

# BIOVAXYS

## **BioVaxys Technology Corp. MANAGEMENT'S DISCUSSION AND ANALYSIS**

For the three and six months ended April 30, 2024 and 2023  
As of July 10, 2024

This Management Discussion and Analysis ("MD&A") of BioVaxys Technology Corp. (the "Company") for the six months ended April 30, 2024 and 2023 is performed by management using information available as of July 10, 2024. Management has prepared this MD&A with reference to National Instrument 51-102 *Continuous Disclosure Obligations* of the Canadian Securities Administrators. This MD&A should be read in conjunction with the Company's audited consolidated financial statements for years ended October 31, 2023 and 2022, and the related notes thereto. These are prepared in accordance with International Financial Reporting Standards ("IFRS"). All amounts are expressed in Canadian dollars, unless otherwise indicated.

This MD&A contains certain "forward-looking statements" and certain "forward-looking information" as defined under applicable Canadian securities laws that may not be based on historical facts, including, without limitation, statements containing the words "believe", "may", "plan", "will", "estimate", "continue", "anticipate", "intend", "expect", "predict", "project", "potential", "continue", "ongoing" or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words and similar expressions. Forward-looking statements are necessarily based on estimates and assumptions made by us in light of our experience and perception of historical trends, current conditions and expected future developments, as well as the factors we believe are appropriate. Forward-looking statements in this MD&A include, but are not limited to, statements relating to:

- estimates of the Company's future revenues, expenses and profits;
- treatment under government regulatory and taxation regimes;
- projections of market prices and costs, and the future market for the Company's products and conditions affecting same;
- the ability to obtain and protect the Company's intellectual property and proprietary rights;
- expectations regarding the Company's ability to raise capital;
- timing and costs associated with completing research and development work relating to the Company's products;
- the Company's strategies, objectives and plans to pursue the commercialization of its products;
- the Company's ability to conduct all required clinical and non-clinical trials for its products, including the timing and result of such trials;
- the Company's estimates of the size of the potential markets for its products and the rate and degree of market acceptance of such products;
- statements and information concerning transactions;
- statements relating to the business and future activities of, and developments related to the Company after the date of this MD&A and thereafter;
- market position and future financial or operating performance of the Company; and
- liquidity of the common shares of the Company.

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Many factors could cause our actual results, performance or achievements to be materially different from any future results, performance or achievements that may be expressed or implied by such forward-looking statements. All forward-looking statements, including those not specifically identified herein, are made subject to the cautionary language above. Readers are advised to refer to the cautionary language when reading any forward-looking statements.

Such statements reflect our current views with respect to future events and are subject to risks and uncertainties and are necessarily based upon a number of estimates and assumptions that, while considered reasonable by the Company, as of the date of such statements, are inherently subject to significant medical, scientific, business, economic, competitive, political and social uncertainties, and contingencies.

In evaluating forward-looking statements, current and prospective shareholders should specifically consider various factors, including the risks outlined below under the heading **Financial Instruments**.

## **BUSINESS OVERVIEW**

The Company was incorporated on April 25, 2018, pursuant to the provisions of the Business Corporations Act of British Columbia. The Company's shares are traded on the Canadian Securities Exchange ("CSE") under the symbol "BIOV" and on OTCQB under the symbol "BVAXF". The registered and records office is located at 25th Floor, 666 Burrard Street, Vancouver, British Columbia, V6C 2X8, The Company's head office is located at 146 Thirtieth St., Suite 100, Etobicoke, Ontario, M8W 3D4.

BioVaxys is a clinical-stage company dedicated to improving patient lives with novel immunotherapies based on its proprietary DPX™ immune-educating technology platform and its HapTenix© 'neoantigen' tumor cell construct platform, for treating cancers, infectious disease, antigen desensitization, and other immune diseases. The Company has an extensive clinical development portfolio that is based on its proprietary delivery platform technologies, focusing on unmet medical needs by applying its technology in hard-to-treat cancers, infectious diseases, and other immune-modulated diseases for a faster clinical pathway to market.

On February 11, 2024, the Company acquired the entire intellectual property portfolio and all of the discovery, preclinical and clinical development stage assets in oncology, infectious disease, antigen desensitization and other immunological fields based on the patented DPX™ immune educating platform technology, developed by Canadian biotechnology company, IMV Inc, Immunovaccine Technologies Inc., and IMV USA. In addition to BVX-0918, its haptenized tumor cell vaccine under development for ovarian cancer, BioVaxys' clinical stage pipeline now includes multiple vaccine candidates based on the DPX™ platform including maveropepimut-S ("MVP-S") which completed Phase 2B clinical studies in Canada for advanced Relapsed-Refractory Diffuse Large B Cell Lymphoma (DLBCL) and for platinum resistant ovarian cancer, and a Phase 2B "basket" study of a combination of MVP-S +1 Keytruda™ in lung cancer, bladder cancer, liver cancer, DLBCL, and ovarian cancer subpopulations, Phase 1 vaccine programs DPX™-SurMAGE, a DPX™ formulation of the tumor-associated antigens survivin and MAGE A9 as a dual targeted immunotherapy, BVX™-RSV for Respiratory Syncytial Virus, and BVX™-E7 for HPV.

DPX™ is an immune educating platform designed to stimulate a specific, coordinated and persistent immune response, improving the lives of patients with solid or hematological cancers, infectious diseases, and other immune-modulated diseases. It is based on active ingredients formulated in lipid nanoparticles and, after freeze drying, suspended directly into a lipidic formulation. DPX™-based products are stored in a dry format, which provides the added benefit of an extended shelf life. The formulation is single dose and designed to be easy to suspend and administer. DPX™'s unique MOA allows for a sustained activation of the immune system in which the T cell flow is sustained over a longer duration than traditional vaccines on the market. DPX™ also has multiple manufacturing advantages: it is fully synthetic; can accommodate hydrophilic and hydrophobic compounds; is amenable to a wide-range of applications (for example, peptides, small-molecules, RNA/DNA, VLPs, or antibodies); and provides long term stability as well as low cost of goods.

The Company is also planning to enter Phase 1 clinical development in Spain for BVX-0918, a personalized immunotherapeutic vaccine using our proprietary HapTenix™ neoantigen tumor cell construct platform for treating refractive late-stage ovarian cancer.

## RECENT HIGHLIGHTS

- During the three month period of April 2024 to June 2024, BioVaxys has held discussions with multiple academic Principal Investigators, former partnering companies, and government agencies involved in the (1) DPX+neoantigen, (2) DPX-SurMAGE, (3) DPX-rPA (4) MVP-S (5) DPX-E7, and (6) malaria programs to review the status of these research programs, review data, and discuss steps to continue these clinical programs.
- On June 27, 2024, BioVaxys accepted an invitation to conduct a scientific presentation at the Personalized Cancer Vaccine Summit (December 3 -5, Boston, MA). This is a significant opportunity to present our core DPX and HapTenix platforms to an audience of biopharma companies. We will also be presenting new data from the recent news that DPX on its own has remarkable immune effect on tumor cells.
- In June 2024, BioVaxys engaged Brittany Davison, CPA, CA as Business Advisor. Ms. Davison is a Chartered Professional Accountant and owner of Davison CPA Consulting Inc., of Halifax, NS. She previously served as Chief Accounting Officer and Acting Chief Financial Officer at IMV Inc., where she led a US\$9M Public Offering in December 2022 and assisted in raising more than US\$165M during her ten year tenure at IMV Inc. Ms. Davison was instrumental in IMV Inc. gaining a Nasdaq listing in 2018, and was involved in transactional business development, partnering and investor relations activities. Prior to IMV, she was an Audit Senior with Grant Thornton LLP. Ms. Davison will assist with knowledge transfer associated with former IMV assets, support investor relations and business development targeting and outreach, and facilitate sources of private funding, government funding and Scientific Research and Experimental Development (SR&ED) tax incentives.
- On June 17, 2024, BioVaxys executed a binding Letter of Intent ("Agreement") with AP Visionaries, Inc. of Ontario ("APVI") to jointly develop a proprietary DPX™ formulation to address the urgent need for a therapy to treat or alleviate the potentially life-threatening risk of certain food allergies, namely those triggered by exposure to peanut/tree nuts or eggs. BioVaxys and APVI are conducting the study in collaboration with The Schroeder Allergy and Immunology Research Institute ("SAIRI") at McMaster University in Ontario, a new institute that consolidates clinicians, scientists, and data specialists in a one-stop shop to research the causes of life-threatening allergies and develop new treatments. Under the terms of the Agreement, BioVaxys will provide funding for the study to APVI, which has a collaboration in place with SAIRI to evaluate in animal models the robustness of DPX™ protection and evaluate whether DPX™ transforms the underlying immunopathology of food allergy. BioVaxys will retain all intellectual property rights to any resulting product. APVI will receive a royalty from BioVaxys on any gross sales from a resulting product, in addition to a milestone payment at first regulatory approval.

