Novocure Ltd
Form 10-K
February 23, 2017

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2016

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to

Commission File Number 001-37565

NovoCure Limited

(Exact Name of Registrant as Specified in Its Charter)

Jersey	98-1057807
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)

Le Masurier House

La Rue Le Masurier

St. Helier, Jersey JE2 4YE

(Address of Principal Executive Offices)

Registrant's telephone number, including area code: +44 (0) 15 3475 6700

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Ordinary shares, no par value per share	NASDAQ Global Select Market

Securities registered pursuant to Section 12(g) of the Act:

None

(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Exchange Act.:

Large accelerated filer		Accelerated filer
Non-accelerated filer	(Do not check if a smaller reporting company)	Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The aggregate market value of the outstanding common equity of the registrant held by non-affiliates as of the last business day of the registrant's most recently completed second fiscal quarter was $512,770,254.

The number of shares of the registrant's ordinary shares outstanding as of February 16, 2017 was 87,072,949.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for its 2017 annual meeting of shareholders are incorporated by reference into Items 10, 11, 12, 13, and 14 of Part III of this Form 10-K. Such definitive proxy statement will be filed with the Securities and Exchange Commission within 120 days after the end of the registrant's fiscal year ended December 31, 2016.

TABLE OF CONTENTS

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

In addition to historical facts or statements of current condition, this report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements contained in this report are based on our current plans, expectations, hopes, beliefs, intentions or strategies concerning future developments and their impact on us. Forward-looking statements contained in this report constitute our expectations or forecasts of future events as of the date this report was filed with the Securities and Exchange Commission and are not statements of historical fact. You can identify these statements by the fact that they do not relate strictly to historical or current facts. Such statements may include words such as “anticipate,” “will,” “estimate,” “expect,” “project,” “intend,” “should,” “plan,” “believe and other words and terms of similar meaning in connection with any discussion of, among other things, future operating or financial performance, strategic initiatives and business strategies, regulatory or competitive environments, the commercialization of Optune and our other delivery systems, our intellectual property and delivery system research and development. In particular, these forward-looking statements include, among others, statements about:

- our research and development, clinical trial and commercialization activities and projected expenditures;
- the further commercialization of Optune and our delivery system candidates;
- our business strategies and the expansion of our sales and marketing efforts in the United States and in other countries;
- the market acceptance of Optune and our other delivery systems by patients, physicians, third-party payers and others in the healthcare and scientific community;
- our plans to pursue the use of TTFields delivery systems for the treatment of solid tumor cancers other than GBM;
- our estimates regarding revenues, expenses, capital requirements and needs for additional financing;
- our ability to obtain regulatory approvals for the use of TTFields in cancers other than GBM and any future delivery systems;
- our ability to acquire the supplies needed to manufacture our delivery systems from third-party suppliers;
- our ability to manufacture adequate supply;
- our ability to secure adequate coverage from third-party payers to reimburse us for our delivery systems;
- our ability to maintain and develop our intellectual property position;
- our cash needs; and
- our prospects, financial condition and results of operations.

These forward-looking statements involve a number of risks and uncertainties (some of which are beyond our control) or other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. Should one or more of these risks or uncertainties materialize, or should any of our assumptions prove incorrect, actual results may vary in material respects from those projected in these forward-looking statements. Some of these factors are described in Part I, Item IA, Risk Factors, of this Annual Report on Form 10-K. We do not intend to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

PART I

ITEM 1. BUSINESS

Overview

We are a commercial stage oncology company developing a profoundly different cancer treatment centered on a proprietary therapy called TTFields, the use of electric fields tuned to specific frequencies to disrupt solid tumor cancer cell division. Our key priorities are to accelerate commercial adoption of Optune, our first commercial TTFields delivery system, for the treatment of glioblastoma ("GBM") and to advance programs testing the efficacy and safety of TTFields in multiple solid tumor indications through our clinical pipeline.

We were founded in 2000 and operated as a development stage company through December 31, 2011. We initially received U.S. Food and Drug Administration ("FDA") approval for Optune in 2011 for use as a monotherapy treatment for adult patients with GBM following confirmed recurrence after chemotherapy. In October 2015, we received FDA approval to market Optune for the treatment of adult patients with newly diagnosed GBM in combination with temozolomide, a chemotherapy drug. We have also received approval to market Optune in Germany, Switzerland, Japan and certain other countries. We have built a commercial organization and launched Optune in the United States, Germany, Switzerland and Japan, which we refer to as our currently active markets. 2016 was marked by substantial growth in our business as compared to 2015, driven primarily by the October 2015 FDA approval for Optune in newly diagnosed GBM and the December 2015 publication of the EF-14 trial data in the Journal of the American Medical Association ("JAMA"), as further described below.

We have researched the biological effects of TTFields extensively. Because TTFields are delivered regionally, act only on dividing cells (a biological process to as mitosis) and are frequency tuned to target cancer cells of a specific size, we believe there is minimal damage to healthy cells. We believe our pre-clinical and clinical research demonstrates that TTFields' mechanism of action affects fundamental aspects of cell division and may have broad applicability across a variety of solid tumors. We have demonstrated in pre-clinical studies that TTFields can offer additive or synergistic benefits in combination with radiation, chemotherapy and immunotherapy, which may lead to greater efficacy than radiation, chemotherapy and immunotherapy alone, without significantly increasing the side effects when used in combination with other cancer treatments.

In addition to our clinical and commercial progress in GBM, we are currently planning or conducting clinical trials evaluating the use of TTFields in brain metastases, non-small-cell lung cancer (NSCLC), pancreatic cancer, ovarian cancer and mesothelioma. We anticipate expanding our clinical pipeline over time to study the safety and efficacy or TTFields for additional solid tumor indications.

We own all commercialization rights to TTFields in oncology. Our robust global patent and intellectual property portfolio consists of over 50 issued patents, with numerous additional patent applications pending worldwide. We believe we will maintain exclusive rights to market TTFields for all solid tumor indications in our key markets through the life of our patents.

We wereincorporated in the Bailiwick of Jersey in 2000. Our U.S. operations are located in Portsmouth, New Hampshire, Malvern, Pennsylvania, and New York City. Additionally, we have offices in Germany, Switzerland and Japan, and a research center in Israel. We completed our initial public offering ("IPO") of our ordinary shares in October 2015. Our ordinary shares are quoted on the NASDAQ Global Select Market under the symbol "NVCR."

Our therapy

Medical advancements have led to dramatic improvements in cancer survival in the last 50 years. In the United States, five-year survival for all cancers rose from 49% in the 1970s to 69% in this decade.

Despite meaningful advancements in cancer treatment, a significant unmet need to improve survival and quality of life remains. Of the 22,280 women diagnosed with ovarian cancer in the U.S. each year, only 46.2% live past five years. Of the 224,390 Americans diagnosed with lung cancer annually, only 17.7% are alive five years later. Of the 12,500 Americans diagnosed with GBM each year, only 9.8% survive five years. Of the 53,070 people diagnosed with pancreatic cancer in the U.S. each year, only 7.7% survive past the five-year mark. We believe we will establish TTFields as a profoundly different approach to cancer treatment for a variety of solid tumors that increases survival without significantly increasing side effects when used in combination with other cancer treatments.

Through the use of electric fields, we leverage physics to influence the biological process of mitosis, the process by which human cells divide. In 2000, we hypothesized that a distinct type of alternating electrical fields could specifically target growth of tumors, and named them Tumor Treating Fields, or TTFields. After more than a decade of preclinical research in over 15 different cancer cell lines, TTFields have consistently been shown to disrupt mitosis. In our clinical research to date, TTFields have been shown to be safe, with mild to moderate skin irritation being the most common side effect.

Essential to understanding TTFields is recognizing what electric fields are and how they can be utilized for medical applications. All fields exert forces on specific objects that are spatially located inside the field. For example, gravitational fields exert forces on masses, magnetic fields exert forces on iron and electric fields exert forces on polarized molecules. Electric fields at specific frequencies can be used across multiple medical applications. Low frequency or pulsed electric fields can depolarize cell membranes, as seen in artificial pacemakers, while high frequency electric fields can generate heat, as seen in radiofrequency ablation. Intermediate frequency electric fields, long thought to have no significant biological effect, have now been shown to inhibit the growth rate of a variety of cancer cell lines and cause cancer cell death.

We believe TTFields do not damage non-mitotic cells since the highly charged tubulin and septin proteins, which the TTFields target, are not assembled when a cell is not in mitosis. TTFields use low-intensity, alternating electric fields tuned to specific intermediate frequencies to disrupt the mitotic process essential to tumor growth. While many intracellular molecules are slightly polarized or neutral, some are highly polarized and are strongly affected by intermediate frequency alternating electric fields. For example, tubulin is a highly polarized molecule in cells that must orient spatially to form the mitotic spindle, which segregates chromosomes into two daughter cells during mitosis. In the presence of electric fields, tubulin aligns with the direction of the electric field, causing disruption of mitotic spindle formation and eventual cell death. Septin is another highly polarized molecule in cells that must orient spatially to form the contractile ring needed to split daughter cells during mitosis. In the presence of electric fields, septin aligns with the direction of the electric field, leading to improper localization of the contractile ring. This process causes membrane blebbing, a sign of cell damage, and eventual cell death.

The biological effects of alternating electric fields are dependent on the frequency of oscillation (kHz) and the field intensity (V/cm). To apply alternating electric fields to the body, two sets of transducer arrays are placed front-to-back and side-to-side to surround the region of treatment. The arrays are connected to an electric field generator. The electric field penetrates the entire volume of tissue surrounded by the arrays and, at the right frequency, enters the cells inside the field. The cell membrane serves as a filter for electric fields unless tuned to a specific frequency, with the frequency required to penetrate the membrane principally linked to cell size. Cancer cells tend to be a different size than surrounding normal healthy cells and, as a result, we believe treatment with TTFields selectively targets cancer cells while minimizing damage to normal cells. Additionally, since the molecules affected by TTFields are primarily those utilized during mitosis, proliferating cancer cells are affected more than resting, non-dividing normal cells. TTFields are regionally delivered to the tumor site rather than systemically delivered throughout the body and, as a result, the parts of the body not covered by TTFields are generally not affected.

Although it is currently only approved for the treatment of GBM, we believe the basic mechanism behind treatment with TTFields may be broadly applicable to solid tumors and is not limited to a specific tumor type or genetic marker. TTFields is intended principally for use in combination with other standard-of-care cancer treatments. Our preclinical experience to date has demonstrated that combining TTFields with radiation, chemotherapy or immunotherapy may lead to additive efficacy or stronger efficacy than the effect of either treatment alone, and in some cases synergistic efficacy, or stronger efficacy than the sum of the effects of both treatments. The synergistic effect is most pronounced in pre-clinical studies with certain taxane-based chemotherapies. Importantly, TTFields do not appear to increase the systemic toxicities of radiation, chemotherapy or immunotherapy. No dose-limiting cumulative toxicity has been reported with TTFields and we believe the basic mechanism of action is unlikely to result in a cumulative toxic effect. Treatment with TTFields is different than radiation, chemotherapy, and immunotherapy and we believe it can be combined with many of these therapies to enhance efficacy against multiple solid tumor types.

