Æterna Zentaris Inc.

AEZS-NASDAQ

Quarterly Update: April 7, 2016

Company Description

Aeterna Zentaris Inc. ("Aeterna" or "the Company") is transitioning into a specialty biopharmaceutical company. With a focus on establishing revenues and profitability while optimizing resources to reduce its burn rate, the Company co-promotes three commercial products in multiple U.S. markets: (1) Ascend Therapeutics' EstroGel® (estradiol gel), a non-patch estrogen replacement therapy; (2) EMD Serono's Saizen® [somatropin (rDNA origin) for injection] for growth hormone deficiencies; and (3) Armune BioScience's APIFINY®, a non-PSA blood test for evaluating prostate cancer risk. Aeterna further holds a pipeline of product candidates in development and is working to acquire, in-license, or co-promote other commercial compounds. The Company's most advanced wholly owned product candidate, Zoptrex™ [zoptarelin doxorubicin (doxorubicin peptide conjugate targeting LHRH receptor–expressing tumors)], is in a fully enrolled Phase 3 trial in advanced, recurrent, or metastatic endometrial cancer—a disease for which patients typically have a poor prognosis and there is no approved systemic therapy. Aeterna's development program also includes Macrilen™ (macimorelin), which is in active enrollment for a Phase 3 confirmatory trial for Adult Growth Hormone Deficiency (AGHD). Overall, the Company is focused on pursuing strategic initiatives consistent with becoming a commercially operating specialty biopharmaceutical company.

Key Points

- Two of Aeterna's lead product candidates—Zoptrex™ for endometrial cancer and Macrilen™ for AGHD—are in pivotal Phase 3 trials expected to be completed by the end of the third quarter 2016, with top-line results expected by year-end 2016. The Company aims to submit a New Drug Application (NDA) for each of these candidates in 2017.
- An independent Data and Safety Monitoring Board has recommended twice (after April 2015 and October 2015 pre-specified points for interim analysis on safety and efficacy) that the Zoptrex™ Phase 3 trial in advanced endometrial cancers continue to full completion as planned. Zoptrex™ also recently met its primary endpoint and demonstrated good tolerability in a Phase 2 investigator-sponsored trial for castration- and taxane-resistant prostate cancer.
- On March 29, 2016, Aeterna reported financial results for the fourth quarter and full-year 2015. Aeterna reported a loss from operations of $34.9 million in 2015 versus a loss from operations of $37.4 million in 2014. The decrease is mainly explained by the impact of the Resource Optimization Program as well as the weakening of the EUR (€) in 2015 versus 2014, and was offset by an increase in third-party clinical trial expenses in 2015, an expansion of the Company's contracted sales force, and higher transaction costs allocated to warrants.
- The Company's leadership is experienced and has established ability in building significant value in the pharmaceutical industry. After raising approximately $34.4 million in early 2015 and $15.0 million in December 2015, Aeterna reported that it held cash and cash equivalents of $41.5 million as of December 31, 2015.

Æterna Zentaris

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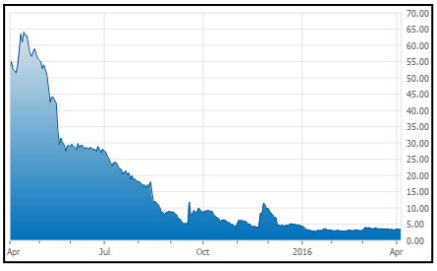
Ticker (Exchange)	AEZS (NASDAQ) AEZ (TSX)
Recent Price (04/06/16)	$3.60 (NASDAQ)
52-week Range*	$2.60 - $68.00
Shares Outstanding**	~9.93 million
Market Capitalization	~$35.7 million
Average 3-mo. Volume	552,976
Insider Ownership + >5%	5.79%
EPS (Year ended 12/31/15)	($18.14)
Employees	46

*100-to-1 share consolidation executed in Nov. 2015.
** As of December 31, 2015.

AEZS One-Year Chart



Recent Events and Financial Results

All amounts are in U.S. dollars unless otherwise noted.

Fourth Quarter and Year-End 2015 Financial Results

On March 29, 2016, Aeterna reported its financial results for the fourth quarter and year ended December 31, 2015. Aeterna ended 2015 with a significant capital raise of $15.0 million, an improved capital structure (which included conducting a 100-to-1 share consolidation in November 2015), and a restructured organization that has led the Company to be able to achieve a savings of roughly $2.5 million in annual research and development (R&D) and general and administrative (G&A) expenses as well as has positioned Aeterna to advance and complete Phase 3 clinical development of its two lead product candidates. Recent corporate restructuring emphasized improving the financial team and closing the Company's Quebec City office in Canada during 2015, which followed staff reductions and a corporate-wide Resource Optimization Program implemented in 2014/2015.

Fourth Quarter 2015

In the fourth quarter ended December 31, 2015, Aeterna reported R&D costs of $4.2 million versus $6.3 million in the year-ago quarter. In both the quarter and the full year (described below), R&D costs declined versus the comparable periods of 2014 due to the impact of the Company's 2014 Resource Optimization Program and a weakening of the euro against the U.S. dollar.

The Company reported G&A expenses of $4.0 million for the fourth quarter 2015 versus $2.6 million in the fourth quarter 2014. The increase in the quarter and year (described below) was largely due to recording of a provision related to closing the Quebec City office and restructuring the finance and accounting team as well as recording certain transaction costs associated with the March 2015 and December 2015 offerings of common shares and warrants.

Aeterna's selling expenses decreased to $1.8 million for the final three months of 2015 versus $2.0 million in the same quarter of 2014 due to the impact of start-up costs in late 2014 related to the deployment of a contracted sales force in connection with the Company's co-promotion agreements.

Aeterna reported a net loss in the fourth quarter 2015 of $10.0 million, or a $1.46 loss per basic and diluted share, versus a net income of $4.2 million, or $6.35 per basic and diluted share, in the year-ago quarter.

Year-End 2015

In the year ended December 31, 2015, Aeterna reported R&D costs of $17.2 million versus $23.7 million in 2014. The impact of the Resource Optimization Program and exchange rates helped to reduce year-over-year R&D costs, which were somewhat offset by higher third-party costs related to an increase in enrollment in the Zoptrex™ (zoptarelin doxorubicin) Phase 3 trial (now fully enrolled).