Peanut / tree nut allergy is recognized as one of the most severe food allergies due to its prevalence, and potential severity of allergic reaction (Peanut allergy". Clin. Exp. Allergy. 25 (6): 493–502). The global peanut allergy treatment market size is expected to reach USD 1.01 billion by 2030, according to a new report by Grand View Research, Inc. The market is expected to grow at a CAGR of 11.82% from 2024 to 2030 (Grandview Research, December 2023).

- On May 10, 2024, the Company issued 4,301,923 units at a price of \$0.065 per unit for total gross proceeds of \$279,625, pursuant to closing the second tranche of a non-brokered private placement. Each unit consists of one common share and one whole common share purchase warrant. Each warrant entitles the holder to acquire one common share at a price of \$0.15 for a period of two years from the closing date. As at the date of signing these consolidated financial statements, the Company has not yet received \$200,000 in relation to the issuance of 3,076,923 units from this private placement.
- On May 3, 2024, the Company issued 5,126,574 units at a price of \$0.065 per unit for total gross proceeds of \$333,227, pursuant to closing the first tranche of a non-brokered private placement. Each unit consists of one common share and one whole common share purchase warrant. Each warrant entitles the holder to acquire one common share at a price of \$0.15 for a period of two years from the closing date.

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- In May 2024, the Company formally transferred a contract with Iron Mountain for continued document retention and storage of clinical research files, regulatory correspondence, research data, etc. from the former IMV.
- On April 30, 2024, the Company appointed Chris Cherry, CPA, as CFO of the Company.
- On April 10, 2024 BioVaxys and its licensee, SpayVac-for-Wildlife, Inc. ("SpayVac"), jointly announced that SpayVac has partnered with a world leader in the aquaculture space to field test single-injection, long-lasting immuno-contraceptive vaccines in farmed rainbow trout.

SpayVac utilizes a patented liposome-based antigen delivery platform technology licensed from the Company and has demonstrated a robust and sustained immune response in several species.

Large-scale contraception or sterilization plays a major role in the commercial aquaculture industry. As female fish mature, they put the majority of their energy into egg production, instead of muscle growth, which reduces the potential weight gain. Additionally, farm-raised fish that escape may breed with their wild counterparts and produce offspring that are less suited to surviving in the wild. Growing reproductively contracepted or sterile fish is the most effective way to manage these challenges.

In addition to fish aquaculture, SpayVac is planning to soon commercialize humane fertility control vaccines for deer, horses and other animals that are also based on the patented liposome-based delivery platform technology licensed from the Company.

- On March 22, 2024, the Company and Theon Capital, LLC, of Palm Beach Gardens, FL, USA, entered a success-fee only consulting agreement whereas Theon Capital would support identification of potential funding, partnering, collaborative, and other such relationships.
- On March 7, 2024, the Company engaged Troutman Pepper to provide continuing support for the Company's intellectual property portfolio.
- On March 4, 2024, the Company engaged Keystone Corporate Services, Inc., of Vancouver to provide corporate secretarial support.
- On February 22, 2024, the Company engaged Smart+Biggar LLP to provide continuing support of the Company's Canadian patents and patent applications, as well as support for selected national stage filings.
- On February 11, 2024, the Company signed a definitive agreement to acquire the entire intellectual property portfolio and all of the of discovery, preclinical and clinical development stage assets in oncology, infectious disease, antigen desensitization and other immunological fields based on DPX immune educating platform technology, developed by Canadian biotechnology company, IMV Inc, Immunovaccine Technologies Inc., and IMV USA, BioVaxys acquired the extensive technology portfolio from HIMV, LLC, an acquisition vehicle formed by Horizon Technology Finance Corporation ("Horizon") and IMV's other secured creditors for the purpose of acquiring IMV's intellectual property through a secured party credit bid in the proceedings commenced in Canada by IMV under the Companies' Creditors Arrangement Act, R.S.C. 1985, c. C-36, as amended (the "CCAA"). BioVaxys acquired the assets in exchange for USD \$750,000 and common shares of the Company with a deemed value of USD \$250,000, as well as certain earn-out payments. On February 16, 2024, the Company issued 5,034,701 common shares of the Company to Horizon in relation to this.
- On February 9, 2024, the Company issued 16,916,639 units at a price of \$0.03 per unit for total gross proceeds of \$507,499, pursuant to closing the final tranche of a non-brokered private placement. Each unit consists of one common share and one whole common share purchase warrant. Each warrant entitles the holder to acquire one common share at a price of \$0.05 for a period of two years from the closing date. As at the date of this MD&A, 200,000 of these units have not yet been issued.
- On February 8, 2024, the Company engaged Departures Capital, Inc. to provide corporate promotion of IMV acquisition.

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- On February 4, 2024, the Company engaged MowbryGill Business Advisory Services, Inc., to advise on Company valuation.
- On January 31, 2024, the Company issued 37,338,889 units at a price of \$0.03 per unit for total gross proceeds of \$1,120,167, pursuant to closing the first tranche of a non-brokered private placement. Each unit consists of one common share and one whole common share purchase warrant. Each warrant entitles the holder to acquire one common share at a price of \$0.05 for a period of two years from the closing date. As at the date of this MD&A, 755,555 of these units have not yet been issued.
- On January 29, 2024, the Company settled \$215,000 in debt by issuing 7,166,666 common shares of the Company at a deemed price of \$0.03 per common share. Of these common shares issued, 2,500,000 and 633,333 common shares were issued to the CEO and COO of the Company, respectively, to settle amounts owing to them.
- On January 11, 2024, the Company entered into a services agreement with Stockhouse Publishing Ltd., to provide market support and stock promotion services.
- In December 2023, BioVaxys and ProCare Health Iberia S.L. ("ProCare") jointly and amicably agreed to terminate the US Distribution Agreement for Papilocare and Immunocaps. Papilocare is registered in the EU as an over-the-counter ("OTC") device, and although the US regulatory authorities generally follow the EU, this is not always the case. While management believes that Papilocare is a highly promising product, ProCare's revised regulatory pathway in the US and timetable was no longer aligned with BioVaxys' proposed marketing strategy around an OTC product with the prospect of near-term revenue for the Company. The termination of the agreement also allows the management team to advance initiatives related to immunotherapy. The partnership between BioVaxys and ProCare for the EU clinical development of BioVaxys' ovarian cancer vaccine BVX-0918 will continue and remains unchanged.

