

# **Management's Report on Financial Position and Operating Results**

For the year ended December 31, 2018

#### LETTER TO SHAREHOLDERS

Dear Fellow Shareholders,

IMV made significant advancements in 2018. Foundational changes, including shifting the name of the corporation to IMV and listing on Nasdaq, are enabling us to access to a larger pool of investors and allow us to better communicate our value proposition globally. However, the evolution of our clinical program is an even more important accomplishment: we entered into a collaboration with Merck across five tumor types; opted, based on DeCidE clinical data, to pursue DPX-Survivac as a monotherapy in ovarian cancer; and published studies clearly demarcating the T cell-activating novel mechanism of action of our DPX platform. With these milestones achieved, we are looking forward to a strong 2019 in which we will continue to advance our pipeline, drive value for investors, and support unmet patient needs.

IMV anticipates continued progress on several important milestones over the next year, which include:

- Topline data from the corporation-sponsored phase 2 monotherapy trial in ovarian cancer;
- Topline data from the combination phase 2 trial with Merck in diffuse large B-cell lymphoma (DLBCL); and
- Preliminary data from the phase 2 basket trial collaboration with Merck.

# 2018 Highlights

# Clinical Programs - DeCidE1/2

- Updated phase 1b data shared via an <u>oral presentation at the 2018 ASCO Meeting</u> and topline data from the first two phase 1b dosing cohorts highlighted at the 2018 ESMO-IO Meeting.
  - Based on these data, <u>IMV opted to develop DPX-Survivac as a monotherapy</u> in certain ovarian cancer patients defined by BTB (baseline tumor burden), an indication of tumour size.
  - Additional analyses were conducted that correlated DPX-Survivac's novel MOA the level of T cell infiltration with clinical response.
- Met with the U.S. Food and Drug Administration (FDA) and submitted an updated DECIDE trial protocol. In addition, IMV discussed with the Agency the need for accelerated approvals in advanced ovarian cancer and received guidance on clinical design considerations for different lines of therapy and platinum-sensitive and resistant patients.

# Additional Clinical Highlights

- <u>First clinical data obtained from the combination of DPX-Survivac and mCPA with Keytruda® (SPiReL trial)</u>, which came from an investigator-sponsored phase 2 trial in patients with persistent or recurrent/refractory DLBCL; data from the combination signaled significant anti-cancer activity in three of the first four evaluable patients as well as a tolerable safety profile.
- Announced a <u>collaboration with Merck in a phase 2 basket trial</u> evaluating the safety and efficacy of DPX-Survivac, low-dose cyclophosphamide, and Keytruda® (pembrolizumab) in patients with select advanced or recurrent solid tumors across five different indications: bladder, liver (hepatocellular carcinoma), ovarian, or non-small cell lung (NSCLC) cancers as well as tumors with the microsatellite instability high (MSI-H) biomarker.

# **R&D** Milestones

- Research published in the *Journal of Biomedical Science* demonstrated the association between IMV's proprietary immunetargeted delivery technology and enhanced efficacy in slowing tumor progression.
- New data presented at the 2018 AACR Meeting highlighted the novel MOA underscoring the Corporation's T cell-activating DPX technology and the potential for heightened anti-cancer activity of combination therapies based on IMV's proprietary delivery platform.

# **Operational Highlights:**

- Completion of two public offerings: In February 2018 and in March 2019 for a total of approximately \$43.9 million.
- Nasdaq listing and share consolidation: IMV's common shares commenced trading on the Nasdaq Stock Market LLC on June 1, 2018.
- Corporate name change: Because the MOA of DPX-based candidates signals a new class of immunotherapies that is differentiated from vaccines, IMV leadership changed the Corporation's name from Immunovaccine to IMV to better reflect the true potential of its therapeutic candidates.
- Addition of Julia P. Gregory and Dr. Markus Warmuth to the Corporation's Board of Directors: Ms. Gregory is a seasoned biotechnology executive, having served as Chief Executive Officer and of ContraFect Corporation and the immuno-oncology company Five Prime. Dr. Warmuth brings to the Board more than 20 years of drug discovery experience with a strong focus on targeted therapy and immuno-oncology programs.
- Expansion of management team: IMV named <u>Joseph Sullivan as the Corporation's first Senior Vice-President, Business Development</u>. Mr. Sullivan brings with him over 25 years of global pharmaceutical experience with Merck & Co. Inc. to IMV.
- Opening of new facility in Dartmouth, Nova Scotia: Nearly tripling the functional workspace, the new premises features upgraded facilities and equipment as well as increased laboratory size to support long-term growth.

We are still making great progress and are grateful for the continued support of our partner Merck, as well as our shareholders and our employees, and look forward to the opportunities throughout 2019, and beyond.

Frederic Ors

Chief Executive Officer

#### MANAGEMENT DISCUSSION AND ANALYSIS ("MD&A")

The following analysis provides a review of the audited annual consolidated results of operations, financial condition, and cash flows for the year ended December 31, 2018 ("Fiscal 2018"), with information compared to the year ended December 31, 2017 ("Fiscal 2017"), for IMV Inc. ("IMV" or the "Corporation"). This analysis should also be read in conjunction with the information contained in the audited consolidated financial statements and related notes for the years ended December 31, 2018 and December 31, 2017.

The Corporation prepares its audited annual consolidated financial statements in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board (IASB). Management is responsible for the preparation of the consolidated financial statements and other financial information relating to the Corporation included in this report. The Board of Directors is responsible for ensuring that management fulfills its responsibilities for financial reporting. In furtherance of the foregoing, the Board of Directors has appointed an Audit Committee comprised of independent directors. The Audit Committee meets with management and the auditors in order to discuss the results of operations and the financial condition of the Corporation prior to making recommendations and submitting the consolidated financial statements to the Board of Directors for its consideration and approval for issuance to shareholders. The information included in this MD&A is as of March 21, 2019, the date when the Board of Directors approved the Corporation's audited annual consolidated financial statements for the year ended December 31, 2018, on the recommendation of the Audit Committee.

Amounts presented in this MD&A are approximate and have been rounded to the nearest thousand except for per share data. Unless specified otherwise, all amounts are presented in Canadian dollars.

Additional information regarding the business of the Corporation, including the Annual Information Form of the Corporation for the year ended December 31, 2018 (the "AIF") and included in the Corporation's registration statement on Form 40-F filed with the U.S. Securities and Exchange Commission, is available on SEDAR at <a href="https://www.sedar.com">www.sedar.com</a> and on EDGAR at <a href

#### FORWARD-LOOKING STATEMENTS

Certain statements in this MD&A may constitute "forward-looking" statements which involve known and unknown risks, uncertainties and other factors that 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 MD&A, such statements use such words as "will", "may", "could", "intends", "potential", "plans", "believes", "expects", "projects", "estimates", "anticipates", "continue", "potential", "predicts" or "should" and other similar terminology. These statements reflect current expectations of management regarding future events and operating performance and speak only as of the date of this MD&A. Forward-looking statements include, among others:

- The Corporation's business strategy;
- Statements with respect to the sufficiency of the Corporation's financial resources to support its activities;
- Potential sources of funding;
- The Corporation's ability to obtain necessary funding on favorable terms or at all;
- The Corporation's expected expenditures and accumulated deficit level;
- The Corporation's expected outcomes from its ongoing and future research and research collaborations;
- The Corporation's exploration of opportunities to maximize shareholder value as part of the ordinary course of its business through collaborations, strategic partnerships, and other transactions with third parties;
- The Corporation's plans for the research and development of certain product candidates;
- The Corporation's strategy for protecting its intellectual property;
- The Corporation's ability to identify licensable products or research suitable for licensing and commercialization;
- The Corporation's ability to obtain licences on commercially reasonable terms;
- The Corporation's plans for generating revenue;
- The Corporation's plans for future clinical trials; and
- The Corporation's hiring and retention of skilled staff.

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 in the AIF, under the heading "Risk Factors and Uncertainties." Although the forward-looking statements

contained in this MD&A are based upon what management of the Corporation believes are reasonable assumptions, the Corporation cannot provide any assurance to investors that actual results will be consistent with these forward-looking statements and should not be unduly relied upon by investors.

Actual results, performance and achievements are likely to differ, and may differ materially, from those expressed or implied by the forward-looking statements contained in this MD&A. Such statements are based on a number of assumptions which may prove to be incorrect, including, but not limited to, assumptions about:

- Obtaining additional funding on reasonable terms when necessary;
- Positive results of pre-clinical studies and clinical trials;
- The Corporation's ability to successfully develop existing and new products;
- The Corporation's ability to hire and retain skilled staff;
- The products and technology offered by the Corporation's competitors;
- General business and economic conditions;
- The Corporation's ability to protect its intellectual property;
- The Corporation's ability to manufacture its products and to meet demand; and
- Regulatory approvals.

These statements reflect management's current views and beliefs and are based on estimates, assumptions, and information currently available to, and considered reasonable by, management. The information contained herein is dated as of March 21, 2019, the date of the Board's approval of the Fiscal 2018 audited annual consolidated financial statements and of the MD&A. For additional information on risks, uncertainties, and assumptions, including a more detailed assessment of the risks that could cause actual results to materially differ from current expectations, please refer to the AIF of IMV filed on SEDAR at <a href="www.sedar.com">www.sedar.com</a> and included in the registration statement on Form 40-F filed on EDGAR at <a href="www.sec.gov/edgar">www.sec.gov/edgar</a>.

# CORPORATE OVERVIEW

IMV is a clinical-stage biopharmaceutical company dedicated to making immunotherapy more effective, more broadly applicable, and more widely available to people facing cancer and other serious diseases. IMV is headquartered in Dartmouth, Nova Scotia and had 51 full time employees as at December 31, 2018. IMV is pioneering a new class of immunotherapies based on the Corporation's proprietary drug delivery platform ("DPX"). This patented technology leverages a novel mechanism of action ("MOA") discovered by the Corporation. This MOA does not release the active ingredients at the site of injection but forces an active uptake and delivery of active ingredients into immune cells and lymph nodes. It enables the programming of immune cells *in vivo*, which are aimed at generating powerful new synthetic therapeutic capabilities. DPX no-release MOA can be leveraged to generate "first-in-class" T cell therapies with the potential to be transformative in the treatment of cancer.

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 and antibodies); and provides long term stability as well as low cost of goods. The Corporation's first cancer immunotherapy uses survivin-based peptides licensed from Merck KGaA, on a world-wide exclusive basis, formulated in DPX ("DPX-Survivac"). DPX-Survivac leverages the MOA of DPX to generate a constant flow of T cells in the blood that are targeted against survivin expressed on cancer cells. It is comprised of five minimal MHC class I peptides to activate naïve T cells against survivin.

Survivin is a well characterized and recognized tumour associated antigen known to be expressed during fetal development and across most tumour cell types, but it is rarely present in normal non-malignant adult cells. Survivin controls key cancer processes (apoptosis, cell division, and metastasis) and has been associated with chemoresistance and cancer progression. It has been shown that survivin was expressed in all 60 different human tumour lines used in the National Cancer Institute's cancer drug screening program and documented in the literature to be overexpressed in more than 20 indications.

Foremost, the Corporation's clinical strategy is to establish monotherapy activity of DPX-Survivac in order to increase value, derisk clinical development, and to target late stage unmet medical needs for a shorter path to clinical demonstration and first regulatory approval. In addition we are evaluating DPX Survivac in combination with Merck's KEYTRUDA® checkpoint inhibitor in multiple oncology targets.

The Corporation is focusing on a fast path to market in ovarian and diffuse large B cell lymphoma ("**DLBCL**") cancers and on repeating its clinical demonstrations of activity in other indications.

DPX-Survivac is currently being tested in:

- A phase 2 clinical trial that evaluates DPX-Survivac in an open label safety and efficacy study in ovarian cancer patients with advanced platinum-sensitive and resistant ovarian cancer with sum of base line target lesions per Response Evaluation Criteria in Solid Tumours ("Recist criteria") less than five centimeters;
- Two investigator-sponsored phase 2 clinical trials in combination with the checkpoint inhibitor Keytruda® (pembrolizumab) of Merck & Co Inc. ("Merck") in patients with recurrent, platinum-resistant, and sensitive ovarian cancer and in patients with measurable or recurrent diffuse large B cell lymphoma ("DLBCL"); and
- A phase 2 basket trial in combination with Merck's Keytruda® (pembrolizumab) in patients with select advanced or recurrent solid tumours in bladder, liver (hepatocellular carcinoma), ovarian, or non-small-cell lung (NSCLC) cancers, as well as tumours shown to be positive for the microsatellite instability high (MSI-H) biomarker.