Treatment with TTFields is a profoundly different approach to cancer treatment. The mechanism of action – by disrupting polarized intracellular molecules using low-intensity, alternating electric fields – results in mitotic catastrophe and cell death. TTFields have been shown to have a mild side effect profile, and they may be combined with traditional cancer therapies to enhance efficacy without significantly increasing side effects.

Our technology

TTFields are delivered through a portable, medical device. The complete delivery system, which is designed to allow patients to go about their daily activities while receiving continuous cancer treatment, includes a portable electric field generator, transducer arrays, rechargeable batteries and accessories. Sterile, single-use transducer arrays are placed directly on the skin in the region surrounding the tumor and connected to the electric field generator to deliver therapy. Transducer arrays are changed when hair growth or the hydrogel reduces array adhesion to the skin, which is typically two to three times per week for our GBM patients. The therapy is designed to be delivered continuously throughout the day and night and efficacy is strongly correlated to compliance. If the device is not on, the patient is not being treated. The electric field generator can be run from a standard power outlet or carried with a battery in a specially designed bag that we provide to patients.

TTFields penetrate the volume of tissue between the arrays. The distribution of the field within a certain part of the body depends on the exact layout of the transducer arrays and the passive electrical properties, mainly resistance, of the different tissues between them.

Array placement is optimized for each patient using proprietary software called NovoTAL, based on morphometric measurements of the patient's anatomy according to a recent MRI scan and the location of the tumor.

In July 2016, we received FDA approval for the second generation Optune system, designed to make treatment with TTFields more convenient and manageable for GBM patients in order to improve patient compliance and acceptance. The second generation Optune system features a TTFields generator that is less than half the weight and half the size of the generator in the first generation Optune system. Including its battery, the second generation Optune system weighs approximately 2.7 pounds. The second generation Optune system has been available to patients in Germany and Switzerland since October 2015. We have submitted an application, currently under review, to the Japanese Ministry of Health, Labour and Welfare ("MHLW") to make our second generation Optune system available to patients in Japan and hope to receive approval in 2017.

We plan to use the same field generator technology across all indications for which TTFields are approved. We plan to specifically target individual solid tumor types by tuning the field generator to the appropriate frequency based upon tumor cell size and adjusting the output power to treat the required tumor tissue volume. Our transducer arrays have been developed and are in use, either commercially or clinically, for application on the head, chest and abdomen.

We plan to continue to enhance our TTFields delivery systems to improve ease of use for patients. We are currently in the final stages of development of a transducer array in a tan color (instead of white) for GBM patients, which is intended to be less conspicuous for patients using Optune. Pending applicable regulatory approvals, we hope to launch the tan transducer array in 2017. We are also working to develop a next generation transducer array intended to minimize the impact of wires and improve overall aesthetics through the use of new materials.

Our expenditures on research, development and clinical trials in each of the last three fiscal years are provided in Part II, Item 6 "Selected Financial Data."

Our commercial business

The first indication we pursued for TTFields was GBM, the most common form of primary brain cancer. GBM are tumors that arise from astrocytes – the star-shaped cells that make up the "glue-like," or supportive tissue of the brain. These tumors are usually highly malignant because the cells reproduce quickly and they are supported by a large network of blood vessels. GBM is an aggressive disease for which there are few effective treatment options.

Since the approval of temozolomide as a chemotherapy treatment in 2005, standard treatment for GBM generally includes maximal debulking surgery, radiation therapy with concomitant low-dose temozolomide and post radiation, high dose temozolomide. Prior to the approval of Optune, the median overall survival for patients with newly diagnosed GBM was approximately 15 months with standard therapies and two-year survival was approximately 30%. Five-year survival was under 10%.

We initially received FDA approval for Optune in 2011 for use as a monotherapy treatment for adult patients with GBM, following confirmed recurrence after chemotherapy. In October 2015, we received FDA approval of Optune for the treatment of adult patients with newly diagnosed GBM in combination with temozolomide in this indication. We have also received approval to market Optune in Germany, Switzerland, Japan and certain other countries. We have built a commercial organization and launched Optune for the treatment of GBM in the United States, Germany, Switzerland and Japan, which we refer to as our currently active markets. Refer to Part II, Item 8 "Financial Statements and Supplementary Data", Note 18, "Supplemental information" for more information regarding our assets and net revenues in the United States and foreign jurisdictions.

We estimate that:

- approximately 12,500 people are diagnosed with GBM or tumors that typically progress to GBM in the United States each year. Of this population, we estimate that approximately 9,300 patients are candidates for treatment with Optune based upon the rate of disease progression and medical eligibility.
- approximately 3,600 people are diagnosed with GBM or tumors that typically progress to GBM in Germany each year. Of this population, we estimate that approximately 2,700 patients are candidates for treatment with Optune based upon the rate of disease progression and medical eligibility.
- approximately 1,500 people are diagnosed with GBM or tumors that typically progress to GBM in Japan each year. Of this population, we estimate that approximately 1,100 patients are candidates for treatment with Optune based upon the rate of disease progression and medical eligibility.

EF-11 Clinical Trial Data for the treatment of recurrent GBM

We received FDA approval in 2011 to market Optune for use as a monotherapy treatment for adult patients with recurrent GBM. The FDA approved Optune based on the EF-11 trial, which was a randomized, active standard of care controlled phase 3 pivotal clinical trial. While the trial did not achieve its primary endpoint of superiority, the trial results indicate that monotherapy treatment with Optune provides patients with clinically comparable extension of survival compared to chemotherapy and that patients treated with Optune alone had significantly fewer side effects and an overall better quality of life than patients treated with chemotherapy alone.

The EF-11 trial was a multicenter, randomized (1:1), active controlled clinical trial of 237 adults with recurrent GBM. Participants received either TTFields as a monotherapy (n=120) or the physician's choice of chemotherapy (n=117). Chemotherapies chosen for the active control arm included mainly bevacizumab, nitrosureas and temozolomide. The primary endpoint for the trial was overall survival ("OS"). The secondary endpoints included progression free survival ("PFS") at six months ("PFS6"), radiological response rate, one-year survival rate, adverse event severity and frequency and quality of life. OS for patients treated with TTFields alone and active chemotherapy were 6.6 months and 6.0 months, respectively ($p=0.27$: HR = 0.86). PFS was not significantly different between the groups and PFS6 was numerically higher in the TTFields arm (21.4% vs. 15.2%).

The EF-11 trial demonstrated that patient compliance is important for successful outcomes. Patients who used TTFields more than 75% of the time had a significant survival advantage compared to those who used it less than 75% of the time (median survival was 7.8 months compared to 4.5 months, respectively; $p<0.05$).

Our commercial registry (PRiDe)

At the time of our initial commercial launch of Optune for recurrent GBM in 2011, we established a patient registry aimed at capturing information related to the use of TTFields in the real-world commercial setting, which we refer to as PRiDe. We collected Optune treatment data and OS data from all 457 recurrent GBM patients who commenced treatment with Optune in the United States between October 2011 and November 2013. Key findings from this peer-reviewed published data include:

- Compelling overall efficacy—Median OS was significantly greater with TTFields in PRiDe than in the EF-11 trial (9.6 months vs. 6.6 months; $p=0.0003$). OS rates were more than double for TTFields patients in PRiDe than in the EF-11 trial (one-year: 44% vs. 20%; two-year: 30% vs. 9%);
- Efficacy correlated to compliance—Patients for whom compliance data was available (n=287) who used Optune more than 75% of the time (the recommended minimum is 18 hours per day) had a significant survival advantage compared to those who used it less than 75% of the time (median survival was 13.5 months compared to 4.0 months, respectively; $p<0.0001$); and
- Consistent safety profile—No unexpected adverse events were detected in PRiDe. As in the EF-11 trial, the most frequent side effects were mild to moderate skin reactions associated with application of the transducer arrays.

EF-14 Clinical Trial Data for the treatment of newly diagnosed GBM

Concurrent with FDA approval of Optune for newly diagnosed GBM, we launched our marketing campaign, aimed to communicate the significant extension of survival outcomes shown in our phase 3 pivotal EF-14 trial (EF-14) which compared, post radiation, Optune plus temozolomide versus temozolomide alone for the treatment of newly diagnosed GBM. The primary endpoint of the trial was PFS and a powered secondary endpoint was OS.

In the EF-14 interim analysis of the per-protocol population of 315 patients, upon which FDA approval was based, Optune plus temozolomide ("TMZ") significantly extended median overall survival by 4.9 months from 15.6 months for TMZ alone to 20.5 months for Optune plus TMZ ($p=0.0042$). Optune plus TMZ also significantly improved

progression free survival by 3.2 months (p=0.0013). Quality of life was maintained with Optune plusTMZ. The EF-14 interim analysis results were published in JAMA in December 2015. In July 2016, the National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology® (NCCN Guidelines®) for Central Nervous Systems Cancers were updated and now include alternating electric fields therapy (Optune) in combination with TMZ following standard brain radiation therapy with concurrent TMZ as a Category 2A recommended postoperative adjuvant treatment option for patients with newly diagnosed supratentorial GBM.

The EF-14 long-term analysis of the intent-to-treat population of 695 patients was presented at the Annual Meeting of the Society for Neuro-Oncology in November 2016. In the long-term analysis, Optune plus TMZ extended median overall survival by 4.8 months from 16.0 months for TMZ alone to 20.8 months for Optune plus TMZ (p<0.0006: HR 0.65). Optune plus TMZ extended median progression free survival by 2.7 months from 4.0 months for TMZ alone to 6.7 months for Optune plus TMZ (p<0.0001: HR 0.63), consistent with the interim analysis. Optune plus TMZ demonstrated unprecedented long-term survival compared toTMZ alone

through 4 years. There was a 70% improvement in survival with Optune plus TMZ (17%) versus TMZ alone (10%) at 4 years (p=0.028).

The following graph presents the progression-free survival data in the intent-to-treat population from our long-term analysis:

The following graph presents the overall survival data in the intent-to-treat population from our long-term analysis:

The significant extension of progression free and overall survival in patients receiving Optune in combination with TMZ in the EF-14 trial was seen in all patient subgroups and was not specific to any prognostic subgroup or tumor genetic marker. Optune was safely combined with TMZ with no significant increase in serious adverse events compared with TMZ alone. The most common side effect related to Optune was mild to moderate skin irritation.

Commercial Execution

Optune is a profoundly different treatment for GBM, and our first commercial priority in each market is to generate awareness. In the United States, we believe we have achieved high levels of awareness amongst neuro-oncologists practicing in academic centers. We remain focused on developing awareness amongst radiation and medical oncologists who see a high volume of GBM patients outside of the academic center setting. Increasing awareness is also a key focus of our commercial efforts in Germany, Switzerland and Japan. In addition to establishing awareness, our commercial efforts also focus to ensure Optune is perceived as a standard of care for GBM. Healthcare providers must undergo a certification training in order to prescribe Optune. As of December 31, 2016, we had more than 60 sales force colleagues globally, responsible for promotion to certified prescribers at more than 775 centers, including certified prescribers at 490 clinical centers in the United States, 155 clinical centers in Europe (including 121 in Germany), and 131 clinical

centers in Japan. Once a certified prescriber decides to use Optune as a treatment option for patients, our efforts shift to ensuring the prescriber has the necessary resources to effectively discuss treatment with Optune with their patients and to complete the prescription process. We believe that, unlike traditional cancer therapies, the patient perception of treatment plays a significant role in determining whether or not a prescription for Optune is written and subsequently filled. Therefore, we have also focused efforts on developing targeted tools to support the physician-patient dialogue and patient education.