As a provision of the October 2023 Set- Off Agreement ("Agreement") between BioVaxys and bioproduction partner BioElpida of Lyon, France ("BioElpida") which offset and settled matching receivables on a direct dollar-for-dollar basis, in March 2024 the Company executed a Promissory Note ("Note") with a Principal € 45,029.88 which represents the balance of receivables payable by Company to BioElpida.

## **PRODUCTS AND DEVELOPMENT**

### **Proprietary Delivery Platforms**

Although it possesses an extensive pipeline of highly promising clinical stage candidates, the value driver for the Company are its two unique proprietary technology platforms, DPX™ and HapTenix©, from which derive all of its vaccine candidates.

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The DPX™ platform is a patented technology that provides a new and unique way to deliver active ingredients to the immune system using a novel MOA that does not release active ingredients at the site of the injection, but rather forces an active uptake of immune cells and delivery into the lymphatic nodes. The programming of immune cells happens in vivo offering a more efficient and unique approach to current techniques. Active ingredients, antigens, and adjuvants (immunological agent to boost immune response to produce more antibodies and generate a stronger immune response by activating T cells and dendritic cells) are formulated in lipid nanoparticles, freeze-dried to remove all traces of water (for longer shelf-life), and suspended in an oil formulation. The oil formulation prevents the release of active ingredients at the injection site and protects the active ingredients from degradation. The “no release” mechanism allows for an active uptake of antigens into immune cells and lymph nodes with the potential for long duration of response. The MOA directly accesses and programs immune cells to instigate an immune response across a range of diseases/disorders. DPX™ formulations are not limited to cancer immunotherapies. With its unique “plug and play” cargo carrying capacity and non-circulating lipid delivery, there is potential with DPX™ to develop improved mRNA vaccines, multivalent viral vaccines, vaccines for desensitizing immune response for allergies, and immune system diseases. Prior clinical studies have supported proof of concept and a superior immune response with a DPX-RSV formulation.

The HapTenix© platform is a patented technology that provides a new and unique way to stimulate a powerful immune response against tumors. The HapTenix© platform of attaching haptens to autologous tumors is antigen agnostic, making it ideal for ovarian cancer as its generally accepted that there is an incomplete understanding of its tumor antigen environment. HapTenix© is the foundation of BVX-0918, with haptened tumor antigen vaccines, and having been extensively evaluated in US Phase 1 and Phase 2 clinical studies in over 600 subjects.

### **DPX-Based Pipeline**

The Company's clinical stage pipeline includes Maveropepimut-S (“MVP-S”) which completed Phase 2B clinical studies in Canada for advanced Relapsed-Refractory Diffuse Large B Cell Lymphoma (DLBCL) and for platinum resistant ovarian cancer, and a Phase 2B “basket” study of a combination of MVP-S +1 Keytruda™ in lung cancer, bladder cancer, liver cancer, DLBCL, and ovarian cancer subpopulations. Phase 1 vaccine programs include BVX™-SurMAGE, a DPX™ formulation of the tumor-associated antigens survivin and MAGE A9 as a dual targeted immunotherapy, BVX™-RSV for Respiratory Syncytial Virus, BVX™-E7 for HPV, and BioVaxys legacy vaccine BVX-0918, a personalized immunotherapeutic vaccine using our proprietary HapTenix© ‘neoantigen’ tumor cell construct platform which is planned to enter Phase I in Spain for treating refractive late-stage ovarian cancer.

### **MVP-S**

The IMV transaction supplements BioVaxys' existing cancer vaccine portfolio with the addition of MVP-S, a DPX™-formulated cancer vaccine that delivers antigenic peptides from survivin, a cancer antigen commonly overexpressed in advanced cancers.

MVP-S also delivers an innate immune activator and a universal CD4 T cell helper peptide. These elements foster maturation of antigen presenting cells as well as robust activation of CD8 T cell effector and memory function. MVP-S was recently in Phase IIB clinical trials for advanced Relapsed-Refractory Diffuse Large B Cell Lymphoma (DLBCL) and platinum resistant ovarian cancer and is being clinically evaluated in bladder and breast cancer. In prior clinical studies, MVP-S treatment has been well tolerated and has demonstrated favorable clinical outcomes in multiple cancer indications as well as the activation of a targeted and sustained, survivin-specific anti-tumor immune response. Most recently, data were presented by IMV at the 2023 SGO Annual Meeting on Women's Cancer on a phase 1b/2 multicenter trial designed to evaluate MVP-S combined with intermittent low dose of cyclophosphamide in patients with recurrent, epithelial ovarian, fallopian tube, or peritoneal cancer. Findings showed clinical benefit to patients with recurrent ovarian cancer, regardless of platinum sensitivity or BRCA mutational status.

### **DPX™ SurMAGE**

A DPX™ formulation of the tumor-associated antigens survivin and MAGE A9 as a dual targeted immunotherapy. Targeting the MAGE protein family member A9 (MAGE-A9), a protein frequently expressed in human cancers (bladder, lung, kidney), the peptides are combined with immunogenic peptides from the Survivin protein, which researchers believe can be used to program T cells to destroy tumors.

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A highly promising preclinical program and Phase 1 clinical study was conducted by investigators at CHU de Québec-Université Laval and La Fondation du CHU de Québec. Of particular significance is the proven ability of DPX™ to package multiple and different antigens.

**DPX-RSV**

A Phase 2 clinical study candidate of a DPX formulation of linear B cell 23mer epitope directed at the RSV group A Small Hydrophobic etodomain (SHe) that is designed to elicit She-specific antibodies to limit infectivity.

Completed in February 2020, Phase 1 was a First in Humans, randomized (2:2:1) observer blind, controlled, dose ranging, multi-arm parallel group clinical trial in 40 healthy individuals (aged 50-64) to assess the safety and immunogenicity of two dose levels for DPX-RSV(A). The primary endpoint was the number of participants with AE as a measure of safety and reactogenicity of the intramuscular DPX-RSV(A) up to 28 days after the first injection. In October 2016 and April 2018, topline results were announced from this trial, outlining that more than 9 months post initial vaccination, 15/16 (93%) of participants who received DPX-RSV demonstrated antigen specific immune responses. Within the 25µg dose patient cohort, 7 out of 7 (100%) of participants vaccinated maintained the antigen-specific immune responses one year after receiving booster dose. After one year, antibody levels were measured and indicated no sign of decrease.

RSV is a common respiratory virus. Most can recover from RSV, but it can be particularly serious for infants and the elderly population. Caused by a common germ that infects the lungs and airways, it is highly contagious and can be spread through droplets that contain the virus when someone coughs or sneezes. It is considered a leading cause of lower respiratory tract infections in children worldwide. The two RSV groups, A and B, comprise different genotypes. Studies have shown that RSV Group A has been associated with increased disease severity. Globally, RSV affects ~64M people each year resulting in approximately 160,000 deaths per annum. The World Health Organization (WHO) has designated RSV to be a high priority vaccine target.

**DPX-Flu**

Recombinant hemagglutinin (HA) protein (~300 amino acids) and whole heat-killed flu virus. In Phase 1 clinical studies it was shown to elicit higher specific HA antibody titers than Alum-rHA, and superior protection against multiple strains of influenza.

**DPX-Neo**

A Phase 1 trial evaluating UConn Health's proprietary neoepitopes (epitope the immune system has not yet encountered before) formulated on the DPX™ platform for patients with ovarian cancer was unfortunately discontinued due to the Covid pandemic and IMV's bankruptcy. In pre-clinical studies, UConn found that neoepitopes formulated in DPX-based formulations demonstrated superior immunogenic activity over comparators in murine models.