In infectious disease vaccine applications, the Corporation has completed a demonstration phase 1 clinical trial with a target against the respiratory syncytial virus ("RSV"). The Corporation also has a commercial licensing agreement with Zoetis for the development of two cattle vaccines and is also conducting several research and clinical collaborations, including a collaboration with the Dana-Farber Cancer Institute ("Dana-Farber") for Human Papillomavirus ("HPV") related cancers and with Leidos, Inc. ("Leidos") in the United States for the development of vaccine candidates for malaria and the Zika virus.

The common shares of the Corporation are listed on the Nasdaq Stock Market LLC and on the Toronto Stock Exchange under the symbol "IMV."

#### BUSINESS MODEL AND STRATEGY

IMV is dedicated to making immunotherapy more effective, more broadly applicable, and more widely available to people facing cancer. The Corporation's lead product candidate, DPX-Survivac, has demonstrated the ability to induce prolonged T cell activation leading to tumour regressions in advanced ovarian cancer and is currently being used in clinical trials as a monotherapy and in combination with Merck's KEYTRUDA® checkpoint inhibitor.

Foremost, the Corporation's clinical strategy is to establish monotherapy activity of DPX-Survivac in order to increase value, derisk clinical development, and to target late stage unmet medical needs for a shorter path to clinical demonstration and first regulatory approval and to establish strategic partnerships to support further development and commercialization. In addition, we are evaluating DPX Survivac in combination with Merck's KEYTRUDA® checkpoint inhibitor in multiple oncology targets.

The Corporation is focusing on a fast path to market in ovarian and diffuse large DLBCL cancers and on repeating its clinical demonstrations of activity in other indications.

In collaboration with commercial and academic partners, the Corporation is also expanding the application of DPX as a delivery platform for other applications. Pre-clinical and clinical studies have indicated that the platform may allow for the development of enhanced vaccines for a wide range of infectious diseases by generating a stronger and more durable immune response than is possible with existing delivery methods.

The Corporation intends to be opportunistic in the development of products by exploring a variety of avenues, including codevelopment through potential collaborations, strategic partnerships or other transactions with third parties. The Corporation may seek additional equity and non-dilutive funding and partnerships to advance the development of its product candidates.

# PLATFORM AND PRODUCTS IN DEVELOPMENT

# Delivery Platform

The DPX platform is a unique and patented formulation discovered by the Corporation that provides a new way to deliver active ingredients to the immune system using a novel MOA. This MOA does not release the active ingredients at the site of injection but forces an active uptake and delivery of active ingredients into immune cells and lymph nodes. IMV is exploiting this MOA to pioneer a new class of immunotherapies that represents a paradigm shift from current approaches. By not releasing the active ingredients at the site of injection, it bypasses the steps involved in conventional immune "native responses," such as vaccines, and enables access and programming of immune cells *in-vivo* to generate new "synthetic" therapeutic capabilities. The DPX no-release MOA can be leveraged to generate "first-in-class" T cell therapies with the potential to be transformative in the treatment of cancer.

The Corporation believes that the novel MOA of DPX makes the platform uniquely suitable for cancer immunotherapies, which are designed to target tumour cells. DPX can induce prolonged, target-specific, and polyfunctional T cell activation, which are postulated to be required for effective tumour control.

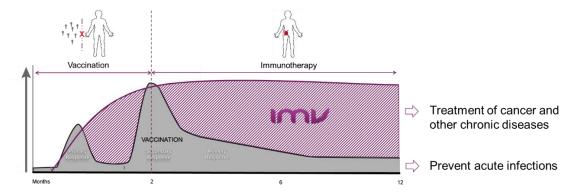


Figure 1: Illustrative representation of IMV's DPX new MOA

The DPX platform is based on active ingredients formulated in lipid nanoparticles and, after freeze drying, suspended directly into oil. DPX-based products are stored in the dry format, which provides the added benefit of an extended shelf life. The formulation is designed to be easy to re-suspend and administer to patients.

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, or antibodies); and provides long term stability as well as low cost of goods.

The DPX platform forms the basis of all of IMV's product development programs.

#### DPX-Survivac

# Product Candidate Overview

DPX-Survivac, the Corporation's first cancer immunotherapy candidate, uses survivin-based peptides licensed from Merck KGaA on a world-wide exclusive basis that are formulated in DPX. DPX-Survivac leverages the MOA of DPX to generate a constant flow of T cells in the blood that are targeted against survivin expressed on cancer cells, and it is comprised of five minimal MHC class I peptides to activate naïve T cells against survivin.

Survivin is a well characterized and recognized tumour associated antigen known to be expressed during fetal development and across most tumour cell types, but it is rarely present in normal non-malignant adult cells. Survivin controls key cancer processes (apoptosis, cell division, and metastasis) and has been associated with chemoresistance and cancer progression. It has been shown that survivin was expressed in all 60 different human tumour lines used in the National Cancer Institute's cancer drug screening program and is documented in the literature to be overexpressed in more than 20 indications.

Cancer	Survivin %
Ovarian	90
Breast	90
Melanoma	90
Lung	53
Colorectal	54
Gastric	94
Kidney	23-82
Glioblastoma	80
ALL	70
CML	70
MDS	90
DLBCL	60

Figure 2: Examples of % of patients with survivin expression in different indications

#### IMMUNO-ONCOLOGY

DPX-Survivac is being tested in 6 different cancer indications through multiple phase 2 clinical trials.

# **Ongoing Clinical Trials**

Indication	Candidate	N	Phase	Progress	Sponsor	Collaborators
Monotherapy						
Ovarian subpopulation (Treatment)	DPX-Survivac monotherapy	28	Phase 2	Ongoing	IMP™	
Combinations						
DLBCL	Combination with Keytruda®	25	Phase 2	Ongoing	Sunnybrook RESEARCH INSTITUTE	MERCK
Lung (NSCLC)	Combination with Keytruda®	43	Phase 2	Ongoing	IMV <sup>™</sup>	MERCK
Bladder	Combination with Keytruda®	35	Phase 2	Ongoing	IMV <sup>™</sup>	MERCK
МЅІ-Н	Combination with Keytruda®	41	Phase 2	Ongoing	IMV <sup>™</sup>	<b>€</b> MERCK
Liver (HCC)	Combination with Keytruda®	55	Phase 2	Ongoing	IMV <sup>™</sup>	<b>€</b> MERCK
Ovarian subpopulation	Combination with Keytruda®	58	Phase 2	Ongoing	IMV <sup>™</sup>	MERCK
Ovarian	Combination with Keytruda®	42	Phase 2	Ongoing	Princess Margaret Cancer Centre	<b>€</b> MERCK

# DPX- Survivac - Ongoing Clinical Trials

# **Monotherapy**

Ovarian subpopulation - DeCidE1 phase 2

The DeCidE1 (DPX-Survivac with low dose intermittent cyclophosphamide) phase 2 study is an open label safety and efficacy study for individuals with advanced platinum-sensitive and resistant ovarian cancer with sum of base line target lesions per Recist criteria less than five centimeters. Primary and secondary end points include:

- Safety profile;
- Objective Response Rate (ORR) and Duration of Response (DOR) using Recist 1.1 criteria;
- Induction of systemic survivin-specific T-cells in the blood; and
- Induction of T-cell infiltration into tumours.

The objective is to enroll up to 28 patients in this study.

In December, 2018, IMV met with the U.S. Food and Drug Administration (FDA) in a Type B meeting to discuss the results to date of its DeCidE1 clinical trial and continuing development plan, as well as to obtain agency guidance on a potential accelerated regulatory pathway for DPX-Survivac as a T-cell immunotherapy for the treatment of advanced ovarian cancer in patients with progressing disease.

The purpose of IMV's Type B meeting with the FDA was to request feedback on the design of the clinical program for DPX-Survivac. This program includes the continuing DeCidE1 phase 2 clinical study and a potential future registration trial for accelerated approval in a subset of ovarian cancer patients.

The FDA reviewed the Corporation's proposed clinical development plan and acknowledged the potential for accelerated approvals in advanced ovarian cancer based on objective response rate (ORR) according to Recist 1.1 criteria with reported median duration of response (DOR). In addition, the FDA provided important guidance on clinical design considerations for different lines of therapy and platinum-sensitive and resistant patient populations.

Drug	Registrational Clinical Trials	Indication	Base for approval
Olaparib (Lynparza) Approved December 2014	Single arm, open label, Phase 2 (Study 42)	Germline BRCA mutation ≥3 prior lines of chemotherapy	N=137 ORR: 34% - platinum-resistant: 30% mDoR: 7.9 mo
Rubraca (Rucaparib) Breakthrough in April 2015 Approved December 2016	Single arm, open label, Phase 2 (Study 10 and ARIEL2)	Germline and/or somatic BRCA mutation ≥2 prior lines of chemotherapy	N=106 ORR: 42% platinum-resistant: 25% mDoR: 6.7 mo-9.2 mo

Figure 3: Examples of previous US FDA accelerated approvals in ovarian cancer (source: FDA website)

In addition, IMV submitted a protocol amendment for a predictive enrichment approach to the phase 2 DeCidE1 trial, and further discussed those details with the FDA during the Type B meeting. The phase 2 primary end point, based on objective response rate (ORR) per Recist 1.1 criteria, is intended to confirm the high response rate and duration of clinical benefits observed in previously announced results in a patient population defined by a clinical biomarker based on baseline tumour burden (BTB).

The Corporation believes that there is still an urgent medical need in advanced recurrent ovarian cancer (Sources: 1. NCCN Guidelines Ovarian Cancer V2.2018; SEER Ovarian Cancer; JCO, vol 33; 32 Nov 2015, Gyn Onc 133(2014) 624-631):

- Nearly 70% of ovarian cancers are diagnosed in advanced stage;
- The overall 5-year survival rate is 46.5%, and only 29% for advanced disease;
- Most patients develop advanced, platinum-resistant, poor prognosis disease; and
- Limited options exist with current single-agents at 6-30% response rates and mPFS of 2.1 4.2 months.

The Corporation believes that it has the potential to be "best-in-class" in the competitive landscape of recurrent ovarian cancer as other immunotherapeutic treatments tested in this patient population (Incyte's epacadostat, Merck's Keytruda, and Pfizer/Merck KGaA's Bavencio) are unlikely to proceed into registration trials based on the published results available:

# **Epacadostat**

- Kristeleit et Al ,Gynecologic Oncology 2017
- No activity



- ASCO 2018
- ORR 8% longest duration of response reported in 376 patients 18.6 months

	Cohorts A + B All-comers
	n = 376
ORR % (95% CI)	8.0 (5.4 - 11.2)
DCR % (95% CI)	37.2 (32.3 - 42.3)
Best overall response	
Complete response n (%)	7 (1.9)
Partial response n (%)	23 (6.1)
Stable disease n (%)	110 (29.3)
Progressive disease n (%)	215 (57.2)
Responders (n)	30
Time to response, median months (range)	2.1 (1.8 - 12.3)
Duration of response, median months (range)	8.2 (3.3+ (18.6))



- Pfizer/Merck KGaA, Nov. 19, 2018: Avelumab Misses Primary Endpoints in Phase III Ovarian Cancer Trial – ORR 3.7%
- 556 patients with platinum-resistant or -refractory ovarian cancer - up to 3 lines of systemic therapy
- Avelumab alone or in combination with pegylated liposomal doxorubicin (PLD), a type of chemotherapy, compared with PLD did not meet the prespecified primary endpoints of overall survival (OS) or progression-free survival (PFS)
- The ORR was 13.3% (95% CI, 8.8%-19.0%) for avelumab combined with PLD, 3.7% (95% CI, 1.5%-7.5%) for single-agent avelumab, and 4.2% (95% CI, 1.8%-8.1%) for PLD alone.

Figure 4: Recurrent ovarian cancer immunotherapy competitive landscape

Multiple clinical sites are now open for enrolment in the DeCidE1 phase 2 trial. Subject to phase 2 results, IMV plans to schedule a follow-up meeting with FDA to finalize the design of a potential pivotal trial based on ORR and DOR.

IMV expects to provide a clinical update at ASCO and investigators are also planning to submit the study findings for scientific publication.

The Corporation's clinical strategy with this trial is to establish monotherapy activity in order to increase value and de-risk clinical development, and to target late stage unmet medical needs for a shorter path to clinical demonstration and first regulatory approval.

The Corporation currently anticipates that, in addition to general clinical expenses, which are distributed amongst the various clinical projects, the costs to complete this phase 2 clinical trial are estimated at \$2,500,000 of which \$1,000,000 is expected to occur in 2019.

