseases by generating a stronger immune response more quickly than is possible with existing delivery methods. The Corporation's goal will be to advance at least one of these collaborations into human clinical trials in the next two years.

### *Partnering Strategy*

Having used its own resources to bring its two cancer vaccines to human clinical trials, the Corporation is involved in various partnerships and collaborations to accelerate development of its products.

Programs announced thus far include a research partnerships with the US National Institutes of Health for vaccines against bioterrorism threats and with Weill Cornell Medical Center for a vaccine designed to counteract cocaine abuse. The goal is to convert these partnerships into licensing agreements, either to allow the use of the DepoVax™ technology by others or to acquire infectious disease antigens to develop into new vaccines using DepoVax™.

### *Financial Strategy*

Immunovaccine relies on equity financing, along with private and public partnerships to fund its development programs. Applying this strategy, the Corporation has raised more than \$9 million in government funding, including interest-free loans and government grants. Most recently, the Corporation has been drawing down on the \$2.9 million government loan it was awarded in March 2011 from ACOA, as well as closed a \$2.8 million equity private placement. This support has enabled the Corporation to accelerate its research activities in cancer vaccines and improve its DepoVax™ technology.

Immunovaccine has developed research partnerships with various government organizations, including the Department Research and Development Canada, the US National Institutes of Health, National Cancer Institute and the Department of Defense in the US, which have funded pre-clinical collaborations. The Corporation provides its DepoVax™ technology and preliminary studies for these partnerships, but they are otherwise non-dilutive in financial terms.

The Corporation intends to exploit every strategic avenue in development of its products, including co-development with partners and exploring opportunities with the venture arms of major pharmaceutical companies. The Corporation may also seek additional equity - together with non-dilutive funding and partnerships - to advance the development of the vaccine candidates.

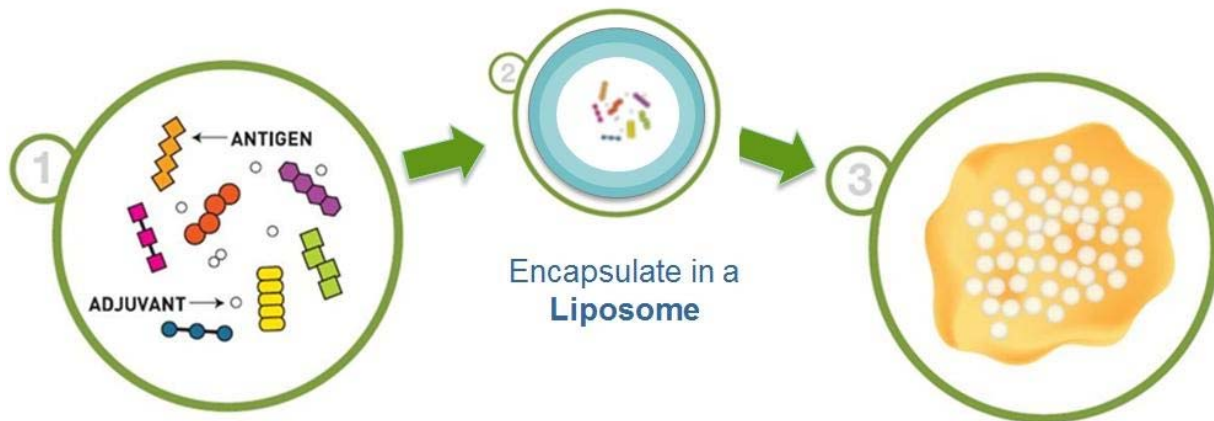
### ***DepoVax™ Vaccine Enhancement Platform: How the technology works***

Central across the Corporation's entire product pipeline is the DepoVax™ delivery and adjuvanting technology.

The Corporation has developed a lipid depot-based vaccine delivery and enhancement technology called the DepoVax™ platform, an improvement on the Corporation's original VacciMax® platform. The DepoVax™ platform is easy to use, chemically stable, flexible, and forms the basis of the Corporation's therapeutic cancer vaccines and potential infectious diseases vaccines.

The DepoVax™ platform is a combination of antigens, plus adjuvant immune enhancers formulated in liposomes and then in oil. This patented combination has been shown to raise strong and long-lasting cellular or humoral immune responses which would allow the Corporation to create effective vaccines.

## *The DepoVax™ platform*



The DepoVax™ technology, which is a combination of antigens and adjuvants formulated in liposomes and then in oil, results in enhanced immune responses. Due to its ability to retain the active components in the oil phase, the DepoVax™ platform creates a long-lasting “depot effect” that prolongs the exposure of vaccine ingredients to immune cells at the site of vaccination. This is believed to elicit a potent humoral and/or cellular immunity with as little as one dose.

This unique formulation is also chemically stable. DepoVax™-based products are lyophilized and anticipated to be stored in a dry format which provides the added benefit of an extended shelf life. The DepoVax™ formulation is easy to re-suspend and administer.

One of the significant advantages of the DepoVax™ platform is its versatility. The DepoVax™ platform can be combined with a variety of antigens, including recombinant proteins, synthetic peptides and nucleic acids, viruses and a wide range of adjuvants, which provides the flexibility to develop many different vaccine products using a single platform. This has enabled the Corporation to work with a variety of vaccine candidates, including those in cancer, infectious diseases and animal health.

DepoVax™ was used to formulate a number of antigens for emerging pathogens currently in development, such as anthrax, and enhanced immune responses were consistently demonstrated. DepoVax™-formulated vaccines have the ability to induce rapid and robust immune responses that are believed to protect against disease agents with as little as one dose. The potential single-dose capability is a key factor for developing rapid response vaccines for pandemics and disease outbreaks.

The ability of DepoVax™ to induce robust cellular immune responses also makes the platform suitable for therapeutic cancer vaccines. The vaccines are designed to specifically target tumor cells and to help patients remain in remission and combat the dissemination of micro-metastases. DepoVax™ can induce antigen-specific “polyfunctional” cellular responses, which have been postulated to be required for effective tumor control.

The Corporation is aware of other platform technologies designed to facilitate vaccine product development. All of these platforms carry their own advantages and disadvantages. The following is a competitive analysis comparing the Corporation’s platform technology to other platform technologies in development:

TECHNOLOGY	TECHNOLOGY PROS	TECHNOLOGY CONS
DepoVax™ vaccine adjuvanting platform	<ul style="list-style-type: none"> <li>• Strong antibody and cellular responses</li> <li>• Long-term responses from a single dose</li> <li>• Both therapeutic and prophylactic</li> <li>• Scalable production</li> <li>• Broad range of applications</li> <li>• Established pre-clinical safety with DPX-0907</li> <li>• Established safety in humans for a cancer application</li> <li>• Long term shelf life</li> </ul>	<ul style="list-style-type: none"> <li>• Technology is new; to date, it has been tested in one Phase I clinical trial in cancer patients</li> </ul>
Other liposome delivery systems	<ul style="list-style-type: none"> <li>• Scalable</li> <li>• Clinical safety data available</li> </ul>	<ul style="list-style-type: none"> <li>• Limited success in generating strong immune responses</li> <li>• Limited duration of immune responses without booster immunizations</li> </ul>
Dendritic cell-based systems	<ul style="list-style-type: none"> <li>• Individual vaccine therapy (specific for each patient)</li> <li>• One approved product (Provenge from Dendreon)</li> </ul>	<ul style="list-style-type: none"> <li>• Therapeutic applications only</li> <li>• Individualized; not scalable</li> <li>• Requires significant upfront investment in manufacturing capacity</li> <li>• High cost of production when marketed</li> </ul>
Attenuated virus delivery system	<ul style="list-style-type: none"> <li>• Wide range of prophylactic applications</li> <li>• Scalable</li> <li>• Well known technology, currently used in a number of marketed vaccines</li> </ul>	<ul style="list-style-type: none"> <li>• Some safety concerns (example: may not be safe for immunocompromised individuals)</li> <li>• Re-immunization with same platform may not be possible</li> </ul>
Virus Like Particle delivery systems (VLPs)	<ul style="list-style-type: none"> <li>• Good safety profile (no virus involvement)</li> <li>• Scalable</li> <li>• Potential for a number of applications</li> <li>• Enhances immunogenicity of antigen</li> </ul>	<ul style="list-style-type: none"> <li>• Typically requires multiple immunizations</li> <li>• Structural restrictions limiting antigen presentation</li> </ul>
Stand-alone TLR agonists (e.g. CpG, MPL)	<ul style="list-style-type: none"> <li>• Good safety profile</li> <li>• Scalable</li> <li>• Potential for a number of applications</li> <li>• Enhances immunogenicity of antigen</li> </ul>	<ul style="list-style-type: none"> <li>• Typically requires multiple immunizations</li> </ul>

## Corporation's Product Pipeline

Cancer Vaccine Programs	Research	Preclinical	Phase I	Phase II	Phase III
<b>DPX-0907</b> Breast, ovarian and prostate	[Progress bar spanning Research, Preclinical, and Phase I]				
<b>DPX-Survivac</b> Multi-cancer vaccine; initially ovarian cancer	[Progress bar spanning Research, Preclinical, and Phase I]			Protocol Cleared	

### External Research Collaborations

<b>DepoVax™ Platform</b> Infectious disease (e.g., bioterrorism, pandemic flu, malaria)	[Progress bar spanning Research and Preclinical]				
<b>Animal Health</b> Indications partnered with Pfizer Animal Health	Field Trials in Process [Pre-registration]				

### DPX-Survivac: Therapeutic cancer vaccine

DPX-Survivac uses Survivin-based antigens in-licensed from Merck KGaA, on a world-wide exclusive basis, and formulated in the DepoVax™ vaccine delivery platform. Survivin is a major tumor-associated antigen over-expressed in several cancers including ovarian cancer cells, making it a viable target for immunotherapy. DepoVax™ will deliver the Survivin-based antigens in a lipid depot-based format designed to generate a strong and prolonged immune response.

Survivin is essential for the survival of cancer cells and is an inhibitor of cell death, known as apoptosis. A vaccine that disrupts Survivin would lead to an increase in apoptosis and a decrease in tumor growth. The National Cancer Institute recently recognized Survivin as a promising antigen for cancer treatment based on its specificity, over-expression in cancer cells and immunogenicity potential.

DPX-Survivac could have broad commercial potential as a therapeutic cancer vaccine because it may be explored in multiple solid tumors and hematological cancers, including ovarian, prostate, breast, pancreatic, multiple myeloma, B-cell lymphoma, glioblastoma, and melanoma. The Corporation intends to proceed with pre-clinical testing of DPX-Survivac with a broader range of cancer indications to evaluate additional opportunities.

Immunovaccine initiated a Phase I clinical trial of DPX-Survivac in December 2011 and vaccinated the first patient in December 2011. The Phase I clinical trial is being conducted in eight clinical sites in the US and Canada, having received clearance for both Phase I and Phase II clinical trials by regulators in both countries. The Phase I is an open label clinical trial designed to evaluate sequentially the safety of two DPX-Survivac dosing regimens in approximately 15 patients. The goal of the Phase I clinical trial is to establish the safety and immune activity of DPX-Survivac in patients with advanced ovarian cancer.

The existing clinical data from both DPX-0907 and Survivin antigens facilitated the approval of a combined Phase I and Phase II protocol for testing DPX-Survivac in patients with advanced ovarian cancer. The FDA allowed the Corporation to accelerate the pre-clinical research and development of DPX-Survivac by filing an IND application for DPX-Survivac months ahead of normal expectations.



The Phase II clinical trial will be a randomized, placebo-controlled, double-blinded trial conducted in approximately 80 sites in North America and designed to enroll approximately 250 patients. The vaccine will be administered to patients who will also receive an immune-modulating drug to enhance the effect of the vaccine on cancer cells. The primary aim of the Phase II trial will be progression-free survival.

We expect interim results on safety and immunogenicity from the Phase I clinical trial in the third quarter of 2012 and final safety/ immunogenicity data in the fourth quarter of 2012. Various financing options that may include dilutive and non-dilutive sources to support this Phase II research are under consideration by the Corporation.

### ***DPX-0907: Therapeutic Breast/Ovarian/Prostate cancer vaccine***

DPX-0907 combines the Corporation's DepoVax™ delivery technology with seven HLA-A2-restricted cancer-specific antigens licensed from Immunotope. The vaccine is designed to stimulate an immune response specific to cancer antigens which are believed to be involved in critical tumor cell processes, and is expected to kill tumor cells without injury to normal, healthy cells. The seven peptide antigens in DPX-0907 are believed to be present on the surface of breast, ovarian and prostate cancer cells. In pre-clinical studies, the seven antigens could not be found on the surface of normal cells.