**DPX-E7™**

Sponsored by the Dana-Farber Cancer Institute in collaboration with Stand Up To Cancer and the Farrah Fawcett Foundation, DPX-E7 was evaluated in a Phase 1b/2 clinical study (NCT02865135), in combination with low-dose cyclophosphamide in 44 patients with oropharyngeal, cervical, and anal cancers related to human papillomavirus (HPV). The primary objective was to evaluate changes in CD8+ T cells in peripheral blood and tumor tissue and to evaluate the safety in HLA-A2 positive patients with incurable HPV-related cancers. DPX™-E7 targets an HPV viral protein known as E7. Study results are being prepared by the investigators.

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**DPX-rPA**

This is a recombinant *B. anthracis*-protective antigen (rPA) formulated in the DPX delivery platform. DPX-rPA was compared to AVA (current approved anthrax vaccine) in rabbits and non-human primates (NHPs) and demonstrated up to 100% protection against a lethal *Bacillus anthracis* spore inhalation challenge. In both species, DPX-rPA generated responses after a single immunization, whereas AVA required two immunizations. In rabbits, a single injection of DPX-rPA or two injections of AVA conferred 100% protection from anthrax challenge. In NHPs, single-dose DPX-rPA was 100% protective against challenge, whereas one animal in the two-dose AVA group and all saline administered animals succumbed to infection. DPX-rPA was minimally reactogenic in all species tested. These data indicate that DPX-rPA may offer improvement over AVA by reducing the doses needed for protective immune responses and is a promising candidate as a new-generation anthrax vaccine.

**HapTenix Platform**

The Company's **HapTenix**® vaccine platform is based on the established immunological concept that modifying surface proteins, whether they are viral or tumor, with chemicals called haptens, makes them more visible to the immune system. This process of haptentization "teaches" a patient's immune system to recognize and make target proteins more "visible," thereby stimulating a T-cell mediated immune response. This is critical for fighting viral pathogens or cancer cells, as T-cells directly battle viruses or tumors by targeting and destroying infected or cancerous cells. Haptentization is based on proven science and backed by extensive clinical data. There is also substantial evidence that it can be used for many viruses and any resectable (i.e., surgically removable) solid tumors. The Company is building a pipeline of vaccine products that are based on this proprietary technology platform of haptentizing antigens to elicit a robust immune response. Current development programs target ovarian cancer, with cervical cancer colorectal cancer, as follow-on programs.

**HapTenix-Based Programs: Ovarian Cancer Vaccine Candidate (BVX-0918)**

BVX-0918 is the Company's lead haptentized tumor cell vaccine for ovarian cancer. The Company's cancer vaccines are created by extracting a patient's own (e.g., autologous) cancer cells, chemically linking them with a hapten and re-injecting them into the patient to induce an immune response to proteins that are otherwise not immunogenic. Haptentization is a well-known and well-studied immunotherapeutic approach in cancer studies and has been evaluated in both regional and disseminated metastatic tumors. A first generation single-hapten vaccine developed by Dr. David Berd, Chief Medical Officer and a founder of BioVaxys, while at Thomas Jefferson University ("TJU") achieved positive immunological and clinical results in prior Phase I/II trials. The Company has enhanced the first-generation vaccine approach of using a single hapten to now utilize two haptens (bihaptentization) in a second-generation vaccine, which the Company believes will yield superior results.

Since a hapten is either hydrophilic or hydrophobic, a single hapten can only modify either hydrophilic or hydrophobic amino acids on these target proteins. By utilizing the correct pair of haptens, both hydrophilic and hydrophobic amino acids are modified on the target protein, making the protein more foreign to the immune system. Specifically, a much greater number and variety of T-cells are activated by the addition of the second hapten so the number of T-cells potentially reactive to the unmodified protein increases.

The Company plans to combine the use of its vaccine with "checkpoint antibodies", which are a relatively new class of cancer therapy. The rationale for the combination is that checkpoint inhibitors on their own are powerful augmenters of cellular immune response. The Company believes its vaccine changes the tumor environment to make them more susceptible to checkpoint inhibitors and expects a synergistic response from the combination. The Company is optimistic for positive Phase I and Phase II clinical outcomes for BVX-0918, as Phase I and Phase II clinical studies have already been successful with the first generation single hapten approach.

On June 15, 2022, the Company announced that, as part of development of the vaccine bioproduction protocol with BioElpida for its Phase 1 study, the Hospices Civils de Lyon, France ("HCL") had surgically excised the first ovarian cancer tumors from cancer patients to be used by the Company for process development and manufacturing "dry runs" of BVX-0918, a major step leading to the completion of the production process for the Company's ovarian cancer vaccine.



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On February 9, 2021, the Company and ProCare, a leading privately held European pharmaceutical company, entered into a broad collaboration. Under the terms of the agreement, the companies will jointly conduct a Phase I Clinical Study of BVX-0918 in Spain for late-stage ovarian cancer. The Company will be responsible for the core technology and vaccine production, with ProCare overseeing and making a US\$900,000 in-kind investment in the clinical program and regulatory planning, Contract Research Organizations ("CRO") management, patient/clinical center recruitment, marketing and opinion leader management. The companies have agreed to equally share costs associated with engaging a European CRO to conduct the study. In exchange for this consideration, ProCare will have exclusive rights to market and distribute BVX-0918 in the EU and the United Kingdom. Clinical data from the Spanish Phase I study will be used by BioVaxys to support its planned Investigational New Drug ("IND") for BVX-0918 in the US, as well as for all other global markets.

The co-development gives the Company access to ProCare's clinical development and regulatory expertise in the EU, and to its marketing and sales presence in Europe. ProCare has an established portfolio of marketed brands that is focused heavily on the women's health and gynecological oncology markets. The relationship with ProCare will give the Company access to key gynecological oncology opinion leaders for patient access, clinical trial recruitment and a relationship that post-approval will drive vaccine sales. Having a strong EU opinion leader network will also be invaluable for the planned US launch of BVX-0918.

On December 21, 2023, the Company mutually entered into a termination and settlement agreement ("Termination Agreement") with ProCare. See further details under **Subsequent Events** section.

On February 18, 2021, the Company signed an agreement with BioElpida, for the build-out for the GMP clinical-grade manufacturing process and aseptic packaging for BVX-0918. BioElpida is a biotechnology Contract Development and Manufacturing Research Organization ("CDMO") that applies single-use bioprocessing for development and manufacturing of biological and cell-based products. BioElpida's expertise extends from research and development to pharmaceutical manufacturing and release of clinical batches, and intermediate steps, such as process development, feasibility studies, analytical method validation, as well as aseptic fill and finish and other bioproduction services. BioElpida's facility is certified for clinical bioproduction by France's National Security Agency of Medicines and Health Products.

On June 8, 2022, the Company announced that BioElpida completed the creation of multiple OVCAR-3 cell banks as the next step in the GMP manufacturing process development for BVX-0918. The OVCAR-3 cell line is mandatory for creating the identity assays that will have to be performed on every batch of ovarian cancer vaccine. This assay is required by regulatory bodies in the EU and United States. The cell line is derived from a human ovarian adenocarcinoma, established from a patient refractory to cisplatin, a chemotherapeutic agent used in late-stage ovarian cancer. Patients whose tumors are innately cisplatin-resistant at the time of initial treatment generally have poor prognosis, which is the patient population target for BVX-0918.

### ***T-Cell Antigen Discovery Program***

In addition to the Company's haptenized cell vaccines for ovarian cancer and other tumor types, the Company is exploring ways to leverage its technology platform in the field of Adoptive Immunotherapy, which is also of significant interest in the immune-oncology market. Adoptive Immunotherapy is where T-cells are collected from a patient and grown in the laboratory. This increases the number of T-cells that are able to kill cancer cells.