# **Combinations**

Phase 2 clinical trial in Diffuse large B-cell lymphoma ("DLBCL") with Merck (investigator-sponsored)

This phase 2 study is a triple-combination immunotherapy in patients with measurable or recurrent diffuse large B-cell lymphoma led by Sunnybrook Research Institute. This investigator sponsored trial, announced initially in May 2017, is designed to evaluate the safety and efficacy of DPX-Survivac, Merck's pembrolizumab, and low-dose cyclophosphamide. Primary and secondary end points include:

- Safety profile; and
- ORR and DOR using Recist 1.1 criteria.

The non-randomized, open label study is expected to enroll 25 evaluable participants at five centers in Canada.

Researchers conducting the investigator sponsored study are testing the novel immunotherapy combination in patients whose DLBCL expresses survivin, a tumour antigen highly expressed in 60 percent of DLBCL patients. DPX Survivac stimulates the immune system to produce T cell responses targeting survivin.

On November 8, 2017, the Corporation announced that Health Canada had granted Sunnybrook Research Institute regulatory clearance to begin recruiting patients. On March 28, 2018, the Corporation announced that the first patient had been treated.

On September 18, 2018, IMV announced details of the initial data from this clinical trial. The preliminary data included assessments of safety and clinical activity (based on modified Cheson criteria<sup>i</sup>) for the first four evaluable patients who have completed their first CT scan after the start of treatment. The data showed that:

- Two of the first four evaluable participants showed tumour regressions at the first on-treatment CT scan:
  - o The first enrolled participant demonstrated a tumour regression of 48% at first on-treatment scan; and
  - The second participant demonstrated a partial response (PR) via a tumour regression of 66% at first on-treatment scan.
- Preliminary data from the third participant demonstrated stable disease.
- The other participant had early disease progression less than two months following treatment initiation and was discontinued from the study.
- The combination therapy appears to demonstrate an acceptable safety profile, with no serious adverse events reported to date.

The Corporation expects to disclose topline results around the end of the second quarter of 2019 once provided by the investigator. The Corporation currently anticipates that, in addition to general clinical expenses, which are distributed amongst the various clinical projects, its share of the cost to complete this study will be approximately \$1,500,000, of which \$1,000,000 is expected to be spent in 2019.

<sup>&</sup>lt;sup>i</sup> Cheson, B.D.,, Pfistner, B., Juweid, M.E., Gascoyne, R.D., Specht, L., Horning, S.J. and Diehl, V. (2007). Revised Response Criteria for Malignant Lymphoma. Journal of Clinical Oncology, 25(5) DOI: 10.1200/JCO.2006.09.2403

On September 11, 2018, the Corporation announced the expansion of its clinical program with a phase 2 basket trial in collaboration with Merck evaluating its lead candidate, DPX-Survivac, in combination with low dose cyclophosphamide, and Merck's anti-PD-1 therapy, KEYTRUDA® (pembrolizumab), in patients with select advanced or recurrent solid tumours.

The open-label, multicenter, phase 2 basket study will evaluate the safety and efficacy of the immunotherapeutic combination in patients with bladder, liver (hepatocellular carcinoma), ovarian, or non-small cell lung (NSCLC) cancers, as well as tumours shown to be positive for the microsatellite instability high (MSI-H) biomarker. Investigators plan to enroll more than 200 patients across five indications at multiple medical centers in Canada and the United States.

The American Society of Clinical Oncology (ASCO) defines a basket clinical study as a trial that investigates the effects of a drug regimen in multiple tumour types that share a common molecular target, regardless of where the disease originated.

This is the third clinical trial evaluating the combination of DPX-Survivac, low dose cyclophosphamide, and pembrolizumab in advanced recurrent cancers.

The Corporation expects to disclose preliminary data in the second half of 2019 and currently anticipates that, in addition to general clinical expenses, which are distributed amongst the various clinical projects, \$5,000,000 is estimated to be spent in 2019 with a total of \$12,600,000 for the safety lead-in for this trial.

Phase 2 clinical trial in ovarian cancer with Merck (investigator-sponsored)

In February 2017, the Corporation announced an investigator-sponsored phase 2 clinical trial in ovarian cancer in combination with Merck's checkpoint inhibitor pembrolizumab in patients with recurrent, platinum-resistant ovarian cancer. University Health Network's ("UHN") Princess Margaret Cancer Centre will conduct the phase 2 non-randomized, open-label trial designed to evaluate the potential anti-tumour activity of the combination of pembrolizumab, DPX-Survivac, and low-dose cyclophosphamide. It is expected to enroll 42 subjects with advanced epithelial ovarian, fallopian tube, or primary peritoneal cancer. The study's primary objective is to assess overall response rate. Secondary study objectives include progression free survival rate, overall survival rate, and potential side effects, over a five-year period. At this stage, the Corporation has no specific plan on the next steps after this trial as it will have to be assessed with its partner based on the clinical trial results.

The Corporation will disclose results once provided by the UHN Princess Margaret Cancer Centre and currently anticipates that, in addition to general clinical expenses, which are distributed amongst the various clinical projects, its share of the costs to complete this study, expected to be spent in 2019, are estimated at \$400,000.

# Clinical Trial Development - Completed Trials

Phase 1b Clinical trial in ovarian cancer with Incyte Corporation ("Incyte")

In June 2015, the Corporation announced it had entered into a non-exclusive clinical trial collaboration with Incyte to evaluate the combination of DPX-Survivac with Incyte's investigational oral IDO1 inhibitor epacadostat. This trial was an open-label, phase 1b study to evaluate the safety, tolerability, and efficacy of the combination in platinum resistant or sensitive ovarian cancer patients who are at high risk of recurrence. All patients enrolled in the trial had recurrent ovarian cancer with evidence of progressive disease. The investigational new drug ("IND") application for the study was approved by the FDA and Health Canada in January 2016. The study was initiated on September 8, 2016 and the Corporation announced in March 2017 the first interim data analysis from this clinical study. Based on the interim analysis, the combination therapy appears to have an acceptable safety profile with a single grade 3 and single grade 4 event reported and no SAEs. At the time of the interim analysis, three of four patients exhibited stable disease, while a fourth patient progressed and exited the trial. In addition, researchers observed increased T cell activity in tumours in three of the four patients based on RNA sequencing and indications of early tumour shrinkage in the patient who has been in trial for the longest duration thus far (based on CT scan at day 140).

In December 2017, the Corporation provided positive topline clinical data. Initial results from 10 evaluable patients in the DPX-Survivac plus-100 milligrams epacadostat dosing cohort demonstrated a disease control rate of 70 per cent, including partial responses (PR, defined as equal to 30 percent decrease in tumour lesion size) in 30 percent of the patients (three out of 10). To date, the combination also exhibited a well-tolerated safety profile, with the majority of adverse events (AEs) reported as Grade 1 and Grade 2AE.

Blood tests indicated that the majority of treated patients exhibited targeted T cell activation. Tumour biopsies and analyses thus far have supported the reported MOA of this immunotherapy combination, with DPX-Survivac triggering T cell infiltration into the tumour. This T cell activation was also correlated with tumour regression.

Investigators completed enrolment of 10 evaluable patients for the study's first dosing cohort, which consisted of 100 mg epacadostat twice daily (BID), DPX-Survivac, and low-dose cyclophosphamide.

In the first dosing cohort, investigators observed:

- A 30 percent overall response rate, with three out of 10 PRs;
- Two of the patients exhibiting PRs had completed one year of treatment with responses continuing at 12 and 14 months, respectively;
- Four patients (40 percent) had stable disease;
- Two of the patients exhibiting stable disease were still enrolled in the trial, with one of those patients showing a 21 percent tumour reduction; and
- A 70 percent disease control rate (defined as the total number of patients achieving complete response, partial response, and stable disease).

At the time of data cut-off, there were also preliminary data on the first three evaluable patients in the second dosing cohort evaluating the combination of 300 mg BID epacadostat, DPX-Survivac, and low-dose cyclophosphamide. From the first three evaluable patients, two showed stable disease, with one patient showing tumour regression of approximately 25 percent.

On April 24, 2018, the Corporation announced that it entered into an agreement with Incyte Corporation to expand the ongoing clinical trial collaboration. The Companies added a phase 2 component to their ongoing phase 1b combination study.

The phase 2 component was a randomized, open label, efficacy study that would include up to 32 additional evaluable subjects. It would evaluate DPX-Survivac and low dose cyclophosphamide with, or without, epacadostat in patients with advanced recurrent ovarian cancer. In accordance with regulatory guidelines for combination trials, the goal of this portion of the program was to evaluate the clinical contribution of each investigational drug in the combination regimen.

On November 20, 2018, the Corporation announced an amendment to its phase 1b/2 clinical trial evaluating the safety and efficacy of IMV's lead candidate, DPX-Survivac, in combination with either 100 mg or 300 mg of epacadostat in patients with recurrent ovarian cancer.

Review of new data from the phase 1b portion of that clinical trial demonstrate a high response rate and a durable clinical benefit in a subpopulation of patients with a clinical marker predictive of a response to DPX-Survivac and correlated to its novel MOA. New data include:

• Efficacy signals in the subpopulation of patients who received 100 mg dose epacadostat (n=5) included 100% tumour regressions and 100% disease control rate; and 60% of these patients (3/5) reached a best response of a partial response ("PR");

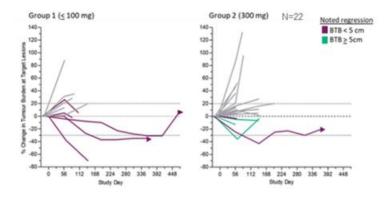


Figure 5: Phase 1b tumour regressions (ESMO-IO 2018)

Long duration of clinical benefit observed in responders that lasted beyond treatment duration (1 year), median duration of 590 days, including one patient that has passed the two-year mark without disease progression, and prolonged tumour control observed in 3 out 4 PRs in that subpopulation.

	Previous Chemotherapy treatment Best response and PFS	P1b study Best response and PFS	Improvement over previous treatment
601	PR – 4.6 months (Topotecan)	PR - 22 months	+ 17.4 months
606	CR - 15.8 months (Platinum)	PR - 25 months ongoing	+ 9.2 months ongoing
614	SD - 10 months (Platinum)	PR - 16 months ongoing	+ 6 months ongoing
611	CR – 33 months (Platinum)	PR - 5 months (non-target lesion – PI decision)	na

Figure 6: Longer progression-free Survival (PFS) than previous chemotherapy treatment (ESMO 10 2018)

- Clinical benefit correlated to DPX-Survivac's MOA and the primary endpoints of survivin specific T cells in the blood and T cell infiltration into tumours; and
- The safety profile of DPX-Survivac is consistent with the profile observed in the Corporation's previously reported studies.

Based on 300 mg cohort results, IMV and Incyte have agreed to stop dosing patients with epacadostat. IMV will continue the phase 1b/2 trial as a monotherapy study evaluating DPX-Survivac in the recurrent ovarian cancer subpopulation. IMV will inform and work with investigators to appropriately modify the study in a manner consistent with the best interests of each patient.

IMV and Incyte will continue to explore the potential of additional combination studies.

On December 13, 2018, the Corporation announced that investigators shared new positive data from the Corporation's ongoing DeCidE1 (DPX-Survivac with low dose Cyclophosphamide and Epacadostat) clinical trial at the 2018 ESMO Immuno-Oncology Congress. The phase 1b/2 study was evaluating the safety and efficacy of the combination of IMV's lead candidate DPX-Survivac, low dose cyclophosphamide, and 100 mg or 300mg of Incyte's IDO1 enzyme inhibitor epacadostat in patients with advanced recurrent ovarian cancer.

# Key findings included:

- Evidence of a clinical marker based on Baseline Tumour Burden ("BTB"), a measure of tumour size predictive of patient response to DPX-Survivac:
  - o 37.5% (12/32) of evaluable study subjects began treatment with a non-bulky disease defined as BTB < 5 cm; and
  - 73% (8/11) of tumour regressions and 80% of clinical responses (4/5) observed in subset of patients with BTB < 5 cm.</li>
- Responders showing prolonged duration of clinical benefits reaching up to more than two years, surpassing the progression-free interval from their previous chemotherapy treatment.

- Robust systemic survivin-specific T cell responses and evidence of survivin-specific T cells tumour infiltration correlated with clinical benefits:
  - o 100% of durable clinical responses correlated with T cell infiltration.
- Epacadostat triggered inhibition of the conversion of tryptophan into kynurenine that was dose dependent; and
- Cohort demographics were balanced and the combination yielded a tolerable safety profile.