The Corporation completed a Phase I clinical trial of DPX-0907 and the results of the trial were released in June 2011. The Phase I trial was conducted at five centers in the US. In this open-label, dose-escalating trial, patients received three injections (0.25 mL or 1 mL doses) of the active immune therapy DPX-0907, three weeks apart.

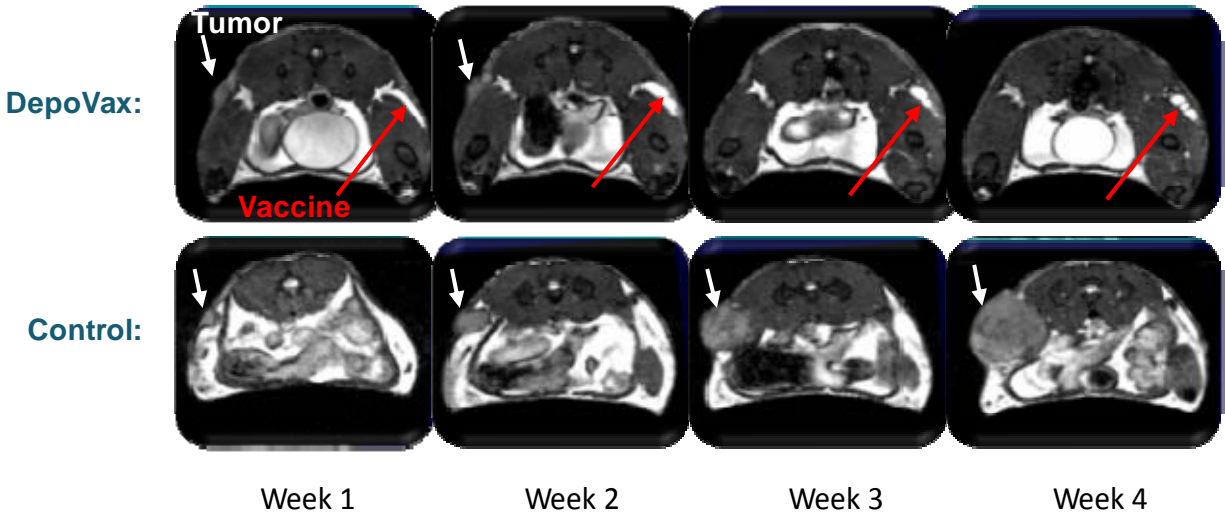
The Phase I trial met the primary objective of safety with overall results demonstrating that DPX-0907 is generally well-tolerated by all patients and is considered safe at both dose levels. There were no vaccine related serious adverse events reported. Final safety was assessed in 11 patients in the 0.25 mL dose group and 11 patients in the 1 mL dose group.

The secondary objective was to assess whether administration of DPX-0907 could generate an immune response specific to the seven cancer antigens. Immunovaccine performed a detailed analysis of patients' blood samples that showed cell-mediated immunity (CMI) to vaccine targets in all 3 breast cancer patients, 5 of 6 ovarian cancer patients, and 3 of 9 prostate cancer patients. Both dose levels produced a targeted immune response in vaccinated patients. The immunogenicity results were based on an analysis of 9 evaluable patients in the 0.25 mL dose group and 9 evaluable patients in the 1 mL dose group.

The further clinical development of DPX-0907 into Phase II clinical trials will be evaluated based on safety, immunogenicity and commercial potential. The Corporation is exploring opportunities for commercialization of DPX-0907 and will consider investigator funded trials or partnership opportunities at various stages of clinical development, including at the Phase I and Phase II clinical trial stages.

### ***Cancer Vaccines – Standard of care***

Both cancer vaccine candidates developed by the Corporation are therapeutic cancer vaccines, which treat existing cancers. The intent is for the vaccine to be administered to patients who have already completed debulking surgery and chemotherapy treatments. The therapeutic cancer vaccines are intended to stimulate an immune response to attack the circulating cancer cells that remain in a patient's body after surgery and chemotherapy. This treatment approach has the potential to combat micro-metastases and keep the cancer in remission.



**Figure 2. MRI monitoring of tumour growth and rejection.** Two groups of mice (n=7) were implanted subcutaneously with C3 tumours. Five days later, mice in one group were vaccinated with peptide-based DepoVax™ vaccine, the second group remained non-vaccinated. Tumour growth and vaccine depot was monitored using MRI for 4 weeks. (A) A representative mouse implanted with a tumour on the left flank (white arrow) and vaccinated with DepoVax™ on the right flank (red arrow). (B) A representative mouse implanted with a tumour on the left flank (white arrow), not vaccinated.

### *Infectious and Other Diseases*

A significant component of the Corporation's business strategy is leveraging the DepoVax™ platform within infectious and other diseases. The DepoVax™ adjuvanting platform has the potential to generate a rapid and robust immune response, often in a single dose. The unique vaccine enhancement and single-dose capability could prove to be beneficial in targeting difficult infectious and other disease candidates.

### *Bio-terrorism*

The Corporation has entered into a research collaboration to advance the development of next generation bio-defense vaccines against the most threatening biological agents. These novel vaccine candidates will be evaluated as part of a study funded by the US National Institute of Health (NIH), starting in the first quarter of 2012.

The study combines the Corporation's DepoVax™ adjuvanting technology platform with four bio-defense vaccine candidates, developed in collaboration with an undisclosed commercial partner. Earlier results from initial studies warranted further development of the vaccine candidates. These novel vaccine candidates will now be tested in a non-human primate challenge model by the NIH's National Institute of Allergy and Infectious Diseases (NIAID).

The study will evaluate the potential for these novel vaccine candidates to protect against anthrax and multi-filoviruses (e.g. Marburg). These bio-terrorism agents are classified as Category A by the US Centers for Disease Control and Prevention. Category A agents have the greatest potential for adverse public health impact with mass casualties because they are easily transmittable and have high fatality rates.

Immunovaccine's preliminary research with an anthrax antigen demonstrated that the DepoVax™-based vaccine was able to raise higher antibody levels, as compared to three doses of an alum-adjuvanted

control vaccine. Persisting high antibody levels were induced within four weeks following a single dose of anthrax antigen with DepoVax™.

Data generated from these research studies is expected to facilitate access to various funding mechanisms to move the vaccine candidate into Phase I clinical trials within the next 12 months.

#### *Other Diseases*

The Corporation signed a research agreement with Weill Cornell Medical College to advance a vaccine for treating cocaine addiction. The project will combine Cornell's novel cocaine antigen with Immunovaccine's DepoVax™ adjuvanting platform to strengthen the immune response shown in research animals in previous studies at the College.

This research project builds on earlier cocaine vaccine work at Weill Cornell in 2010, funded by the National Institute on Drug Abuse (NIDA) of the National Institutes of Health (NIH). The previous studies used a viral vector platform linked to a cocaine analog to formulate the vaccine candidate. These results showed the anti-cocaine vaccine raised antibody levels high enough to sequester the cocaine molecules before the drug reached the brains of the mice and prevented cocaine-related hyperactivity. The new study will determine if the addition of the DepoVax™ adjuvanting technology will trigger an even stronger and longer-lasting immune response.

By blocking the effects of the drug, the vaccine could become one of several methods of intervention intended to help people in rehabilitation programs.

Data generated from these research studies is expected to facilitate access to various funding mechanisms that are focused on developing treatments for addictions within the next 12 months.

#### *Animal Health*

While the Corporation's main focus is now on the human health market and activities, the animal health market is still an important section of the Corporation's strategy. In 2008, the Corporation signed its first license agreement with Pfizer Animal Health ("Pfizer"), which represents the Corporation's first step in validating the DepoVax™ platform technology. The Corporation now has four licensing agreements with Pfizer for the use of the Corporation's delivery technology in cattle and other livestock vaccine applications. These license agreements include upfront signing fees, milestone payments and royalties from future vaccine sales.

Immunovaccine intends to pursue additional licensing and revenue opportunities within the animal health market to help fund the research and development of its human health vaccine candidates.

#### *Intellectual Property*

The Corporation strives to protect its intellectual property in established, as well as emerging, markets around the world. The Corporation's intellectual property portfolio for its vaccine platform technology includes five patent families, the first of which contains five patents issued in four jurisdictions (US, Europe, Japan and Australia) and two pending patent applications in the US and Canada. The four other families collectively contain 33 pending patent applications in eleven jurisdictions. US Patent 6,793,923, issued in 2004, contains claims to the Corporation's platform, covering "any antigen, any adjuvant in any liposome and any oil". The platform name is protected by trademarks in the US, Canada and Europe.

Additional granted patents include:

- Europe Patent 1,333,858, Patent granted February 8, 2006;
- Japan Patent 2002-540757, Patent granted August 1, 2008; and
- Australia Patent, 202214861, Patent granted January 11, 2007.

Since 2008, the Corporation has filed three Patent Cooperation Treaty (PCT) applications relating to the VacciMax® and DepoVax™ technologies, some or all of which have now been filed in the US, Europe, Japan, Canada, Australia, China, India, Brazil, Israel, Hong Kong and Singapore. These PCT applications cover specific DepoVax™ compositions with broad utility for infectious diseases and cancer applications. If allowed, these patent applications may extend patent protection for some or all DepoVax™-based vaccines approximately up to the year 2028.

The licensing agreement between the Corporation and Immunotope for the seven antigens included in the DPX-0907 vaccine candidate stipulates that the Corporation will assume the cost of prosecuting and maintaining the fees associated with patent applications and issued patents relating to the peptide antigens under license. These antigens are protected by two issued patents in the US and pending patent applications in the US and Europe. A European patent application was recently refused by the European Patent Office. An appeal is underway and the outcome for this particular application in Europe remains uncertain. Additional divisional applications have been filed in Europe. The DPX-0907 vaccine candidate remains protected by granted patents and patent applications (Canada, US, Europe, Japan, Australia, China, India, Brazil, Israel, Hong Kong and Singapore) relating to the core vaccine delivery platform, as well as US patents (7,083,789 and allowed application 11/426,16) and patent applications in the US and Europe relating to the seven peptide antigens.

### ***Markets and Competition***

The market outlook for the Corporation's products and platform technology remains positive backed by the growing public awareness of new, safer and more effective vaccines, and the adoption of novel vaccine delivery mechanisms. Vaccines are one of the fastest growing segments of the pharmaceutical industry. According to industry sources, global revenues are expected to rise to US\$46.5 billion by 2014. The development of new infectious diseases vaccines along with therapeutic cancer vaccines will drive the growth of this industry in the first quarter of the 21<sup>st</sup> Century.

Currently, there are five manufacturers that dominate revenue generation in the human vaccine market; Merck & Co., GlaxoSmithKline ("GSK"), Novartis, Sanofi Pasteur ("Sanofi"), and Pfizer. The increased revenue potential for vaccines is due in part to the improved pricing for vaccine products. For example, the Gardasil vaccine is currently selling for approximately US\$160 per dose for three doses. This represents an improvement of what used to be a fundamental economics problem within the vaccine industry.

Furthermore, advances in biotechnology mean that vaccines are not easily replaced by generic substitutes and therefore are more likely to assure a long-term income stream. Governments and healthcare providers also positively view vaccines because of their potential to reduce hospital stays and drug costs. New technologies, such as the enhanced vaccine delivery platform being developed by the Corporation, are enabling the development of targeted vaccines not previously possible. These new vaccine products are being priced at a premium to reflect the value of the technology.

### *Therapeutic cancer vaccines*

Cancer is considered one of the most widespread and prevalent diseases globally. According to the US Centers for Disease Control and Prevention (CDC), 12.7 million individuals become victims of cancer and 7.6 million individuals die from the disease annually.

Interest in immunotherapy and cancer vaccines has been rising as researchers are learning more about cancer and its interactions with the immune system. A better understanding of the immunology of cancer has led to novel strategies for vaccine development in the past several years. The recent approval by the FDA of Dendreon's Provenge for prostate cancer and Bristol-Meyers Squibb's Yervoy (ipilimumab) for melanoma have resulted in increased attention and support for immunotherapy and cancer vaccine companies.