The Company reported G&A expenses of $11.3 million in 2015 versus $9.8 million in 2014. Aeterna's selling expenses increased to $6.9 million in 2015 versus $3.9 million in 2014 with the caveat that selling expenses in 2014 did not represent a full year of sales activity. The Company also expanded the size of its sales force in 2015 from 19 to 21 individuals.

Aeterna reported a net loss in 2015 of $50.1 million, or an $18.14 loss per basic and diluted share, versus a net loss of $16.6 million, or a $28.06 loss per basic and diluted share, in 2014.

As of December 31, 2015, Aeterna reported cash and cash equivalents of approximately $41.5 million versus $34.9 million as of December 31, 2014.

Recent Events

- On April 1, 2016, Aeterna announced that it entered into an At The Market (ATM) Issuance Sales Agreement, dated April 1, 2016, with H.C. Wainwright & Co., LLC (the "Sales Agent"), under which the Company may, at its discretion, from time to time during the term of the ATM Sales Agreement, sell up to a maximum of 3,000,000 of its common shares through ATM issuances on the NASDAQ Stock Market, up to an aggregate amount of approximately $10 million. Under the agreement, the Sales Agent will act as sales agent for any sales made under this new ATM program, and the common shares will be sold at market prices prevailing at the time of the sale of the common shares and, as a result, sale prices may vary. In connection with the execution of the ATM Sales Agreement with the Sales Agent, the Company filed with the U.S. Securities and Exchange Commission (SEC) a prospectus supplement to its shelf registration statement on Form F-3 (333-194547) filed with the SEC on March 14, 2014, which was declared effective by the SEC on March 28, 2014.

- On March 29, 2016, Aeterna announced its fourth quarter and full-year 2015 financial and operating results, as detailed on page 2.

- On March 1, 2016, Aeterna announced that its licensee, Sinopharm A-Think Pharmaceuticals Co., Ltd. ("Sinopharm A-Think"), which is affiliated with the largest state-owned pharmaceutical company in the People's Republic of China (China National Pharmaceutical Group Corp.), is on track to submit a Clinical Trial Application (CTA) for Zoptrex™ to the Chinese State Food and Drug Administration (SFDA) in the summer of 2016 and anticipates initiating the clinical development program later in 2016. Greater details are provided on page 8.

- On February 23, 2016, Aeterna announced that it started promoting APIFINY®, the only cancer-specific, non-PSA blood test for the evaluation of the risk of prostate cancer, in 20 U.S. sales territories pursuant to its co-marketing agreement with Armune BioScience, Inc. The Company is promoting APIFINY® to designated medical professionals in exchange for a commission for each test performed resulting from its targeted promotion. Details of APIFINY® and the co-marketing agreement with Armune are provided on page 7.

- On February 18, 2016, Aeterna announced the appointment of Ms. Geneviève Lemaire, Aeterna's former interim corporate controller, to the position of vice president, finance and chief accounting officer (biography on page 12).

- On January 29, 2016, Aeterna announced the appointment of Michael Cardiff and Ken Newport to its Board of Directors, effective immediately, for a term to expire at the Company's upcoming 2016 annual meeting of shareholders, whereupon it is anticipated that each of Messrs. Cardiff and Newport (biographies on page 12) will stand for election as director candidates to be nominated by management.

- On January 26, 2016, Aeterna announced that it filed an international patent application as well as national patent applications in selected countries including the U.S., China, Taiwan, Japan, and India. These applications seek to protect the novel method of manufacturing Zoptrex™, and were filed in addition to a European patent application filed in 2015. The Company decided to file patent applications in additional territories after the European Patent Office issued a search report for the European patent application that the Company considers to be favorable.

- On January 25, 2016, Aeterna disclosed that it was advised by certain members of its executive management team that such executives made on-market purchases of an aggregate of 29,535 of the Company's Common Shares in the week prior to this announcement at then market prices, representing a total investment by such executives of approximately $90,000. David A. Dodd, chairman, president and chief executive officer (CEO), purchased 16,300 Common Shares for a total investment of approximately $50,000; Jude Dinges, senior vice president and chief commercial officer, purchased 6,500 Common Shares for a total investment of approximately $20,000; and Philip A. Theodore, senior vice president, chief administrative officer and general counsel, purchased 6,735 Common Shares for a total investment of approximately $20,000.

- On January 19, 2016, Aeterna announced that it concluded a successful meeting of the clinical investigators for the confirmatory Phase 3 trial of Macrilen™ (macimorelin), a novel orally-active ghrelin agonist for use in evaluating adult growth hormone deficiency (AGHD). The Company believes that it can complete the confirmatory trial by year-end 2016. Macrilen™ is detailed on page 10.

- On December 30, 2015, Aeterna announced that it filed a preliminary short form base shelf prospectus with the securities regulatory authorities in each of the provinces of Canada, and a corresponding shelf registration statement on Form F-10 with the SEC under the U.S./Canada Multijurisdictional Disclosure System. The Shelf Prospectus and corresponding shelf registration statement, when made final or effective, would allow the Company to offer up to $150,000,000 of common shares, preferred shares, debt securities, subscription receipts, warrants or units comprised of one or more of such securities during the period that the Shelf Prospectus is effective.

- On December 14, 2015, Aeterna announced the closing of its previously announced underwritten public offering of three million common shares and warrants to acquire 2.1 million common shares with a combined purchase price of $5.55 for one common share together with a warrant to purchase 0.7 of a common share, generating net proceeds of approximately $15 million (gross proceeds of $16.65 million). In addition, the Company granted the underwriter a 45-day option to purchase up to an additional 330,000 common shares and/or warrants to purchase up to an additional 231,000 common shares, to cover over-allotments, if any. Prior to closing, the underwriter exercised its over-allotment option with respect to the warrants to acquire an additional 231,000 common shares, resulting in an issuance of warrants to acquire an aggregate of 2,331,000 common shares at closing. The warrants are exercisable immediately and expire five years following issuance at an exercise price of $7.10 per share.

- On December 1, 2015, Aeterna announced the finalization of its co-marketing agreement with Armune BioScience, Inc. that allows the Company to promote Armune's APIFINY®.