We believe we have the experience, expertise and infrastructure to scale our sales and marketing efforts in our key markets. In addition to our commercial organization, we believe we have established a scalable supply chain.

We currently operate as a direct-to-patient distributor of Optune in the United States and EMEA. Once an appropriate Optune patient is identified by a certified prescriber, the healthcare provider's office submits a prescription order form and supporting documentation to us. We employ a team of device support specialists who provide technical training to the patient and caregiver. Once treatment is initiated, we provide 24/7 technical support for patients and caregivers as well as assistance with insurance reimbursement. We also provide the healthcare provider and the patient with a monthly compliance report for monitoring patient use of Optune. Upon reimbursement approval in Japan, we expect to distribute our product through hospitals and to provide patient support services under a contractual arrangement with the hospital.

Prescriptions are a leading indicator of demand. In 2016, 2,808 prescriptions were received , an increase of 58% versus 2015. Of those prescriptions, 2,344 were received in the U.S. and 464 were received outside of the U.S., primarily in Europe. A prescription is a commercial order for Optune that is received from a physician certified to treat patients with TTFields therapy for a patient not previously on TTFields therapy. Orders to renew or extend treatment are not included in this total. The conversion of prescriptions to new patients is driven by the prescription fill rate and the time to fill. In 2016, our prescription fill rate was between 70-75% each quarter.

The number of active patients on therapy is our principal revenue driver. There were 1,091 active patients on Optune therapy at December 31, 2016, an increase of 80% versus December 31, 2015. Of the global active patients, there were 835 active patients in the United States and 256 active patients in our EMEA markets. An active patient is a patient who is on TTFields therapy under a commercial prescription order as of the measurement date, including patients who may be on a temporary break from treatment and who plan to resume treatment in less than 60 days. Growth in the number of active patients is a factor of both new patient starts and treatment duration. Median treatment duration differs based upon the clinical diagnosis of the patient. For the twelve months ended December 31, 2016, approximately 54% of prescriptions received were for patients with newly diagnosed GBM. Median treatment duration for patients with recurrent GBM was 4.1 months in our published commercial registry data and 8.2 months in the long-term analysis of our EF-14 trial in newly diagnosed GBM.

Our clinical pipeline

Based on the results of our pre-clinical research, we have developed a pipeline strategy to advance TTFields through phase 2 pilot and phase 3 pivotal trials across multiple solid tumor types. We anticipate expanding our clinical pipeline over time to apply TTFields to additional solid tumor indications.

Current Clinical Pipeline

The solid tumor types subject to our phase 2 pilot and phase 3 pivotal trails are described in greater detail below, as well as additional details regarding these trials.

6

Brain metastases

Metastatic cancer is cancer that has spread from the place where it first started to another place in the body. In metastasis, cancer cells break away from where they first formed (the primary cancer), travel through the blood or lymph system, and form new tumors (the metastatic tumors) in other parts of the body. The exact incidence of brain metastases is unknown because no national cancer registry documents brain metastases. However, it has been estimated that 98,000 to 170,000 new cases are diagnosed in the United States each year, 75,000 new cases are diagnosed in Europe each year, and 13,000 new cases are diagnosed in Japan each year. Brain metastases occur in roughly 15% of all cancer patients, and we believe that approximately 40% of brain metastases are a result of NSCLC.

As with GBM, brain metastases are commonly treated with a combination of surgery and radiation. Chemotherapy is often given for the primary tumor, but many chemotherapy agents do not cross the blood brain barrier and are thus ineffective in the treatment of brain metastases. When brain metastases appear, they are either surgically removed or treated with radiation using stereotactic radiosurgery ("SRS") when possible. Whole brain radiation therapy ("WBRT"), although effective in delaying progression or recurrence of brain metastases when given either before or after SRS, is associated with neurotoxicity with a significant decline in cognitive and emotional functioning. Thus, WBRT is often delayed until later in the disease course and is often used as a last resort. This practice results in a window of unmet need after localized surgery and SRS are used and before WBRT is administered to delay or prevent the additional spread of brain metastases.

Phase 3 pivotal trial

In October 2016, we enrolled the first patient in our METIS trial, a phase 3 pivotal trial testing the effectiveness of SRS plus TTFields compared to SRS alone in patients with brain metastases resulting from NSCLC. We have opened the trial to 270 patients and anticipate enrolling the last patient in 2019. We anticipate data will be available for presentation approximately 12 months following last patient enrollment.

Non-small cell lung cancer

Lung cancer is the most common cause of cancer-related death worldwide, and NSCLC accounts for approximately 85% of all lung cancers. The incidence of NSCLC is approximately 214,000 new cases annually in the United States, approximately 350,000 new cases annually in Europe, and approximately 95,000 new cases annually in Japan.

Physicians use different combinations of surgery, radiation and pharmacological therapies to treat NSCLC, depending on the stage of the disease. Surgery, which may be curative in a subset of patients, is usually used in early stages of the disease. Since 1991, radiation with a combination of platinum-based chemotherapy drugs has been the first line standard of care for locally advanced or metastatic NSCLC. The standard of care for second line treatment is evolving and may include may include pemetrexed, docetaxel or specific PD-1 inhibitors immunotherapies.

Phase 2 pilot trial

In July 2013, we published the results of our phase 2 pilot trial evaluating the safety and efficacy of TTFields in the treatment of advanced NSCLC. The pilot study focused on the effects of treatment with TTFields in combination with standard of care pemetrexed chemotherapy. Results of the pemetrexed Phase 3 FDA registration trial were used as historical controls in this trial.

A total of 42 patients were recruited to the study with a minimum follow-up of six months. Efficacy results based on 41 evaluable patients showed both PFS and OS for patients receiving TTFields in combination with pemetrexed increased compared to historical control data for pemetrexed alone. Median PFS in the TTFields-treated group was

6.5 months (compared to 2.9 months in pemetrexed historical controls) and median OS was 13.8 months (compared to 8.3 months in historical controls). Adverse events reported in this combination study were comparable to those reported with pemetrexed alone, suggesting minimal added toxicities due to TTFields.

Phase 3 pivotal trial

We have developed a protocol for a phase 3 pivotal trial, which we believe incorporates the evolving standard of care for second-line treatment of NSCLC. Our LUNAR trial will examine TTFields in combination with PD-1 inhibitors or docetaxel versus PD-1 inhibitors or docetaxel alone. We enrolled the first patient in our LUNAR trial in February 2017, and the trial is planned to enroll 512 patients. We anticipate data will be available for presentation approximately 18 months following last patient enrollment.

Pancreatic cancer

Pancreatic cancer is one of the most lethal cancers: it is the fourth most frequent cause of death from cancer in the United States and causes more than 330,000 deaths worldwide every year. In contrast to the decrease in mortality from other cancers over the past decade, pancreatic cancer death rates have been slowly increasing in the United States. The incidence of pancreatic cancer is 53,000 new cases annually in the United States, approximately 110,000 new cases annually in Europe, and approximately 33,000 new cases annually in Japan.

Physicians use different combinations of surgery, radiation and pharmacological therapies to treat pancreatic cancer, depending on the stage of the disease. For patients with locally advanced pancreatic cancer involving encasement of arteries but no extra-pancreatic disease, the standard of care is chemotherapy and radiation with or without surgery. Unfortunately, the majority of cases are diagnosed once the cancer is at a late stage and/or has metastasized to other parts of the body, generally leaving chemotherapy as the only treatment option.

Phase 2 pilot trial

We have completed a phase 2 pilot trial in advanced pancreatic adenocarcinoma, the PANOVA trial, examining TTFields in combination with standard of care chemotherapy.

The first cohort was a single-arm, open-label, historically-controlled, multi-center trial designed to test the feasibility, safety and preliminary efficacy of TTFields in combination with the chemotherapy gemcitabine. This cohort included 20 patients with advanced pancreatic cancer whose tumors could not be removed surgically and who had not received chemotherapy or radiation therapy prior to the clinical trial with a minimum follow-up of six months. Results of the first cohort were presented at the American Society of Clinical Oncology Gastrointestinal Cancers Symposium in January 2016. Results of the nab-paclitaxel phase 3 FDA registration trial were used as historical controls in this trial.

In the first cohort, efficacy results showed that PFS and OS of patients treated with TTFields combined with gemcitabine were more than double those of gemcitabine-treated historical controls. Median PFS in the TTFields-treated group was 8.3 months (compared to 3.7 months in gemcitabine historical controls) and median OS was 14.9 months (compared to 6.7 months in gemcitabine historical controls). Median one-year survival was 55% (compared to 22% in gemcitabine historical controls). Thirty percent of the evaluable tumors, or 19 patients in total, had partial responses (compared to 7% with gemcitabine alone) and another 30% had stable disease, which means that the cancer is neither decreasing nor increasing in extent or severity.

Following the approval of nab-paclitaxel, a taxane-based chemotherapy, for the treatment of advanced pancreatic cancer, we expanded this study to include a second cohort of 20 patients that were treated with TTFields in combination with nab-paclitaxel and gemcitabine. Topline results of the second cohort were announced in December 2016.

In the second cohort, efficacy results showed that PFS and OS of patients treated with TTFields combined with nab-paclitaxel plus gemcitabine were more than double those of nab-paclitaxel plus gemcitabine-treated historical controls. Median PFS in the TTFields-treated group was 12.7 months (compared to 5.5 months in nab-paclitaxel plus gemcitabine historical controls) and median OS was not yet reached. Median one-year survival was 72% (compared to 35% in nab-paclitaxel plus gemcitabine historical controls). Forty percent of the evaluable tumors had partial responses (compared to 23% with nab-paclitaxel plus gemcitabine alone) and another 47% had stable disease.

Safety results from both cohorts suggested that TTFields plus first-line chemotherapies nab-paclitaxel and/or gemcitabine may be tolerable and safe in patients with advanced pancreatic cancer. Patients reported no serious adverse events related to TTFields.

Phase 3 pivotal trial

Based on our phase 2 pilot trial results, we expect to commence a phase 3 pivotal trial in 2017. We anticipate data will be available for presentation approximately 18 months following last patient enrollment.

Ovarian cancer

In the United States, ovarian cancer accounts for approximately 3% of cancers among women, but causes more deaths than any other cancer of the female reproductive system. Ovarian cancer incidence increases with age, and the median age at time of diagnosis is 63 years old. The incidence of ovarian cancer globally is approximately 22,000 new cases annually in the United States, approximately 65,000 new cases annually in Europe, and approximately 9,000 new cases annually in Japan.