The global market for cancer vaccines, including both prophylactic and therapeutic vaccines, was US\$1.6 billion in 2010. While the majority of this is based on sales of prophylactic vaccines, the area of therapeutic cancer vaccines is expected to experience high growth, reaching US\$4.8 billion by 2018. Several first-in-class therapeutic cancer vaccines are expected to be introduced during this time driving this anticipated growth rate.

Independent sources note a high unmet need in the therapeutic cancer vaccine market. Despite recent advances in cancer therapy, the median survival rate remains poor. Vaccines for cancer treatment could meet the unmet need for new and effective therapies with low toxicity.

Conventional cancer treatment involves debulking surgery, followed by chemotherapy. Chemotherapy interferes with the ability of cancer cells to grow and spread, but these drugs can only delay the cancer's recurrence as most tumors eventually develop resistance to the treatment. Chemotherapy also kills normal cells, resulting in multiple negative side effects.

Because patients need treatments with a better safety profile, the next generation of therapeutic cancer vaccines is a more attractive approach. The vaccine is administered after surgery and chemotherapy, when tumor burden is low. The goal is to have the cancer vaccine train the body's immune system to target and kill remaining cancer cells and maintain remission for the patient.

Cancer vaccines can be a possible combination partner with chemotherapy, radiation or surgery. Thus, cancer vaccines are believed to hold great promise in the future as a potential for combination treatment options. The Corporation is of the belief that, over the next five years, cancer vaccines will become part of a multi-targeted approach for the treatment of cancer.

### *Infectious Diseases*

Globally, infectious diseases have witnessed robust growth in recent years. During the past decade, outbreaks of diseases thought to be under control or retreating, such as plague, diphtheria, yellow fever, dengue, meningitis, influenza and malaria, have re-emerged. While the effort to control these known infectious diseases continues, more than 30 emerging diseases have been identified in humans for the first time over the past two decades.

The global market for infectious diseases treatments was valued at US\$90.4 billion in 2009. This market is expected to increase 8.8% (CAGR) to reach US\$138 billion in 2014. Viral disease treatments will have the fastest growth rate of 12.1% (CAGR), increasing from nearly US\$45 billion in 2009 to US\$79 billion in 2014.

With up to 17 million deaths each year, there is an increased awareness of the impact of current and emerging infectious diseases. Demand for newer treatments and vaccines is growing globally. Decision Resources reports that the world-wide market for vaccines against infectious diseases more than doubled between 2005 and 2011.

Many infectious diseases lack effective prophylactic vaccines, and the industry faces a variety of challenges in vaccine design and production. Adjuvants and delivery methods are viewed as key technologies for the success of future vaccines. The Corporation believes this current market landscape offers significant commercial opportunities for both our technology platform and our vaccines.

Efforts to decrease treatment duration and develop single-dose vaccines, in particular for malaria, are a strong focus at the research level to improve patient compliance and decrease monitoring of therapy by the healthcare provider.

Better diagnostics are being sought for many infectious diseases. This advance could result in additional market expansion by increasing the number of patients identified for vaccine treatment. Finally, further growth of the influenza vaccines market could be driven by the implementation of a universal immunization program recommended by the US Advisory Committee on Immunization Practices to increase further the flu vaccination coverage.

Pharmaceutical companies dominating this market space include Bristol-Myers Squibb, GlaxoSmithKline, Johnson & Johnson, Merck & Co. and Roche. Additionally, government and nonprofit institutions play a significant role in vaccine development in both industrialized and developing markets. Support for infectious diseases vaccine development and commercialization is available to companies through government and nonprofit funding and granting mechanisms.

### *Bio-defense*

According to the Center for Bio-security's review of the US government FY2012 federal budget, funds for civilian bio-defense total US\$6.42 billion. Of that total, US\$5.78 billion (90%) is budgeted for programs that have both bio-defense and non bio-defense goals and applications, and US\$637.6 million (10%) is budgeted for programs that have objectives solely related to bio-defense.

US government-funding programs for civilian bio-defense are intended to address a range of scientific, public health, healthcare, national security, and international security issues in addition to bio-defense. Programs with both bio-defense and non bio-defense goals and applications include those that fund basic scientific research in infectious disease pathogenesis and immunology, programs to improve planning and operations related to public health preparedness, and programs to improve preparedness and response for a range of other disasters.

An example of programs with both bio-defense and non bio-defense goals includes the National Institute of Allergy and Infectious Diseases' (NIAID) Bio-defense Research Program, which, in addition to funding preclinical and clinical research toward bio-defense countermeasures, funds basic infectious disease pathogenesis and immunology research with implications for a multitude of other diseases. The Corporation's platform technology and products have application to many of these programs.

### *Animal Health Market*

According to industry sources, the world animal health market, defined as a sector spanning veterinary pharmaceuticals, biologics and medicated feed additives, was approximately US\$20 billion in 2008. The

animal vaccine market, subdivided into livestock, companion animal and other smaller segments including equine, poultry and aquatic, makes up approximately 20% of the total animal health market and is projected to reach US\$5.6 billion by 2015. Europe is the leading market for veterinary vaccines followed closely by North America. Asia-Pacific is the fastest growing market for veterinary vaccines.

The world-wide livestock vaccine market is comprised primarily of cattle and swine vaccines, along with, to a lesser extent, vaccines for sheep, poultry and other food animals. Of this market, industry sources suggest the world-wide livestock vaccine market is estimated to be approximately US\$3.6 billion by 2015, with the cattle vaccine market representing approximately US\$1 billion of the livestock vaccines. The companion animal vaccine market represents US\$2 billion of the market. There are only a few players in the animal vaccine market including Pfizer, Boehringer Ingelheim, Merial, Merck Animal Health, Novartis and AgriLabs. While the livestock vaccine market is based on high volumes and lower pricing, the companion animal market is less sensitive to price and is focused on safety of the products. The majority of today's vaccines for both market segments require a booster administration, which increases the handling costs for the livestock market and has the potential to decrease safety in the companion animal market. Therefore, a vaccine that requires fewer doses (one dose, in some cases) for efficacy could be a significant innovation and have the potential to replace existing products in both segments.

There is a growing global demand for premium companion animal vaccines that can be safely and easily administered. According to a Global Industry Analysts' report, the veterinary vaccine market is projected to reach US\$5.6 billion by 2015. Growth in this market is driven by an increasing number of pet owners demanding products that enhance the health and well being of their pets.

### ***Safety Profile***

The Corporation has demonstrated the safety and immunogenicity potential of the DepoVax™ platform in humans by completing the Phase I clinical trial of DPX-0907. In the Phase I clinical trial, 23 patients were vaccinated with DPX-0907, with no dose limiting toxicities. The most common adverse events were grades 1 and 2 injection site reactions. A grade 3 local site reaction was reported after repeat injections of 1 mL of the vaccine. Such local site reactions are expected and the severity of the injection site reactions were related to the volume of vaccine administered. The vaccine, therefore, is considered safe at both dose levels tested.

Extensive pre-clinical safety testing for both DPX-0907 and DPX-Survivac has also been conducted. The results show that both vaccine candidates were well tolerated by the animal models. In addition, Survivin antigens used in DPX-Survivac have already been tested in Phase I human clinical trials with encouraging safety results.

Also, the Corporation's contraceptive vaccine has been safely used in at least 8 different mammals for almost 10 years. For example, multi-year trials with macaque monkeys in Hong Kong demonstrate the efficacy and safety of the Corporation's technology in a non-human primate.

The Corporation has conducted a progressive series of safety studies in-house using some of the most common animal models including mice, rabbits, rats and ferrets. Extensive evaluation of the platform in these animal models and comparisons with other commonly used delivery technologies such as a combination of Granulocyte-Macrophage Colony Stimulating Factor and mineral oil suggests a good safety profile for the Corporation's technology.

## ***Manufacturing and Scalability***

The Corporation has developed and implemented the commercial scale manufacturing process for the DepoVax™ platform, which is applicable to all of the Corporation's subsequent human health vaccines. The scale-up methods have been transferred to, and manufacturing has been contracted out to, a reputable contract GMP development and manufacturing facility licensed from Health Canada to manufacture sterile products for clinical and commercial purposes. The Corporation has purchased and installed dedicated equipment at the site.

The Corporation has manufactured commercial scale pilot vaccine batches, including 50 liters (200,000 doses) of a hepatitis B vaccine at the contract manufacturing facility. Historically, large-scale production of liposomes has been a challenge. The Corporation has confirmed the stability of the vaccine manufactured there and also confirmed that the biological activity of the batch is equivalent to the Corporation's laboratory batches.

Immunovaccine has also completed the lyophilization process for its vaccines. Lyophilization (freeze-drying) is the final step in manufacturing of the product, making it easily reconstituted for injection. The lyophilization parameters have been established and transferred to a GMP filling and lyophilization facility.

The product-specific manufacturing process for both DPX-Survivac and DPX-0907 was successfully implemented at a GMP contract manufacturing facility in the US. In preparing for Phase I clinical trials, the Corporation has successfully produced clinical batches for both therapeutic cancer vaccine candidates. The Corporation is also ready to develop and implement manufacturing processes for other DepoVax™-based vaccine products.

The Corporation's laboratory is located at 1344 Summer Street, Halifax, Nova Scotia where the Corporation is currently renting premises of approximately 3,900 sq. ft. The Corporation believes that its facilities are satisfactory given its current state of development.

## ***Regulatory Process***

The US FDA and Health Canada share similar processes by which new products are approved. In both cases, development and approval can be a long process, in some cases over 5 to 10 years. The US FDA approves products for the US market and Health Canada does so for the Canadian market. Though the processes are similar, each regulatory body has its own unique requirements for a product. In order to sell a product in each market, it has to be approved by the appropriate governing body. In most cases, early studies conducted in one jurisdiction will be accepted in the other; however, further and somewhat modified studies may be required in order to have a product approved in another jurisdiction.

All products typically go through the following steps in order to be approved:

1. discovery: early laboratory work to show that a compound can have unique chemical medicinal properties;
2. pre-clinical proof-of-concept studies: studies usually conducted in laboratory animals (mice, etc.) to show that a compound is active in a living creature and retains its medicinal properties;
3. Phase I clinical trial: a small study in human subjects which looks mainly at safety of the compound in humans. In order to be eligible to do a Phase I clinical trial, an investigational new



drug (IND) application in the US or a Clinical Trial Application (“CTA”) in Canada must be filed and approved by the regulatory body. This application must contain information about the safety and efficacy of the compound in laboratory animals, any manufacturing information and chemical analysis. This is a lengthy process, requiring much involved research, conferences with the regulatory authorities, clinicians, etc. At the conclusion of a successful Phase I clinical trial, a compound is shown safe in humans and further studies are warranted to show its efficacy to treat an illness;

4. Phase II clinical trial: in a Phase II clinical trial, a larger population is used in order to establish appropriate dosing for the compound. This and any other clinical studies also need to be approved by the regulatory agencies. At the end of a successful Phase II clinical trial, the compound is shown to be active in the correct population and a relevant dose is chosen to continue with the development;
5. Phase III clinical trial: a large and sometimes multi-level trial, involving a statistically significant sample of the population for which the compound is designed. Stringent chemistry, manufacturing and controls (CMC) are required which may delay the initiation of the trial. Phase III trials are designed to establish the efficacy of the compound and identify potential safety issues that may surface in the general population in order for the regulatory agency to better assess the risk/benefit of the compound when a registration application is made;
6. registration application: a new drug application (“NDA”) has to be filed with the regulatory body describing all of the clinical trials conducted to date, the relevant population, safety data, the label which will be placed on the pharmaceutical product, the sales/marketing information, etc. The regulatory body looks at the package and decides whether approval should be granted; and
7. approval: once received, the pharmaceutical may be sold to the target population; however, clinical studies may continue for the pharmaceutical to be approved for a different population (e.g. children vs. adults).

### ***Specialized Skill and Knowledge***

The Corporation has an experienced scientific and management team and has established several research collaborations with academic and commercial entities as detailed in the “Overview of the Last 3 Years” section.

The business of the Corporation requires personnel with specialized skills and knowledge in the fields of basic and applied immunology. Researchers must be able to design and implement studies to assess the efficacy of DepoVax™ in generating humoral and cellular responses. Specialized knowledge and skills relating to chemistry and formulation process development are also needed. Such knowledge and skills are needed to develop product specific analytical methods and formulation processes. The Corporation has trained scientists with broad experience in these fields.

Clinical and regulatory expertise and knowledge is currently accessed by the Corporation through arrangements with well-respected consultants with experience in regulatory affairs or clinical research relating specifically to vaccines.