The Company's ovarian cancer clinical studies and manufacturing protocol will provide the Company with the unique ability to collect T-cells from patients, both pre- and post-vaccine administration. The Company's objective is to use T-cells made responsive to its vaccines to identify new antigens that can be synthesized and explored, as they may prove useful as diagnostic agents or as new, chemically defined, patient-specific vaccines. These novel antigens may be distinct for each patient or present across all tumor cells. The Company intends to explore partnerships identify novel cancer antigens eliciting a T-cell response, which will develop extensive new intellectual property for the Company. The Company is including blood draws in its ovarian cancer EU Phase I clinical protocol to begin obtaining pre-post vaccination leukocytes.

## **INTANGIBLE PROPERTIES**

### ***Intellectual Property***

The Company regards its intellectual property rights as the foundation blocks upon which it continues to build a successful biotechnology company. The Company protects its intellectual property rights through a robust combination of patent, copyright, trademark and trade secrets, as well as with confidentiality and invention assignment agreements.

The Company seeks intellectual property protection in various jurisdictions around the world and owns patents and patent applications relating to products and technologies in the United States, Canada, Europe and other jurisdictions through the PCT and selected National Phase patent applications.

### **Acquisition of TAETCo**

On March 15, 2023, the Company completed the acquisition of TAET Software Corp ("TAETCo"). TAETCo was a privately-owned company incorporated on February 2, 2023, and was a Vancouver-based clinical studies management company engaged in the development and commercialization of a proprietary software application which will enable clinical study subjects to record and submit clinical trial reports to study sponsors in real time.

In exchange for all of the issued and outstanding shares of TAETCo, the Company issued 24,500,000 common shares (the "Consideration Shares") to the TAETCo shareholders. Key shareholders of TAETCo (the "Vendors") were retained for three months following the closing of the acquisition (the "Transition Period") to assist with the development of the software. The Company would issue an additional 2,500,000 common shares (the "Bonus Shares") if a successful testing of the beta version of the application was delivered during the Transition Period.

This acquisition did not constitute a business combination as TAETCo did not qualify as a business under IFRS 3 - Business Combinations due to a lack of substantive processes. Management assessed that the acquisition did not meet the criteria required to recognize an intangible asset under IAS 38 - Intangible Assets, as a result, the value associated with the transaction has been recognised as an expense as per IFRS 2.8. Therefore, the Company accounted for the transaction under IFRS 2 - Share-based Payment.

The fair value of the Consideration Shares was determined to be \$3,062,500 based on the Company's share price for a private placement that closed in March 2023. The Company assessed that it is unlikely that the Vendors would be able to provide a fully functioning beta version of the software during the Transition Period and therefore no value was assessed on the Bonus Shares.

In management's view, the acquisition increased market awareness of the Company and therefore the fair value of the shares issued was recorded as investor relations expense.

### **Disposal of TAETCo**

On June 7, 2023, the Company entered into an agreement to sell 100% of the common shares of TAETCo to XGC Software Inc ("XGC"), using 1402588 BC Ltd as a vehicle for the transaction (together, the "Parties"). The Company agreed to sell TAETCo in exchange for consideration of 500,000 shares in 1402588 BC Ltd, which would then be exchanged into shares in XGC on a 1:1 basis, such that the Company would become a shareholder of XGC. The Parties also agreed that the Company would receive the following payments from XGC upon achievement of the milestones described below (the "Milestone Payments"):

- 500,000 shares of XGC, issuable within 30 days of the first commercial licence sale of the software
- 500,000 shares of XGC, issuable within 30 days of the first achievement of cumulative revenue of USD\$1,000,000 in any one fiscal year
- USD\$500,000 cash payment, payable within 30 days of the filing of any financial statement that shows the first achievement of cumulative revenue of USD\$5,000,000 in any one fiscal year
- USD\$500,000 cash payment, payable within 30 days of the filing of any financial statement that shows the first achievement of cumulative revenue of USD\$10,000,000 in any one fiscal year
- USD\$1,000,000 cash payment, payable within 30 days of the filing of any financial statement that shows the first achievement of cumulative revenue of USD\$5,000,000 in any one fiscal quarter

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- USD\$2,000,000 cash payment, payable within 30 days of the filing of any financial statement that shows the first achievement of cumulative revenue of USD\$10,000,000 in any one fiscal quarter

On June 8, 2023, the Company received 500,000 shares in 1402588 BC Ltd as consideration for the sale. These were subsequently exchanged for shares in XGC on a 1:1 basis on December 11, 2023. These shares were deemed to have a fair value of \$Nil.

The Milestone Payments have been accounted for as a contingent asset in accordance with IAS 37 and therefore will only be recorded on the statement of financial position when the realization of cash flows associated with it becomes relatively certain. As at October 31, 2023, no value has been attributed to the Milestone Payments.

At the time of this MD&A, the Company had the following patents related to its hapteneized vaccine program:

- Issued US patent #7,297,330 – Low dose hapteneized tumor cell and tumor cell extract immunotherapy (expiration 2024)
- Issued US patent #8,435,784 – Cryopreservation of Hapteneized Tumor Cells (licensed from Thomas Jefferson University with expiration of the patent in 2026)
- International Application # PCT/US22/26461 - BIHAPTENIZED AUTOLOGOUS VACCINES AND USES THEREOF with claims for cervical cancer. Currently in National Phase in US, Canada, EU, Australia.

Through the IMV transaction, BioVaxys has acquired 25 distinct families of patents and/or patent applications, with over 120 national phase filings related to DPX™ and its use across a range of immune system-related diseases including but not limited to:

- Maveropepimut-S (plus combinations with Keytruda), DPX-SurMAGE (dual antigen packaging/delivery) that is co-owned with Laval University in Quebec, DPX/RSV, DPX™-rHA/DPX-FLU influenza vaccine, Low dose volume B cell epitopes packaging/delivery, Methods for making dried compositions, lipid adjuvants, lymph node targeting.

Following the acquisition of the [former] IMV Inc. assets and a recent strategic decision to suspend its Covid diagnostic and SARS-CoV-2 vaccine programs due to limited market interest, BioVaxys has elected to cease further prosecution of the following patent applications:

- US Patent Application #62/992,722 – Hapteneized Coronavirus Spike Protein Vaccine
- US Provisional Application #63/253,149 Methods of Immunization Against Coronavirus.
- US Patent Application #63106482- METHOD AND KIT FOR DETECTION OF CELL MEDIATED IMMUNE RESPONSE

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**Trademarks**

- BioVaxys has trademarks on SpayVac™ (USA), DPX™ (worldwide), CoviDTH™ (registered in the European Union, the United Kingdom, Korea and Taiwan).

On June 7th, 2024, BioVaxys agreed to sell, transfer, assign, and convey certain assets, including, without limitation, all of its rights, title, and interests in and to the SPAYVAC® trademark, issued in the United States on September 21, 2004, Reg #2886949, with a renewal date of September 21, 2024 to its licensee, SpayVac-for-Wildlife, Inc. Management felt the trademark had no commercial value for BioVaxys.

**Licenses**

**Thomas Jefferson University ("TJU"):** BioVaxys entered into an exclusive license agreement dated April 25, 2018 with TJU for four older US patents related to a haptenized cancer vaccine using a single hapten (the "TJU License").

The licensed patents are:

- Issued US patent #7,297,330 – Low dose haptenized tumor cell and tumor cell extract immunotherapy (expiration 2024); and
- Issued US patent #8,435,784 – Cryopreservation of haptenized tumor cells (expiration 2026).

The TJU License is an exclusive, royalty-bearing license for the rights to the single hapten cancer vaccine technology, and provides for the following payments to TJU upon the occurrence of certain milestones:

- US\$25,000 following enrollment of the first patient in a Phase 3 clinical trial (or foreign equivalent if outside US) for a product utilizing single-hapten cancer vaccine technology;
- US\$25,000 following FDA allowance for a product utilizing single-hapten cancer vaccine technology; and
- US\$100,000 once BioVaxys has reached \$5,000,000 in net sales of a product utilizing single-hapten cancer vaccine technology.