Physicians use different combinations of surgery and pharmacological therapies to treat ovarian cancer, depending on the stage of the disease. Surgery is usually used in early stages of the disease and is usually combined with chemotherapy, including paclitaxel and platinum-based chemotherapy. Unfortunately, the majority of patients are diagnosed at an advanced stage when the cancer has spread outside of the ovaries to include regional tissue involvement and/or metastases. Platinum-based chemotherapy remains the standard of care in advanced ovarian cancer, but most patients with advanced ovarian cancer will have tumor progression or, more commonly, recurrence. Almost all patients with recurrent disease ultimately develop platinum resistance, and the prognosis for this population remains poor.

Phase 2 pilot trial

We have completed a 30 patient phase 2 pilot trial in recurrent ovarian cancer, the INNOVATE trial, examining TTFields in combination with standard of care chemotherapy. This trial was a single-arm, open-label, historically-controlled, multi-center study, designed to test the feasibility, safety and preliminary efficacy of TTFields in combination with weekly paclitaxel. Topline results were announced in December 2016. The paclitaxel control arm from the bevacizumab phase 3 FDA registration trial was used as historical controls in this trial.

A total of 30 patients were recruited to the study with a minimum follow-up of six months. Safety results suggested that TTFields in combination with weekly paclitaxel may be tolerable and safe as first-line treatment for patients with recurrent ovarian cancer. Median PFS in the TTFields-treated group was 8.9 months (compared to 3.9 months in paclitaxel-alone historical controls) and median OS was not yet reached. Median one-year survival was 61%. Efficacy results based on the 30 evaluable patients suggested more than doubling of the PFS and an improvement in OS among patients who received TTFields therapy with paclitaxel compared to paclitaxel alone. We plan to submit this data for presentation at a medical conference in 2017.

Phase 3 pivotal trial

Based on our phase 2 pilot trial results, we are developing the trial design for a phase 3 pivotal trial in recurrent ovarian cancer.

Mesothelioma

Malignant mesothelioma is a rare thoracic solid tumor cancer that has been strongly linked to asbestos exposure. It has a long latency period of at least 20-30 years following exposure, and global incidence is still increasing in countries where asbestos is still in use. There are approximately 3,000 new cases of mesothelioma annually in the United States, an estimated incidence of 1,000 new cases annually in Japan and a predicted peak of approximately 9,000 male deaths from mesothelioma in Western Europe that may occur around the year 2018. The prognosis of mesothelioma patients is very poor, with a median OS of approximately 12 months in most reported studies. Mesothelioma is often limited to the thoracic cavity and progresses regionally, making it an attractive target for TTFields.

Physicians use different combinations of surgery and pharmacological therapies to treat mesothelioma, depending on the stage of the disease. Surgery may be used for patients with early stage disease. However, most cases are diagnosed once the cancer is at a later stage, involving extensive tumor growth and regional lymph node spread, and surgical resection for the treatment of mesothelioma is feasible for only a minority of patients. First line standard of care treatment includes pemetrexed, a chemotherapy, in combination with platinum-based chemotherapy, including carboplatin or cisplatin. Second-line treatments may include oxaliplatin, gemcitabine, vinorelbine or immunotherapies. Despite the many advances in chemotherapy made in recent decades, treatment effectiveness remains very limited.

Phase 2 pilot trial

We have an ongoing phase 2 pilot trial, the STELLAR trial, in 80 patients with mesothelioma. The STELLAR trial is a single-arm, open-label, multi-center trial designed to test the efficacy and safety of TTFields in combination with pemetrexed combined with cisplatin or carboplatin in patients with unresectable, previously untreated malignant mesothelioma. The historical control for this trial is the results of the 2003 pemetrexed phase 3 FDA registration trial.

An interim analysis of the first 42 patients enrolled in the trial with an average follow-up time of 11.5 months was presented at the International Association for the Study of Lung Cancer in December 2016. The one-year survival rate of patients treated with TTFields combined with pemetrexed and cisplatin or carboplatin was 80% (compared to 50% in pemetrexed and cisplatin-alone historical controls). Median PFS in the TTFields-treated group was 7.3 months (compared to 5.7 months in pemetrexed and cisplatin-alone historical controls) and one-year survival rate was 79.7% (compared to 50.3% in pemetrexed and cisplatin-alone historical controls). Median OS had not yet been reached. No device-related serious adverse events had been reported to date.

We expect to finish enrollment of the STELLAR trial in 2017 and, with 12 month follow up following last patient enrollment, anticipate data will be available for presentation in 2018.

Manufacturing

We outsource production of all of our system components to qualified partners. Disposable transducer array manufacturing, the dominant activity in our manufacturing supply chain, includes several specialized processes. Production of the durable system components follows standard electronic medical device methodologies.

We have formal supply agreements with our third-party manufacturing partners. We hold safety stocks of single source components to protect our production capacity.

We currently source the ceramic discs used in the transducer arrays for Optune from Harris Corporation, which is currently our single-source supplier for these components. We have identified and qualified an additional supplier, and we anticipate entering into a supply agreement with that supplier. Our current agreement with Harris Corporation continues through July 21, 2017. We currently do not intend to renew this supply agreement under the current terms. In addition to certain other customary termination rights, Harris Corporation can terminate this agreement with 90 days' written notice if we breach any of our material obligations under the agreement. Agreements with our other suppliers range from terms of four years to ten years and are terminable by either party, generally between 180 days' and 12 months' written notice. See "Risk factors—We depend on single-source suppliers for some of our components. The loss of these suppliers could prevent or delay shipments of Optune, delay our clinical trials or otherwise adversely affect our business."

We are developing second sources for all critical materials. We have qualified a second source for the transducer array subassemblies and transducer array finished assemblies. These sources are able to ship product for use outside of the United States and will be able to ship product for use within the United States pending regulatory approval. As noted above, we have qualified a second source for the transducer array ceramic discs and plan to accept the first production shipments in the first half of 2017. We anticipate that the diversification of the supply chain will both ensure a continuity of supply and reduce costs.

Billing and reimbursement

We provide Optune directly to patients in the United States, Germany and Switzerland following receipt of a prescription order. We bill payers a single monthly fee for a month of therapy and we bear the financial risk of securing payment from patients and third-party payers in these markets. We expect to distribute our product through hospitals in Japan and bill a monthly fee to the hospital for its use. The monthly list price for Optune is $21,000 in the United States and €21,000 in the European Union.

As we enter each new market, our commercial activities focus initially on establishing the required in-market infrastructure, certifying physicians to prescribe Optune and obtaining a defined reimbursement pathway. Once a defined reimbursement pathway is established, our commercial efforts turn to increasing adoption.

As of January 1, 2017, more than 180 million Americans have coverage of Optune for newly diagnosed and/or recurrent GBM. Additionally, we have negotiated contracts to establish Optune as an in-network benefit for more than 130 million American lives. In 2016, between 20 and 25% of our active U.S. patients were beneficiaries of the Medicare fee-for-service program, which has denied coverage for our claims to date, and we are actively appealing these coverage denials. We are unable to bill our existing Medicare fee-for-service patients for amounts not paid by Medicare. Therefore, we may absorb the costs of treatment for amounts not paid by Medicare.

We appeal Medicare coverage denials through the Administrative Law Judge ("ALJ") process with Centers for Medicare and Medicaid Services ("CMS"). Currently, there are significant delays in the assignment of ALJ cases and as of December 31, 2016 no new cases were being scheduled. Thus, we anticipate that, even if we are successful in winning our appeals, we will experience a significant delay in securing payment for Medicare patients when Medicare's DME MACs deny coverage for patients who start therapy.

The German healthcare reimbursement system is a mix of public and private payers all operating under government regulatory oversight. Medical device-based therapies are eligible for reimbursement under multiple pathways with varying clinical and effectiveness evidence requirements for each pathway. We have submitted an application to the Federal Joint Committee (Gemeinsamer Bundesausschuss) to review our proposed reimbursement review pathway for Optune. In Germany, we are currently able to bill healthcare payers for individual cases and each case is evaluated individually on its merits and under the payer's specific rules for such cases.

Switzerland has a mandatory private social health insurance system and the federal government sets the maximal allowable public price for therapies. We submitted our application to the Federal Office of Public Health in Switzerland to secure a defined reimbursement rate for Optune based upon the interim analysis of the EF-14 clinical trial data. We intend to submit a revised reimbursement filing in 2017 to include the long-term analysis of the EF-14 clinical trial data. Until we secure a defined reimbursement rate, payment is not guaranteed.

Japan operates a universal health insurance system strictly regulated by the government. We are preparing our application to the MHLW to secure a defined reimbursement rate for Optune based on the December 2016 regulatory approval of Optune to treat newly diagnosed GBM. Until we secure MHLW reimbursement approval, our commercial efforts are limited to the privately insured patient population.

Intellectual property

We own all commercialization rights to TTFields in oncology. Our robust global patent and intellectual property portfolio consists of over 50 issued patents, with numerous additional patent applications pending worldwide. The patents have expected expiration dates between 2021 and 2031. We have also filed over 45 additional patent applications that, if issued, may protect aspects of our platform beyond 2034. We believe we will maintain exclusive rights to market TTFields for all solid tumor indications in our key markets through the life of our patents. However, our reliance on intellectual property involves certain risks, as described under the heading “Risk factors—Risks relating to intellectual property.”

In addition to our patent portfolio, we further protect our intellectual property by maintaining the confidentiality of our trade secrets, know-how and other confidential information. Given the length of time and expense associated with bringing delivery systems candidates through development and regulatory approval to the market place, the healthcare industry has traditionally placed considerable importance on obtaining patent protection and maintaining trade secrets, know-how and other confidential information for significant new technologies, products and processes.

Our policy is to require each of our employees, consultants and advisors to execute a confidentiality agreement before beginning their employment, consulting or advisory relationship with us. These agreements generally provide that the individual must keep confidential and not disclose to other parties any confidential information developed or learned by the individual during the course of their relationship with us except in limited circumstances. These agreements also generally provide that we own, or the individual is required to assign to us, all inventions conceived by the individual in the course of rendering services to us.

On February 10, 2015, we entered into a settlement agreement, or the Settlement Agreement, with the Technion, whereby we agreed to resolve certain potential disputes among us, the Technion and Professor Yoram Palti, our Chief Technology Officer and a member of our board of directors, arising out of certain intellectual property that Professor Palti developed while affiliated with the Technion and that Professor Palti has assigned to us. In settlement of these potential disputes, we agreed to pay the Technion an aggregate of $7.5 million, including $1.0 million that was paid on the date of the agreement, an additional $1.0 million that was paid upon the completion of the IPO and an additional $5.5 million that will be payable within five business days (1) if we achieve $250.0 million of cumulative net sales since inception at the end of any given quarter or (2) upon consummation of an M&A transaction, which includes any merger to the extent it involves a change of control, the sale of all or substantially all of our assets or shares, the sale of or exclusive license to our intellectual property or a similar transaction.

In addition, pursuant to the terms of the Settlement Agreement, we granted the Technion an option to acquire an additional 1,005,210 ordinary shares at any time upon the first to occur of (1) 12 months following the IPO or (2) immediately prior to the sale of the company for cash or publicly traded stock. There was no exercise price on this option. Technion exercised its option in October 2016 and, accordingly, we issued 1,005,210 ordinary shares to

Technion in October 2016. No royalties are owed to the Technion or Professor Palti.