The Corporation has subcontracted out several key functions to conduct the clinical program for its Phase I trials. However, the Corporation utilizes the services of consultants and internal resources, such as a clinical manager, to ensure proper and timely completion of the required activities. The Corporation also

continues to conduct internal discovery and proof-of-concept work for the other potential vaccine indications, some of which is anticipated to be done with a partner organization.

### ***Scientific Advisory Board***

The Corporation has retained experienced scientific advisors to assist its management in dealing with industry-related issues and how these issues may affect the Corporation's scientific research and product development.

The Scientific Advisory Board consists of the following members:

***W. Martin Kast***, PhD: Dr. Kast holds a number of prestigious positions including Walter A. Richter Cancer Research Chair, Professor of Molecular Microbiology & Immunology, Director Beckman Center for Immune Monitoring and Co-Leader Tumour-Micro-Environment Program, Norris Comprehensive Cancer Center, USC, Los Angeles, California.

***Neil Berinstein***, MD: Dr. Berinstein obtained his Medical Doctoral Degree at the University of Manitoba and completed training programs at the University of Toronto in Internal Medicine and Medical Oncology and at Stanford University in the area of Immunotherapy for cancer. Dr. Berinstein was a founding director of the Advanced Therapeutics Program at the Toronto-Sunnybrook Regional Cancer Centre with a long track record in fundamental research and a significant publication record in the area of normal and malignant B cell biology and cancer immunotherapy. Dr. Berinstein was Global Program Head of Sanofi Pasteur's cancer vaccine program from 1998-2009. He is a Full Professor in the Department of Medicine at the University of Toronto. He currently is Chief Scientific Officer at IRX Therapeutics. He is a member of the Executive Committee of the Cancer Research Institute Cancer Immunotherapy Consortium. He has published over 100 research papers and a similar number of research abstracts.

***Michel Klein***, PhD: Dr. Klein currently is the Deputy CEO at Etna Biotech s.r.l. and serves as an expert consultant to the EU as a member of the Partnership Board for European and Developing Countries Clinical Trials Partnership (EDCTP). Past experience includes Vice President Biotechnology Research – Pasteur Mérieux Connaught Canada, Professor of Immunology – University of Toronto, Corporate Vice President, Science and Technology – Pasteur Mérieux Connaught, Vice President, Science and Technology – Aventis Pasteur Group and Chief Executive Officer, CANVAC – Canadian Network for Vaccines and Immunotherapeutics.

***Walter Storkus***, PhD: Dr. Storkus currently is a Professor (Tenure) with Departments of Dermatology & Immunology at the University of Pittsburgh. Past positions include Head of Research – Division of Surgical Oncology, Department of Surgery and Professor (Tenure) for Departments of Surgery & Pathology, as well as Departments of Surgery, Dermatology and Immunology at the University of Pittsburgh. Dr. Storkus has memberships in professional and societies throughout the United States.

### ***Regulatory Affairs Advisor***

***Irene Clement***, Regulatory Consultant BSc, MLT: Mrs. Clement is a founding partner of Clement Strategies Inc., a regulatory and bio-business consulting Corporation. She is an accomplished Senior Regulatory Professional with 27 years experience in the Biologics industry, 22 in Regulatory Affairs. She has a proven track record in dealing with regulatory authorities worldwide, including Health Canada, US FDA, European and WHO agencies. Mrs. Clement's previous positions include Vice President Regulatory Affairs for ID Biomedical (subsequently became GSK), Vice President of Regulatory Affairs at Shire Biologics and Director Regulatory Affairs at Aventis Pasteur Ltd. Mrs. Clement has been

responsible for global license maintenance activities for approximately 30 products in over 70 countries. She has also obtained numerous license approvals in Canada, the US, EU, Japan, Australia and other countries.

### ***Equipment and components required to conduct activities***

Standard raw materials, component parts, and products required by the Corporation in pursuing its research and development activities are supplied from reputable supply companies in the biotechnology industry. Pricing is predictable as there are many alternatives of such supplies that are readily available. In the event where a custom product is required, such materials are obtained from custom synthesis and/or purification manufacturers which operate in accordance with their respective regulations (ISO). These manufacturers are reputable and have been supplying such materials for the biotechnology/pharmaceutical industry for a long time. There may be a lead time of weeks/months for such custom materials which is known and anticipated.

### ***Environmental Protection***

The Corporation's discovery and development processes involve the controlled use of hazardous and radioactive materials and, accordingly, the Corporation is subject to federal, provincial and local laws and regulations governing the use, manufacture, storage, handling and disposal of such materials and certain waste products. To the knowledge of the Corporation, compliance with such environmental laws and regulations does not and will not have any significant on its capital spending, profits or competitive position within the normal course of its operating activities. There can be no assurance, however, that the Corporation will not be required to incur significant costs to comply with environmental laws and regulations in the future or that its operations, business or assets will not be materially adversely affected by current or future environmental laws or regulations.

### ***Employees***

As at December 31, 2011, the Corporation had 21 full-time and part-time employees, including 5 employees holding PhD degrees and a number of other employees holding MSc or MBA degrees. The Corporation's employees are not governed by a collective bargaining agreement. The Corporation depends on certain key members of its management and scientific staff and the loss of services of one or more of these persons could adversely affect the Corporation. See "Risk Factors and Uncertainties" for more details.

### ***Risk Factors and Uncertainties***

Investing in the Corporation's securities involves a high degree of risk. Prospective investors should carefully consider the risks described below, together with all of the other information included or referred to in this Annual Information Form. There are numerous and varied risks, known and unknown, that may prevent the Corporation from achieving its goals. The risks described below are not the only ones the Corporation will face. If any of these risks actually occur, the Corporation's business, financial condition or results of operations may be materially adversely affected. In that case, the trading price of the Corporation's securities could decline and investors in our securities could lose all or part of their investment.

### *Limited Business and Revenue History; Future Capital Needs; Uncertainty of Additional Funding*

The Corporation has only a limited history upon which one can evaluate its business and prospects as its technologies are still at an early stage of development. The Corporation has limited experience and has not yet demonstrated an ability to successfully overcome many of the risks and uncertainties frequently encountered by companies in new and rapidly evolving fields, such as the biotechnology industry. The Corporation has not begun to market or generate revenues from the commercialization of any products related to human health. The likelihood of success of the Corporation must be considered in light of the risks inherent in, and the difficulties, costs and complications associated with, the early growth stages of a business enterprise, as well as with the development and marketing of new products.

The Corporation may not be able to fully implement and execute its business strategy without additional financing. While the estimated future capital requirements of the Corporation are uncertain and will depend on, and could increase or decrease as a result of, many factors, including the extent to which the Corporation elects to advance its research, development, clinical, manufacturing, and commercialization activities, the Corporation will need significant additional capital to develop its product candidates through clinical development and manufacturing. There can be no assurance that such additional financing will be available, and if available, there can be no assurance that the cost of obtaining such financing will be on favorable or reasonable commercial terms or that it will not result in substantial dilution to its shareholders. If additional funds are raised through the issuance of equity or equity-linked debt securities, the percentage ownership in the Corporation of its current shareholders will be reduced, and such securities may have rights, preferences, or privileges senior to or equal to those of the Common Shares held by the current shareholders of the Corporation, or any other securities outstanding on the date hereof. If the Corporation raises funds through the issuance of debt securities, those securities would have rights, preferences, and privileges senior to those of the Common Shares. If the Corporation seeks strategic alliances, licenses, or other alternative arrangements, such as arrangements with collaborative partners or others, it may need to relinquish rights to certain of its existing or future technologies, product candidates, or products it would otherwise seek to develop or commercialize on its own, or to license the rights to its technologies, product candidates or products on terms not favourable to it. These arrangements could have a material adverse effect on the Corporation's business, results of operations, financial condition, cashflow, or future prospects.

If adequate funds are not available to satisfy ongoing capital requirements, the Corporation may be required either to curtail its operations significantly or to obtain funds, if available, through arrangements with strategic partners or others that may require the Corporation to relinquish material rights to certain technologies or potential markets. There is no certainty that financing will be available in amounts required for the Corporation to pursue its activities or on acceptable terms, if at all.

Any failure to raise additional funds on favorable terms could have a material adverse effect on the Corporation's liquidity and financial condition.

### *Recent and Anticipated Future Losses*

The Corporation's products are in the pre-commercialization or development stage and, accordingly, its business operations are subject to all the risks inherent in the establishment and maintenance of a developing enterprise. The Corporation expects to spend significant amounts to fund research and development and develop the DepoVax™-based products. It also expects to incur substantial costs to manufacture its product candidates. As a result, the Corporation expects that operating expenses will increase significantly over the next several years and, consequently, it will need to generate significant additional revenue to achieve profitability. Accordingly, due to the nature of its operations, the

Corporation expects to incur losses from operations for the near future, which in turn may impact future operating performance which may, in turn, cause the market value of the Common Shares to decline.

There is no assurance that the Corporation will earn profits in the future, or that profitability will be sustained. The pharmaceutical drug development industry requires significant financial resources, and there is no assurance that future revenues will be sufficient to generate the funds required to continue the Corporation's business development and marketing activities. If the Corporation does not have sufficient capital to fund its operations, it may be required to reduce its product development efforts or forego certain business opportunities.

### *Results of Clinical Trials*

The Corporation must demonstrate its products' safety and efficacy in humans through extensive clinical testing. The Corporation's research and development programs are at an early stage of development. The Corporation may experience numerous unforeseen events during, or as a result of, the testing process that could delay or prevent commercialization of its products, including the following:

- the results of pre-clinical studies may be inconclusive, or they may not be indicative of results that will be obtained in human clinical trials;
- safety and efficacy results attained in early human clinical trials may not be indicative of results that are obtained in later clinical trials;
- after reviewing test results, the Corporation's collaborators or the Corporation may abandon projects that it might previously have believed to be promising;
- the Corporation, its collaborators or regulators, may suspend or terminate clinical trials if the participating subjects or patients are being exposed to unacceptable health risks; and
- the Corporation's potential products may not have the desired effects or may include undesirable side effects or other characteristics that preclude regulatory approval or limit their commercial use if approved.

Clinical testing is very expensive, can take many years, and the outcome is uncertain. The data collected from clinical trials may not be sufficient to support approval by the regulatory authorities of the Corporation's product candidates. The clinical trials of the Corporation's products under development may not be completed on schedule and the regulatory authorities may not ultimately approve any of the Corporation's product candidates for commercial sale. If the Corporation fails to adequately demonstrate the safety and efficacy of a product under development, this would delay or prevent regulatory approval of the product candidate, which could prevent it from achieving profitability.

The results of these studies or trials, when published, may have a significant effect on the market for the pharmaceutical product that is the subject of the study. The publication of negative results of studies or clinical trials related to the Corporation's products, an active ingredient in the Corporation's products, the Corporation's vaccine delivery products, or the therapeutic areas in which the Corporation's products compete, could adversely affect the Corporation's sales, the prescription trends for the Corporation's products and the reputation of the Corporation's products. In the event of the publication of negative results of studies the Corporation's vaccine delivery products or clinical trials related to the Corporation's products, an active ingredient in the Corporation's products, or the therapeutic areas in which the

Corporation's products compete, the Corporation's business and financial results could be materially adversely affected.

#### *Development Goals and Time Frames*

The Corporation will set goals for and make public statements regarding timing of the accomplishment of objectives material to its success, such as the commencement and completion of clinical trials, anticipated regulatory approval dates, and the timing of product launches. The actual timing of these events can vary dramatically due to factors such as delays or failures in clinical trials, the uncertainties inherent in the regulatory approval process, and delays in achieving product development, manufacturing or marketing milestones necessary to commercialize its products. There can be no assurance that the Corporation's clinical trials will be completed, that it will make regulatory submissions or receive regulatory approvals as planned, or that it will be able to adhere to its current schedule for the scale-up of manufacturing and launch of any of its products. If the Corporation fails to achieve one or more of these milestones as planned, it could have a material adverse effect on the business carried on by the Corporation.

Although for planning purposes the Corporation projects the commencement, continuation and completion of clinical trials, a number of factors, including scheduling conflicts with participating clinicians and clinical institutions, and difficulties in identifying and enrolling patients who meet trial eligibility criteria, may cause significant delays. The Corporation may not commence or complete clinical trials involving any of its products as projected or may not conduct them successfully.