The TJU License includes a royalty payment of 2% on net sales of products based on the TJU License by BioVaxys while covered by an unexpired patent. In addition to the milestone payments and royalty set out above, TJU was issued a warrant to purchase 4% of the outstanding shares of BioVaxys on a fully diluted basis for an exercise price of US\$10 pursuant to a share exchange agreement dated July 7, 2020, between TJU and the Company. TJU exercised this warrant. As a result, TJU received 1,160,000 common shares. Further, the Company bears the expense of maintaining and defending the patents that are subject to the TJU License.

**SpayVac for Wildlife, Inc.:** BioVaxys has a royalty-bearing License and Supply Agreement with Wisconsin-based SpayVac for Wildlife Inc., on sales of animal vaccine products using pre-DPX aqueous delivery technology to develop SpayVac™, a pZP vaccine that has been proven to provide long-term immune-contraception with a single injection. Target animals are feral horses and deer, with significant potential to expand use of the vaccine for the population control of animals such as feral cats, stray/feral dog, feral cattle, kangaroos, wild hogs, antelope, wild burros, and feral camels. SpayVac Inc. has been working with the US EPA (the regulatory body responsible for product approval) on its product data package for a single-dose immuno-contraceptive to control deer and feral horse populations.

SpayVac is collaborating with Hendrix Genetics BV of The Netherlands to field test SpayVac's single-injection, long-lasting immune-contraceptive vaccine in farmed aquaculture that is likewise based on our lipid-based antigen delivery platform technology. Hendrix Genetics is the world's leading multi-species animal breeding company specializing in animal genetics and technologies for commercial poultry, swine, and aquaculture. Large-scale contraception or sterilization plays a major role in the commercial aquaculture industry. As female farmed fish mature, they put the majority of their energy into egg production instead of muscle growth, resulting in lower protein content, if not managed. Further, farmed fish can often be genetically distinct from those of the same species in the wild, and there is a significant risk of genetic contamination to these wild populations if they escape

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from aquaculture farms. Growing reproductively sterile fish is the most effective way to genetically contain farmed fish and represents a significant commercial opportunity for our licensee.

**Zoetis Inc.** BioVaxys has a milestone payments and royalty bearing license agreement with Pfizer animal health spin-out Zoetis Inc, the world's largest producer of medicine and vaccinations for pets and livestock, for their development and sale of various animal health products that utilize our lipid-based antigen delivery platform technology for immuno-contraceptive products for certain feral animal populations, as well as for Bovine Viral Diarrhea (BVD), a disease of cattle caused by the Bovine Viral Diarrhea Virus (BVDV). The virus is widespread, and most herds are at risk for infection. In the susceptible herd, BVD can be a serious, costly disease.

**Merck KGaA:** BioVaxys has a license from Merck KGaA for survivin proteins used in MVP-S and DPX-Sur/MAGE. Survivins are highly expressed in most cancers and are associated with a poor clinical outcome, with the differential expression of survivin in cancer cells compared to normal tissues and its role as a nodal protein in a number of cellular pathways make it a significant target for cancer therapeutics.

## **RESULTS OF OPERATIONS AND SELECTED QUARTERLY FINANCIAL DATA**

### ***Three Months Ended April 30, 2024 Compared to the Three Months Ended April 30, 2023***

During the three months ended April 30, 2024, the Company incurred a comprehensive loss of \$551,062, compared to \$1,482,639 during the three months ended April 30, 2023. The following are the significant changes:

- Investor relations expenses were \$33,707 for three months ended April 30, 2024 (2023 - \$235,677). The decrease was mainly due to the incurrence of public relations services pursuant to an agreement entered into during the comparative period.
- Management and consulting fees were \$226,953 for the three months ended April 30, 2024 (2023 - \$300,473). The decrease was mainly due to the Company's increased reliance on consultants in the same period in the comparative period to navigate the regulatory environment associated with the development of vaccines and diagnostic tests.
- Research and development expenses of \$nil were recognized during the three months ended April 30, 2024 (2023 – \$13,333). This research and development expense during the 2023 comparative period was for work related to intellectual property and the completion of research programs. No such work was performed during the current period.
- Other loss for the three months ended April 30, 2024, was \$3,197 (2023 - \$706,378). In the comparative period, gain on write-off of accounts payable of \$171,195 related to an accounts payable balance that was written off, and \$66,694 related to a foreign exchange gain. This was offset by impairment of intangible assets of \$947,464. Other loss recognized for the current period relates to foreign exchange.

### ***Six Months Ended April 30, 2024 Compared to the Six Months Ended April 30, 2023***

During the six months ended April 30, 2024, the Company incurred a comprehensive loss of \$21,082 compared to \$2,446,027 during the six months ended April 30, 2023. The following are the significant changes:

- Investor relation expenses were \$42,389 for six months ended April 30, 2024 (2023 - \$444,377). The decrease was mainly due to the incurrence of public relations services pursuant to an agreement entered into during the comparative period.
- Management and consulting fees were \$408,576 for the six months ended April 30, 2024 (2023 - \$673,067). The decrease was mainly due to the Company's increased reliance on consultants in the comparative period to navigate the regulatory environment associated with the development of vaccines and diagnostic tests, as well as the resignation of a director in the current period.

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- Research and development expenses of \$nil were recognized during the six months ended April 30, 2024 (2023 – \$133,108). This research and development expense during the comparative period was for work related to intellectual property and the completion of research programs. No such work was performed during the current period.
- Gain on write-off of accounts payable of \$880,386 was recognized during the six months ended April 30, 2024 (2023 - \$171,195). The reason for the increase in this gain is mainly due to the outstanding balance payable to ProCare being written off pursuant to the Termination Agreement. In the comparative period, an impairment loss of \$947,464 was recognized relating to intellectual property.

**SUMMARY OF QUARTERLY RESULTS**

The following table summarizes selected financial information from the Company's unaudited condensed consolidated interim financial statements for the most recent eight quarters:

<b>Quarter Ended</b>	<b>Total Revenue (\$)</b>	<b>Comprehensive Loss (\$)</b>	<b>Net Loss (\$)</b>	<b>Basic and Diluted Loss per Share (\$)</b>
April 30, 2024	-	(550,832)	(542,156)	(0.00)
January 31, 2024	-	529,980	518,049	0.00
October 31, 2023	-	(3,665,942)	(3,666,646)	(0.03)
July 31, 2023	-	(1,585,402)	(1,575,448)	(0.01)
April 30, 2023	-	(1,482,639)	(1,489,178)	(0.01)
January 31, 2023	-	(963,388)	(956,045)	(0.01)
October 31, 2022	-	(8,562,409)	(8,546,680)	(0.08)
July 31, 2022	-	(912,004)	(912,168)	(0.01)

During the three months ended April 30, 2024, the comprehensive loss increased by \$1,081,042 as compared to the three months ended January 31, 2024. This increase was mainly due to the gain on settlement of debt of \$880,386 during the three months ended January 31, 2024, as compared to \$nil in the current period.

During the three months ended January 31, 2024, the comprehensive loss decreased by \$4,195,922 as compared to the three months ended October 31, 2023. This decrease was mainly due to an investor relation expense of \$8,682 during the three months ended January 31, 2024, as compared to \$3,348,622 in the prior period, as well as decrease in management consulting fees by \$354,397 in the current period.

During the three months ended July 31, 2023, the comprehensive loss increased by \$102,763 as compared to the three months ended April 30, 2023. This increase was mainly due to the impairment of intangible asset of \$1,010,668 in the current period, as compared to \$947,464 in the three months ended April 30, 2023, as well as other income of \$171,195 in the prior period, which relates to the forgiveness of a debt owing to a vendor during the prior period. There was no such other income in the current quarter.