In 2005, we granted an exclusive license to a third party, NovoBiotic LLC, to certain of our key intellectual property for use outside the field of oncology. We are not entitled to any future revenues from this license.

Competition

The market for cancer treatments is intensely competitive, subject to rapid change and significantly affected by new product and treatment introductions and other activities of industry participants. The general bases of competition are overall effectiveness, side effect profile, availability of reimbursement and general market acceptance of a product as a suitable cancer treatment.

We believe our intellectual property rights would provide an obstacle to the introduction of TTFields delivery systems by a competitor, and we intend to protect and enforce our intellectual property. In addition, even after the expiration of our U.S. patents,

potential market entrants applying low-intensity, alternating electric fields to solid tumors in the United States will have to undertake their own clinical trials and regulatory submissions to prove equivalence to TTFields, a necessary step in receiving regulatory approvals for a competing product.

Presently, the traditional biotechnology and pharmaceutical industries expend significant resources in developing novel and proprietary therapies for the treatment of solid tumors, including GBM and the other indications that we are currently investigating. As we work to increase market acceptance of TTFields, we compete with companies commercializing or investigating immunotherapies, targeted therapies and other anti-cancer therapies, some of which are in clinical trials for GBM that currently specifically exclude patients who have been or are being treated with TTFields.

Government regulation

Our delivery systems and operations are subject to extensive regulation by the FDA under the Federal Food, Drug, and Cosmetic Act ("FDCA") and by agencies and notified bodies of the countries or regions in which we develop and market our delivery systems. In addition, our delivery systems must meet the requirements of a large and growing body of international standards that govern the pre-clinical and clinical testing, manufacturing, labeling, certification, storage, recordkeeping, advertising, promotion, export and marketing and distribution, among other things, of TTFields and our delivery systems.

In the U.S., advertising and promotion of medical devices, in addition to being regulated by the FDA, are also regulated by the Federal Trade Commission and by state regulatory and enforcement authorities. Promotional activities for FDA-regulated products of other companies have been the subject of enforcement action brought under healthcare reimbursement laws and consumer protection statutes. In addition, under the federal Lanham Act and similar state laws, competitors and others can initiate litigation relating to unfair competition based on advertising claims. In addition, we are required to meet regulatory requirements in countries outside the United States, which can change rapidly with relatively short notice.

Our research, development and clinical programs, as well as our manufacturing and marketing operations, are subject to extensive regulation in the United States and other countries.

Failure by us or by our suppliers to comply with applicable regulatory requirements can result in enforcement action by the FDA or other regulatory authorities, which may result in any number of regulatory enforcement actions, or civil or criminal liability.

Food and Drug Administration

The FDA regulates the development, testing, manufacturing, labeling, storage, recordkeeping, promotion, marketing, distribution and service of medical devices in the United States to ensure that medical products distributed domestically are safe and effective for their intended uses. In addition, the FDA regulates the export of medical devices manufactured in the United States to international markets and the importation of medical devices manufactured abroad.

The FDA governs the following activities that we perform or that are performed on our behalf:

- product design, development and manufacture;
- product safety, testing, labeling and storage;
- record keeping procedures;
- product marketing, sales and distribution; and

- post-marketing surveillance, complaint handling, medical device reporting, reporting of deaths, serious injuries or device malfunctions and repair or recall of products.

We have registered three of our facilities with the FDA. The FDA has broad post-market and regulatory enforcement powers. We are subject to announced and unannounced inspections by the FDA to determine our compliance with the Quality System Regulation, or QSR, and other regulations and these inspections include the manufacturing facilities of our suppliers.

FDA's premarket clearance and approval requirements

Unless an exemption applies, before we can commercially distribute medical devices in the United States, we must obtain, depending on the type of device, either prior 510(k) clearance or premarket approval ("PMA") from the FDA. The FDA classifies medical devices into one of three classes. Devices deemed to pose lower risks are placed in either class I or II, which typically requires the manufacturer to submit to the FDA a premarket notification requesting permission to commercially distribute the device. This process

is generally known as 510(k) clearance. Some low-risk devices are exempted from this requirement. Devices deemed by the FDA to pose the greatest risks, such as life-sustaining, life-supporting or implantable devices, or devices deemed not substantially equivalent to a previously cleared 510(k) device, are placed in class III, requiring PMA approval.

Premarket approval (PMA) pathway

Optune, which is the only delivery system we have marketed in the United States, is classified as a Class III device as it is deemed a life-sustaining device. Accordingly, we were required to receive PMA approval for Optune, which the FDA granted in April 2011 and October 2015 for the treatment of recurrent and newly diagnosed GBM, respectively, in adult patients. We expect that we will be required to receive PMA approval for future indications (and the applicable delivery systems for such indications) using TTFields.

A PMA must be supported by extensive data, including from technical tests, pre-clinical studies and clinical trials, manufacturing information and intended labeling to demonstrate, to the FDA's satisfaction, the safety and effectiveness of a medical device for its intended use. During the PMA review period, the FDA will typically request additional information or clarification of the information already provided. Also, an advisory panel of experts from outside the FDA may be convened to review and evaluate the application and provide recommendations to the FDA as to the approvability of the device. The FDA may or may not accept the panel's recommendation. In addition, the FDA will generally conduct a pre-approval inspection of the manufacturing facility or facilities to ensure compliance with QSRs. Prior to approval of the Optune PMA for the treatment of recurrent GBM, we and our critical component suppliers were each inspected by the FDA.

New PMAs or PMA supplements are required for modifications that affect the safety or effectiveness of our delivery systems, including, for example, certain types of modifications to a delivery system's indication for use, manufacturing process, labeling and design. PMA supplements often require submission of the same type of information as a PMA, except that the supplement is limited to information needed to support any changes from the device covered by the original PMA and may not require any or as extensive clinical data as the original PMA required, or the convening of an advisory panel. The FDA requires a company to make the determination as to whether a new PMA or PMA supplement application is to be filed. If a company determines that neither a new PMA or PMA supplement application is required for modifications, it must nevertheless notify the FDA of these modifications in its PMA Annual Report. The FDA may review a company's decisions when reviewing the PMA Annual Report and require the filing of an application.

We have received approval for a number of PMA supplements since approval of the PMA for recurrent GBM, including for modifications to Optune's electric field generator, transducer arrays, software, manufacturing processes and labeling. In October 2015, we received FDA approval to expand our label for Optune to include the treatment of newly diagnosed GBM. Most recently, in July 2016, we received FDA approval for our second generation Optune system. Future modifications may be considered by us as the need arises, some of which we may deem to require a PMA supplement application and others to require reporting in our PMA Annual Report.

Clinical trials

Clinical trials are generally required to support a PMA. Such trials generally require an investigational device exemption application ("IDE") approved in advance by the FDA for a specified number of patients and study sites, unless the product is deemed a nonsignificant risk device eligible for more abbreviated IDE requirements. Clinical trials are subject to extensive monitoring, recordkeeping and reporting requirements. Clinical trials must be conducted under the oversight of an institutional review board ("IRB") for the relevant clinical trial sites and must comply with FDA regulations, including those relating to good clinical practices. To conduct a clinical trial, we also are required to

obtain the patients' informed consent in form and substance that complies with both FDA requirements and state and federal privacy and human subject protection regulations. We, the FDA or the respective IRB could suspend a clinical trial at any time for various reasons, including a belief that the risks to study subjects outweigh the anticipated benefits. Even if a trial is completed, the results of clinical testing may not adequately demonstrate the safety and efficacy of the device or may otherwise not be sufficient to obtain FDA approval to market the product in the United States.

Post-approval studies are also typically required as a condition of PMA approval to demonstrate reasonable assurance of safety and effectiveness. Such studies are conducted in the post-market setting with the approved device, often to address the long-term use of the device or other discrete questions that may have been raised based on the clinical data from the IDE clinical study. The FDA required a post-approval study as a condition of approval for Optune for recurrent GBM. We have obtained approval of the protocol for this study and are currently enrolling patients.

Foreign approvals and CE mark

Sales and marketing of medical devices outside of the United States are subject to foreign regulatory requirements that vary widely from country to country. These include the requirement to affix a CE mark to our medical devices in the European Union. Whether or not we have obtained FDA approval, our delivery systems must be subject to conformity assessment procedure in which a notified body can be involved. Apart from low risk medical devices (Class I with no measuring function and which are not sterile), where the manufacturer can issue a declaration of conformity based on a self-assessment of the conformity of its products with the Essential Requirements laid down in the Medical Devices Directive, a conformity assessment procedure requires the intervention of a notified body. The notified body typically audits and examines products' technical file and the quality system for the manufacture, design and final inspection of our devices before issuing a CE Certificate of Conformity demonstrating compliance with the relevant Essential Requirements or the quality system requirements laid down in the relevant Annexes to the Medical Devices Directive. Following the issuance of this CE Certificate of Conformity, we can draw up a declaration of conformity and affix the CE mark to the delivery systems covered by this CE Certificate of Conformity and the declaration of conformity. The time required to CE mark our delivery systems or to obtain approval from other foreign authorities may be longer or shorter than that required for FDA approval. Pursuant to a mutual recognition agreement, our products bearing a CE mark may be exported to Switzerland. In the European Union, a clinical study must receive a positive opinion from a local ethics committee and approval from the competent authority in the applicable EU member states in which the clinical study is conducted. When a clinical study relates to a CE marked medical device that will be used as part of the study according to its CE mark intended purpose, the approval of the competent authorities is not required. In Japan, we must obtain approvals from the MHLW to market our delivery systems. The foreign regulatory approval process includes all the risks associated with FDA regulation, as well as country-specific regulations.

Pervasive and continuing regulation

After a device is placed on the market, numerous regulatory requirements apply. These include:

- product listing and establishment registration, which helps facilitate FDA inspections and other regulatory action;
- QSR, which requires manufacturers, including third-party manufacturers, to follow stringent design, testing, control, documentation and other quality assurance procedures during all aspects of the manufacturing process for products marketed in the United States;
- labeling regulations and FDA and equivalent foreign competent authority requiring promotion is truthful and non-misleading and prohibiting the promotion of products for uncleared, unapproved or off-label uses;
- approval of product modifications that affect the safety or effectiveness of one of our delivery systems that has been approved or is the subject of a CE Certificate of Conformity;
- Medical Device Reporting regulations of the FDCA and medical device vigilance, which require that manufacturers comply with FDA or equivalent foreign competent authority requirements to report if their device may have caused or contributed to a death or serious injury, or has malfunctioned in a way that would likely cause or contribute to a death or serious injury if the malfunction of the device or a similar device were to recur;
- post-approval restrictions or conditions, including post-approval study commitments;
- post-market surveillance regulations, which apply when necessary to protect the public health or to provide additional safety and effectiveness data for the device;
- the FDA's and equivalent foreign competent authority's recall authority, whereby they can ask, or under certain conditions order, device manufacturers to recall from the market a product that is in violation of governing laws and regulations;
- the Sunshine Act and similar state and foreign laws, which require reporting of payments and other transfers of value to healthcare practitioners periodically;
- regulations pertaining to voluntary recalls; and
- notices of corrections or removals.