The Corporation will rely on academic institutions or clinical research organizations to conduct, supervise or monitor some or all aspects of clinical trials involving its products, as a result it will have less control over the timing and other aspects of these clinical trials than if it conducted them entirely on its own. If the Corporation fails to commence or complete, or experiences delays in, any of its planned clinical trials, its share price and its ability to conduct business as currently planned could be materially adversely affected.

#### *Approval of Product Pipeline*

The Corporation has several vaccine products for cancer and infectious diseases under development. Each of these products will have to undergo the expensive regulatory process in the jurisdiction where they will be commercialized. The Corporation is currently developing two products for clinical testing, with DPX-0907, a therapeutic cancer vaccine being the furthest developed with the completion of a Phase I clinical trial. DPX-Survivac is currently in Phase I clinical trial and the Corporation expects to have final results from this Phase I trial by the end of 2012. FDA approval at each stage of the regulatory process (Phase I, Phase II, Phase III, licensing) may not be granted in a timely manner or at all for some of these products, which would have a material adverse effect on the Corporation's business. Approvals may be refused or delayed for a number of reasons, including the requirement for additional pre-clinical or clinical studies. Challenges of notices of infringement by patent holders may also adversely affect projected timelines for any or all products under development.

#### *Applicability of Patents and Proprietary Technology*

Competitors may have filed patent applications, or hold issued patents, relating to products or processes competitive with those of the Corporation. The Corporation's patent applications for a product may not be approved or approved as desired. The patents of the Corporation's competitors may impair its ability to do business in a particular area. Others may independently develop similar products or duplicate any of the Corporation's unpatented products. The Corporation's success will depend, in part, on its ability in the

future to obtain patents, protect trade secrets and other proprietary information and operate without infringing the proprietary rights of others. Patent protection is uncertain and involves many complex legal, scientific and technical questions. The degree of legal protection afforded under patents is unclear. As a result, the scope of patents issued to the Corporation or its partners may not successfully prevent third parties from developing similar or competitive products.

The Corporation will enter into confidentiality agreements with its employees, suppliers and vendors. However, these confidentiality agreements may be breached, and the Corporation may not have adequate remedies for such breaches. Others may independently develop substantially equivalent proprietary information without infringing upon any proprietary technology belonging to the Corporation. Third parties may otherwise gain access to the Corporation's proprietary information and adopt it in a competitive manner.

In addition, the coverage claimed in a patent application can be significantly reduced before a patent is issued. Also, the Corporation faces the following intellectual property risks: (i) some or all patent applications may not result in the issuance of a patent; (ii) patents issued may not provide the Corporation with any competitive advantages; (iii) patents could be challenged by third parties; (iv) the patents of others could impede the Corporation's ability to do business; (v) competitors may find ways to design around the Corporation's patented products; and (vi) competitors could independently develop products which duplicate the Corporation's products.

#### *Patent Litigation*

A number of industry competitors and institutions have developed technologies, filed patent applications or received patents on various technologies that may be related to or affect the Corporation's business. Claims by these companies that the Corporation infringes their proprietary technology may result in liability for damages or may delay the development and commercialization efforts for the Corporation's products. Such conflict could limit the scope of the patents, if any, that the Corporation may be able to obtain or result in the denial of its patent applications. In addition, if patents that cover the Corporation's activities are issued to other companies, there can be no assurance that the Corporation would be able to obtain licenses to these patents at a reasonable cost or be able to develop or obtain alternative technology. If the Corporation does not obtain such licenses, it could encounter delays in the introduction of products, or could find that the development, manufacture or sale of products requiring such licenses could be prohibited. In the pharmaceutical industry, it is not uncommon for competitors to advance such claims for strategic purposes. Furthermore, there can be no assurance that patent or other litigation will not arise in connection with any of the Corporation's products, future products or product candidates. Patent litigation, with or without merit, is time-consuming and costly and may significantly impact the Corporation's financial condition and results of operations, even if the Corporation prevails. In addition, the Corporation could incur substantial costs in defending suits brought against it on patents the Corporation might infringe upon or in filing suits against others to have such patents declared invalid.

Currently, there is no ongoing litigation against the Corporation.

#### *Regulatory Process*

A serious risk assumed by all early-stage biotechnology companies, including the Corporation, rests in the regulatory process imposed by the FDA or Health Canada on any new therapy targeted for human use. Novel therapies have to pass very rigorous safety and efficacy assessments. The Corporation cannot offer any guarantees that all or any of its products will meet all regulatory requirements within a reasonable period of time, if at all. Data obtained from pre-clinical or clinical testing is susceptible to varying

interpretations which can delay, limit, or prevent regulatory approval. The approval of new pharmaceutical products is expensive and can be a multi-year process in which success is predicated on demonstrating that the candidate drug is safe and effective.

To obtain marketing approval, the US and Canadian laws require:

- controlled research and product testing;
- establishment of the safety and efficacy of the product for each use sought;
- government review and approval of a submission containing manufacturing, pre-clinical and clinical data;
- adherence to Good Manufacturing Practice Regulations during production and storage; and
- control of marketing activities, including advertising and labeling.

The products the Corporation currently has under development will require significant development, pre-clinical and clinical testing and investment of significant funds before their commercialization. Some products will require the completion of post-market studies. There can be no assurance that such products will be developed or commercialized. The process of completing clinical testing and obtaining required approvals is likely to take a number of years and require the use of substantial resources. If the Corporation fails to obtain regulatory approvals, its operations will be materially adversely affected. Further, there can be no assurance that future products will be shown to be safe and effective in clinical trials or receive applicable regulatory approvals.

If regulatory approval to sell any of the Corporation's products is received, regulatory agencies may, nevertheless, limit the categories of patients who can use them. In addition, regulatory agencies subject a marketed product, its manufacture and the manufacturer's facilities to continual review and periodic inspection. If previously unknown problems with a product candidate or manufacturing and laboratory facility are discovered or the Corporation fails to comply with applicable regulatory approval requirements, a regulatory agency may impose restrictions on that product or on the Corporation. The agency may require the withdrawal of the product from the market, closure of the facility or enforcement of substantial fines.

Other markets have regulations and restrictions similar to those in the US and Canada.

#### *Dependence on Key Personnel*

The Corporation's future success depends on its ability to retain key employees and attract, train, retain and successfully integrate new talent into its management team. The Corporation is dependent on the services of its senior management team. The loss of any of the members of the Corporation's senior management team could have a material adverse effect on the Corporation's results of operations, business and prospects. The Corporation's future success also depends, to a significant extent, on its ability to attract and retain talented personnel. Recruiting and retaining talented personnel, particularly those with the expertise required for the Corporation's business is vital to the Corporation's success and may prove difficult.



### *Financing Costs*

The cost of taking a novel pharmaceutical product through the clinical trial process may be prohibitive for small biotechnology companies; however, some companies go ahead with this process in order to develop a commercial product entirely on their own. This strategy often leads to the demise of such small biotechnology ventures as they do not have the funds necessary to pave a runway long enough to complete the trials and begin profiting from product sales. If such companies start looking for an industry partner in the later stages of the clinical trial process, they may not find one in time to recover enough costs to continue operations. There is no assurance that the Corporation will be successful in the clinical trial process.

### *Dependence on Third Parties*

Due to the complexity of the process of developing biopharmaceutical products, the Corporation's business will depend on arrangements with pharmaceutical companies, corporate and academic collaborators, licensors, licensees and others for the research, development, clinical testing, technology rights, manufacturing, marketing and commercialization of its products. The Corporation's license agreements could obligate it to diligently bring potential products to market, make milestone payments and royalties that, in some instances, could be substantial, and incur the costs of filing and prosecuting patent applications. There can be no assurance that the Corporation will be able to establish or maintain collaborations that are important to its business on favorable terms, or at all.

A number of risks arise from the Corporation's dependence on collaborative agreements with third parties. Product development and commercialization efforts could be adversely affected if any collaborative partner terminates or suspends its agreement with the Corporation, causes delays, fails to on a timely basis develop or manufacture in adequate quantities a substance needed in order to conduct clinical trials, fails to adequately perform clinical trials, determines not to develop, manufacture or commercialize a product to which it has rights, or otherwise fails to meet its contractual obligations. The Corporation's collaborative partners could pursue other technologies or develop alternative products that could compete with the products the Corporation is developing.

### *Commercial Manufacturing*

Although the Corporation has manufactured, to date, commercial-scale vaccine batches at a contract manufacturing facility for the purposes of its ongoing clinical trials, the Corporation has no experience manufacturing commercial quantities of a product and does not currently have the resources to commercially manufacture any products that the Corporation may develop. Accordingly, if the Corporation becomes successful in developing any product with commercial potential, the Corporation would be required to either develop the facilities to manufacture independently or secure the services of a contract manufacturer. If the Corporation is unable to develop such facilities or enter into any such arrangement on favourable terms, or at all; the Corporation may be unable to compete effectively in the marketplace. In addition, if the Corporation is unable to manufacture or contract for sufficient supply of products on acceptable terms or if delays or difficulties are encountered in its relationship with manufacturers or collaborators; clinical testing or product sales could be delayed, thereby delaying the submission of products for regulatory approvals or market introduction and subsequent sales of such products.

### *Competition*

Competition within the biotechnology and pharmaceutical industry is intense and is expected to increase in the future. The Corporation's principal competitors have longer operating histories and greater financial, technical and marketing resources than the Corporation. The introduction of new products similar to those being developed by the Corporation by such competitors could materially adversely affect the Corporation's business, financial results and financial market performance. There can be no assurance that the Corporation will be able to respond effectively, or in a timely manner, to the various competitive factors affecting its industry. See "Competition" under the "Description of Business" heading for more details.

### *Changes in Technology and Industry Standards*

The pharmaceutical drug development industry is susceptible to technological advances and the introduction of new technologies. Further, this industry is also subject to changing industry standards, market trends and customer preferences and to competitive pressures which can, among other things, necessitate revisions in pricing strategies, price reductions and reduced profit margins. The success of the Corporation will depend, in part, on its ability to secure technological superiority in its products and operations and maintain such superiority in the face of new technologies. No assurance can be given that further modification of product offerings of the Corporation will not be required in order to meet demands or to make changes necessitated by developments made by competitors that might render services and operations of the Corporation less competitive. The future success of the Corporation will be influenced by its ability to continue to adapt its products. Although the Corporation has committed resources to research and develop its products, there can be no assurance that these efforts will be successful.

### *Product Liability, Recall and Insurance*

Drug development involves the testing of approved and experimental drugs on human subjects. Such studies create a risk of liability for personal injury or death to participants as a result of an unexpected adverse reaction to the tested drug or as a result of negligence or misconduct. Furthermore, the administration of drugs to humans after marketing clearance is obtained can result in product liability claims. If any of the Corporation's products prove defective, the Corporation may be required to recall such products. A product recall may cause the Corporation to incur significant expenses, disrupt sales and adversely affect the reputation for the Corporation and its products, which could adversely impact its revenue, operating results and profitability. Although the Corporation intends to carry insurance that it believes is adequate for the types of clinical studies it conducts, there can be no assurance that insurance will be adequate or will be available or continue to be available on terms acceptable to the Corporation. Any liability claim may not be covered by adequate insurance. Insurance will generally not protect the Corporation against certain of its own actions such as negligence.

### *Market Acceptance*

The product candidates that the Corporation will try to develop will compete with a number of drugs and therapies currently on the market, as well as products currently under development. The rate and degree of market acceptance of the products will depend on a number of factors, including the establishment and demonstration in the medical community of the clinical efficacy and safety of the Corporation's products and their potential advantage over alternative treatments. There is no assurance that physicians, patients or the medical community in general will accept and utilize any products that the Corporation may be developing.

### *Product Costs to End Users*

The Corporation's ability to successfully commercialize human therapeutic products may depend in part on reimbursement for the cost of such products and related treatments from government health administration authorities, private health coverage insurers and other organizations. Third-party payers are increasingly challenging the price of medical products and services. Significant uncertainty exists as to the reimbursement status of newly approved healthcare products and adequate third-party coverage may not be available to establish price levels sufficient for the Corporation to realize an appropriate return on its investment in product development.

In addition, even if the Corporation develops safe and effective products and obtains the necessary regulatory approvals for their commercialization, this process may take several years. By the time this occurs, there is a risk that; any such products will not be economical to market at prices that will allow the Corporation to achieve profitability as a result of the costs to manufacture these products, or if the materials and supplies required to manufacture the products are not available on terms which would make it economical to market the products or result in the products developed by the Corporation being marketable at prices that would prevent the market acceptance or penetration of those products.