At the time of data cut-off, 53 patients were enrolled in the phase 1b clinical trial, including 14 from the 100 mg epacadostat dosing cohort and 39 from 300 mg epacadostat cohort. Based on 300 mg cohort results, IMV and Incyte agreed to stop dosing patients with epacadostat before completion of the study. Patients who completed at least one CT scan, as required per the trial protocol, were evaluable for response analysis.

71% of patients were evaluable for responses in the 100 mg cohort and 56% in the 300mg dose cohort. At time of data cut-off, 8 participants remained on treatment and were being evaluated for clinical responses.

Efficacy	Total tar	get lesion s	ize < 5 cm	Total target lesion size > 5 cm		
Parameter	100 mg (N=5)	300 mg (N=7)	All (N=12) N (%)	100 mg (N=5)	300 mg (N=15)	All (N=20) N (%)
Regression	5 (100)	3 (42.9)	8 (66.7)	0 (0)	3 (20.0)	3 (15.0)
PR <sup>(1)</sup>	3 (60.0)	1 (14.3)	4 (33.3)	0 (0)	1 (6.7)	1 (5.0)
SD <sup>(2)</sup>	2 (40.0)	4 (57.1)	6 (50.0)	2 (40.0)	10 (66.7)	12 (60.0)
DCR <sup>(3)</sup>	5 (100)	5 (71.4)	10 (83.3)	2 (40.0)	11 (73.3)	13 (65.0)

<sup>(1)</sup> Partial Response (PR) is defined as ≥30% decrease in sum of target lesions (2) Stable Disease (SD) is defined as < 30% decrease and ≤ 20% increase in sum of target tumor lesions (3) Disease Control Rate (DCR) refers to the total number of partial response, and stable disease.</p>

# Orphan Drug Status and Fast Track Designation

The Corporation announced, in November 2016, that the European Medicines Agency (EMA) had granted orphan drug designation status to IMV's DPX-Survivac in ovarian cancer. In July 2015, the FDA also granted orphan drug status to DPX-Survivac for the treatment of ovarian cancer. This designation is valid for all applications of DPX-Survivac in ovarian cancer without restriction to a specific stage of disease.

IMV had previously received FDA fast track designation for DPX-Survivac. The designation is intended for patients with no measurable disease after their initial surgery and chemotherapy.

#### Other Programs

# Oncology

#### DPX-NEO

On January 17, 2019, treatment of the first patient occurred in the phase 1 trial evaluating neoepitopes formulated in the Corporation's proprietary DPX delivery platform in patients with ovarian cancer. The study is part of the Corporation's DPX-NEO program, which is a continuing collaboration between UConn Health and IMV to develop neoepitope-based anti-cancer therapies.

Investigators will assess the safety and efficacy of using patient-specific neoepitopes discovered at UConn Health and formulated in IMV's proprietary DPX-based delivery technology in women with ovarian cancer. Investigators plan to enroll up to 15 patients in the phase 1 study. UConn Health is financing the trial with IMV providing materials and advice.

The Corporation expects to disclose results when provided by UConn Health.

#### DPX-E7

On April 17, 2017, the Corporation announced that the first study participant has been treated in a phase 1b/2 clinical study evaluating an investigational cancer target for HPV (E7) formulated in DPX and in combination with low-dose cyclophosphamide in patients with incurable oropharyngeal, cervical, and anal cancers related to HPV.

Dana-Farber is leading the DPX -E7 study through a \$1.5 million research grant from Stand Up To Cancer and the Farrah Fawcett Foundation to clinically evaluate collaborative translational research that addresses critical problems in HPV-related cancers. The Dana-Farber study is a single center, open label, non-randomized clinical trial that will investigate the safety and clinical efficacy in a total of 44 treated participants. Its primary objectives are to evaluate changes in CD8+ T cells in peripheral blood and tumour tissue, and to evaluate the safety in HLA-A2 positive patients with incurable HPV-related head and neck, cervical, or anal cancers. IMV has the option to produce the DPX -E7 vaccine if it proves successful in the clinical trials.

The Corporation expects to disclose results when provided by Dana-Farber.

# Other Applications

#### Product Overview

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

# RSV

The Corporation has performed preclinical research activities for a vaccine targeting RSV, which is the second leading cause of respiratory illness in infants, the elderly, and the immunosuppressed. Currently, there is no vaccine available for this virus and IMV is seeking to develop a novel vaccine formulation to be used in elderly and healthy adults, including women of child-bearing age. IMV has in-licensed the RSV antigen exclusively from VIB VZW ("VIB"), a non-profit life sciences research institute funded by the Flemish government, to expand its pipeline of vaccine candidates. The novel RSV antigen being evaluated in DPX is based on the short hydrophobic protein present at low levels on the surface of the RSV virion. But, more importantly, it is also present on the surface of RSV-infected cells. This vaccine has a unique mechanism of action in which the resultant antibodies bind to and destroy infected cells rather than directly bind to and neutralize the free virus.

#### Phase 1 clinical trial in RSV

A phase 1 clinical study has been conducted in Canada with the Corporation's RSV vaccine candidate in healthy adults. The RSV vaccine is formulated in IMV's proprietary DPX platform and is initially being developed to protect the elderly population from infection. The phase 1 study, which was the first clinical trial of a DPX-based vaccine in an infectious disease indication, evaluated

the safety and immune response profile of the RSV vaccine candidate in 40 healthy older adult volunteers (age 50-64 years) and two dose cohorts, with 20 subjects in each cohort.

In July 2016, the Corporation announced positive interim results from this trial. Investigators analyzed the safety and immune response data of all participants up to study day 84. The safety analysis indicates that DPX-RSV was well tolerated among all study participants, with no SAEs recorded. Furthermore, immunogenicity data supported DPX-RSV's ability to generate a relevant immune response: the vaccine candidate obtained antigen-specific antibody responses in 75 percent of subjects vaccinated with the lower dose and 100 percent of those vaccinated with the higher dose.

In October 2016, the Corporation announced positive topline results from this trial. The report outlined that more than nine months after the last vaccination, 15 of 16 participants (93%) who received DPX-RSV demonstrated antigen-specific immune responses. The vaccine candidate also continued to have a positive safety profile and was well tolerated with no SAEs among all study participants.

On April 12, 2017, the Corporation announced additional positive data from an extended evaluation of patients in this trial. An amendment had been submitted to Health Canada to test subjects who received the higher dose of vaccine out to one year after the booster vaccination. In the 25µg dose cohort, which was the only dose tested out to one year, 100 percent of older adults (7/7 immune responders) vaccinated with DPX-RSV maintained the antigen-specific immune responses one year after receiving the booster dose. At one year, the antibody levels measured were still at peak with no sign of decrease.

On September 27, 2018, IMV announced results of ongoing research to further explore the novel MOA of its vaccine candidate. New data from a preclinical study highlighted the effects of two potential approaches to preventing RSV, comparing a single dose bovine version of DPX-RSV to a two-dose conventional investigational bovine RSV vaccine. Researchers found that IMV's vaccine candidate yielded strong antigen-specific immune responses and a protective effect on disease pathology. The degree of protection was comparable between the two vaccine candidates.

In this study, researchers compared the effects of both the IMV and conventional RSV vaccine approaches among bovines with known RSV infections (the bovine animal model is considered an optimal model of RSV infection). Researchers administered one dose of DPX-bRSV to one cohort; the second received two doses of a subunit RSV bovine vaccine. Researchers measured immune response with an antibody titer test and assessed disease pathology with a lung lesion score and other clinical parameters (such as body temperature changes).

They found SH antibodies in 14 of the 15 subjects that received DPX-bRSV, and the improvements observed in disease pathology were comparable between the two cohorts. These were the first bovine animal health data to directly correlate the vaccine-induced immune response against IMV's novel RSV target - the SH viral protein— with measures of disease protection.

Conventional RSV vaccine candidates target either the F or G proteins of the virus and provide protection by neutralizing the RSV virus. Clinical measures of efficacy focus on the amount of neutralizing antibodies in the bloodstream. DPX-RSV works differently; it targets the SH viral ectodomain of the RSV virus and, instead of neutralizing the virus, it enables the immune system to recognize and destroy infected cells. Because there are no neutralizing antibodies resulting from the DPX-RSV MOA, a different clinical assessment is required to determine the vaccine candidate's protective effect. IMV has exclusive worldwide licenses on applications that target the SH ectodomain antigen in RSV. The Corporation intends to explore opportunities to out-license this product to potential partners.

#### Malaria

In 2016, IMV Inc. was awarded a subcontract by Leidos, a health, national security, and infrastructure solutions Corporation, to evaluate IMV's DPX platform for the development of peptide-based malaria vaccine targets. The subcontract is funded through Leidos' prime contract from the USAID to provide vaccine evaluations in the preclinical, clinical, and field stages of malaria vaccine development. Leidos and IMV are working together to identify adjuvant and antigen combinations that can be used to protect against malaria and, with the DPX delivery system, formulate promising vaccine candidates for potential clinical testing.

In November, 2017, an expansion of this collaboration was announced. Following the achievement of several preclinical milestones in the collaboration with USAID, Leidos and USAID selected the DPX-based platform as one of the preferred formulations for

further development under a new contract extension. Under the new subcontract, the collaborators will conduct additional research that focuses on identifying the most promising target-formulation combinations.

# Zoetis Collaboration

On August 31, 2017, the Corporation announced the achievement of several milestones in its ongoing collaboration with global animal health company Zoetis to develop cattle vaccines. In recent controlled studies, the IMV formulations met efficacy and duration of immunity endpoints against two disease targets. These results will enable Zoetis to advance two IMV-formulated vaccine candidates into late-stage testing.

# Licensing Agreements

While the Corporation is focused on developing a pipeline of cancer immunotherapies, it is also pursuing opportunities to license its platform technology to other parties interested in creating enhanced vaccines on an application-by-application basis.

In April 2018, IMV signed a licensing agreement and granted SpayVac-for-Wildlife (SFW Inc.) a license to two of its proprietary delivery platforms. SFW Inc. has global exclusive rights to use both of these platforms to develop humane, immuno-contraceptive vaccines for control of overabundant, feral and invasive wildlife populations against royalties on sales.

# MARKET OVERVIEW

#### Cancer Immunotherapies

Cancer is considered one of the most widespread and prevalent diseases globally. According to Global Cancer Facts & Figures, 4th edition (released in 2018 by the American Cancer Society), it is predicted that new cancer cases will rise to 27.5 million and the number of cancer deaths to 16.3 million by 2040 simply due to the growth of the aging population. Conventional cancer treatment involves surgery to remove the tumour whenever possible, as well as chemotherapy and radiation. Chemotherapies are widely used, despite their associated toxicities, because they interfere with the ability of cancer cells to grow and spread. However, tumours often develop resistance to chemotherapies, thus limiting their efficacy in preventing tumour recurrence. Despite recent advances, independent sources note a high unmet medical need in cancer therapy, noting the median survival rate remains poor. Cancer immunotherapies, may provide new and effective treatments. According to a Market & Markets report released in January 2017, the global immunotherapy drug market is projected to reach USD\$201.52 billion by 2021 from USD\$108.41 billion in 2016, growing at a compound annual growth rate ("CAGR") of 13.5% during the forecast period of 2016 to 2021. The major players operating in the immunotherapy drug market include F. Hoffmann-La Roche AG (Switzerland), GlaxoSmithKline (U.K.), AbbVie, Inc. (U.S.), Amgen, Inc. (U.S.), Merck & Co., Inc. (U.S.), Bristol-Myers Squibb (U.S.), Novartis International AG (Switzerland), Eli Lilly and Corporation (U.S.), Johnson & Johnson (U.S.), and AstraZeneca plc (U.K.).