- On November 24, 2015, Aeterna announced that the remaining 11,000 post-share consolidation (or 1,100,000 pre-share consolidation) Series B Common Share Purchase Warrants subject to a previously disclosed November 1, 2015, agreement were exercised on November 23, 2015, which results in the issuance of 365,518 additional Common Shares. After giving effect to the issuance of such shares, there will be approximately 6.9 million Common Shares issued and outstanding.

- On November 19, 2015, Aeterna announced that the first patient was enrolled for the Company's confirmatory Phase 3 clinical study to demonstrate the efficacy of Macrilen™.

- On November 18, 2015, Aeterna announced the consolidation of its issued and outstanding common shares approved by shareholders at a special meeting held on November 16, 2015, occurred at the consolidation ratio of 100-to-1 and became legally effective on November 17, 2015.

Company Background

Aeterna Zentaris Inc. ("Aeterna" or "the Company") is a specialty biopharmaceutical company engaged in developing, commercializing, and promoting novel treatments in oncology and endocrinology via internal development programs as well as expanding its commercial portfolio through co-promotion, in-licensing, and the acquisition of products already on the market. With a focus on establishing revenues and profitability while optimizing resources and reducing its burn rate, the Company has three commercial programs at present: (1) promotion of a non-patch estrogen replacement therapy, EstroGel®, in conjunction with Ascend Therapeutics US, LLC; (2) promotion of a growth hormone deficiency product, EMD Serono, Inc.'s Saizen®; and (3) promotion of Armune Bioscience, Inc.'s APIFINY®, the first non-PSA blood test for use in evaluating and managing the risk of prostate cancer. Aeterna routinely pursues opportunities to in-license or acquire products to further complement its portfolio.

Aeterna also holds a pipeline of candidates in varying stages of development, including two product candidates (Zoptrex™ and Macrilen™) in Phase 3 studies. Both Phase 3 trials are expected to be completed by the end of 2016 followed by the filing of a New Drug Application (NDA) for each candidate as soon as possible. Aeterna is also investigating various other compounds as potential treatments in oncology and endocrinology as it pursues strategic initiatives that are consistent with the operations of a commercial specialty biopharmaceutical company.

The Company's corporate objectives for 2016 are summarized in Figure 1.

Figure 1

CORPORATE OBJECTIVES FOR 2016 (AS ADOPTED BY THE BOARD OF DIRECTORS AT THE 2015 ANNUAL YEAR-END MEETING)

Aeterna's Board of Directors adopted four objectives for the Company in 2016 at its annual year-end meeting in 2015.

Zoptrex™
Completion of the Pivotal ZoptEC Phase 3 Clinical Trial The objective is to complete the ZoptEC Phase 3 study of Zoptrex™ during the third quarter 2016 and to report top-line results of the study shortly thereafter. In adopting this objective, the Board noted that the Company disclosed, on October 13, 2015, that the independent Data and Safety Monitoring Board recommended that the Company continue the ZoptEC Phase 3 clinical study to its conclusion following a comprehensive review of efficacy and safety data at 192 events. The Board viewed this as an encouraging development.

Macrilen™
Completion of the Confirmatory Phase 3 Clinical Trial The objective is to complete the confirmatory Phase 3 clinical trial of Macrilen™ during the fourth quarter 2016 and to report top-line results within eight weeks of completion.

Commercial Operations
Addition of Another Product to the Company's Commercial Portfolio The objective is to acquire or in-license at least one product during 2016 and to increase revenues from existing co-promotion arrangements.

Financial Condition
Capital Structuring and Strengthening The objective is to further strengthen the cash balance, while continuing to reduce burn rate. The Board noted that over the past two years, the Company has reduced its staff by over 50%, while significantly reducing its operating burn rate, successfully progressing its commercial focus, and running two pivotal Phase 3 programs.

Source: Aeterna Zentaris Inc.

Co-promotion Agreement with Ascend Therapeutics for EstroGel®

Figure 2
ESTROGEL 0.06%

Source: Æterna Zentaris Inc.

As a part of the Company's strategy of branding itself beyond a development-stage entity and into a commercial entity, Aeterna entered into a co-promotion agreement with Ascend Therapeutics for Ascend's product, EstroGel® (a non-patch transdermal estrogen therapy)*. With over 100 years of success by its parent company, Besins Healthcare International, Ascend is a specialty pharmaceutical company exclusively focused on women's healthcare.

Under this agreement, Aeterna's contractual sales force is co-promoting EstroGel® (estradiol gel) within specific territories in the U.S. Sales commissions are payable to Aeterna based upon incremental EstroGel® sales volumes generated over certain pre-established thresholds. With 35 years of worldwide patient use, EstroGel® is approved in over 70 countries and is the top-prescribed estrogen product in Europe as well as the leading prescribed transdermal estrogen product in Canada. The estrogen replacement market, which generated $3.6 billion in annual revenues in 2013, encompasses products delivered orally, transdermally, vaginally, or intramuscularly (IM). In the non-patch arena of transdermal products where EstroGel® is positioned (which has proven to be a promotionally responsive market), there are currently only three brands on the market, which collectively generate roughly $100 million in annual sales.

By co-promoting EstroGel®, Aeterna gained valuable experience that its sales force has utilized for promoting additional commercial products for which the Company has acquired marketing rights. To that end, an established and experienced sales force may be a key asset in facilitating negotiations with companies that have commercial assets they may wish to out-license or co-promote. Greater details of EstroGel® and the respective co-promotion agreement in place are provided on page 16 of Crystal Research Associates' Executive Informational Overview® (EIO) published on Aeterna and available at http://www.crystalra.com/research-library/aeterna-zentaris.

*Please see patient information and boxed warning for more details on EstroGel® at www.estrogel.com.

Promotional Agreement with Merck's EMD Serono, Inc. for Saizen®

In May 2015, Aeterna entered into a promotional services agreement with EMD Serono, Inc., the U.S. and Canadian biopharmaceutical businesses of Merck KGaA (MRK-NYSE). Under the agreement, Aeterna is promoting Saizen® [somatropin (rDNA origin) for injection] to designated medical professionals in specified territories in the U.S. Aeterna works within the realm of field promotion of Saizen® by driving awareness of the product among medical professionals, and expects to be compensated on the basis of new, eligible patient starts on Saizen® above an agreed-upon baseline. Aeterna began promoting the product in the U.S. in July 2015. Financial terms of this agreement were not disclosed.