### *Liquidity and Volatility of Share Price*

No assurance can be given regarding the liquidity of the public market for the Common Shares. The market price of the Common Shares could be subject to wide fluctuations in response to variations in operating results of the Corporation, its ability to execute its business plan, competition and other events or factors outside of the Corporation's control.

### *Stress in the Global Economy*

Reduction of available credit, combined with reduced economic activity and the fluctuations in the US dollar, may adversely affect businesses and industries that purchase commodities, affecting commodity prices in more significant and unpredictable ways than the normal risks associated with commodity prices. The adverse effects on the capital markets generally make the raising of capital by equity or debt financing much more difficult and the Corporation is dependent upon the capital markets to raise financing. Any of these events, or any other events caused by turmoil in world financial markets, may have a material adverse effect on the Corporation's business, operating results, and financial condition.

### *Current Global Financial Condition*

Current global financial conditions have been subject to increased volatility. Access to financing has been negatively impacted by the world-wide economic, debt, lending and liquidity problems that began in 2007, and continue, in terms of effect, through to early 2012. As such, the Corporation is subject to counterparty risk and liquidity risk. The Corporation is exposed to various counterparty risks including, but not limited to: (i) through financial institutions that hold the Corporation's cash; (ii) through companies that have payables to the Corporation; and (iii) through the Corporation's insurance providers. The Corporation is also exposed to liquidity risks in meeting its operating expenditure requirements in instances where cash positions are unable to be maintained or appropriate financing is unavailable. These factors may impact the ability of the Corporation to obtain loans and other credit facilities in the future and, if obtained, on terms favorable to the Corporation. If these increased levels of volatility and market turmoil continue, the Corporation's operations could be materially adversely affected and the trading price of the Common Shares could be materially adversely affected.

## V. DIVIDENDS

The Corporation has not declared or paid any dividends on its Common Shares to date. The payment of dividends in the future will be dependent on the Corporation's earnings, financial condition and such other factors as the Corporation's Board of Directors considers appropriate. However, the Corporation's current policy is to reinvest future earnings in order to finance its growth and the development of its business. As a result, the Corporation does not intend to pay dividends in the foreseeable future.

## VI. DESCRIPTION OF CAPITAL STRUCTURE

The Corporation is authorized to issue an unlimited number of Common Shares, without nominal or par value of which, as at April 19, 2012, 63,505,152 are issued and outstanding as fully-paid and non-assessable Common Shares. The holders of Common Shares are entitled to receive notice of, to attend and to vote at any meeting of the shareholders of the Corporation and each one Common Share shall carry the right to one vote. Subject to the prior rights of the holders of Preferred Shares (as defined hereinafter), the holders of Common Shares are entitled to receive dividends as and when declared by the Board of Directors of the Corporation. The holders of Common Shares have the right, subject to the rights, privileges, restrictions and conditions attaching to any other class of shares of the Corporation, to receive the remaining property of the Corporation upon dissolution, liquidation or winding-up thereof.

The Corporation is also authorized to issue an unlimited number of preferred shares (the "**Preferred Shares**") without nominal or per value in one or more series of which, as of the date hereof, none are issued and outstanding. The Board of Directors of the Corporation may determine, before issuance, the designation, rights, privileges and restrictions attached to each series of Preferred Shares provided that the Preferred Shares shall rank senior to the Common Shares.

In addition, 5,300,000 Common Shares are reserved for issuance under the Stock Option Plan of the Corporation. As of December 31, 2011, a number of 3,732,550 common share purchase warrants (the "**Warrants**") were outstanding; each Warrant entitles its holder to acquire one Common Share at an exercise price of \$1.30 per Common Share and expires on September 16, 2013. Also, 405,006 Compensation Options were outstanding, entitling the holder to acquire one Common Share at an exercise price of \$1.00 per Common Share and expire on September 14, 2012.

## VII. MARKET FOR SECURITIES

### *Trading Price and Volume*

The Common Shares are listed and posted for trading on the TSX-V and are traded under the symbol "IMV".

The following table sets forth the reported high and low trade prices in Canadian dollars and the cumulative volume of trading of the Common Shares for the periods indicated below:

	Price Range		Average Trading Volumes	Total Cumulative Volume
	High (\$)	Low (\$)		
January 2011	0.83	0.65	28,460	569,206
February 2011	0.97	0.78	27,859	557,178

March 2011	0.89	0.76	15,589	311,775
April 2011	0.81	0.57	23,639	472,772
May 2011	0.62	0.51	22,526	450,513
June 2011	0.65	0.52	10,608	212,160
July 2011	0.67	0.42	8,662	173,241
August 2011	0.51	0.32	15,184	303,685
September 2011	0.47	0.31	28,863	577,262
October 2011	0.48	0.30	22,665	453,292
November 2011	0.60	0.38	12,220	244,404
December 2011	0.46	0.28	30,887	617,746

### *Stock options*

During the year ended December 31, 2011, the Corporation issued the following 1,960,000 stock options, each having an exercise period of 5 years from the date of grant:

<b>Date</b>	<b>Number</b>	<b>Exercise Price</b>
August 26, 2011	50,000	\$0.55
September 26, 2011	1,860,000	\$0.38
November 8, 2011	50,000	\$0.45

## **VIII. DIRECTORS AND OFFICERS**

### *Directors*

As at April 19, 2012, as a group, the Corporation's directors and executive officers beneficially owned, directly or indirectly, or exercised control of over an aggregate of 4,439,270 Common Shares representing 7% of the issued and outstanding Common Shares as at such date. The information as to the number of Common Shares beneficially owned or over which control is exercised, not being within the knowledge of the Corporation, has been furnished by SEDI and confirmed with each director or executive officer, as the case may be, individually as of April 19, 2012.

The following table sets forth the name, province or state and country of residence of each director and executive officer of the Corporation and states the respective positions and offices held with the Corporation, their principal occupations during the last five years and the periods during which each director has served as director of the Corporation. Each director will hold office until the next annual meeting of shareholders or until his successor is duly elected, unless prior thereto the director resigns of the director's office becomes vacant by reason of death or other cause.

Name and Municipality of Residence	Position Held with the Corporation	Principal Occupation during Past Five Years	Director Since <sup>(3)</sup>
Albert Scardino (London, United Kingdom)	Chairman of the Board and Director	Chairman of Auctionair Limited (on-line auction services for airline and media industries)	July 29, 2010
William A. Cochrane <sup>(1)</sup> (Calgary, Alberta, Canada)	Director	President, WA Cochrane and Associates Inc. (biotech products, consulting company), Corporate Director	October 1, 2009
Wade K. Dawe <sup>(2)</sup> (Halifax, Nova Scotia, Canada)	Director	President, Chief Executive Officer and Chairman of Brigus Gold Corp. (formerly Linear Gold Corp.) and Chairman of Linear Metals Corporation (mining companies)	May 18, 2007
James W. Hall <sup>(1)</sup> (Toronto, Ontario, Canada)	Director	President and Chief Executive Officer, James Hall Advisors Inc. (advisory firm)	February 22, 2010
Wayne Pisano <sup>(1)(2)</sup> (Asbury, New Jersey, USA)	Director	President of Pirus Biological & Vaccine Consulting (vaccine and venture capitalist industry consulting company) and Chief Executive Officer of VaxInnate (pandemic and influenza vaccine company) Former Chief Executive of Sanofi Pasteur (pediatric and adult vaccine manufacturing company)	October 17, 2011
Kimberly Stephens (Halifax, Nova Scotia, Canada)	Director	Chief Financial Officer of Immunovaccine Inc. and former Director of Finance of Immunovaccine Inc. and former Director of Finance of GL Noble Denton (3 <sup>rd</sup> party inspection company)	June 22, 2011
Bradley Thompson <sup>(2)</sup> (Calgary, Alberta, Canada)	Director	Executive Chairman, Chief Executive Officer and President of Oncolytics Biotech Inc. (biotech company)	June 22, 2011
John J. Trizzino (Darnestown, Maryland, USA)	Chief Executive Officer and Director	Chief Executive Officer of Immunovaccine Inc. and Former Senior Vice President of Novavax Inc (vaccine development company) and Vice President, Vaccine Franchise of MedImmune (vaccine development company)	September 26, 2011

(1) Member of the Audit Committee

(2) Member of the Compensation and Corporate Governance Committee

(3) Mr. Cochrane and Mr. Dawe were directors of IVT since July 3, 2002 and November 22, 2005, respectively.

## *Biographies*

### *Albert Scardino, Chairman of the Board and Director*

Albert Scardino is a journalist, media investor and communications strategist. His career in newspapers in the US and the UK extended from grassroots investigative reporting at The Georgia Gazette (where he won a Pulitzer Prize), to The New York Times and to an executive editor role on The Guardian. He has served as a communications director in political campaigns and government and as a commentator and media critic for national and international news organisations. He has extensive experience as a director of both for-profit and not-for-profit organizations, public and private, in the US and the UK. He is chairman of Auctionair, an on-line auction site serving the newspaper and airline industries. He received his BA in history from Columbia University and his Master's in Journalism from the University of California, Berkeley. He has been an investor in Auctionair since 2005 and a director since 2010.

### *Dr. William A. Cochrane, Director*

Dr. William Cochrane, MD, is president of W.A. Cochrane and Associates Inc., a biotech products consulting Corporation. Dr. Cochrane is well recognized as the founding Dean of Medicine for the Faculty of Medicine at the University of Calgary. He served as Deputy Minister of Health Services with the Government of Alberta, prior to his appointment as President and Vice Chancellor of the University of Calgary. Starting in 1978 and for the next 11 years, Dr. Cochrane was Chairman and CEO of Connaught Laboratories Ltd. Among numerous awards, Dr. Cochrane received the Order of Canada (1989), has received four honorary doctorates and was inducted into the 2010 Canadian Medical Hall of Fame. Today, Dr. Cochrane is a Director of several Canadian companies.

### *Wade K. Dawe, Director*

Mr. Wade K. Dawe has been an entrepreneur in Canadian mining and venture capital industries since 1994. He has significant experience in public markets and finance and has served on the Board of ImmunoVaccine Inc. since 2005. Mr. Dawe is President and Chief Executive Officer of Brigus Gold, a Toronto Stock Exchange (TSX) and New York Stock Exchange (NYSE Amex) listed company. He is Chairman and a Director of Linear Metals Corporation. Mr. Dawe has a Bachelor of Commerce degree from Memorial University of Newfoundland (MUN) 1992, where he currently serves on the Advisory Board to the Faculty of Business Administration. He is a member of the Young Presidents' Organization (YPO), an international organization for business leaders. A native of Newfoundland and Labrador, he now resides in Halifax, Nova Scotia.

### *James W. Hall, Director*

Mr. Hall is President and CEO of James Hall Advisors Inc. which provides various advisory services to both privately and publicly held companies. Prior to Advisors, Mr. Hall was with Journal Register Company as Chairman and Chief Executive Officer, and served as Senior Vice President & Chief Investment Officer of Working Ventures Canadian Fund Inc. from 1990 to 2002. Mr. Hall is a director of Indigo Books & Music Inc., International Datacasting Corporation and Adventus Intellectual Property Inc., and is a trustee of Omers Trust and Shoreline Energy Corp. A Chartered Accountant, Mr. Hall is a graduate of the Richard Ivey School of Business and is a council member of Ivey's Institute for Entrepreneurship.

*Wayne Pisano, Director*

Mr. Pisano has more than 30 years of experience as a pharmaceutical industry executive and was recognized in 2010 as Pharma Executive of the Year by the World Vaccine Congress. He joined Immunovaccine's Board of Directors in October 2011 with a depth of experience across the spectrum of commercial operations, public immunization policies and pipeline development. Mr. Pisano is credited with driving Sanofi Pasteur's leadership within the worldwide influenza market and capturing 50 percent of global sales. He also laid the foundation for the company's global pediatric vaccines strategy. He joined Sanofi Pasteur in 1997, assuming increasing levels of responsibility. He was promoted to President and CEO in 2007, the position he successfully held until his retirement in 2011. During his tenure as CEO, Mr. Pisano bolstered the Sanofi Pasteur pipeline with the acquisitions of Acambis PLC, a bio-tech based in Boston in 2008 and Shantha Biotechnics, a highly regarded Indian vaccine company in 2010. Prior to joining Sanofi Pasteur, he spent 11 years with Novartis (formerly Sandoz). Mr. Pisano has a bachelor's degree in biology from St. John Fisher College, New York and an MBA from the University of Dayton, Ohio.