Cancer immunotherapy seeks to harness the immune system to assist in the destruction of tumours and to prevent their recurrence. There has been significant interest in the field of cancer immunotherapy stemming from recent clinical success in prolonging patient survival with novel compounds. The ability to apply these appropriately has resulted from a greater understanding of the immune dysfunction that is characteristic of cancer. One area in which there have been breakthroughs has been in the area of checkpoint inhibitors, which are compounds that target key regulatory molecules of the immune system. Yervoy® (anti CTLA 4, or ipilumumab, developed by Bristol Myers Squibb) was the first compound in this class to be approved for use in advanced metastatic melanoma. In cancer, these regulators (CTLA 4, PD 1 and its ligand PD L1) act to inhibit CD8 T cell-mediated anti-tumour immune responses that are crucial for tumour control. Monoclonal antibodies that target PD 1 and PD L1 have shown unusual efficacy in cancer patients, with a significant percentage of patients experiencing durable response to these therapies. Several of these compounds are in advanced clinical trials, with one compound, Merck's KEYTRUDA® (pembrolizumab), having received FDA approval in September of 2014 for advanced melanoma patients who have stopped responding to other therapies. Bristol Myers Squibb's compound nivolumab (Opdivo®) has also been approved in the United States and Japan. These therapies have recently been approved for use in other advanced cancers including bladder cancer, non-small cell lung cancer, Hodgkin's Lymphoma, squamous cell carcinoma of the head and neck and stomach cancer. In addition, KEYTRUDA® in particular has been approved for use in cancers with a specific molecular indication irrelevant of cancer type, having been approved in May for use to treat solid tumours having a biomarker for microsatellite instability (MSI-H), which is a defect in the DNA repair pathway. This represents about 5% of a number of different tumour types, including colorectal, breast, prostate, and thyroid cancers. Key opinion leaders in the field have indicated that the ideal combination, with checkpoint inhibitors, is likely to be a therapy that drives tumour specific immune responses. These include novel T cell-based therapies. These therapies fit well with checkpoint inhibition therapy because they simultaneously activate strong tumour-specific T cell activation, while also releasing the brakes on immune suppression. The

success of such combinations should allow pharmaceutical companies to significantly expand the market of their checkpoint inhibitors.

The Corporation believes that T cell therapies will become an important component of these novel combination immunotherapies, with the potential of synergistic benefits to become an essential part of a multi-pronged approach for the treatment of cancer.

# 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 relating to its platform technology includes 17 patent families, the first of which contains eight patents issued in five jurisdictions (United States, Europe, Canada, Japan, and Australia). The 16 other families collectively contain 34 patents issued in 10 jurisdictions (United States, Europe, Canada, Australia, Japan, India, Israel, Singapore, China, and, separately. Hong Kong) and 47 pending patent applications in 9 jurisdictions. Taking into account the validations of the European patents, the Corporation's intellectual property portfolio includes 87 patents. More details on the Corporation's intellectual property strategy and patents can be found in the AIF filed on SEDAR at www.sedar.com.

The Corporation owns registered trademarks in the United States, Canada, and Europe.

#### RECENT AND ANNUAL DEVELOPMENTS

Key developments and achievements

The Corporation announced:

- On March 6, 2019, that it has completed a public offering of common shares of the Corporation. An aggregate of 4,900,000 common shares was issued at a price of \$5.45 per common share, raising gross proceeds of \$26.7 million (the "March 2019 Public Offering") and on March 11, 2019, that the underwriters have partially exercised their over-allotment option to purchase additional common shares, resulting in the issuance of an additional 504,855 common shares of the Corporation at a price of C\$5.45 per share for additional gross proceeds of approximately C\$2.75 million. As a result of the exercise of this option, the Corporation has raised total gross proceeds of approximately C\$29.46 million before deducting the underwriting commissions and offering expenses. The Corporation intends to use the net proceeds of the Offering to accelerate the development of DPX-Survivac in combination with Keytruda as part of the phase 2 basket trial with Merck in patients with select advanced or recurrent solid tumours in bladder, liver (hepatocellular carcinoma), ovarian, or non-small-cell lung cancers, as well as tumours shown to be positive for the microsatellite instability high biomarker and for general corporate purposes.
- On January 30, 2019, an update on its clinical program for its lead investigational treatment, DPX-Survivac, as a potential monotherapy in advanced recurrent ovarian cancer. In December, 2018, IMV met with the U.S. Food and Drug Administration (FDA) in a Type B meeting to discuss the results to date of its DeCidE1 clinical trial and continuing development plan, as well as to obtain agency guidance on a potential accelerated regulatory pathway for DPX-Survivac as a T-cell immunotherapy for the treatment of advanced ovarian cancer in patients with progressing disease.

#### FDA meeting highlights include:

- The purpose of IMV's Type B meeting with the FDA was to request feedback on the design of the clinical program for DPX-Survivac. This program includes the continuing DeCidE1 phase 2 clinical study and a potential future registration trial for accelerated approval in a subset of ovarian cancer patients.
- The FDA reviewed the Corporation's proposed clinical development plan and acknowledged the potential for accelerated approvals in advanced ovarian cancer based on objective response rate (ORR) according to Recist 1.1 criteria with reported median duration of response (DOR). In addition, the FDA provided important guidance on clinical design considerations for different lines of therapy and platinum-sensitive and resistant patient populations.
- o In addition, IMV submitted a protocol amendment for a predictive enrichment approach to the phase 2 DeCidE1 trial, and further discussed those details with the FDA during the Type B meeting. The phase 2 primary endpoint, based on objective response rate (ORR) per Recist 1.1 criteria, is intended to confirm the high response rate and duration of clinical benefits observed in previously announced results in a patient population defined by a clinical biomarker based on baseline tumour burden (BTB).

Multiple clinical sites are now open for enrolment in the DeCidE1 phase 2 trial. Subject to phase 2 results, IMV plans to schedule a follow-up meeting with the FDA to finalize the design of a potential pivotal trial based on ORR and DOR.

On January 17, 2019, treatment of the first patient in its phase 1 trial evaluating neoepitopes formulated in the Corporation's proprietary DPX delivery platform in patients with ovarian cancer. The study is part of the Corporation's DPX-NEO program, which is a continuing collaboration between UConn Health and IMV to develop neoepitope-based anti-cancer therapies.

Investigators will assess the safety and efficacy of using patient-specific neoepitopes discovered at UConn Health and formulated in IMV's proprietary DPX-based delivery technology in women with ovarian cancer. Investigators plan to enroll up to 15 patients in the phase 1 study. UConn Health is financing the trial with IMV providing materials and counsel.

• On December 13, 2018, investigators shared new positive data from IMV Inc.'s continuing DeCidE1 (DPX-Survivac with low-dose cyclophosphamide and epacadostat) clinical trial at the 2018 ESMO Immuno-Oncology Congress. The phase 1b/2 study is evaluating the safety and efficacy of the combination of IMV's lead candidate DPX-Survivac, low-dose cyclophosphamide, and 100 milligrams or 300 mg of Incyte's IDO1 enzyme inhibitor epacadostat in patients with advanced recurrent ovarian cancer.

In a poster presentation, Dr. Oliver Dorigo, MD, PhD, associate professor of obstetrics and gynecology (oncology), Stanford University Medical Center, who served as the trial's lead investigator and author on the poster, shared topline safety results from 53 enrolled patients and efficacy data from the 32 participants evaluable for immune-related and clinical responses, as well as blood sample and tumour biopsy analyses.

### Key findings included:

- Evidence of a clinical marker based on baseline tumour burden (BTB), a measure of tumour size predictive of patient response to DPX-Survivac;
- 37.5 pe cent (12/32) of evaluable study subjects began treatment with a non-bulky disease defined as BTB under five centimeters;
- o 73 per cent (8/11) of tumour regressions and 80 percent of clinical responses (4/5) observed in subset of patients with BTB less than five centimeters;
- Responders thus far showing prolonged duration of clinical benefits reaching up to more than two years, surpassing the progression-free interval from their previous chemotherapy treatment;
- Robust systemic survivin-specific T-cell responses and evidence of survivin-specific T cells tumour infiltration correlated with clinical benefits;
- o 100 per cent of durable clinical responses correlated with T-cell infiltration;
- o Epacadostat triggered inhibition of the conversion of tryptophan into kynurenine that was dose dependent; and
- o Cohort demographics were balanced and the combination yielded a tolerable safety profile.

At the time of data cut-off, 53 patients were enrolled in the phase 1b clinical trial, including 14 from the 100 mg epacadostat dosing cohort and 39 from 300 mg epacadostat cohort. Based on 300 mg cohort results, IMV and Incyte agreed to stop dosing patients with epacadostat before completion of the study. Patients who completed at least one CT scan, as required per the trial protocol, were evaluable for response analysis.

Seventy-one percent of patients were evaluable for responses in the 100 mg cohort and 56 percent in the 300 mg dose cohort. At time of data cut-off, eight participants remained on treatment and were being evaluated for clinical responses.

Efficacy	Total tar	get lesion s	ize < 5 cm	Total target lesion size > 5 cm		
Parameter 100 mg (N=5)	300 mg (N=7)	All (N=12) N (%)	100 mg (N=5)	300 mg (N=15)	All (N=20) N (%)	
Regression	5 (100)	3 (42.9)	8 (66.7)	0 (0)	3 (20.0)	3 (15.0)
PR <sup>(1)</sup>	3 (60.0)	1 (14.3)	4 (33.3)	0 (0)	1 (6.7)	1 (5.0)
SD <sup>(2)</sup>	2 (40.0)	4 (57.1)	6 (50.0)	2 (40.0)	10 (66.7)	12 (60.0)
DCR <sup>(3)</sup>	5 (100)	5 (71.4)	10 (83.3)	2 (40.0)	11 (73.3)	13 (65.0)

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candidate, DPX-Survivac, in combination with either 100 milligrams or 300 mg of epacadostat in patients with recurrent
ovarian cancer.

Review of new data from the phase 1b portion of the clinical trial demonstrate a high response rate and a durable clinical benefit in a subpopulation of patients with a clinical marker predictive of a response to DPX-Survivac and correlated to its novel MOA. New data included:

- Efficacy signals in the subpopulation of patients who received 100 mg dose epacadostat (n = 5) included 100 percent tumour regressions and 100 percent disease control rate; and 60 percent of these patients (3/5) reached a best response of a partial response (PR);
- Long duration of clinical benefit observed in responders with a median duration of 590 days, including one patient that has passed the two-year mark without disease progression;
- o Clinical benefit correlated to DPX-Survivac's MOA and clinical study primary end points: survivin-specific T cells in the blood and T cell infiltration into tumours; and
- The safety profile of DPX-Survivac is consistent with the profile observed in the Corporation's previously reported studies.

Based on 300 mg cohort results, IMV and Incyte have agreed to stop dosing patients with epacadostat. IMV will continue the phase 1b/2 trial as a monotherapy study evaluating DPX-Survivac in the recurrent ovarian cancer subpopulation. IMV will inform and work with investigators to appropriately modify the study in a manner consistent with the best interests of each patient.

IMV and Incyte will continue to explore the potential of additional combination studies.

- On November 6, 2018, the appointment of Dr. Markus Warmuth, MD, a seasoned biopharmaceutical executive, to its board of directors. Dr. Warmuth currently serves as an entrepreneur in residence at the life science venture capital firm Third Rock Ventures. He brings more than 20 years of drug discovery experience and scientific acumen, with a strong focus on developing targeted therapy and immuno-oncology programs, to his new role on IMV's board.
- On September 27, 2018, results of ongoing research to further explore the novel MOA of its RSV vaccine candidate. New data from a preclinical study highlighted the effects of two potential approaches to preventing RSV, comparing a single dose of the bovine version of DPX-RSV to a two-dose conventional investigational bovine RSV vaccine. Researchers found that IMV's vaccine candidate yielded strong antigen-specific immune responses and a protective effect on disease pathology. The degree of protection was comparable between the two vaccine candidates.

In this study, researchers compared the effects of both the IMV and conventional RSV vaccine approaches among bovines with known RSV infections (the bovine animal model is considered an optimal model of RSV infection). Researchers administered one dose of DPX-bRSV to one cohort; the second received two doses of a subunit RSV bovine vaccine. Researchers measured immune response with an antibody titer test, and assessed disease pathology with a lung lesion score and other clinical parameters (such as body temperature changes).

They found SH antibodies in 14 of the 15 animals that received DPX-bRSV, and the improvements observed in disease pathology were comparable between the two cohorts. These were the first bovine animal health data to directly correlate the vaccine-induced immune response against IMV's novel RSV target - the SH viral protein— with measures of disease protection.

On September 18, 2018, details of the initial data from its ongoing investigator-sponsored phase 2 clinical trial in DLBCL.
 In the study, investigators are evaluating IMV's lead candidate, DPX-Survivac, in combination with low dose cyclophosphamide and Merck's checkpoint inhibitor Keytruda® (pembrolizumab), in patients with persistent or recurrent/refractory DLBCL.