About Saizen® for Growth Hormone Deficiency

Saizen® is a recombinant human Growth Hormone (r-hGH) registered in the U.S. for the treatment of growth hormone deficiency (GHD) in both children and adults. A deficiency of growth hormone in the body can cause slow growth in children, and without treatment, few will reach their full height potential as an adult. It is a disorder affecting one in every 4,000 to 10,000 children and up to three in every 10,000 adults. Aeterna believes that Saizen® represents a good fit for the Company's endocrinology portfolio currently in development, which includes Aeterna's in-house product candidate Macrilen™ (profiled on page 10), a novel, orally available peptidomimetic ghrelin receptor agonist that stimulates the secretion of growth hormone and that is used to diagnose adult growth hormone deficiency.

*Please see full prescribing information and important risk information for Saizen® at www.saizenus.com/.

Co-Marketing Agreement with Armune BioScience, Inc. for APIFINY®

APIFINY® is a blood test for assessing and managing the risk of prostate cancer that is believed to be the only cancer-specific tool available that does not rely on a PSA reading. Prostate-specific antigen (PSA) is a protein produced in the prostate, a small gland that sits below a man's bladder. A PSA test measures the amount of PSA in the blood in order to help detect the presence of prostate or bladder cancer. However, this conventional diagnostic tool is known to significantly over-diagnose prostate cancer risk, resulting in what is believed to be an overuse of prostate biopsies in patients. In an effort to be proactive at detecting prostate cancer, there are approximately 30 million PSA tests conducted annually to screen for prostate and bladder cancer. An estimated 1.8 million prostate biopsies are performed based on results of the PSA tests—with 7-8 of every 10 biopsies proving to be benign. Essentially, based on the PSA test, millions of cancer-free patients have been sent for unnecessary invasive surgical and needle biopsies every year—creating tremendous patient discomfort (including the potential for medical complications resulting in morbidity) along with billions of dollars of needless expenditures. Medical institutions are now recommending more restricted use due to the inability of the PSA test to confidently and noninvasively monitor disease progression.

As a modern approach to improve the detection of prostate cancer, APIFINY® is the only cancer-specific, non-PSA blood test designed to aid clinicians in prostate cancer risk assessment. APIFINY® measures eight prostate-cancer-specific autoantibodies in human serum, which have been found to be amplified in response to the presence of prostate cancer cells. To Aeterna's knowledge, APIFINY® is able to detect these stable autoantibodies, particularly in small tumors characteristic of early stage cancers. The autoantibody markers span a range of biological functions integral to prostate cancer progression (including cell cycle, structure, and cellular signaling pathways), thus the use of APIFINY® may help supplement other information about a patient's risk of prostate cancer and may therefore aid clinicians in the detection of prostate cancer.

APIFINY® is intended for use by primary care physicians, urologists, and oncologists as a method of complementing current screening and detection methods in order to give a more complete and accurate picture of a patient's risk of prostate cancer. Aeterna entered into a co-marketing agreement for APIFINY® with Michigan-based Armune BioScience, Inc. (http://armune.com/) in December 2015. Armune is a medical diagnostics company equipped with a CLIA-certified commercial reference laboratory. Under the agreement, Aeterna is promoting APIFINY® to designated medical professionals in 20 U.S. sales territories, and expects to receive a commission for each test performed resulting from its targeted promotion. Armune reports that, in less than eight months on the market, APIFINY® has been ordered over 2,500 times as clinicians move beyond PSA-based testing to assess prostate cancer risk.

The transaction with Armune enhances Aeterna's focus on the oncology market, especially for the diagnosis, monitoring, and treatment of prostate cancer which is also a relevant medical indication for the Company's Zoptrex™ product candidate in development.

Prostate Cancer

As the second leading cancer in men, prostate cancer is also the leading cause of cancer death among men of all races and populations. In 2015, approximately 221,000 men in the U.S. were diagnosed with prostate cancer and approximately 28,000 men died from the disease.

Zoptrex™ [Zoptarelin Doxorubicin (Doxorubicin Peptide Conjugate)]

Zoptrex™ (doxorubicin peptide conjugate) represents a new concept in oncology using a hybrid molecule composed of a synthetic peptide carrier and a well-known chemotherapy agent, doxorubicin. As the first intravenous drug in a clinical study to direct a chemotherapy agent specifically to luteinizing hormone-releasing hormone (LHRH)-receptor expressing tumors, Zoptrex™ is believed to lead to a more targeted treatment with less damage to healthy tissue and reduced side effects. The Company's most advanced indication is for advanced, recurrent, or metastatic endometrial cancer (noting that endometrial cancer is the most common of the gynecologic malignancies and was estimated to affect 1 in 37 women during 2015). If Zoptrex™ is approved for its first indication, Aeterna intends to develop the compound for other tumors also expressing the LHRH-receptor, such as ovarian, prostate, and possibly additional cancer indications as part of the product's lifecycle management program. A Phase 2 trial in ovarian cancer has been successfully completed and published, while an investigator-initiated Phase 2 trial in prostate cancer was recently reported to have successfully met its primary endpoint.

Patients with advanced and recurrent endometrial cancer typical have a poor prognosis. There is no known or approved systemic therapy (except in Germany) for advanced (Stages III or IV) and recurrent metastatic endometrial cancer. Moreover, while response rates of up to 50% have been seen in patients receiving combination chemotherapy, the duration of the responses are short and the medications carry high toxicity. Due to the difficulty in treating women with late-stage endometrial cancer, new therapies are being developed to try and help better target and kill cancerous cells. As such, Aeterna is developing Zoptrex™ for an advanced form of endometrial cancer.

Phase 3 Zoptrex™ Study in Endometrial Cancer

The Zoptrex™ Phase 3 study in women with advanced, recurrent, or metastatic endometrial cancer who have progressed and have received one chemotherapeutic regimen with platinum and taxane (either as adjuvant or first-line treatment) has completed enrollment of 500 patients. The first patient was dosed in July 2013, and the trial is being conducted at over 120 sites across North America, Europe, and Israel. The primary efficacy endpoint of this study is improvement in median overall survival as compared to standard therapy with doxorubicin.