*Kimberly Stephens, Director*

Ms. Kimberly Stephens is a Chartered Accountant with over ten years of financial management experience across several industries, including her previous position as Director of Finance for a Canadian subsidiary of an international company, Germanischer Lloyd. Ms. Stephens gained public company experience with her role as the Director of Finance for SolutionInc, and was an Audit Manager in the Assurance and Advisory group of PricewaterhouseCoopers.

*Bradley Thompson, Director*

Bradley Thompson, Ph.D., is Executive Chairman, Chief Executive Officer and President of Oncolytics Biotech Inc. and is the current Chairman of BIOTECCanada. Prior to joining Oncolytics, he served as Chief Executive Officer of Iteration Energy Ltd. (formerly SYNSORB Biotech Incorporated), from May 1994 to February 1999, and was Head of Biotechnology at The Alberta Research Council. Dr. Thompson received his Ph.D. from the University of Western Ontario in the Department of Microbiology and Immunology.

*John J. Trizzino, Chief Executive Officer and Director*

John Trizzino, B.S., M.B.A., is a US-based senior executive with more than 25 years of experience advancing strategic initiatives for publicly traded biotechnology companies, primarily within the vaccine market. Prior to joining Immunovaccine, he was the Senior Vice President at Novavax Inc., where he provided strategic direction and successfully negotiated profitable joint venture and licensing agreements, including a \$179M BARDA contract. Prior to joining Novavax, Mr. Trizzino held senior executive positions at MedImmune Inc., which was acquired by AstraZeneca, and ID BioMedical Inc., which is now part of GlaxoSmithKline Inc. He began his extensive career in vaccines at Henry Schein Inc. leading commercial marketing efforts and executing a series of successful commercialization and distribution agreements. Mr. Trizzino is a graduate of Long Island University and received his master's degree in business administration from New York University's Leonard N. Stern School of Business.



### ***Executive Officers***

The following table sets forth the name, province or state and country of residence of the other non-director executive officers:

<b>Name and Municipality of Residence</b>	<b>Position held with the Corporation</b>	<b>Principal Occupation during Past Five Years</b>
John J. Trizzino (Darnestown, Maryland, USA)	Chief Executive Officer	Chief Executive Officer for the Corporation,
Kimberly Stephens (Halifax, Nova Scotia, Canada)	Chief Financial Officer	Chief Financial Officer for the Corporation; Director of Finance for the Corporation; Director of Finance for GL Noble Denton Canada; Director of Finance for SolutionInc.
Marc Mansour (Halifax, Nova Scotia, Canada)	Chief Science Officer	Chief Science Officer, Chief Operating Officer, Vice President of Research and Development , Head Research Scientist, for the Corporation

#### ***Dr. Marc Mansour, Chief Science Officer***

Marc Mansour has over 10 years of experience in the biotechnology industry. He led the development of the Corporation's unique depot based vaccine adjuvanting platform, bringing it from concept to clinical application. He oversees preclinical and clinical activities relating to the Corporation's two clinical stage cancer vaccines including DPX-Survivac, a Survivin-based vaccine with antigens in-licensed from Merck KGaA. He also manages product development interactions in infectious diseases with commercial partners (Pfizer) and scientific collaborators at the NIH, and other institutions.

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

Except as disclosed below and to the knowledge of the Corporation, none of the current executive officers or directors of the Corporation or shareholders holding a sufficient number of securities of the Corporation to affect materially the control thereof is, or within 10 years before the date hereof, has been:

- a. a director, chief executive officer or chief financial officer of any corporation (including the Corporation) that:
  - (i) was subject to an order that was issued while the proposed director was acting in the capacity as director, chief executive officer or chief financial officer, or
  - (ii) was subject to an order that was issued after the proposed director ceased to be a director, chief executive officer or chief financial officer and which resulted from an event that occurred while that person was acting in the capacity as director, chief executive officer or chief financial officer.
- b. a director or executive officer of any corporation (including the Corporation) that, while that 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 or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets; or

- c. has become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromises with creditors, or had a receiver, manager or trustee appointed to hold the assets of the proposed director.

For the purposes of (a) above, “order” means a cease trade order, an order similar to a cease trade order or an order that denied the relevant Corporation access to any exemption under securities legislation, in each case that was in effect for a period of more than 30 consecutive days.

Except as disclosed below and to the knowledge of the Corporation, none of the current executive officers or directors of the Corporation has been subject to:

- a. 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
- b. any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable security holder in deciding whether to vote for a proposed director.

Dr. William A. Cochrane served as chairman of the board of Q.S.V. Biologics (“QSV”), a private contract manufacturing company of biotech pharma products for clinical trials by the inventing biotech company. As a result of the economic downturn, QSV’s biotech customers experienced a shortage of capital and could not fund the contracts and as a result QSV became insolvent in August 2009 and Dr. Cochrane resigned from the board of QSV in August 2009.

Mr. James W. Hall was the Chairman and Chief Executive Officer of Journal Register Corporation (“JRC”) on February 21, 2009 when JRC filed a voluntary petition for relief under the US Bankruptcy Code (pre-negotiated joint Chapter 11 plan of reorganization). Mr. Hall left the company in March 2009.

### ***Conflicts of Interest***

There are no existing or potential material conflicts of interest between the Corporation or its subsidiary and any director or officer of the Corporation or its subsidiary.

## **IX. CORPORATE GOVERNANCE**

The Board of Directors is committed to developing, implementing and monitoring good corporate governance practices, and providing full and complete disclosure of its systems of corporate governance. The following describes the Corporation’s approach to corporate governance.

### ***Board of Directors***

The Board is responsible for the supervision of management and for approving the overall direction in a manner which is in the best interests of the Corporation. In order to provide guidance and advise, the Board participates fully in assessing and approving strategic plans and prospective decisions proposed by management. To ensure that the principal business risks that are borne by the Corporation are appropriately managed, the Board:

- receives periodic reports from management of its assessment and management of such risks;

- monitors financial and operating performance. This ongoing regular monitoring function often entails review and comment by the Board on various management reports; and
- monitors through the Audit Committee, internal accounting and control procedures and reviews detailed financial information contained in management reports and acts upon the recommendations of the Corporation's auditors.

As a practice, the Board approves significant corporate communications with shareholders. The Board currently consists of eight members, seven of whom will be seeking re-election at the annual meeting of shareholders to be held on May 24, 2012. The Corporation has historically endeavoured to have a diverse Board with a sufficient number of directors to encourage a variety of opinions on matters which come before the Board, while at the same time limiting its membership to a number of directors that facilitates effective and efficient decision making. While there are no specific criteria for Board membership, the Corporation seeks to attract directors with a wealth of business knowledge and a diversity of business experience.

#### *Board Functioning*

The Board adopted a corporate governance policy which, among other things, sets out those matters, in addition to those required by statute, which must be brought by the Chief Executive Officer or other senior management to the Board for approval. The Corporate Governance Policy ensures that all major strategic decisions, including any change in our strategic direction and acquisitions and/or divestitures of a material nature, will be presented by management to the Board for approval. As part of its ongoing activity, the Board regularly receives and comments upon reports of management as to the performance of the Corporation's business and management's expectations and planned actions in respect thereto.

#### *Board Committees*

The Board has an Audit Committee, and a Compensation and Corporate Governance Committee. Each committee has a formal mandate outlining its responsibilities and its obligations to report its recommendations and decisions to the Board.

The Audit Committee is currently composed of Mr. James Hall (Chairman), Dr. William A. Cochrane and Mr. Wayne Pisano, all of whom are financially literate and independent directors within the meaning of NI 52-100.

The education and related experience (as applicable) of each current Audit Committee member is described below.

James Hall – Mr. Hall, a Chartered Accountant, presently serves on the audit committees of Indigo Books & Music Inc., International Datacasting Corporation and venture-backed private company Adventus Intellectual Properties Inc. He previously served as Chair of the audit committees of Terravest Income Fund and General Donlee Income Fund, and was a member of the audit committee of Journal Register Company.

William A. Cochrane – Dr. Cochrane has served as Chief Executive Officer of Connaught Laboratories from 1978 to 1989 and is currently a member of the Board of Directors of Oncolytics Biotech Inc. and a former Director of Resverlogix.

Wayne Pisano – Mr. Pisano holds an MBA and was the President and CEO of Sanofi Pasteur from 2007 to 2011, with responsibility of the financial results.

The Audit Committee is responsible for the integrity of the Corporation’s internal accounting and control systems. It receives and reviews the financial statements, annual and special meeting materials and other disclosure documents of the Corporation and makes recommendations thereon to the Board before such statements, materials and documents are approved by the Board. The Audit Committee communicates directly with the Corporation’s auditors in order to discuss audit and related matters whenever appropriate. The text of the Audit Committee Mandate is set forth in Schedule “A” hereto.

The education and related experience (as applicable) of each current Compensation and Corporate Governance Committee member is described below:

Wayne Pisano – Mr. Pisano is currently the President of Pirus Biological & Vaccine Consulting, a vaccine and venture capitalist industry consulting company and the Chief Executive Officer of VaxInnate, a pandemic and influenza vaccine company. He also was the Chief Executive Officer of Sanofi Pasteur for over 3.5 years and had direct responsibility in evaluating the compensation levels for other executive officers.

Wade Dawe – Mr. Dawe is currently the President and Chief Executive Officer of Brigus Gold and is responsible for ensuring compensation levels are competitive and in line with the company’s business strategy. He is also the Chairman and Director of Linear Metals Corporation.

Bradley Thompson – Mr. Thompson is currently the Executive Chairman and Chief Executive Officer of Oncolytics Biotech Inc. and is responsible for reviewing the compensation levels for other executive officers and corporate governance responsibilities.

The Compensation and Corporate Governance Committee is comprised of independent directors and has been charged by the Board with the responsibility of:

- reviewing and making recommendations to the Board regarding compensation policies and practices. The Committee shall: obtain appropriate information about compensation policies and payments by Canadian companies of a comparable size to the Corporation; establish objectives, evaluate performance, recommend compensation, and develop a process for succession planning; review and approve appointments, promotions, terminations of senior management; and recommend grants of stock options subject to the Board’s subsequent ratification;
- proposing to the full Board of Directors new nominees to the Board and for assessing directors on an ongoing basis. The Committee evaluates qualifications for proposed new directors. This Committee performs the role which might otherwise be served by a nominating committee; and
- periodically assessing the performance, effectiveness, and compensation of the Board as a whole and its committees and is responsible for making recommendations to the Board on any proposed changes.

Committees are empowered to engage, or to request that management engage, outside advisors at the Corporation’s expense. The Board would consider any such request by an individual member of the Board on its merits at the time it was made.

### *Orientation and Continuing Education*

The Board does not have a formal orientation program for new directors, and does not have any formal continuing education for its members.

### *Ethical Business Conduct*

The Board has not adopted a written code of business conduct for its directors, officers and employees.

### *Assessment*

The Board, the Board Committees and the Directors will be subject to an annual assessment. Each Director will be required to complete a self-evaluation and an evaluation of the performance of the Board, the Board Committees and their respective chairpersons. These evaluations will then be reviewed by the Compensation and Corporate Governance Committee, which will present its recommendations to the Board. The evaluation of the Compensation and Corporate Governance Committee and its Chairperson will be reviewed by the Chairman of the Board who will present his recommendations to the Board.

### *Compensation*

The Compensation and Corporate Governance Committee is responsible for determining appropriate compensation for directors in light of the nature of activities and size of the Corporation, and making recommendations to the Board of Directors in that respect.

### *Pre-Approval Policies and Procedures*

All Audit Committee decisions regarding the engagement of the Corporation's auditors for the provision of non-audit services are approved by the Board.

### *External Auditor Service Fees*

The following table summarizes the Audit, Audit Related, Tax Related and Other Fees (excluding expenses and taxes) billed by the Corporation's auditor, PricewaterhouseCoopers LLP to the Corporation and its subsidiary Immunovaccine Technologies Inc. for the two most recently completed fiscal years.