The preliminary data included assessments of safety and clinical activity (based on modified Cheson criteria<sup>i</sup>) for the first four evaluable patients who have completed their first CT scan after the start of treatment. The data showed that:

- o Two of the first four evaluable participants showed tumour regressions at the first on-treatment CT scan:
  - The first enrolled participant demonstrated a tumour regression of 48% at the first on-treatment scan;
  - The second participant demonstrated a partial response (PR) via a tumour regression of 66% at the first on-treatment scan.
- o Preliminary data from the third participant demonstrated stable disease;
- The other participant had early disease progression less than two months following treatment initiation and was discontinued from the study; and
- The combination therapy appears to demonstrate an acceptable safety profile, with no serious adverse events reported to date.

<sup>1</sup> Cheson, B.D.,, Pfistner, B., Juweid, M.E., Gascoyne, R.D., Specht, L., Horning, S.J. and Diehl, V. (2007). Revised Response Criteria for Malignant Lymphoma. Journal of Clinical Oncology, 25(5) DOI: 10.1200/JCO.2006.09.2403

• On September 11, 2018, an expansion of its clinical program with a phase 2 basket trial in collaboration with Merck evaluating its lead candidate, DPX-Survivac, in combination with low-dose cyclophosphamide and Merck's anti-PD-1 therapy, Keytruda (pembrolizumab), in patients with select advanced or recurrent solid tumours across five indications.

The open-label, multicentre, phase 2 basket study will evaluate the safety and efficacy of the immunotherapeutic combination agents in patients with bladder, liver (hepatocellular carcinoma), ovarian or non-small-cell lung (NSCLC) cancers, as well as tumours shown to be positive for the microsatellite instability high (MSI-H) biomarker. Investigators plan to enroll more than 200 patients across five indications at multiple medical centres in Canada and the United States.

On August 9, 2018, IMV reached two important milestones in its continuing clinical trial collaboration with Incyte Corp.
Investigators completed enrolment for both phase 1b dosing cohorts and treated the first patient in the phase 2 component
of the combination trial, which was evaluating the safety and efficacy of IMV's lead candidate, DPX-Survivac, and lowdose cyclophosphamide with (and without) epacadostat in patients with advanced ovarian cancer.

Investigators completed enrolment in the phase 1b cohorts of the study, with a total of 50 patients across the two dosing groups. The phase 1b study focused on evaluating the safety and efficacy of combining DPX-Survivac, 100 milligrams or 300 milligrams of epacadostat, and low-dose cyclophosphamide in individuals with advanced, platinum-sensitive and resistant ovarian cancer.

- On June 7, 2018, that Julia P. Gregory joined the Corporation's Board of Directors. Ms. Gregory is a seasoned biotechnology executive with Chief Executive Officer, Chief Financial Officer, board, and investment banking experience. She recently served as Chief Executive Officer and board member of ContraFect Corporation, a public biotechnology Corporation developing innovative anti-infectives. She also served as the Chief Executive Officer and board member of the immuno-oncology Corporation Five Prime Therapeutics.
- On June 3, 2018, that investigators shared new positive data in an oral presentation for its DeCidE1 (DPX-Survivac with low dose Cyclophosphamide and Epacadostat) clinical study at the 2018 American Society for Clinical Oncology (ASCO) annual meeting. This data from the ongoing phase 1b/2 trial evaluated the safety and efficacy of the combination of IMV's lead candidate, DPX-Survivac, and low dose cyclophosphamide, with Incyte's IDO1 enzyme inhibitor epacadostat, in patients with advanced recurrent ovarian cancer.

At the time of data cut-off, 39 patients were enrolled (including 25 new participants in the 300mg cohort with 8 evaluable from day 56 first CT scan). Data from the first 18 evaluable patients across both dosing cohorts showed:

- 7 tumour regressions, including 4 Partial Responses (PR) reported so far (PR, defined as ≥30% decrease in tumour lesion size); and
- Study participants were generally tolerating treatments well, with no related SAEs reported.

Data from the first 8 evaluable participants in the 300mg epacadostat dosing cohort at first CT scan included:

- 6 patients demonstrated stable disease (SD) at day 56, with 4 of these SDs still on trial at data cut-off; and
- 2 patients with tumour regressions observed so far, including one PR with a tumour regression ongoing for more than 9 months.

Researchers also analyzed patient data to study the combination's MOA. They examined blood samples and tumour biopsies for the 10 evaluable patients treated in the first dosing cohort. This data showed:

- Survivin-specific T cell responses detected in 100% (10/10) of patients;
- Increase in T cell infiltration post treatment in 37% (3/8) of the analyzable tumour biopsies based on two complementary testing methodologies (RNA sequencing and immunohistochemistry);
- 2 of the 3 patients with T cell infiltration showed PRs with significant and durable tumour regressions lasting more than one year; and
- The third patient with T cell infiltration exhibited Progressive Disease (PD) with evidence of down regulation of
  the major histocompatibility (MHC) presentation pathway and significant increases in suppressive markers, both
  indicative of mechanisms of resistance.
- On May 31, 2018, that its common shares have been approved for listing on the Nasdaq under the symbol "IMV." Trading commenced on, June 1, 2018 and the common shares concurrently ceased to be traded on OTCQX. The Corporation retained its listing on the Toronto Stock Exchange under the symbol "IMV."
- On May 3, 2018, that it applied to list its common shares on the Nasdaq Stock Market LLC ("Nasdaq"). In connection with the planned U.S. listing, and as previously authorized by its shareholders at more than 99%, the Corporation implemented a consolidation of its outstanding common shares, and changed the Corporation name to IMV Inc.

The consolidation was done on the basis of one new common share for every 3.2 outstanding common shares. The consolidation took effect on May 2, 2018, and the Corporation's common shares commenced trading on the Toronto Stock Exchange under the name IMV Inc. on a post-consolidation basis on May 10, 2018. There were 137,383,353 common shares issued and outstanding before the consolidation, and it was expected that there will be 42,932,315 common shares issued and outstanding following the consolidation, subject to rounding for any fractional shares. No fractional shares were issued as a result of the share consolidation. Fractional interests of 0.5 or greater were rounded up to the nearest whole number of shares and fractional interests of less than 0.5 were rounded down to the nearest whole number of common shares.

Concurrently with the consolidation and as previously authorized by its shareholders, the Corporation changed its name from "Immunovaccine Inc." to "IMV Inc." This change has been implemented in an effort to ensure that its corporate denomination does not convey any ambiguities as to the nature of the activities and technologies of the Corporation, which are not limited to vaccines.

• On April 24, 2018, that it entered into an agreement with Incyte Corporation to expand their ongoing clinical trial collaboration. The Companies planned to add a phase 2 component to their ongoing phase 1b combination study evaluating the safety and efficacy of IMV's lead candidate, DPX-Survivac, in combination with Incyte's IDO1 enzyme inhibitor epacadostat, and low dose cyclophosphamide in advanced ovarian cancer patients.

The phase 2 component is a randomized, open label, efficacy study that would include up to 32 additional evaluable subjects. It aimed to evaluate DPX-Survivac and low dose cyclophosphamide with, or without, epacadostat in patients with advanced recurrent ovarian cancer. In accordance with regulatory guidelines for combination trials, the goal of this portion of the program would be to evaluate the clinical contribution of each investigational drug in the combination regimen.

 On April 16, 2018, the presentation of new research on its T cell activating platform at the American Association for Cancer Research (AACR) annual meeting 2018. In collaboration with Incyte Corp., researchers presented a poster supporting the enhanced anti-cancer immune responses from the combination of IMV's proprietary T cell activating technology and Incyte's IDO1 inhibitor program. A second poster analyzed the novel capability, as compared with other formulation technologies, of IMV's delivery technology to combine a large range of anti-cancer peptides into a single formulation.

In the poster titled, "Combination of a T cell activating immunotherapy with immune modulators alters the tumour microenvironment and promotes more effective tumour control in preclinical models," researchers presented new preclinical analysis on the combination of IMV's DPX-based therapies, Incyte's epacadostat and low-dose cyclophosphamide in tumour models. As part of the analysis, researchers also examined the potential for heightened tumour response from T cell infiltration in the tumour microenvironment. The study indicated that the triple combination immunotherapy demonstrated a significant delay in tumour progression. Analysis of the T cells suggested that other immune modulating therapies, such as checkpoint inhibitors, could additionally enhance tumour control.

Related to IMV's neoepitope program, researchers presented the poster, "A novel delivery platform containing up to 25 neoantigens can induce robust immune responses in a single formulation." This study investigated the effects on immune response when formulating a broad range of peptides across multiple delivery technologies, including the Corporation's proprietary formulation. The study indicated that IMV's novel technology could incorporate at least 25 neoantigens into a single formulation, which generated strong CD8 and T cell responses, in excess of those induced by other formulations.

- On March 28, 2018, that the first patient was treated in IMV Inc.'s phase 2 study combining DPX-Survivac with low-dose cyclophosphamide administered with pembrolizumab in patients with persistent or recurrent/refractory DLBCL.
- On February 15, 2018, that it has closed the previously announced bought deal public offering (the "February 2018 Public Offering") of common shares of the Corporation (the "Common Shares"), including exercise of the over-allotment option in full, raising gross proceeds of \$14.375 million.
- On January 31, 2018, the publication of a preclinical study using magnetic resource imaging ("MRI") to follow cancer peptide uptake in tumour models, and to correlate this immune activation to the resulting anti-cancer T cell activity. The *Journal of Biomedical Science* study, titled "Unique Depot Formed by an Oil Based Vaccine Facilitates Active Antigen Uptake and Provides Effective Tumour Control," compared the MOA of IMV's platform for immunotherapeutic stimulation with other technologies.<sup>4</sup>

In the study, published on January 27, 2018, researchers tracked how the cancer peptides were trafficked from the injection site to immunogenic activation in the lymph nodes. Researchers correlated this to both activation of T cells and the ensuing efficacy to control tumour progression. They concluded that IMV's delivery technology had a fundamentally unique MOA. This MOA enabled active and prolonged immune stimulation, as well as better tumour control, as compared to other technologies examined in the study.

• On January 18, 2018, the appointment of Joseph Sullivan to the newly created role of Senior Vice President, Business Development, effective January 22, 2018. Mr. Sullivan would be responsible for providing strategic and operational leadership for the Corporation's business development efforts. This includes expanding late-stage candidate development and preparation for commercialization, as well as forging strategic commercial partnerships to support further advancement of the Corporation's clinical assets and platform.

# SELECTED FINANCIAL INFORMATION

	Year ended December 31, 2018 \$		Year ended December 31, 2016 \$
Net loss and comprehensive loss for the period	21,935,000	12,027,000	8,896,000
Basic and diluted loss per share	0.50	0.31	0.28

<sup>&</sup>lt;sup>4</sup> Published online, January 27, 2018. DOI: 10.1186/s12929-018-0413-9

	As at December 31, 2018	As at December 31, 2017 \$	As at December 31, 2016
Cash and cash equivalents	14,895,000	14,909,000	13,547,000
Total assets	22,925,000	17,032,000	15,101,000
Long term debt	8,069,000	6,476,000	6,090,000

# RESULTS FOR THE YEAR ENDED DECEMBER 31, 2018, COMPARED TO THE YEAR ENDED DECEMBER 31, 2017

	Year ended December 31, 2018	Year ended December 31, 2017 \$
Revenue	(483,000)	(222,000)
Research and development	12,852,000	5,938,000
General and administrative	7,241,000	5,202,000
Government assistance	(1,062,000)	(1,078,000)
Business development and investor relations	2,002,000	1,221,000
Accreted interest	1,385,000	966,000
Net loss and comprehensive loss for the period	21,935,000	12,027,000

#### Revenue

Revenue increased by \$261,000 in 2018 in comparison with 2017. Interest revenue increased by \$212,000 in 2018 which is attributed to higher cash balances since the beginning of 2018. The remainder of the increase since the beginning of 2018, is attributable to an increase in subcontract revenue.

# **Operating expenses**

Overall operating expenses increased by \$10,169,000 to \$22,418,000 during Fiscal 2018 compared to Fiscal 2017. Explanations of the nature of costs incurred, along with explanations for those changes in costs are discussed below:

# Research and development expenses

R&D expenses include salaries and benefits, expenses associated with the phase 1b and phase 2 clinical trials of DPX-Survivac, clinical research and manufacturing of DPX-RSV and DPX-Survivac, consulting fees paid to various independent contractors with specific expertise required by the Corporation, the cost of animal care facilities, laboratory supplies, peptides and other chemicals, rental of laboratory facilities, insurance, as well as other R&D related expenses.

The Corporation's R&D efforts and related expenses for included costs surrounding the Corporation's clinical trials of DPX-Survivac, namely the phase 1b/2 clinical trial collaboration with Incyte in ovarian cancer, phase 2 clinical trial collaboration with Merck in ovarian cancer, phase 2 clinical trial collaboration with Merck in DLBCL, basket trial start up costs and costs related to the Corporation's ongoing R&D activities associated with the investigation, and analysis and evaluation of other potential product candidates and technologies.