During the three months ended July 31, 2023, the comprehensive loss increased by \$102,763 as compared to the three months ended April 30, 2023. This increase was mainly due to the impairment of intangible asset of \$1,010,668 in the current period, as compared to \$947,464 in the three months ended April 30, 2023, as well as other income of \$171,195 in the prior period, which relates to the forgiveness of a debt owing to a vendor during the prior period. There was no such other income in the current quarter.

During the three months ended April 30, 2023, the comprehensive loss increased by \$519,251 as compared to the three months ended January 31, 2023. The increase was mainly due to the impairment of intellectual property of \$947,464 during the current period, as compared to \$nil in the previous quarter. This increased expense was slightly offset by an increase in other income of \$171,195, which relates to the forgiveness of a debt owing to a vendor during the current period. There was no such other income in the previous quarter.

During the three months ended January 31, 2023, the comprehensive loss decreased by \$7,599,021 from the three months ended October 31, 2022. The decrease was mainly due to an impairment charge of \$7,396,821 on the

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Company's intangible assets and a \$248,110 loss on debt settlement recorded in the prior quarter. Share-based compensation expenses also decreased compared to the prior quarter due to a decrease in the number of stock options vesting during the period.

During the three months ended October 31, 2022, the comprehensive loss increased by \$7,650,405 from the three months ended July 31, 2022. The increase was due to the receipt of promotional services received from a financial media company. Share-based compensation expenses also increased due to the grant of new options during the three months ended October 31, 2022. The Company also recognized an impairment charge of \$7,396,821 on its intangible assets during the three months ended October 31, 2022.

**OUTSTANDING SHARE DATA**

As at the date of this MD&A, the Company had the following:

- 220,241,658 common shares issued and outstanding (October 31, 2023 – 145,111,821)
- 9,955,000 stock options issued and outstanding (October 31, 2023 – 9,955,000)
- 53,573,241 common share purchase warrants outstanding (October 31, 2023 – 20,597,947)
- 116,000 brokers' warrants outstanding (October 31, 2023 – 56,000)

During the six months ended April 30, 2024, the following share capital transactions occurred:

- The Company issued 7,166,666 common shares with a fair value of \$322,500 to settle amounts payable of \$215,000 to various vendors. Of these common shares issued, 2,500,000 and 633,333 common shares were issued to the CEO and COO of the Company, respectively, to settle amounts owing to them. The Company recognized a \$107,500 loss on settlement of debt.
- The Company issued 36,783,334 units at a price of \$0.03 per unit for total gross proceeds of \$1,103,500, pursuant to closing the first tranche of a non-brokered private placement. Each unit consists of one common share and one whole common share purchase warrant. Each warrant entitles the holder to acquire one common share at a price of \$0.05 for a period of two years from the closing date. The Company recognized share issuance costs of \$68,133 in relation to this share issuance.
- The Company issued 16,716,639 at a price of \$0.03 per unit for total gross proceeds of \$501,500, pursuant to closing the final tranche of a non-brokered private placement. Each unit consists of one common share and one whole common share purchase warrant. Each warrant entitles the holder to acquire one common share at a price of \$0.05 for a period of two years from the closing date. The Company recognized share issuance costs of \$35,216 in relation to this share issuance.
- On February 16, 2024, the Company issued 5,034,701 common shares with a fair value of \$327,255 pursuant to the Asset Purchase Agreement with HIMV LLC.
- The Company received \$159,724 in advance of a private placement that closed on May 3, 2024, which involved the issuance of 5,126,574 units for total proceeds of \$333,227. Each unit consists of one common share and one whole common share purchase warrant. Each warrant entitles the holder to acquire one common share at a price of \$0.15 for a period of two years from the closing date.

Subsequent to April 30, 2024, the following share capital transactions occurred:

- On May 3, 2024, the Company issued 5,126,574 units at a price of \$0.065 per unit for total gross proceeds of \$333,227, pursuant to closing the first tranche of a non-brokered private placement. Each unit consists of one common share and one whole common share purchase warrant. Each warrant entitles the holder to acquire one common share at a price of \$0.15 for a period of two years from the closing date. In connection with the closing of this tranche, the Company issued 60,000 finder's warrants. Each finder's warrant is convertible into an additional share at an exercise price of \$0.15 until May 3, 2026.

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- On May 10, 2024, the Company issued 4,301,923 units at a price of \$0.065 per unit for total gross proceeds of \$279,625, pursuant to closing the second tranche of a non-brokered private placement. Each unit consists of one common share and one whole common share purchase warrant. Each warrant entitles the holder to acquire one common share at a price of \$0.15 for a period of two years from the closing date. As at the date of this MD&A, the Company has not yet received \$200,000 in relation to the issuance of 3,076,923 units from this private placement.

**LIQUIDITY AND CAPITAL RESOURCES**

At April 30, 2024, the Company had cash of \$159,740 (October 31, 2023 - \$977) and a working capital deficiency of \$2,408,735 (October 31, 2023 – \$3,372,061). The improvement in working capital is mainly due to an increase in cash and prepaid expenses, and a decrease in accounts payable.

Net cash used in operating activities for the six months ended April 30, 2024, was \$434,550 (2023 –\$1,029,085). This movement is primarily due to a decrease in the net loss during the current period, for reasons outlined in the **RESULTS OF OPERATIONS AND SELECTED QUARTERLY FINANCIAL DATA** section above.

Net cash used in investing activities was \$1,056,363 for the six months ended April 30, 2024 (2023 - \$Nil). This movement is primarily due to acquisition of IMV intellectual property.

Net cash provided by financing activities was \$1,650,611 for the six months ended April 30, 2024 (2023 - \$917,100). This cash inflow was from proceeds received through the issuance of shares.

As at April 30, 2024, the Company does not have any commitments to make capital expenditures in future fiscal periods.

Whether and when the Company can obtain profitability and positive cash flows from operations is uncertain. The Company intends to finance its future requirements through a combination of debt and/or equity issuance. There is no assurance that the Company will be able to obtain such financings or obtain them on favourable terms. These uncertainties cast doubt on the Company's ability to continue as a going concern.

The Company's ability to continue its operations is dependent on its success in raising equity through share issuances, suitable debt financing and/or other financing arrangements. While the Company's management has been successful in raising equity in the past, there can be no guarantee that it will be able to raise sufficient funds to fund its activities and general and administrative costs if required in the future.

**ADDITIONAL DISCLOSURE FOR ISSUERS WITHOUT SIGNIFICANT REVENUE**

During the six months ended April 30, 2024 and 2023, the Company incurred the following research and development expenses pursuant to the development of its technology platform:

	For the three months ended		For the six months ended	
	April 30, 2024	April 30, 2023	April 30, 2024	April 30, 2023
	\$	\$	\$	\$
Research and Development				
GMP manufacturing process development	-	-	-	45,777
Sarbecovirus vaccine evaluation	-	-	-	21,357
Ovarian cancer vaccine research	-	-	-	52,642
Conference costs	-	13,332	-	13,332
	-	13,333	-	133,108

The Company plans to finance its research and development activities through raising equity or debt capital financing. Through continued development of its product offering, the Company expects to earn revenues. These revenues will be used to eventually fund operating expenses.