In October 2015, the Zoptrex™ trial's independent Data and Safety Monitoring Board (DSMB) recommended that the Company continue its Phase 3 clinical study as planned to full completion. The DSMB's decision came after the completion of a pre-specified second interim analysis on efficacy and safety for the Zoptrex™ Phase 3 trial at approximately 192 events. In April 2015, the DSMB made the same recommendation following its first pre-specified analysis on safety and futility at approximately 124 events. A final analysis of the data is expected at approximately 384 events.

The Company expects to complete the trial in the third quarter 2016, which may be followed by the filing of an NDA and Marketing Authorization Application (MAA) for Zoptrex™ in 2017, and a potential commercial launch in 2018. If approved, Zoptrex™ could become the first FDA-approved medical therapy for treating recurrent endometrial cancer. Medical therapies used in treating recurrent endometrial cancer account for approximately $300 million to $400 million in the U.S. When considering additional indications in the U.S., the annual market opportunity could exceed $1 billion to Aeterna's knowledge.

Sinopharm A-Think License

Aeterna holds global rights to zoptarelin doxorubicin, with the exception of China (including Hong Kong and Macau), where rights have been out-licensed to Sinopharm A-Think (a subsidiary of China National Pharmaceutical Group Corp., the largest medical and healthcare group in China and on *Fortune's* Global 500 list). Sinopharm A-Think is scheduled to submit a clinical trial application for Zoptrex™ in China in the summer of 2016, to be followed by the start of clinical development of Zoptrex™ in China. According to Aeterna, the Chinese application is anticipated to include more information on the product candidate's chemistry, manufacturing, and controls than would an investigational application in the U.S. or EU. Since entering into a technology transfer and license agreement with Aeterna in late 2014, Sinopharm A-Think has already implemented the technology processes and is preparing to manufacture the Zoptrex™ compound. Greater details of the Sinopharm agreement are provided on page 21 of the base EIO report available from http://www.crystalra.com/research-library/aeterna-zentaris.

Ergomed Agreement

In April 2013, Aeterna announced that it had signed a co-development and profit-sharing agreement with UK-based Ergomed plc for zoptarelin doxorubicin in endometrial cancer. Ergomed was selected as the contract clinical development organization to conduct the Zoptrex™ Phase 3 trial. Under the terms of the agreement, Ergomed has agreed to assume 30% (up to $10 million) of the out-of-pocket clinical and regulatory costs for the trial (estimated at approximately $32.5 million over the course of the study). As well, Ergomed is to receive its return on investment based on an agreed percentage of any net income received by Aeterna for zoptarelin doxorubicin in this indication (up to a maximum amount specified in the agreement).

In June 2015, Aeterna executed another agreement with Ergomed for the management of the Company's confirmatory Phase 3 clinical study of Macrilen™ as well.

Patent Applications for Zoptrex™

Aeterna has recently filed patent applications to protect the method of manufacturing Zoptrex™ in a number of global jurisdictions, including the U.S., China, Taiwan, Japan, India, and the European Union. This proprietary manufacturing method is anticipated to lead to a cost reduction in the production of Zoptrex™ and a possibly stronger competitive position for Aeterna in the future as it seeks to commercialize this product candidate.

Additional Potential Indications for Zoptarelin Doxorubicin

Aeterna is continuing to develop its commercialization plans regarding Zoptrex™ in endometrial cancer, including establishing partnerships in territories that the Company does not intend to pursue. In addition, contingent on the success of the current clinical program, the Company may have additional areas of interest for further therapeutic development, including ovarian, prostate, triple negative breast cancer, and potentially bladder cancer.

By and large, recurrent ovarian cancer is considered incurable, with therapies at this stage mainly seeking palliative treatment of symptoms, maintaining or improving quality of life, and increasing survival. Aeterna has completed a successful Phase 2 trial with zoptarelin doxorubicin in women with platinum-resistant ovarian cancer, a late-stage form of the disease during which refractory tumor growth is observed despite use of primary therapy. The compound has been granted orphan drug designation by the FDA and orphan medicinal product designation from the European Medicines Agency (EMA) in treating ovarian cancer.

Zoptrex™ is also in development for prostate cancer by an independent investigator. An article on final data for the Phase 1 portion of a Phase 1/2 trial in prostate cancer with zoptarelin doxorubicin was published in the December 2014 issue of *Clinical Cancer Research*. The article outlines data previously disclosed in June 2013 at the ASCO Annual Meeting, which demonstrated the compound's safety profile and potential anti-tumor activity in men with castration- and taxane-resistant prostate cancer (CRPC) who have been heavily pre-treated. Results from the Phase 2 portion of this investigator-driven trial were released in late 2015 and are overviewed below.

Achieved Primary Endpoint in Men with Heavily Pre-treated, Castration- and Taxane-Resistant Prostate Cancer

In September 2015, zoptarelin doxorubicin met its primary endpoint in an investigator-driven and sponsored Phase 2 clinical trial in CRPC and demonstrated good tolerability. The primary endpoint was clinical benefit (CB), defined as remaining progression-free by RECIST and Prostate-Specific Antigen (PSA) after treatment for over 12 weeks. The trial enrolled 25 patients with CRPC. Data show that 11 patients in the trial experienced a clinical benefit; 13 with stable disease. The median progression-free survival and overall survival timelines were 4.4 months (95% confidence interval [CI]: 3.6, 5.5) and 6 months (95% CI: 4.2, 10.7), respectively. In addition, 44% of patients reported an improvement in pain score at 12 weeks, and maximal PSA response was stable in 20 patients. Zoptarelin doxorubicin demonstrated good tolerability with grade 3-4 hematologic (n=7) and grade 3 blood and lymphatic system disorders (n=5) adverse events as the most common events. Results were presented by the study's lead investigator, Jacek Pinski, M.D., Ph.D., of the USC Norris Comprehensive Cancer Center, during a poster session at the 18th ECCO – 40th ESMO European Cancer Congress in Vienna, Austria.