Our delivery systems could be subject to voluntary recall if we, the FDA or an equivalent foreign competent authority determine, for any reason, that our delivery systems pose a risk of injury or are otherwise defective. Moreover, the FDA and foreign regulatory authorities can order a mandatory recall if there is a reasonable probability that our delivery system would cause serious adverse health consequences or death.

The FDA has broad post-market and regulatory enforcement powers. We are subject to unannounced inspections by the FDA to determine our compliance with the QSR and other regulations, and these inspections include the manufacturing facilities of our

subcontractors. Failure by us or by our suppliers to comply with applicable regulatory requirements can result in enforcement action by the FDA or other equivalent foreign authorities, which may result in sanctions, including, but not limited to:

- untitled letters, warning letters, fines, injunctions, consent decrees and civil penalties;
- unanticipated expenditures to address or defend such actions;
- customer notifications for repair, replacement and/or refunds;
- recall, detention or seizure of our delivery systems;
- operating restrictions or partial suspension or total shutdown of production;
- refusing or delaying our requests for approval of delivery system candidates or a modified version of Optune;
- withdrawal of PMA approvals or suspension, variation or withdrawal of CE Certificates of Conformity that have already been granted;
- refusal to grant export approval for our delivery systems; or
- civil and/or criminal prosecution by the United States Department of Justice.

To date, our facility and those of our critical suppliers have been inspected by the FDA in order to obtain FDA approval of Optune. We and one of our critical component suppliers also were inspected by the FDA in 2012 and 2015. Another one of our suppliers was inspected in the fall of 2013. No inspectional observations were identified and no FDA Form 483s were issued following these inspections.

DME accreditation and licensing and other requirements

We are subject to accreditation and licensing requirements as a DME supplier in most states and must meet the supplier standards of Medicare, Medicaid and other federal programs. Certain states require that DME providers maintain an in-state location. Although we believe we are in compliance with all applicable federal and state regulations regarding accreditation and licensure requirements, if were found to be noncompliant, we could lose our accreditation or licensure in that state or our supplier rights with that federal program, which could prohibit us from selling our current or future delivery systems to patients in that state or to that federal program.

Healthcare regulatory matters

In addition to FDA restrictions on the marketing of medical devices, several other types of U.S. federal and state laws have been applied to restrict certain business practices in the healthcare industry and penalize unlawful conduct. These laws include anti-kickback, self-referral and false claims statutes.

The U.S. federal Anti-Kickback Statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration to induce or in return for purchasing, leasing, ordering or arranging for the purchase, lease or order of any healthcare item or service reimbursable under Medicare, Medicaid or other federally financed healthcare programs. This statute has been interpreted to apply to arrangements between device manufacturers on one hand and prescribers and purchasers on the other. Although there are a number of statutory exemptions and regulatory safe harbors protecting certain common activities from prosecution, the exemptions and safe harbors are drawn narrowly and practices that involve remuneration intended to induce ordering, purchasing or recommending of a medical device may be subject to scrutiny if they do not qualify for an exemption or safe harbor. In some cases, our practices may not meet all of the criteria for safe harbor protection from anti-kickback liability.

As a DME supplier, we also are subject to a U.S. federal self-referral law, commonly known as the Stark law, which prohibits Medicare payments for DME ordered by physicians who, personally or through an immediate family member, have ownership interests in or compensation arrangements with the furnishing supplier. The Stark law contains a number of specific exceptions that, if met, permit physicians who have certain financial relationships with a DME supplier to make referrals to that entity.

The False Claims Act prohibits any person from knowingly presenting, or causing to be presented, a false claim for payment to the federal government, or knowingly making, or causing to be made, a false statement to get a false claim paid. The government has pursued a number of cases under the False Claims Act in connection with the off-label promotion of medical products and various other health care law violations.

The majority of states also have statutes or regulations similar to the federal anti-kickback, self-referral and false claims laws, which apply to items and services reimbursed under Medicaid and other state programs, or, in several states, that apply regardless of the payer.

Numerous federal and state laws and regulations, including the Health Insurance Portability and Accountability Act of 1996, or HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, govern the collection, dissemination, use, security and privacy of individually identifiable health information. We believe we are in substantial compliance with such applicable laws and regulations, including HIPAA.

HIPAA also included a number of federal criminal provisions, including for healthcare fraud and for false statements relating to healthcare matters. The healthcare fraud provision prohibits knowingly and willfully executing a scheme to defraud any healthcare benefit program, including private third-party payers. The false statements provision prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Many states have similar healthcare fraud laws or insurance fraud laws that apply to claims for healthcare reimbursement.

Sanctions under these federal and state laws may include civil monetary penalties, exclusion of a manufacturer's products from reimbursement under government programs, criminal fines and imprisonment.

Legislation similar to U.S. anti-kickback, self-referral and false claims statutes have been adopted in foreign countries, including a number of EU member states.

The Sunshine Act requires manufacturers of drugs, medical devices, biologicals or medical supplies that participate in U.S. federal health care programs to track and then report certain payments and items of value given to U.S. physicians and U.S. teaching hospitals, which are defined as Covered Recipients. The Sunshine Act requires that manufacturers collect this information on a yearly basis and then report it to Centers for Medicare & Medicaid Services by the 90th day of each subsequent year. We have adopted policies and codes of conduct regarding our interactions with Covered Recipients and believe we are in material compliance with the Sunshine Act. However, our failure to adhere to these requirements could materially adversely impact our business and financial results. Additionally, regulations similar to the Sunshine Act have been adopted in foreign countries including a number of EU member states.

In addition, the U.S. Foreign Corrupt Practices Act ("FCPA") prohibits corporations and individuals from engaging in certain activities to obtain or retain business outside the United States or to influence a person working in an official capacity in a foreign country. It is illegal to pay, offer to pay or authorize the payment of anything of value to any official of another country, government staff member, political party or political candidate in an attempt to obtain or retain business or to otherwise influence a person working in that capacity. Legislation similar to the FCPA has been adopted in foreign countries, including a number of EU member states.

Employees

As of December 31, 2016, we had 460 employees. We believe relations with our employees are good.

Available information

Our corporate website address is www.novocure.com. Our website is an inactive textual reference and nothing on our website is incorporated by reference in this Annual Report. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, are available free of charge on our website as

soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission.

ITEM 1A. RISK FACTORS

An investment in our ordinary shares involves a high degree of risk. Investors and prospective investors should carefully consider all of the information in this Annual Report on Form 10-K, including the risks and uncertainties described below. Any of the following risks could have a material adverse effect on our business, prospects, financial condition and results of operations. In any such case, the trading price of our ordinary shares could decline, and you could lose all or part of your investment. In assessing these risks, you should also refer to the other information contained in this Annual Report on Form 10-K, including our consolidated financial statements and the related notes thereto.

Risks relating to our business, TTFields and our delivery systems

Our business and prospects depend heavily on Optune, which is currently approved only for treatment of GBM. If we are unable to increase sales of Optune, obtain further regulatory approvals for and further commercialize Optune or our other delivery system candidates for the treatment of additional indications or are significantly delayed or limited in doing so, our business and prospects will be materially harmed.

To date we have received FDA regulatory approvals and certain other approvals in foreign jurisdictions for the use of Optune for treatment of adult patients with newly diagnosed GBM in combination with temozolomide (a form of chemotherapy) and for treatment of adult patients with recurrent GBM , and have affixed a CE mark to our TTFields delivery systems for certain indications in the EU; however, such approvals and the CE mark affixed to Optune do not guarantee future revenues for these indications. Further, until we receive FDA and analogous foreign approval for the use of TTFields for other indications through our delivery system candidates, almost all of our revenues will derive from sales of Optune for newly diagnosed and recurrent GBM. The commercial success of Optune and any other delivery systems and our ability to generate and maintain revenues from the use of these delivery systems will depend on a number of factors, including:

- our ability to obtain additional regulatory approvals for and further commercialize Optune;
- our ability to develop, obtain regulatory approval for and commercialize our other TTFields delivery system candidates for additional indications;
- the acceptance of TTFields by patients and the healthcare community, including physicians and third-party payers (both private and public), as therapeutically effective and safe;
- the relative cost, safety and efficacy of alternative therapies;
- the ability to obtain and maintain sufficient coverage or reimbursement by private and public third-party payers;
- the ability of our third-party manufacturers to manufacture Optune and other delivery system candidates in sufficient quantities with acceptable quality;
- our ability to provide marketing and distribution support for Optune and our other delivery system candidates;
- results of future clinical studies relating to TTFields or our competitors' products;
- compliance with applicable health care laws and regulations;
- the maintenance of our existing regulatory approvals in the United States, the European Union, Switzerland, Japan and other foreign jurisdictions; and
- the consequences of any reportable adverse events involving Optune or TTFields occurring in the United States, the European Union or other foreign jurisdictions.

In addition, sales of Optune are limited to approved indications, which vary by geography, and the FDA label for Optune is limited in certain respects (for example, it is not approved for use in the brain stem, and is limited for use by adults ages 22 and older), which may reduce the number of GBM patients to whom it may be prescribed.

In addition to Optune, our ability to generate future revenues will depend on achieving regulatory approval of, and eventual commercialization of, our delivery system candidates. However, obtaining regulatory approval of our delivery system candidates is not guaranteed. Our near-term prospects are substantially dependent on our ability to obtain regulatory approvals on the timetable we have anticipated, and thereafter to further successfully commercialize these delivery system candidates. Regulatory changes or actions under the new political administration in the United States may further affect our ability to obtain regulatory approvals on the anticipated timetable. If we are not able to receive such approvals or to further commercialize our delivery system candidates, or are significantly delayed or limited in doing so, our business and prospects will be materially harmed and we may need to delay our initiatives or even significantly curtail operations.

To date, we have incurred substantial operating losses.

We were founded in 2000, operated as a development stage company through December 31, 2011 and have incurred substantial operating losses to date. In assessing our prospects, you must consider the risks and difficulties frequently encountered by companies in new and rapidly evolving markets, particularly companies engaged in the development and sales of oncology products. These risks include our ability to:

- continue to develop and enhance Optune and our delivery system candidates;
- obtain regulatory approval to commercialize new delivery systems and enhance or modify our existing delivery systems;
- increase our sales, marketing and distribution organization to commercialize our delivery systems;
- perform clinical research and trials on TTFields;
- establish and increase awareness and acceptance of our delivery systems;
- implement and successfully execute our business and marketing strategy;
- respond effectively to competitive pressures and developments;
- maintain, protect and expand our intellectual property portfolio;
- operate in compliance with applicable health care laws and regulations;
- expand our presence in our key markets;
- attract, retain and motivate qualified personnel; and
- grow our organization to support our operations and our clinical pipeline and expand commercialization efforts.

We anticipate continuing to incur significant costs associated with commercializing our delivery systems for approved indications including product sales, marketing, manufacturing and distribution expenses. We expect our research, development and clinical trials expenses to increase in connection with our ongoing activities and as additional indications enter late-stage clinical development. Our expenses could increase beyond expectations if, for example, we are required by the FDA, or other regulatory agencies, domestic or foreign, to change manufacturing processes for our delivery systems, or to perform clinical, nonclinical or other types of studies in addition to those that we currently anticipate. Our revenues are dependent, in part, upon the size of the markets in the jurisdictions in which we receive regulatory approval, the accepted price for our delivery systems and the ability to obtain reimbursement at such price. If the number of our addressable patients is not as significant as we estimate, the indications approved by regulatory authorities is narrower than we expect or the population for treatment is narrowed by competition, physician choice or treatment guidelines, we may not generate significant revenues. If we are not able to generate significant revenues, we may never become profitable.