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**RELATED PARTY TRANSACTIONS**

Key management consists of the officers and directors who are responsible for planning, directing, and controlling the activities of the Company. The following expenses were incurred by the Company's key management:

	Three months ended		Six months ended	
	April 30, 2024	April 30, 2023	April 30, 2024	April 30, 2023
	\$	\$	\$	\$
Management, consulting and director fees	178,291	156,498	321,814	329,496
Share issuance costs	5,000	-	10,000	-
Share-based payments	4,717	20,691	16,478	54,207
	188,008	177,189	348,292	383,703

- i. During the three and six months ended April 30, 2024, the Company recognized \$56,500 and \$88,000 (2023 - \$31,500 and \$63,000) in management and directors' fees and \$nil and \$2,302 (2023 - \$2,710 and \$9,227) in share-based payments for services provided by James Passin, the Chief Executive Officer ("CEO") of the Company. As of April 30, 2024, due to related parties balance included \$277,186 (October 31, 2023 - \$165,121) owing to the CEO. On January 29, 2024, the Company issued 2,500,000 common shares to the CEO to settle amounts owing to them.
- ii. During the three and six months ended April 30, 2024, the Company recognized \$65,166 and \$125,664 (2023 - \$60,498 and \$120,996) in management fees and \$nil and \$2,302 (2023 - \$2,710 and \$9,227) in share-based payments for services provided by Kenneth Kovan, the Chief Operating Officer ("COO") and President of the Company. As of April 30, 2024, due to related parties balance included \$422,110 (October 31, 2023 - \$321,354) owing to the COO. On January 29, 2024, the Company issued 633,333 common shares to the COO to settle amounts owing to them.
- iii. During the three and six months ended April 30, 2024, the Company expensed \$35,000 and \$65,000 (2023 - \$30,000 and \$60,000) in management fees and \$nil and \$2,302 (2023 - \$2,710 and \$9,227) in share-based payments for services provided by Dr. David Berd, the Chief Medical Officer ("CMO") of the Company. As of April 30, 2024, due to related parties balance included \$195,000 (October 31, 2023 - \$130,000) owing to the CMO.
- iv. During the three and six months ended April 30, 2024, the Company expensed \$1,500 and \$3,000 (2023 - \$12,000 and \$30,000) in management fees and \$1,754 and \$3,547 (2023 - \$5,809 and \$11,618) in share-based payments for services provided by Craig Loverock, the former Chief Financial Officer ("CFO") of the Company. The former CFO is now the current director of the Company. During the three and six months ended April 30, 2024, the Company also expensed \$5,000 and \$10,000 in share issuance costs (2023 - \$nil and \$nil) for services provided by a company controlled by Craig Loverock. As of April 30, 2024, due to related parties balance included \$32,600 (October 31, 2023 - \$28,700) owing to this director of the Company and the company controlled by this director.
- v. During the three and six months ended April 30, 2024, the Company expensed \$1,500 and \$2,900 (2023 - \$1,500 and \$3,000) in directors' fees and \$2,963 and \$6,025 (2023 - \$6,399 and \$13,063) in share-based payments for services provided by Anthony Dutton, a director of the Company. During the three and six months ended April 30, 2024, the Company also incurred \$18,625 and \$37,250 (2023 - \$nil and \$nil) in consulting fees for services provided by a company controlled by Anthony Dutton. As of April 30, 2024, due to related parties balance included \$130,125 (October 31, 2023 - \$89,975) owing to this director and the company controlled by this director.
- vi. During the three and six months ended April 30, 2024, the Company expensed \$nil and \$nil (2023 - \$21,000 and \$52,500) in management and directors' fees and \$nil and \$nil (2023 - \$542 and \$1,845) in share-based payments for services provided by David Wang, a former director of the Company. As of April 30, 2024, due to

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related parties balance included \$22,500 (October 31, 2023 - \$22,500) owing to the former director. David Wang resigned as director in April 2023. He is no longer considered a related party.

### **SIGNIFICANT ACCOUNTING ESTIMATES AND JUDGMENTS**

The preparation of the condensed consolidated interim financial statements requires management to make certain estimates, judgments and assumptions that affect the reported amounts of assets and liabilities and the reported amounts of expenses during the reporting period. Actual outcomes could differ from these estimates. The significant accounting estimates and judgments are set out in Note 2 to the consolidated financial statements for the year ended October 31, 2023.

### **MATERIAL ACCOUNTING POLICIES**

Material accounting policies, including any new IFRS pronouncements that are not yet effective, are set out in Note 3 to the consolidated financial statements for the year ended October 31, 2023.

### **FINANCIAL INSTRUMENTS**

In the normal course of business, the Company is inherently exposed to certain financial risks, including market risk, credit risk and liquidity risk, through the use of financial instruments. The timeframe and manner in which the Company manages these risks varies based upon management's assessment of the risk and available alternatives for mitigating risk. All transactions undertaken are to support the Company's operations. These financial risks and the Company's exposure to these risks are discussed in Note 10 of the condensed consolidated interim financial statements.

### **CAPITAL MANAGEMENT**

The capital of the Company consists of items included in shareholder's equity. The Company's objectives for capital management are to safeguard its ability to support the Company's normal operating requirements on an ongoing basis.

The Company manages its capital structure and adjusts considering changes in its economic environment and the risk characteristics of the Company's assets. To effectively manage the entity's capital requirements, the Company has in place a planning, budgeting and forecasting process to help determine the funds required to ensure the Company has the appropriate liquidity to meet its operating and growth objectives. As at April 30, 2024, the Company expects its capital resources, along with planned additional financing, will support its normal operating requirements for the next twelve months. There are no externally imposed capital requirements to which the Company has not complied. There have been no changes to the Company's objectives in terms of capital management during the six months ended April 30, 2024.

### **OFF-BALANCE SHEET ARRANGEMENTS**

The Company does not have any off-balance sheet arrangements at April 30, 2024.

### **PROPOSED TRANSACTIONS**

There are no proposed transactions.

### **SUBSEQUENT EVENTS**

On May 3, 2024, the Company issued 5,126,574 units at a price of \$0.065 per unit for total gross proceeds of \$333,227, pursuant to closing the first tranche of a non-brokered private placement. Each unit consists of one common share and one whole common share purchase warrant. Each warrant entitles the holder to acquire one common share at a price of \$0.15 for a period of two years from the closing date. In connection with the closing of this tranche, the Company issued 60,000 finder's warrants. Each finder's warrant is convertible into an additional share at an exercise price of \$0.15 until May 3, 2026.

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On May 10, 2024, the Company issued 4,301,923 units at a price of \$0.065 per unit for total gross proceeds of \$279,625, pursuant to closing the second tranche of a non-brokered private placement. Each unit consists of one common share and one whole common share purchase warrant. Each warrant entitles the holder to acquire one common share at a price of \$0.15 for a period of two years from the closing date. As at the date of this MD&A, the Company has not yet received \$200,000 in relation to the issuance of 3,076,923 units from this private placement.

**MANAGEMENT'S RESPONSIBILITY FOR FINANCIAL STATEMENTS**

Management of the Company, under the supervision of the Chief Executive Officer and the Chief Financial Officer, is responsible for the design and operations of internal controls over financial reporting. There have been no changes in the Company's disclosure controls and procedures during the six months ended April 30, 2024.

The Company's management is responsible for establishing and maintaining adequate internal controls over financial reporting and the preparation of financial statements in accordance with generally accepted accounting principles. Any system of internal control over financial reporting, no matter how well designed, has inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

There have been no changes in the Company's internal control over financial reporting during the six months ended April 30, 2024, that have materially affected, or are reasonably likely to materially affect, its internal controls over financial reporting.

***Limitations of Controls and Procedures***

The Company's management, including the Chief Executive Officer and Chief Financial Officer, believe that any disclosure controls and procedures or internal controls over financial reporting, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, they cannot provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been prevented or detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by unauthorized override of the control. The design of any systems of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Accordingly, because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

**APPROVAL**

The Company's Board of Directors has approved the condensed consolidated interim financial statements for the six months ended April 30, 2024. The Company's Board of Directors has also approved the disclosures contained in this MD&A. A copy of this MD&A will be provided to anyone who requests it and is available on [www.sedarplus.ca](http://www.sedarplus.ca).