Macrilen™ (Macimorelin)

Macrilen™ is an orally active ghrelin agonist for use in evaluating AGHD. On April 13, 2015, the Company announced plans to conduct a new, confirmatory clinical study to demonstrate the efficacy of Macrilen™ for use in AGHD, as well as a dedicated thorough QT study to evaluate the effect of Macrilen™ on myocardial repolarization. Aeterna has stated that this decision followed a positive and constructive meeting with the FDA regarding the NDA for Macrilen™. The Company requested the meeting to gain clarity on the approval deficiencies described in a Complete Response Letter (CRL) that Aeterna had received on November 6, 2014. Following receipt of the CRL, the Company convened a panel of U.S. and EU endocrinology experts to advise it regarding the options for Macrilen™. According to Aeterna, the panel advised the Company to continue to seek approval for the compound because of their confidence in its efficacy and because there is not currently an FDA-approved diagnostic test for AGHD.

Following an end-of-review meeting with the FDA on March 6, 2015, the Company and the FDA agreed on the general design of the confirmatory study as well as evaluation criteria. The study is to be conducted as a two-way crossover with the insulin tolerance test as the benchmark comparator. The study population is intended to consist of patients with a medical history documenting risk factors for AGHD and to include a spectrum of patients, ranging from those who have a low risk of AGHD to those with a high risk of the condition. Additionally, Aeterna received written scientific advice from the EMA in May 2015 suggesting that the Company's plan for a new Phase 3 trial of Macrilen™, as discussed with the FDA, would also be acceptable to the EMA (Source: Aeterna's May 26, 2015, press release). The EMA did propose that Aeterna consider additional aspects regarding the demonstration of reproducibility of a diagnosis made using Macrilen™, which would further enhance the profile of the compound.

With continued development and the initiation of a confirmatory Phase 3 trial in November 2015, Aeterna was able to reach a key milestone in its Phase 3 development of Macrilen™ in early 2016, when the Company met with clinical investigators for its Phase 3 trial. This January 2016 meeting included 77 investigators and site personnel who reviewed Macrilen™ and the clinical trial protocol for the compound's multicenter Phase 3 trial. The Phase 3 trial is expected to ultimately involve approximately 30 trial locations across the U.S. and Europe and enroll 110 patients with a medical history documenting risk factors for AGHD (both low- and high-risk patients). To date, approximately 20 patients at 15 trial locations have been enrolled in the study. Aeterna believes it can complete the confirmatory trial by the end of the third quarter 2016 with top-line results reported by year-end 2016. Submission of the NDA for Macrilen™ is anticipated by mid-2017.

Other Preclinical Compounds

Aeterna also has a number of drugs in preclinical studies addressing various other cancers and endocrine disorders. In its oncology pipeline are earlier stage programs, including a highly potent and selective ATP competitive Erk inhibitor, which may represent new therapeutic opportunities in oncology; and LHRH disorazol Z, a next-generation zoptarelin doxorubicin, which is a cytotoxic conjugate of disorazol Z and a synthetic peptide carrier that targets the LHRH receptor (and may also have potential in solid tumors).

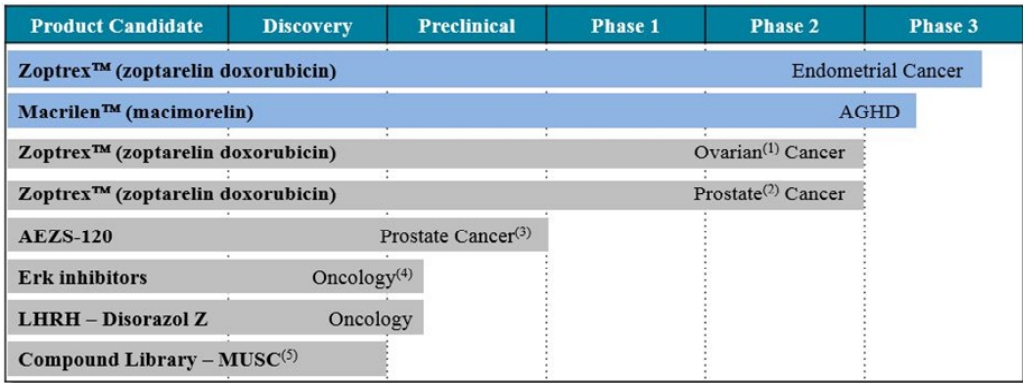
Aeterna believes disorazol Z is a beneficial compound for the formation of cytotoxic conjugates with peptides, proteins, and antibodies to selectively target cancer cells. The Company has patented disorazol Z in 35 countries, including the U.S., Japan, Europe, China, Russia, Korea, and Taiwan. This patent protection expires in 2026. As well, a conjugate of disorazol Z and the LHRH receptor agonist as a targeted cytotoxic agent is patented in 15 countries, including the U.S., Japan, China, Russia, Korea, and Taiwan. This patent protection expires in 2027. Aeterna expects a European patent to be granted in the near future.

Pipeline and Development Summary

Figure 3 summarizes the Company's current product pipeline, which is described in greater detail on pages 16-30 of Crystal Research Associates' base Executive Informational Overview® (EIO) published on Aeterna and available at http://www.crystalra.com/research-library/aeterna-zentaris. Figure 4 summarizes Aeterna's past corporate milestones through 2015 as the Company has transitioned into a growth-oriented, specialty biopharmaceutical company, as well as Aeterna's targeted milestones for 2016.

Figure 3

PRODUCT PIPELINE



(1) Phase 2 in ovarian cancer completed.

(2) Investigator-driven and sponsored Phase 2 trial in castration- and taxane-resistant prostate cancer completed.

(3) Potential oral prostate cancer vaccine available for co-development/out-licensing, subject to an option granted to a third party.