<b>Fees</b>	<b>December 31, 2011</b>	<b>December 31, 2010</b>
Audit Fees <sup>(1)</sup>	\$105,500	\$125,930
Audit Related Fees <sup>(2)</sup>	\$-	\$-
Tax Fees <sup>(3)</sup>	\$75,700	\$101,394
All Other Fees <sup>(4)</sup>	\$-	\$-
<b>Total Fees</b>	<b>\$181,200</b>	<b>\$227,324</b>

(1) *Audit Fees* consist of the aggregate fees billed by the external auditor of the Corporation for audit services.

(2) *Audited Related Fees* consist of the aggregate fees billed for assurance and related services that are reasonably related to the performance of the audit or review of the issuer's financial statements and are not reported under "Audit Fees" above and include the provision of comfort letters and consents, the consultation concerning financial accounting and reporting of specific issues and the review of documents filed with regulatory authorities.

- (3) *Tax Fees* include fees billed for tax compliance, tax advice and tax planning services, including the preparation of original tax returns and claims for refund; tax consultations, such as assistance and representation in connection with tax audits and appeals, tax advice related to mergers and acquisitions, and requests for rulings or technical advice from taxing authorities; tax planning services; and consultation and planning services.
- (4) *All Other Fees* include the aggregate fees billed for products and services provided by the auditors, other than the services reported above.

## **X. LEGAL PROCEEDINGS AND REGULATORY ACTIONS**

The Corporation is not a party to any legal proceeding, and its property is not and was not the subject of any material legal proceeding, during the year ended December 31, 2011. The Corporation is not aware of any legal proceeding outstanding, threatened or pending as of the date hereof by or against the Corporation.

The Corporation is not and was not subject to, during the year ended December 31, 2011: (i) penalties or sanctions imposed by a court relating to Canadian securities legislation or by a Canadian securities regulatory authority; (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; and (iii) settlement agreements entered into with a court relating to Canadian securities legislation or with a Canadian securities regulatory authority.

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

There are no material interests, direct or indirect, of directors, executive officers, any shareholder who beneficially owns, directly or indirectly, more than 10% of the outstanding Common Shares, or any known associates or affiliates of such persons, in any transaction within the last three years or in any proposed transaction which has materially affected or would materially affect the Corporation other than the Rhino transaction.

## **XII. TRANSFER AGENT AND REGISTRAR**

The registrar and transfer agent for the Common Shares is Computershare Investor Services Inc., at its principal offices located at 100 University Avenue, 9<sup>th</sup> Floor, Toronto, Ontario, M5J 2Y1 and at Suite 2008, Purdy's Wharf Tower II, 1969 Upper Water Street, Halifax, Nova Scotia, B3J 3R7.

## **XIII. MATERIAL CONTRACTS**

The Corporation did not enter into any material contracts, other than contracts entered in the ordinary course of business, within the most recently completed financial year.

## **XIV. INTEREST OF EXPERTS**

PricewaterhouseCoopers LLP, the auditor of the Corporation, is the only person, company or partnership which is named as having prepared or certified a statement, report or valuation described, included or referred to in a filing made by the Corporation during or relating to the Corporation's most recently completed financial year and whose profession or business gives authority to a statement, report or valuation made. The partners and associates of PricewaterhouseCoopers LLP do not hold any of the issued and outstanding Common Shares.

## **XV. ADDITIONAL INFORMATION**

Additional information, including directors' and officers' remuneration and indebtedness, principal holders of our securities, options and to purchase securities and interests of insiders in material transactions, if any, is contained in the Management Information Circular of the Corporation dated April 19, 2012 prepared in connection with the Corporation's most recent annual shareholders' meeting and is available on SEDAR at [www.sedar.com](http://www.sedar.com). Additional financial information, including the Corporation's audited financial statements and management's discussion and analysis of financial condition and results of operations, is available on SEDAR at [www.sedar.com](http://www.sedar.com). All information incorporated by reference in this Annual Information Form is or will within the prescribed delays be contained or included in one of the Corporation's continuous disclosure documents filed with the Canadian securities regulatory authorities, which may be viewed on SEDAR at [www.sedar.com](http://www.sedar.com).

All requests for the above-mentioned documents must be addressed to the Chief Executive Officer of Immunovaccine Inc., 1344 Summer Street, Suite 412, Halifax, Nova Scotia, B3H 0A8, or by fax at (902) 492-0888.

## SCHEDULE A

### MANDATE OF THE AUDIT COMMITTEE

#### 1. PURPOSE

The primary function of the Audit Committee (the “Committee”) is to assist the Board of Directors in fulfilling its oversight responsibilities by reviewing: the financial information that will be provided to the shareholders and others; the systems of internal controls which management and the Board of Directors have established; and the Corporation’s and its subsidiaries’ audit and financial reporting process. The independent accountants’ ultimate responsibility is to the Board of Directors and the Audit Committee, as representatives of the shareholders.

These representatives have the ultimate authority to evaluate and, where appropriate, recommend replacement of the external auditors. The Audit Committee will primarily fulfill these responsibilities by carrying out the activities enumerated in Section 5 of this Mandate. The Audit Committee will, at all times, be given full access to the Corporation’s management and records and to the external auditors as necessary to carry out these responsibilities.

#### 2. INTERPRETATION

“**Board of Directors**” or “**Board**” means the Board of Directors of the Corporation.

“**Chairman**” means the Chairman of the Committee.

“**Committee**” means the Audit Committee of the Corporation.

“**Committees**” means the Audit Committee of the Corporation and the Corporate Governance Committee.

“**Corporation**” means collectively, Immunovaccine Inc. and its subsidiary, ImmunoVaccine Technologies Inc.

“**Financially Literate**” means the ability to read and understand a set of financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of the issues that can reasonably be expected to be raised by the consolidated financial statements of the Corporation.

“**Independent Director**” means a director who has no direct or indirect relationship with the Corporation, which could be reasonably expected to interfere with the exercise of an independent judgment regarding the best interests of the Corporation. Save exceptions, is not an Independent Director the person who:

- (a) is or has been within the last three years, an employee or executive officer of the Corporation;
- (b) is a member of the immediate family of an individual who is or has been, within the last three years, an executive officer of the Corporation;



- (c) is or has been (or whose immediate family member is or has been), within the last three years, an executive officer, a partner or an employee of a material service provider of the Corporation (including the external auditors);
- (d) is or has been (or whose immediate family member is or has been), within the last three years, an executive officer of an entity if any of the current executive officers of the Corporation serves or served at the same time on the entity's Compensation and Corporate Governance Committee;
- (e) has a relationship with the Corporation under which he or she may directly or indirectly accept any consulting, advisory or other fees from the Corporation, except for any compensation as a member of the Board of Directors or as a member of a committee of the Board of Directors of the Corporation;
- (f) received (or whose immediate family member received) more than \$75,000 in direct compensation from the Corporation during any 12 month period within the last three years;
- (g) is a natural person who controls the Corporation;
- (h) is an affiliate of the Corporation; or
- (i) is a natural person who is both a director and an employee of the Corporation.

### **3. COMPOSITION OF COMMITTEE AND COMMITTEE MEETINGS**

- 3.1 The Committee shall be comprised of at least three Directors, of which the majority of the Directors are Independent Directors. All members of the Committee shall be Financially Literate.
- 3.2 The Committee will meet on a quarterly basis and will hold special meetings as circumstances require. The timing of the meetings shall be determined by the Audit Committee. At all Committee meetings a majority of the members shall constitute a quorum. The Board shall appoint the Chairman. If the Chairman is not present at a Committee meeting, the members present shall choose one of their number to act as Chairman for the purposes of this specific meeting.
- 3.3 Notice of each meeting shall be given to each Committee member and to the other directors and to the Corporation's senior management. Unless they are expressly called to the meeting, the latter only receive the notice for information purposes.
- 3.4 The Committee may invite the persons it considers useful to invite, including the Corporation's senior management, to attend the meetings and participate in the discussions concerning the Committee's business.
- 3.5 The Committee members, whenever possible, shall take all necessary steps to attend Committee meetings and to prepare themselves with respect to the matters and documents to be discussed thereat.

- 3.6 The Committee shall appoint a secretary. The secretary shall attend the meetings, during which he or she shall take minutes. The minutes shall be made available to the directors for consultation and are approved by the Board before being included in the Corporation's registers or records.
- 3.7 The Committee shall submit periodically a report to the Board on its activities, including the nature of its deliberations and the related recommendations.
- 3.8 The Committee, in the performance of its duties, may consult any relevant register or record of the Corporation.
- 3.9 The Committee members shall receive, in this capacity, the compensation that the Board establishes from time to time.

#### **4. COMMITTEE AUTHORITY AND RELATIONSHIP WITH EXTERNAL AUDITORS**

- 4.1 The external auditor shall report directly to the Committee.
- 4.2 The Committee reports to the Board of Directors and has the authority:
  - a) to engage independent counsel and other advisors as it determines necessary to carry out its duties;
  - b) to set and pay the compensation for any advisors employed by the audit committee; and
  - c) to communicate directly with the internal and external auditors.

#### **5. RESPONSIBILITIES AND DUTIES**

- 5.1 To fulfill its responsibilities and duties, the Committee shall:
  - a) review the accounting principles, policies and practices followed by the Corporation and its subsidiaries in accounting for and reporting its financial results of operations;
  - b) review the Corporation's audited annual consolidated financial statements and the unaudited quarterly financial statements and recommend to the Board for approval prior to publicly disclosing this information. Also review and recommend to the Board for approval any accompanying related documents such as the Annual Information Form or equivalent filings and the Management's Discussion and Analysis prior to publicly disclosing this information;
  - c) review the annual and interim draft press releases quarterly and recommend to the Board for approval prior to publicly disclosing this information;
  - d) satisfy itself that adequate procedures are in place for the review of the Corporation's public disclosure of financial information extracted or derived from the Corporation's financial statements and periodically assess the adequacy of those procedures;

- e) recommend to the Board of Directors the selection of the external auditors in connection with preparing or issuing an auditor's report or with performing other audit, review or attesting services for the Corporation;
- f) recommend to the Board of Directors the compensation of the external auditors;
- g) oversee the work of the external auditors engaged for the purpose of preparing or issuing an auditor's report or performing other audit, review or attest services for the Corporation, including the resolution of disagreements between management and the external auditors regarding financial reporting;
- h) obtain, on an annual, basis, a formal written statement from the external auditors delineating the relationship between the audit firm and the Corporation, and review and discuss with the external auditors such relationship to determine the "independence" of the auditors;
- i) review any management letter prepared by the external auditors concerning the Corporation's internal financial controls, record keeping and other matters and management's response thereto;
- j) discuss with the external auditors their views about the quality of the implementation of Canadian Generally Accepted Accounting Principles, with a particular focus on the accounting estimates and judgments made by management and management's selection of accounting principles. Meet in private with appropriate members of management and separately with the external auditors on a regular basis to share perceptions on these with the external auditors their views on the adequacy of the Corporation's financial personnel;
- k) approve the scope of the annual audit, the audit plan, the access granted to the Corporation's records and the co-operation of management in any audit and review function;
- l) review the effectiveness of the independent audit effort, including approval of the fees charged in connection with, the annual audit, any quarterly reviews and any non-audit services being provided;
- m) assess the effectiveness of the working relationship of the external auditors with management;
- n) review the financial risk management policies followed by the Corporation in operating its business activities and the completeness and fairness of any disclosure thereof. Review the use of derivative financial instruments by the Corporation;
- o) review and approve any management decision relating to any potential need for internal auditing, including whether this function should be outsourced and if such function is outsourced, approve the supplier of such service;

- p) establish procedures for (i) the receipt, retention and treatment of complaints received by the Corporation regarding accounting, internal accounting controls, or auditing matters; and (ii) the confidential, anonymous submission by employees of the Corporation of concerns regarding questionable accounting or auditing matters;
- q) the Committee will determine the nature of non-audit services the external auditors are prohibited from providing to the Corporation. The Committee will pre-approve all non-audit services provided by the external auditors to the Corporation;
- r) review annually the mandate of the Committee for adequacy and recommend any changes to the Board;
- s) report to the Board on the major items covered at each Committee meeting and make recommendations to the Board and management concerning these matters. Annually report to the Board on the effectiveness of the Committee; and
- t) perform any other activities consistent with this Mandate, the Corporation's Bylaws and governing law as the Committee or the Board deems necessary or appropriate.

## 5.2 Pre-Approval Policies and Procedures

All Audit Committee decisions regarding the engagement of the auditor of the Corporation for the provision of non-audit services are to be ratified by the Board of Directors.

Adopted by the Board on April 6, 2010