If we do not achieve our projected research and development and commercialization goals in the timeframes we announce or expect, our business would be harmed and we may need to raise additional capital to fund our operations.

For planning purposes, we estimate the timing of the accomplishment of various scientific, clinical, regulatory and other goals, which we sometimes refer to as milestones. These milestones may include the commencement or completion of scientific studies and clinical trials, the submission of regulatory filings in the United States and other foreign jurisdictions and the receipt of regulatory approvals in such jurisdictions. From time to time, we may publicly announce the expected timing of some of these milestones. All of these milestones are based on a variety of assumptions. The actual timing of the achievement of these milestones can vary dramatically from our estimates, in many cases for reasons beyond our control, depending on numerous factors, including:

- the rate of progress, costs and results of our research and development activities and clinical trials;
- our ability to identify and enroll patients who meet clinical trial eligibility criteria;
- the extent of scheduling conflicts with participating clinicians and clinical institutions;
- the occurrence of unanticipated adverse events during clinical trials;
- the receipt of approvals by our competitors and by us of our delivery system candidates and our competitors' products;

- our ability to achieve coverage and reimbursement milestones with private and governmental third-party payers;
- our ability to access sufficient, reliable and cost-effective supplies of components used in the manufacture of Optune and delivery system candidates, including the transducer arrays and other materials;

- our ability to develop a sales and marketing organization and/or enter into sales and marketing collaborations for Optune and, if approved, our delivery system candidates; and
- changes in regulations and other actions by regulators.

For example, our key milestones include clinical development milestones for the use of TTFields to treat brain metastases, non-small cell lung cancer, pancreatic cancer, ovarian cancer and mesothelioma. We can provide no assurance that we will achieve these milestones on our expected timetable, or at all.

If we do not achieve these milestones in the timeframes we expect and generate substantial revenues, and/or if we are unable to obtain sufficient additional funds through financings, the proceeds from long-term loans, strategic collaborations or the license or sale of certain of our assets on a timely basis when necessary, we may be required to reduce expenses by delaying, reducing or curtailing the development of our delivery systems and we may need to raise additional capital to fund our operations, which we may not be able to obtain on favorable terms, if at all. If we fail to commence or complete, or experience delays in or are forced to curtail, our proposed clinical programs or otherwise fail to adhere to our projected development goals in the timeframes we announce or expect (or within the timeframes expected by analysts or investors), or we fail to raise any required additional capital, any of such events could have a material adverse effect on our business, prospects, financial condition and results of operations and cause our stock price to decline. We will need to generate significant revenues to achieve profitability, and we may never do so.

We may not be successful in our efforts to create a pipeline of delivery system candidates for future indications for TTFields and successfully commercialize them, or we may expend our resources on indications that do not yield a successful approval and fail to capitalize on other indications that may be more profitable or for which there is a greater likelihood of success.

We are pursuing clinical development of TTFields to treat a variety of solid tumors through our delivery system candidates. For these future indications, we are at varying stages of development and we generally do not have relevant regulatory approvals to market TTFields in these indications. Further, we do not currently intend to pursue indications involving solid tumors of the throat or extremities, and TTFields would not be efficacious for non-solid tumor cancers like lymphoma or other blood cancers.

Even if we are successful in continuing to build our pipeline, obtaining regulatory approvals and commercializing our delivery system candidates for additional indications are susceptible to risks of failure, including the significant risk that the development of our delivery system candidates for any potential indications will fail to demonstrate adequate efficacy or an acceptable safety profile, gain regulatory approval and become commercially viable. We cannot provide you any assurance that we will be able to advance any of these additional indications through the development and commercialization process. Our research programs may initially show promise in addressing additional indications, yet fail to yield approvals or commercialization for many reasons, including the following:

- we may not be able to assemble sufficient resources to pursue clinical trials for additional indications;
- our delivery system candidates may not succeed in pre-clinical or clinical testing;
- our delivery systems may, on further study be shown to have harmful side effects for other indications or other characteristics that indicate they are unlikely to be effective or otherwise do not meet applicable regulatory criteria for such indications;
- competitors may develop alternative treatments that render our delivery systems obsolete or less attractive;
- the market for TTFields may change so that the continued development of our pipeline as currently contemplated is no longer appropriate;
- our delivery systems may not be capable of being produced in commercial quantities at an acceptable cost, or at all; and
-

- our delivery systems may not meet standards set by applicable regulatory authorities to obtain approval or clearance to market such delivery systems;
- our delivery systems may not be accepted as safe, effective, convenient or otherwise desirable by patients, the medical community or third-party payers.

If any of these events occur, we may be forced to delay or abandon our development efforts for our anticipated pipeline, which would have a material adverse effect on our business and prospects and could potentially cause us to cease operations. Moreover, any such events in respect of any particular indication and/or delivery system candidate may have a negative effect on the approval process for other indications and/or result in losing approval of approved delivery systems for other indications, which may exacerbate the harm to our business and prospects.

If we are unable to continue the development of an adequate sales and marketing organization or contract with third parties to assist us, we may not be able to successfully commercialize our delivery systems that may be approved for commercial sale.

To achieve commercial success for Optune and our delivery system candidates, we must continue to develop and grow our sales and marketing organization and, as necessary, enter into sales and distribution relationships with third parties to market and sell Optune and our delivery system candidates. Developing and managing a sales and marketing organization is a difficult, expensive and time consuming process. To be successful we must:

- recruit and retain adequate numbers of effective and experienced sales personnel;
- effectively train our sales personnel in the benefits and risks of Optune and our delivery system candidates;
- establish and maintain successful sales, marketing and education programs that educate health care providers so they can appropriately inform their patients about Optune and our delivery system candidates; and
- manage geographically disbursed sales and marketing operations.

We may not be able to successfully develop adequate sales and marketing capabilities to achieve our growth objectives. We will have to compete with other pharmaceutical and life sciences companies to recruit, hire, train and retain the sales and marketing personnel that we anticipate we will need. In addition, because Optune requires, and we anticipate our delivery system candidates will require, physician training and education, our sales and marketing organization must grow substantially as we expand our approved indications and markets. As a consequence, our expenses associated with building up and maintaining our sales force and marketing capabilities may be disproportionate to the revenues we may be able to generate on sales of Optune and our delivery system candidates.

If we are unable to establish adequate sales and marketing capabilities or successful sales and distribution relationships, we may fail to realize the full sales potential of Optune and some or all of our delivery system candidates, and we may not be able to achieve the necessary growth in a cost-effective manner or realize a positive return on our investment. If we establish sales and distribution agreements with other companies, we may not have control over the resources or degree of effort that any of these third parties may devote to our delivery systems, and if they fail to devote sufficient time and resources to the marketing of such delivery systems, or if their performance is substandard, it will adversely affect our revenues.

We may not be successful in achieving market acceptance of TTFields by healthcare professionals, patients and/or third-party payers in the timeframes we anticipate, or at all, which could have a material adverse effect on our business, prospects, financial condition and results of operations.

Our business model is predicated on achieving market acceptance of TTFields as a monotherapy or in combination with well-established cancer treatment modalities like surgery, radiation and pharmacological therapies. We may not achieve market acceptance of Optune and other TTFields delivery systems we develop in the amount of time that we have anticipated, or at all, for a number of different reasons. As a general matter, we may not achieve market acceptance of TTFields because of the following factors, among others:

- it may be difficult to gain broad acceptance of TTFields because it is a new technology and involves a novel delivery system, and as such physicians may be reluctant to prescribe TTFields delivery systems without prior experience or additional data or training;
- it may be difficult to gain broad acceptance at community hospitals where the number of patients seeking cancer treatment may be more limited than at larger medical centers, and such community hospitals may not be willing to

invest in the resources necessary for their physicians to become trained to use TTFields, which could lead to reluctance to prescribe our TTFields delivery systems;

- patients may be reluctant to elect to use our TTFields delivery systems, including Optune, for various reasons, including a perception that the treatment is untested or difficult to use;
- the delivery systems may have some side effects (for example, dermatitis where the transducer arrays are placed) and the delivery system cannot be worn in all circumstances (for example, it cannot get wet and is difficult to wear in high temperatures); and
- the price of the TTFields delivery systems includes a monthly fee for use of the delivery system, so as the duration of the treatment course increases, the price will increase correspondingly, and, when used in combination with other treatments, the overall cost of treatment will be greater than using a single type of treatment; however, different pricing models may apply in the future.

In particular, Optune may not achieve market acceptance because of the following additional factors (which may apply to our future delivery systems, to varying degrees):

- achieving patient acceptance is difficult because GBM is a devastating disease with a poor prognosis, and not all patients with short lifespans are willing to comply with Optune therapy requirements, such as extended use of Optune, carrying around a device and shaving their heads (which may be of particular concern to women), and other patients may forego Optune treatment for cosmetic visibility or mobility reasons;
- achieving patient compliance is difficult because the recommended average daily use of Optune is at least 18 hours a day, requiring patients to wear the delivery system nearly continuously, which to some extent restricts physical mobility because the battery must be frequently recharged, and the patient or a caregiver must ensure that it remains continuously operable;
- certain patients are not advised to use Optune, including patients who have an active electronic medical device, which include deep brain stimulators, spinal cord stimulators, vagus nerve stimulators, pacemakers, defibrillators and programmable shunts, because the use of Optune with these devices has not been tested and may lead to malfunctioning of these devices; patients who have a skull defect or bullet fragments are also not advised to use Optune because the use of Optune with these conditions has not been tested and may lead to tissue damage or render Optune ineffective; and patients who are sensitive to conductive hydrogels because skin contact with the gel used in Optune for patients that are sensitive to conductive hydrogels may commonly cause increased redness and itching, and in rare instances may lead to severe allergic reactions, such as shock or respiratory failure;
- the need to wear Optune nearly continuously in order to achieve efficacy of TTFields may also impact the pool of patients to whom physicians may be willing to prescribe treatment, as physicians may be reluctant to treat patients who are physically frail or lack caregiver support with Optune, and efficacy may also be limited in instances where patients take a break from the delivery system when experiencing skin rashes, while bathing or swimming because Optune cannot get wet, or while traveling, there may be a disruption in continuous use; and
- side effects reported by GBM patients treated with a combination of Optune and temozolomide, including the known side effects of temozolomide alone, dermatitis where the transducer arrays are placed, headaches, weakness, falls, fatigue, muscle twitching and skin ulcers (and there may be additional side effects not yet observed).

In addition, even if we are successful in achieving market acceptance of Optune for GBM, we may be unsuccessful in achieving market acceptance of TTFields as a treatment for other solid tumor cancers, such as brain metastases, NSCLC, pancreatic cancer, ovarian cancer, mesothelioma and other solid tumor cancers, because certain radiation or chemotherapies may become or remain the preferred standard of care for these indications.