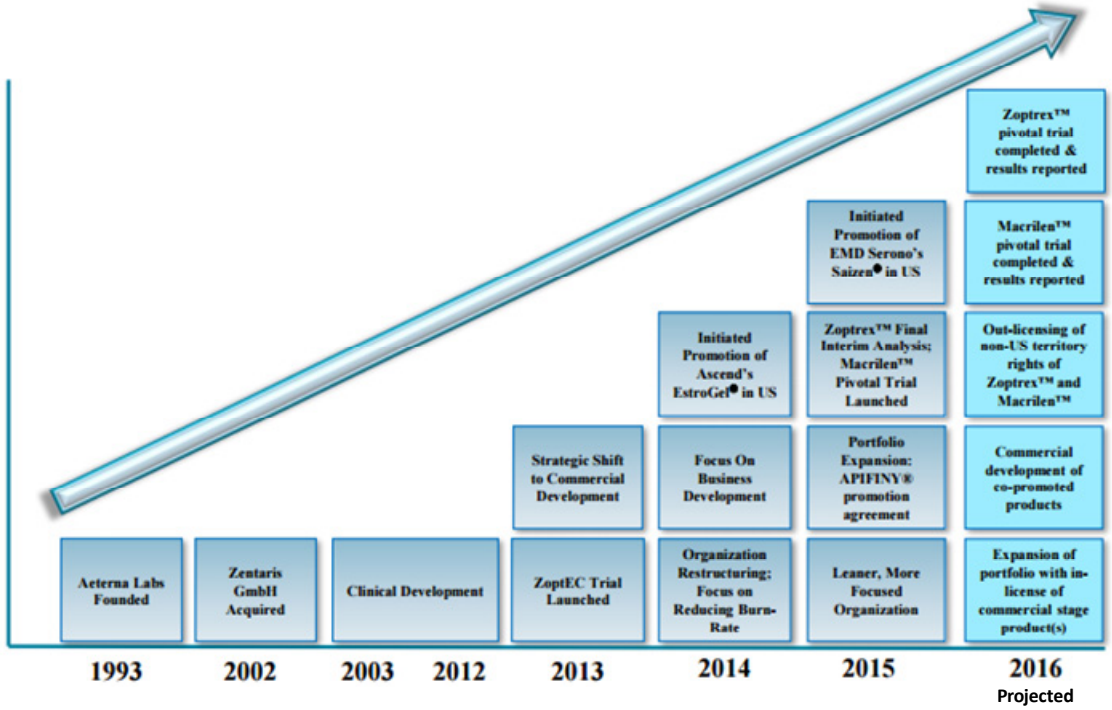
(4) Available for co-development/out-licensing.

(5) Compound library transferred to Medical University of South Carolina. Aeterna Zentaris has access to future potential development candidates.

Source: Aeterna Zentaris Inc.

Figure 4

MILESTONES AND VALUE DEVELOPMENT



Source: Aeterna Zentaris Inc.

Key Corporation Information

The Company was incorporated on September 12, 1990, under the Canada Business Corporations Act (CBCA) and continues to be governed by the CBCA. On December 30, 2002, it acquired Zentaris AG, a biopharmaceutical company based in Frankfurt, Germany. Zentaris was a spin-off of Asta Medica GmbH, a former pharmaceutical company affiliated with Degussa AG. In May 2004, the Company's name was changed to Aeterna Zentaris Inc. and on May 11, 2007, Zentaris GmbH was renamed Aeterna Zentaris GmbH. On October 2, 2012, Aeterna effected a 6-to-1 reverse stock split and on October 5, 2012, the common shares began trading on a consolidated and adjusted basis on both the NASDAQ and TSX. In November 2015, the Company performed another share consolidation at a ratio of 100-to-1.

The Company's operational base is in Charleston, South Carolina, with offices also in Frankfurt, Germany. Aeterna trades on the NASDAQ under the ticker symbol AEZS and on the TSX under AEZ. Its three wholly owned direct and indirect subsidiaries include Aeterna Zentaris GmbH (Germany); Zentaris IVF GmbH, a direct wholly owned subsidiary of AEZS Germany based in Frankfurt, Germany; and Aeterna Zentaris, Inc., an entity incorporated in the State of Delaware.

Recent Leadership Appointments

Geneviève Lemaire, Vice President, Finance and Chief Accounting Officer

Ms. Lemaire, a chartered professional accountant in Canada and certified public accountant (CPA) registered in the State of Illinois, was appointed to vice president, finance and chief accounting officer from her prior position as Aeterna's interim corporate controller in February 2016. She has worked in various accounting and audit functions for Ernst & Young in Canada and Switzerland and in senior finance and accounting functions in other organizations. Ms. Lemaire is the principal financial officer overseeing the completion and filing of the Company's 2015 annual audited consolidated financial statements and the related documents and filings, while also providing the overall leadership in the finance and accounting function within the Company.

Michael Cardiff, Board of Directors

Mr. Cardiff is the CEO of Accelerents, a consulting firm focused on strategy development. Prior to holding that position, Mr. Cardiff held numerous senior positions in a number of technology companies, including large multinationals such as EDS, SAP and IBM, as well as startup companies such as Fincentric, Convergent Technologies, Tandem, and Stratus Computer. Mr. Cardiff is currently a director of Hydrogenics Corporation (HYGS-NASDAQ; HYG-TSX), and Startech.com. Mr. Cardiff has also served as a director of publicly traded companies including Husky Injection Molding, Descartes Systems Group, Visible Genetics, and Burntsand Inc. He has also been a director of private companies, including Solcorp, Spectra Security Software, and Visible Decisions, and charitable organizations such as the Toronto Film Festival, Roy Thomson Hall, and Medic Alert Foundation. Mr. Cardiff is a member of, and holds the ICD.D designation from, the Institute of Corporate Directors.

Ken Newport, Board of Directors

A chartered accountant, entrepreneur, and life sciences business executive, Mr. Newport served as senior vice president and executive committee member at PRA International Inc. for three years until his retirement in 2005. He was co-founder and president of CroMedica Inc., a clinical trials contract research organization, which was sold to PRA International in 2002. Mr. Newport was also a founding member of Global Biomedical Capital Corporation, Zelos Therapeutics Inc., Prime Trials Inc., and other life science organizations. He has served or serves on the corporate boards of Nordion Inc., the Opmedic Group, Jennerex Inc., and Medgenesis Therapeutics Inc. He sits on several non-profit boards, including as chair of the BioCanRx, the National Centre of Excellence for Biotherapeutics cancer research.