Research and development expenses consist of the following:

	Year Ended December 31, 2018	Year Ended December 31, 2017 \$
General R&D expenses	2,230,000	1,070,000
DPX-Survivac preclinical and clinical expenses	6,769,000	2,312,000
Salaries and benefits	3,340,000	2,255,000
Stock-based compensation	399,000	185,000
Depreciation of equipment and amortization of intangible	114,000	83,000
Total	12,852,000	5,938,000

The increase in general R&D expenses from \$1,060,000 in 2017 to \$2,230,000 in 2018 is mainly attributable to a \$356,000 increase in regulatory consulting, a \$349,000 increase in services and consulting, a \$215,000 increase in raw materials and supplies, a \$147,000 increase in R&D travel, and a \$30,000 increase in professional development.

The increase of \$4,457,000 in 2018 in DPX-Survivac preclinical and clinical expenses is mainly attributable to increased clinical activity including: higher enrollment in the phase 1b/2 Incyte trial in ovarian cancer compared with 2017(\$627,000 increase); milestone payments for phase 2 study in DLBCL (\$605,000 increase); and expenses related to the initiation of the basket trial (\$1,800,000 increase). The increase is also attributable to manufacturing activities to support the increased clinical activity including purchasing of raw materials and contract manufacturing organization costs (\$1,500,000 increase).

The increase in R&D salaries in 2018 is mainly attributable to the hiring of eleven new R&D positions (two at a Director level).

General and administrative expenses

G&A expenses consist of the following:

	Year Ended December 31, 2018	Year Ended December 31, 2017 \$
General and administrative expenses, excluding salaries	4,055,000	2,159,000
Salaries and benefits	1,865,000	1,453,000
Stock-based and deferred share unit compensation	1,110,000	1,533,000
Depreciation of furniture, leaseholds and equipment	211,000	57,000
Total	7,241,000	5,202,000

For Fiscal 2018, G&A expenses, excluding salaries, increased by \$1,896,000. This is mainly explained by the various non-recurring expenses of \$477,000 related to the Nasdaq listing and \$142,000 attributable to the relocation to a new facility. The increase is also attributable to an increase in general corporate legal expenses of \$90,000 as a result of the share consolidation, filing of a shelf prospectus and increased US counsel involvement following the NASDAQ listing; an increase of \$379,000 in insurance premium following the NASDAQ listing; increase in consulting and professional fees of \$134,000 related mainly to benchmarking and recruiting; an increase of \$171,000 in rent, lease interest accretion and utilities related to the new facility; an increase of \$149,000 in foreign exchange loss; an increase of \$108,000 in regulatory fees; a \$71,000 increase in the use of various subscription services; a \$68,000 increase in travel due to hiring additional remote employees; and a \$42,000 increase in Directors fees following the NASDAQ listing.

Salaries and benefits increased by \$412,000 in 2018 due to an overall increase in compensation for the senior executive team and the hiring of three new G&A positions.

The decrease in stock-based and deferred share unit compensation in 2018 is explained by a decrease in the fair value of DSUs compared with 2017 and two redemptions of DSUs, partly offset by an increase of \$216,000 in stock-based compensation.

#### Government assistance

Government assistance consists of the following:

	Year Ended December 31, 2018	December 31,
Investment tax credits ("ITC")	1,027,000	537,000
Government loans and assistance	35,000	542,000
Total	1,062,000	1,079,000

The increase in investment tax credit in 2018 is explained by the increase in R&D salaries and raw materials as well as increased clinical trial activity being performed in Canada. The decrease in government loans and assistance is explained by a \$507,000 revaluation of the low-interest bearing government loan from the Province of Nova Scotia upon the receipt of the two-year extension in Q3 2017.

Business development and investor relations expenses

The Corporation's business development and investor relations activities increased by \$781,000 during 2018 to a total of \$2,002,000. This variation is mainly explained by a \$461,000 and \$180,000 increase in salary and benefits and stock-based compensation, respectively, relating to the hiring of a Senior Vice President, Business Development in January 2018 and a Senior Director of Investor Relations and Communications in November 2018.

# Accreted Interest

Accreted interest relates entirely to the valuation of low-interest bearing government loans which are repayable based on a percentage of future gross revenue and is comparable to 2018.

# Net loss and comprehensive loss

The net loss and comprehensive loss was \$21,935,000 or \$0.50 per basic and diluted share compared to \$12,027,000 or \$0.31 per basic and diluted share for the year ended December 31, 2017.

# CASH FLOWS, LIQUIDITY AND CAPITAL RESOURCES

At December 31, 2018, the Corporation had cash and cash equivalents of \$14,895,000 and working capital of \$12,247,000, compared to \$14,909,000 and \$13,627,000, respectively as at December 31, 2017.

Since the Corporation's inception, operations have been financed through the issuance of equity securities, debt, revenue from licenses, cost recoveries from collaborations, interest income on funds available for investment, government assistance and tax credits.

During 2018, \$17,177,000 was used in operating activities. This included the reported net loss of \$21,935,000 prior to being decreased for non-cash expenses including DSU compensation, depreciation, accretion of long-term debt and lease obligations, loss on disposal of assets and stock-based compensation. The Corporation had a net increase of cash of \$1,256,000 as a result of changes in working capital balances.

Sources of cash included: \$14,375,000 raised through financing activities less cash issuance costs of \$1,148,000; and \$5,280,000 through the exercise of stock options and warrants. The Corporation received \$896,000 in incentive contributions from its lessor and borrowed \$300,000 from its lessor to fund leasehold improvements at the new facility in Dartmouth. The Corporation used \$146,000 to repay long-term debt and lease obligations during the period and \$223,000 to pay taxes related to DSU redemptions.

During the year ended December 31, 2018, the Corporation purchased equipment and leasehold improvements for ongoing research and operating activities for an aggregate amount of \$2,185,000. The Corporation raised \$14,000 in proceeds from the sale of used furniture and equipment at its former Halifax facility.

The Corporation aims to maintain adequate cash and cash resources to support planned activities which include: the phase 1b/2 combination trial with DPX-Survivac; the two phase 2 investigator-sponsored combination trials with DPX-Survivac and Merck's checkpoint inhibitor, pembrolizumab in ovarian cancer and DLBCL; the basket trial in 5 indications with DPX-Survivac and Merck's checkpoint inhibitor, pembrolizumab; and other research and development activities, business development efforts, administration costs, and intellectual property maintenance and expansion.

At December 31, 2018, the Corporation had approximately \$17.3 million of existing and identified potential sources of cash including:

- cash and equivalents of \$14.9 million; and
- amounts receivable and investment tax credits receivable of \$2.4 million.

For the year ended December 31, 2018, the Corporation's "cash burn rate" (defined as net loss for the period adjusted for operations not involving cash - interest on lease obligation, depreciation, accretion of long-term debt, stock-based compensation and DSU compensation) was \$18.4 million. Based on the current business plan and depending on the timing of certain clinical expenses, the Corporation forecasts the cash burn rate to be between \$5 million to \$6 million per quarter for 2019, as it continues to execute its clinical plan.

It is common for early-stage biotechnology companies to require additional funding to further develop product-candidates until successful commercialization of at least one product candidate. IMV's product candidates are still in the early-development stage of the product cycle and therefore are not generating revenue to fund operations. The Corporation continuously monitors its liquidity position, the status of its development programs including those of its partners, cash forecasts for completing various stages of development, the potential to license or co-develop each vaccine candidate, and continues to actively pursue alternatives to raise capital, including the sale of its equity securities, debt and non-dilutive funding.

Management believes that its cash resources of \$14.9 million, its additional potential cash resources of \$2.4 million as at December 31, 2018 and the cash resources coming from the \$29.6 million financing completed in March 2019 will be sufficient to fund operations for the next twelve months while maintaining adequate working capital well into 2020. The Corporation continually reassesses the adequacy of its cash resources, evaluating existing clinical trials, research projects and/or potential collaboration opportunities, to determine when and how much additional funding is required.

# JUNE 2017 EQUITY OFFERING AND USE OF PROCEEDS

On June 21, 2017, the Corporation completed a public offering, issuing 7,692,308 common shares common shares pre-consolidation (2,403,846 post-consolidation) at a price of \$1.30 per share pre-consolidation (\$4.16 post-consolidation) for aggregate proceeds of \$10,000,000. The Corporation intends to use the net proceeds of this offering for the research and development and clinical advancement of its cancer and infectious disease vaccine candidates and for working capital and general corporate purposes. The table below provides the amount used to date and any variances (except for working capital and general corporate purposes).

Intended Use of Proceeds	Estimated amount \$	Amount to date \$	Variances
phase 2 clinical trial in DLBCL with Merck	2,400,000	1,122,000	No variances anticipated
phase 1 clinical trial for multiple indications	4,200,000	1,800,000	No variances anticipated

# FEBRUARY 2018 EQUITY OFFERING AND USE OF PROCEEDS

On February 15, 2018, the Corporation completed a public offering, issuing 7,187,500 common shares pre-consolidation (2,246,094 post-consolidation) at a price of \$2.00 per share pre-consolidation (\$6.40 post-consolidation) for aggregate proceeds of \$14,375,000. The Corporation intends to use the net proceeds of this offering to continue to advance the Corporation's pipeline and conduct a phase 1 basket trial in up to five indications to be identified, for research and development, working capital, and for general corporate

purposes. The table below provides the amount used to date and any variances (except for working capital and general corporate purposes).

Intended Use of Proceeds	Estimated amount \$	Amount to date \$	Variances
Clinical trials in 2019	4,800,000	Nil	No variances anticipated
Research & development in 2019	5,300,000	Nil	No variances anticipated

# SUMMARY OF QUARTERLY RESULTS

The following consolidated quarterly data was drawn from the audited annual consolidated financial statements and the unaudited interim condensed consolidated financial statements. All values discussed below are rounded to the nearest thousand. The information is reported on an IFRS basis.

Quarter Ended In	Total Revenue \$	Total Expenses \$	Loss \$	Basic and Diluted Loss Per Share \$
Q4 - December 31, 2018	133,000	7,818,000	(7,685,000)	(0.17)
<i>Q3</i> - September 30, 2018	125,000	6,112,000	(5,987,000)	(0.14)
<i>Q2</i> – June 30, 2018	129,000	5,325,000	(5,196,000)	(0.12)
<i>Q1</i> – March 31, 2018	96,000	3,163,000	(3,067,000)	(0.07)
Q4 - December 31, 2017	66,000	4,997,000	(4,931,000)	(0.13)
<i>Q3</i> - September 30, 2017	53,000	2,175,000	(2,122,000)	(0.06)
<i>Q2</i> – June 30, 2017	36,000	2,641,000	(2,605,000)	(0.06)
<i>Q1</i> – March 31, 2017	34,000	2,403,000	(2,369,000)	(0.06)

Revenues from quarter to quarter may vary significantly. Revenues are non-recurring by nature and are generated by license agreements as well as contract research agreements. It is also important to note that historical patterns of expenses cannot be taken as an indication of future expenses. The amount and timing of expenses and availability of capital resources vary substantially from quarter to quarter, depending on the level of R&D activities being undertaken at any time and the availability of funding from investors or collaboration partners.

Results for the three months ended December 31, 2018 ("Q4 Fiscal 2018"), compared to the three months ended December 31, 2017 ("Q4 Fiscal 2017").

	Q4 Fiscal 2018	Q4 Fiscal 2017
	\$	\$
Revenue	(133,000)	(75,000)
Research and development	4,471,000	2,305,000
General and administrative	2,347,000	2,370,000
Government assistance	(194,000)	(75,000)
Business development and investor relations	614,000	259,000
Accreted interest	580,000	147,000
Net loss and comprehensive loss for the period	7,685,000	4,931,000

# Revenue

Revenue is composed of interest revenue and subcontract revenue and is comparable with 2017.

# **Operating expenses**

Overall operating expenses increased by \$2,812,000 (56%) to \$7,818,000 during Q4 Fiscal 2018 compared to Q4 Fiscal 2017. Explanations for these changes in costs are discussed below:

### R&D expenses

The Corporation's R&D efforts and related expenses for Q4 Fiscal 2018 included costs surrounding the Corporation's clinical trials of DPX-Survivac, namely the phase 1b/2 clinical trial collaboration with Incyte in ovarian cancer, phase 2 clinical trial collaboration with Merck in ovarian cancer, phase 2 clinical trial collaboration with Merck in DLBCL, basket trial start-up costs and costs related to the Corporation's ongoing R&D activities associated with the investigation, and analysis and evaluation of other potential product candidates and technologies.