Key Points to Consider

- **Aeterna is a specialty biopharmaceutical company in oncology, endocrinology, and women's health, focused on establishing revenues and profitability while optimizing resources and reducing burn rate.** The Company is working to achieve a commercial presence and growth via licensing, acquisition, and co-promotional opportunities beginning with EstroGel®, a non-patch estrogen replacement therapy; Saizen®, a growth hormone deficiency therapy; and APIFINY®, a non-PSA blood test for use in evaluating and managing the risk of prostate cancer. Aeterna also holds a pipeline of candidates in varying stages of development, including Zoptrex™ (doxorubicin peptide conjugate), a potential therapy for advanced, recurrent, or metastatic endometrial cancer; and Macrilen™ (macimorelin), an orally available peptidomimetic ghrelin receptor agonist that stimulates the secretion of growth hormone and may diagnose AGHD. Other indications for zoptarelin doxorubicin may include tumors expressing the LHRH receptor, such as prostate cancer, bladder cancer, breast cancer, or ovarian cancer.

- **Aeterna has promotion services agreements with Ascend Therapeutics US, LLC for EstroGel® (estradiol gel), with Merck's EMD Serono, Inc. for Saizen® [somatropin (rDNA origin) for injection], and with Armune BioScience, Inc. for APIFINY®—enabling Aeterna to transition beyond the development stage and into a commercial entity.** In collaboration with Ascend's sales representatives, Aeterna's contractual sales force promotes EstroGel® to designated medical professionals in 19 territories in the U.S. on a commission basis. EstroGel® is a top-prescribed product in Europe and the leading prescribed transdermal product in Canada, participating in the $3.6 billion estrogen replacement market. Aeterna's contractual sales representatives also promote Saizen® in 21 U.S. sales territories on a commission basis and APIFINY® in 20 U.S. territories.

- **Zoptarelin doxorubicin (Zoptrex™) is a new concept in oncology.** This hybrid molecule, which is delivered intravenously, is composed of a synthetic peptide carrier and doxorubicin, which directs the chemotherapy agent specifically to LHRH-receptor-expressing tumors. There is an indication from Phase 2 studies that the compound results in more targeted treatment with less damage to healthy tissue and fewer side effects.

- **As an ongoing Phase 3 trial for endometrial cancer, the Zoptrex™ (zoptarelin doxorubicin in endometrial cancer) study has enrolled 500 patients at over 120 sites in North America, Europe, and Israel.** The Company is working under a Special Protocol Assessment (SPA) with UK-based Ergomed plc where the two entities have a cost-sharing agreement in place. The trial is expected to be completed by the end of 2016. If approved, Zoptrex™ could become the first FDA-approved therapy for treating recurrent endometrial cancer.

- **The Company recently commenced a new confirmatory Phase 3 clinical study to demonstrate the efficacy of Macrilen™ for use in evaluating AGHD, as well as a dedicated thorough QT study to evaluate the effect of Macrilen™ on myocardial repolarization.** This decision followed positive meetings with the U.S. FDA and the European Medicines Agency (EMA) regarding Macrilen™. To date, approximately 20 patients at 15 trial locations have been enrolled in the study. Ultimately, the Phase 3 trial is scheduled to involve approximately 30 trial locations across the U.S. and Europe and enroll 110 patients with a medical history documenting risk factors for AGHD (both low- and high-risk patients). Aeterna believes it can complete the confirmatory trial by the end of the third quarter 2016, with top-line results reported by year-end 2016. Submission of the NDA for Macrilen™ is anticipated by mid-2017.

- **In preclinical stages, Aeterna's Erk inhibitor program for oncology was presented at the American Association for Cancer Research (AACR) Annual Meeting in April 2014 and selected as one of the most exciting recent developments in RAS/RAF/EGFR research.** The Company recently completed an optimization of this molecule for development and expects to initiate discussions with potential partners and/or continue its development for further proof of concept.

- **Aeterna has assembled a strong leadership team with experience and demonstrated ability in building significant value in the pharmaceutical industry.** The Company is listed on both the NASDAQ and the TSX exchanges. After raising $34.4 million in early 2015 and $15.0 million in December 2015, Aeterna reported that it held cash and cash equivalents of $41.5 million as of December 31, 2015.

Risks and Disclosures

This Quarterly Update has been prepared by Crystal Research Associates, LLC (CRA) based upon information provided by Aeterna. CRA has not independently verified such information. Some of the information in this Update relates to future events or future business and financial performance. Such statements constitute forward-looking information within the meaning of the Private Securities Litigation Act of 1995. Such statements can only be predictions and the actual events or results may differ from those discussed due to the risks described in Aeterna's statements in its public and investor materials as well as regulatory forms filed from time to time.

The content of this report with respect to Aeterna has been compiled primarily from information available to the public released by the Company through news releases, investor presentations, and other materials released from time to time. Aeterna is solely responsible for the accuracy of this information. Information as to other companies has been prepared from publicly available information and has not been independently verified by Aeterna or CRA. Certain summaries of activities and outcomes have been condensed to aid the reader in gaining a general understanding. CRA assumes no responsibility to update the information contained in this report. In addition, CRA has been compensated by the Company in cash of thirty-nine thousand U.S. dollars for its services in creating the base report and updates. Investors should carefully consider the risks and information about Aeterna's business, as described in Crystal Research Associates' Executive Informational Overview® (EIO) published on April 21, 2015, and Aeterna's regulatory filings. Investors should not interpret the order in which considerations are presented in filings as an indication of their relative importance. The risks and uncertainties overviewed in the EIO are not the only risks that the Company faces. Additional risks and uncertainties not presently known to Aeterna or that it currently believes to be immaterial may also adversely affect the Company's business. If any of such risks and uncertainties develops into an actual event, Aeterna's business, financial condition, and results of operations could be materially and adversely affected, and the trading price of the Company's shares could decline. This report is published solely for information purposes and is not to be construed as an offer to sell or the solicitation of an offer to buy any security in any state. Past performance does not guarantee future performance. Additional information about Aeterna, as well as copies of this report, can be obtained by calling (843) 900-3223.

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QUARTERLY UPDATE: April 7, 2016

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Crystal Research Associates is led by Wall Street veterans, Jeffrey Kraws and Karen Goldfarb. Together, Kraws and Goldfarb have built a unique business model, capitalizing on decades of experience as an award-winning sell-side analyst team to produce institutional-quality industry and market research in a manner that is easily understood by investors and consumers. Our firm's approach has been proven successful over the years as our products are published and available on Bloomberg, Thomson Reuters/First Call, Capital IQ, FactSet, Yahoo! Finance, and scores of other popular forums.

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