Research and development expenses consist of the following:

	Q4 Fiscal 2018	Q4 Fiscal 2017
	\$	\$
General research and development expenses	616,000	327,000
DPX-Survivac preclinical and clinical expenses	2,602,000	1,124,000
Salaries and benefits	1,110,000	795,000
Stock-based compensation	108,000	23,000
Depreciation of equipment and amortization of intangible	35,000	27,000
Total	4,471,000	2,296,000

The increase in general R&D expenses from \$327,000 in Q4 Fiscal 2017 to \$616,000 in Q4 Fiscal 2017 is attributable mainly to a \$175,000 increase in raw materials and supplies as well as a \$130,000 increase in regulatory consulting.

The increase of \$1,478,000 in DPX-Survivac preclinical and clinical expenses in Q4 Fiscal 2018 is mainly related to \$1,169,000 of expenditures incurred to initiate the basket trial and a \$365,000 increase in DPX-Survivac manufacturing activities compared with Q4 Fiscal 2017.

The increase in R&D salaries of \$315,000 in Q4 Fiscal 2018 is attributable to a \$175,000 increase in raw materials and supplies and a \$130,000 increase in regulatory consulting.

General and administrative expenses

G&A expenses consist of the following:

	Q4 Fiscal 2018	Q4 Fiscal 2017
	\$	\$
General and administrative expenses, excluding salaries	1,275,000	959,000
Salaries and benefits	701,000	609,000
Stock-based compensation	287,000	782,000
Depreciation of equipment	84,000	20,000
Total	2,347,000	2,370,000

G&A expenses, excluding salaries, increased by \$316,000 in Q4 Fiscal 2018 mainly due to a \$158,000 increase in insurance premiums following the NASDAQ listing, a \$144,000 increase in foreign exchange loss, a \$78,000 increase in rent and utilities following the relocation to the new Dartmouth facility, a \$55,000 increase in IT and subscription services, and a \$38,000 increase in Directors fees offset by a \$159,000 decrease in legal fees compared to Q4 Fiscal 2017.

Salaries and benefits increased by \$92,000 in Q4 Fiscal 2018 due to new positions created in 2018 as well as an overall increase in compensation for the senior executive team compared with the prior year.

The decrease in stock-based compensation in Q4 Fiscal 2018 is mainly attributable to a decrease in the value of DSUs. An amount of \$148,000 (2017 - \$89,000) represents the value of the DSUs issued during the three months ended December 31, 2018 as part of the compensation for the non-executive members of the Board of Directors, and the remaining decrease represents the variation in fair value of outstanding DSUs (including a redemption of DSUs) during Q4 Fiscal 2018, partly offset by a \$156,000 increase in stock-based compensation.

The increase in depreciation in Q4 Fiscal 2018 is attributable to new furniture, leasehold improvements and equipment following the relocation as well as depreciation of leased assets following the transition to IFRS 16.

# Government assistance

Government assistance consists of the following:

	Q4 Fiscal 2018	Q4 Fiscal 2017
	\$	\$
Investment tax credits ("ITC")	(191,000)	(65,000)
Government loans and assistance	(3,000)	(10,000)
Total	(194,900)	(75,000)

The increase in investment tax credit in Q4 2018 is explained by the increase in R&D salaries as well as increased clinical trial activity being performed in Canada.

Business development and investor relations expenses

The Corporation's business development and investor relations activities increased in Q4 Fiscal 2018 by \$355,000, compared to Q4 Fiscal 2017, to a total of \$614,000. This variation is mainly explained by a \$184,000 and \$54,000 increase in salary and benefits and stock-based compensation, respectively, relating to the hiring of a Senior Vice President, Business Development in January 2018 and a Senior Director of Investor Relations and Communications in November 2018. The remainder of the increase is attributable to higher investor relations travel and activities during Q4 2018 compared with Q4 2017.

#### Accreted Interest

Accreted interest relates entirely to the valuation of low-interest bearing government loans which are repayable based on a percentage of future gross revenue. The decrease is a result of a change in assumptions about the expected timing and amount of future cash flows.

# Net loss and comprehensive loss

The net loss and comprehensive loss was \$7,685,000 or \$0.17 per basic and diluted share for Q4 Fiscal 2018, which is \$2,763,000 higher than the net loss and comprehensive loss of \$4,922,000 or \$0.13 per basic and diluted share for Q4 Fiscal 2017.

#### **OUTLOOK FOR 2019**

The Corporation has many clinical studies ongoing and expects the following timing to disclose results for the following studies:

Milestones	Projected dates
Phase 2 monotherapy results in Ovarian - ASCO	June 2019
Phase 1/1b monotherapy long term follow-up - ASCO	June 2019
Phase 2 clinical results with Merck Keytruda in DLBCL - ICML	June 2019
Preliminary clinical results Basket trial in 5 indications	H2 2019
Potential registration trial in Ovarian and/or DLBCL for FDA accelerated/breakthrough designation	H2 2019

The exact timing of disclosure of the above results could differ from our expectations but are currently management's best estimate.

### CONTRACTUAL OBLIGATIONS

The following table outlines the contractual maturities for long-term debt repayable over the next five years and thereafter:

Contractual	Payments Due by Period				
Obligations	Total	Less than 1	1 - 3 years	4 - 5 years	After 5
		year			years
Accounts payable and accrued liabilities	7,575,000	7,575,000	-	-	-
Amounts due to directors	49,000	49,000	-	-	-
Short term and low value leases	66,000	18,000	27,000	21,000	-
Long-term leases	2,398,000	275,000	533,000	518,000	1,072,000
Long-term debt	15,612,000	264,000	5,324,000	142,000	9,882,000
TOTAL	25,700,000	8,181,000	5,884,000	681,000	10,954,000

#### OFF-BALANCE SHEET ARRANGEMENTS

The Corporation was not party to any off-balance sheet arrangements as of December 31, 2018.

# **OUTSTANDING SECURITIES**

As of March 21, 2019, the number of issued and outstanding common shares was 50,594,260 and a total of 2,008,057 stock options, warrants, and deferred share units were outstanding.

# SUBSEQUENT EVENT TO DECEMBER 31, 2018 (As described in Note 23 of the financial statements)

On March 6, 2019, the Corporation completed the March 2019 Public Offering, issuing an aggregate of 4,900,000 common shares were issued at a price of \$5.45 per common share, raising gross proceeds of \$26.7 million and on March 11, 2019, announced that the underwriters partially exercised their option to purchase additional common shares, resulting in the issuance of an additional 504,855 common shares of the Corporation at a price of \$5.45 per share for additional gross proceeds of approximately \$2.75 million. As a result of the exercise of this option, the Corporation has raised total gross proceeds of approximately \$29.46 million before deducting the underwriting commissions and offering expenses. The Corporation intends to use the net proceeds of the Offering to accelerate the development of DPX-Survivac in combination with Keytruda as part of the basket trial in patients with select advanced or recurrent solid tumours in bladder, liver (hepatocellular carcinoma), ovarian or non-small-cell lung cancers, as well as tumours shown to be positive for the microsatellite instability high biomarker and for general corporate purposes.

# RISKS AND UNCERTAINTIES

The Corporation is a clinical-stage company that operates in an industry that is dependent on a number of factors that include the capacity to raise additional capital on reasonable terms, obtain positive results of clinical trials - including clinical trials on DPX-Survivac, obtain positive results of clinical trials without serious adverse or inappropriate side effects, and obtain market acceptance of its product by physicians, patients, healthcare payers and others in the medical community for commercial success, etc. An investment in the Corporation's common shares is subject to a number of risks and uncertainties. An investor should carefully consider the risks described in the Corporation's AIF and the registration statement on Form 40-F filed with the U.S. Securities and Exchange Commission, as well as the other information filed with the securities regulators before investing in the Corporation's common shares. If any of the such described risks occur, or if others occur, the Corporation's business, operating results and financial condition could be seriously harmed and investors may lose a significant proportion of their investment.

There are important risks which management believes could impact the Corporation's business. For information on risks and uncertainties, please also refer to the "Risk Factors" section of our most recent AIF filed on SEDAR at <a href="www.sedar.com">www.sedar.com</a> and included in the registration statement on Form 40-F filed on EDGAR at <a href="www.sec.gov/edgar">www.sec.gov/edgar</a>.

#### DISCLOSURE CONTROLS AND PROCEDURES AND INTERNAL CONTROLS OVER FINANCIAL REPORTING

#### Disclosure Controls and Procedures

The Chief Executive Officer (the "CEO") and the Chief Financial Officer (the "CFO") of the Corporation are responsible for establishing and maintaining the Corporation's disclosure controls and procedures ("DCP") including adherence to the Disclosure Policy adopted by the Corporation. The Disclosure Policy requires all staff to keep senior management fully apprised of all material information affecting the Corporation so that they may evaluate and discuss this information and determine the appropriateness and timing for public disclosure.

The Corporation maintains DCP designed to ensure that information required to be disclosed in reports filed under applicable securities laws, is recorded, processed, summarized and reported within the appropriate time periods and that such information is accumulated and communicated to the Corporation's management, including the CEO and CFO, to allow for timely decisions regarding required disclosure.

The CEO and CFO have evaluated whether there were changes to the DCP during the year ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, the DCP. No such changes were identified through their evaluation.

In designing and evaluating DCP, the Corporation recognizes that any disclosure controls and procedures, no matter how well conceived or operated, can only provide reasonable, not absolute, assurance that the objectives of the control system are met, and management is required to exercise its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

# Internal Control over Financial Reporting

The Corporation's management, including the CEO and the CFO, are responsible for establishing and maintaining adequate internal control over financial reporting ("ICFR") for the Corporation to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. The fundamental issue is ensuring all transactions are properly authorized and identified and entered into a well-designed, robust and clearly understood accounting system on a timely basis to minimize risk of inaccuracy, failure to fairly reflect transactions, failure to fairly record transactions necessary to present financial statements in accordance with IFRS, unauthorized receipts and expenditures, or the inability to provide assurance that unauthorized acquisitions or dispositions of assets can be detected.

The CEO and CFO have evaluated whether there were changes to the ICFR during the year ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, the ICFR. No such changes were identified through their evaluation.

The Corporation's ICFR may not prevent or detect all misstatements because of inherent limitations. Additionally, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because changes in conditions or deterioration in the degree of compliance with the Corporation's policies and procedures.

# BASIS OF PRESENTATION OF CONSOLIDATED FINANCIAL STATEMENTS AND SIGNIFICANT ACCOUNTING POLICIES

The consolidated financial statements have been prepared in accordance with the IFRS as issued by the IASB. The accounting policies, methods of computation and presentation applied in the consolidated financial statements are consistent with those of previous financial year except for the presentation of government assistance now presented as a separate item in the consolidated statements of loss and comprehensive loss and the interest revenue now presented as part of the revenue. Certain comparative figures have been reclassified to conform the presentation adopted in the current year for government assistance and interest revenue.

The significant accounting policies of IMV are detailed in the notes to the audited consolidated financial statements for the year ended December 31, 2018 filed on SEDAR www.sedar.com and included in the registration statement on Form 40-F filed on EDGAR at www.sec.gov/edgar.

# CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The determination of estimates requires the exercise of judgement based on various assumptions and other factors such as historical experience and current and expected economic conditions. Actual results could differ from those estimates.

Critical judgements in applying the Corporation's accounting policies are detailed in the audited annual consolidated financial statements for the year ended December 31, 2018 filed on SEDAR <a href="www.sedar.com">www.sedar.com</a> and included in the registration statement on Form 40-F filed on EDGAR at <a href="www.sec.gov/edgar">www.sec.gov/edgar</a>.

#### FINANCIAL INSTRUMENTS

Financial instruments are defined as a contractual right or obligation to receive or deliver cash on another financial asset. The Corporation recognizes financial instruments based on their classification. Depending on the financial instrument's classification, changes in subsequent measurements are recognized in net loss or other comprehensive loss.

A description of the financial instruments, their fair value and risk management is included in the Corporation's audited annual consolidated financial statements for the year ended December 31, 2018 filed on SEDAR www.sedar.com and included in the registration statement on Form 40-F filed on EDGAR at www.sec.gov/edgar.

(Signed) Frédéric Ors Frédéric Ors Chief Executive Officer (Signed) Pierre Labbé Pierre Labbé Chief Financial Officer

March 21, 2019