There may be other factors that are presently unknown to us that also may negatively impact our ability to achieve market acceptance of TTFields delivery systems. If we do not achieve market acceptance of our delivery systems in the timeframes we anticipate, or are unable to achieve market acceptance at all, our business, prospects, financial condition and results of operations could be materially adversely affected, and our stock price could decline.

Failure to secure and maintain adequate coverage and reimbursement from third-party payers could adversely affect acceptance of our delivery systems and reduce our revenues.

We expect that the vast majority of our revenues will come from third-party payers either directly to us in markets where we provide Optune or plan to provide our delivery system candidates to patients or indirectly via payments made to hospitals or other entities providing Optune or which may in the future provide our delivery system candidates to patients. Private payers in the United States cover the largest segment of the population, with the remainder either uninsured or covered by governmental payers. We anticipate that the majority of the third-party payers outside the United States will be government agencies, government sponsored entities or other payers operating under significant regulatory requirements from national or regional governments.

Medical treatments may not be reimbursed by third-party payers based on a number of factors, such as a determination that it is experimental, not medically necessary or not appropriate for a particular patient. Currently, we are aware that in the United States several payers have issued policies that deny coverage for Optune on one or more of these bases. Additionally, private commercial and government payers may be permitted to consider the cost of a treatment in approving coverage or in setting payment for the treatment.

Private and government payers in the United States and around the world are increasingly challenging the prices charged for medical products and services. Additionally, the containment of healthcare costs has become a priority of U.S. federal and state governments and governments around the world. Adoption of additional price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit our revenues and operating results. If third-party payers do not consider our delivery system or the combination of our delivery system with additional treatments to be cost-

justified under a required cost-testing model, they may not cover our delivery systems for their populations or, if they do, the level of payment may not be sufficient to allow us to sell our delivery systems on a profitable basis.

Reimbursement for the treatment of patients with medical devices in the EU member states, Switzerland and Japan is governed by complex mechanisms established on a national level in each country. In the European Union, these mechanisms vary widely among the EU member states and evolve constantly, reflecting the efforts of these countries to reduce public spending on healthcare. As a result, obtaining reimbursement for the treatment of patients with medical devices has become more challenging. Outside the United States, the European Union and Japan, reimbursement systems vary significantly by country. We cannot, therefore, guarantee that the treatment of patients with Optune or any of our future delivery systems would be reimbursed in any of the EU member states, Switzerland, Japan or any other country.

We provide financial assistance to patients to defray their out-of-pocket costs for Optune, and therefore, absorb any unreimbursed costs of patients who begin treatment and are unable to pay for the costs of their treatment not covered by insurance. Our costs associated with this program could increase if payers increase the cost-sharing burden of patients.

Our failure to secure or maintain adequate coverage or reimbursement for Optune or any of our future delivery systems by third-party payers in the United States or in the other jurisdictions in which we market Optune or any of our future delivery systems, could have a material adverse effect on our business, financial condition and results of operations and cause our stock price to decline.

We may not be successful securing and maintaining reimbursement codes necessary to facilitate accurate and timely billing for Optune, future delivery systems and physician services attendant to TTFields therapy.

Third-party payers, healthcare systems, government agencies or other groups often issue reimbursement codes to facilitate billing for products and physician services used in the delivery of medicine. Within the United States, the billing codes most directly related to Optune and future delivery systems are contained in the Healthcare Common Procedure Coding System (“HCPCS code set”). The HCPCS code set contains Level I codes that describe physician services, also known as Common Procedural Terminology codes (“CPT codes”) and Level II codes that primarily describe products. The Centers for Medicare and Medicaid Services (“CMS”), is responsible for issuing the HCPCS Level II codes. The American Medical Association issues HCPCS Level I codes.

We have secured unique HCPCS Level II codes that describe Optune and we are able to use these codes in the United States to bill third-party payers. Loss of these codes or any alteration in the payment attached to these codes would materially impact our operating results.

Although we are attempting to secure CPT codes, no CPT codes currently exist to describe physician services related to the delivery of TTFields therapy. We may not be able to secure CPT codes for physician services related to Optune based on the relatively low incidence of GBM. Our future revenues and results may be affected by the absence of CPT codes, as physicians may be less likely to adopt the therapy when not adequately reimbursed for the time, effort, skill, practice expense and malpractice costs required to provide the therapy to patients.

We have not secured codes to describe our delivery systems or to document physician services related to the delivery of TTFields therapy in markets outside the United States. Absence of these codes may affect the future growth of our business.

There is no assurance that Medicare or the Medicare Administrative Contractors will provide coverage or adequate payment rates for Optune or our future delivery systems.

During 2016, 20-25% of patients using Optune were beneficiaries under the Medicare fee-for-service program. Failure to secure coverage and adequate payment from Medicare would reduce our revenues and may also affect the coverage and payment decisions of other third-party payers in the United States.

Medicare has the authority to issue national coverage determinations or to defer coverage decisions to its regional Medicare Administrative Contractors ("MACs"). Medicare has not issued a national coverage determination for Optune. The four MACs that currently administer the durable medical equipment benefit for Medicare ("MACs") have each issued local coverage determination policies stating that Optune is not reasonable and necessary for the treatment of recurrent GBM. Medicare is in the process of consolidating the administration of the four DME MAC jurisdictions under just two contractors, which may negatively affect our ability to petition individual medical policy decision-makers at the MACs for coverage. The continuing absence of a positive coverage determination from Medicare or the DME MACs would materially affect our future revenues.

Additionally, Medicare has the authority to publish the price of durable medical equipment products. Medicare may publish prices for Optune or future delivery systems that do not reflect then current prices for Optune or future delivery systems. Medicare price

schedules are frequently referenced by private payers in the United States and around the world. Medicare would materially reduce our revenues and operating results by publishing a price for Optune or future delivery systems that is not based on the actual price of Optune or future delivery systems within the private payer market.

CMS implemented a demonstration project in 2012 to require prior authorization for certain Durable Medical Equipment, Prosthetics, Orthotics and Supplies items. Claims for services that did not receive prior authorization before they were rendered will be automatically denied. In the event Medicare provides coverage for Optune in the future and Optune is added to the list of items requiring prior authorization that may reduce our ability to bill and secure payment for patients who would otherwise be covered to use Optune under the Medicare fee-for-service program.

The Medicare fee-for-service program has denied coverage for our claims to date. Although we are actively appealing these coverage denials, we are unable to bill our existing Medicare fee-for-service patients for amounts not paid by Medicare. Therefore, we are absorbing and may continue to absorb the costs of treatment for amounts not paid by Medicare.

We appeal Medicare coverage denials through the Medicare appeals process: redetermination by a MAC, reconsideration by a Qualified Independent Contractor, hearing before an Administrative Law Judge, or ALJ, at the Office of Medicare Hearings and Appeals, review by the Medicare Appeals Council, and judicial review in U.S. District Court. Currently, there is a considerable backlog of appeals at the ALJ level and there are significant delays in the assignment of ALJ cases. Thus, we anticipate that, even if we are successful in winning our appeals, we will experience a significant delay in securing payment for Medicare patients when Medicare's DME MACs deny coverage for patients who start therapy.

We depend on single-source suppliers for some of our components. The loss of these suppliers could prevent or delay shipments of Optune, delay our clinical trials or otherwise adversely affect our business.

We source some of the key components of Optune from only a single vendor. If any one of these single-source suppliers were to fail to continue to provide components to us on a timely basis, or at all, our business and reputation could be harmed. For example, we currently have a single source for the ceramic discs used in the transducer arrays for Optune, which we source from Harris Corporation. We have identified and qualified an additional supplier but have not yet received production shipments from this supplier. Our current agreement with Harris Corporation continues through July 21, 2017. We currently do not intend to renew this supply agreement under the current terms. There is a risk that a mutual agreement on commercial terms will not be reached with Harris for a new contract. In addition to certain other customary termination rights, Harris Corporation can terminate this agreement with 90 days' written notice if we breach any of our material obligations under the agreement.

Agreements with our other suppliers range from terms of four years to ten years and are terminable by either party, generally between 180 days' and 12 months' written notice. Establishing additional or replacement suppliers for any components of our delivery systems, and obtaining any additional regulatory approvals required to add or replace suppliers, will take a substantial amount of time and could result in increased costs and impair our ability to produce Optune, which would have a material adverse effect on our business, prospects, financial condition and results of operations. We may have difficulty obtaining similar components from other suppliers that are acceptable to the FDA or foreign regulatory authorities, or to comply with the Essential Requirements laid down in Annex I to the Directive 93/42/EEC concerning medical devices, commonly known as the Medical Devices Directive, which are the minimum

requirements governing design and manufacturing in the European Union. The risks associated with the failure of our suppliers to comply with strictly enforced regulatory requirements as described below are exacerbated by our dependence on single-source suppliers. Furthermore, since some of these suppliers are located outside of the United States, we are subject to foreign export laws and United States import and customs regulations, which complicate and could delay shipments of components to us. The U.S. government recently suggested that there may be significant increases on tariffs on goods imported into the United States. Changes in U.S. social, political, regulatory and economic conditions or in laws and policies governing foreign trade, manufacturing, development and investment in the territories and countries where we may develop and sell products, and any negative sentiments towards the United States as a result of such changes, could adversely affect our business.

We are currently seeking second-source suppliers, certain of which we expect to have under contract as early as 2017, but we can provide no assurance we will achieve this on this timeframe or at all. Various steps must be taken before signing up these suppliers, including qualifying these suppliers in accordance with regulatory requirements.

If we experience any delay or deficiency in the quality of components supplied to us by third-party suppliers, or if we have to switch to replacement suppliers, we may face additional regulatory delays and the manufacture and delivery of Optune would be interrupted for an extended period of time, which could materially adversely affect our business, prospects, financial condition and results of operations. In addition, we may be required to obtain prior regulatory approval if we use different suppliers or components. Such changes could affect our FDA regulatory approvals and the compliance of our delivery systems with the Essential Requirements laid

down in Annex I to the Medical Devices Directive and the validity of our current CE Certificates of Conformity. If we are required to obtain prior regulatory approval from the FDA or foreign regulatory authorities or to conduct a new conformity assessment procedure and obtain new CE Certificates of Conformity in the EU to use different suppliers or components for our delivery systems, regulatory approval or the CE Certificates of Conformity for our delivery systems may not be received on a timely basis, or at all, which would have a material adverse effect on our business, prospects, financial condition and results of operations.

Quality control problems with respect to delivery systems and components supplied by third-party vendors could have a material adverse effect on our reputation, our clinical trials or the commercialization of Optune and our future delivery systems and, as a result, a material adverse effect on our business, prospects, financial condition and results of operations.

Our delivery systems, which are manufactured by third parties, are highly technical and are required to meet exacting specifications. Any quality control problems that we experience with respect to the delivery systems and components supplied by third-party vendors could have a material adverse effect on our reputation, our attempts to complete our clinical trials or the commercialization of Optune and our future delivery systems. The failure of our suppliers to comply with strictly enforced regulatory requirements could expose us to regulatory action, including warning letters, product recalls, suspension or termination of distribution, product seizures or civil penalties. If we experience any delay or deficiency in the quality of products supplied to us by third-party suppliers, or if we have to switch to replacement suppliers, we may face additional regulatory delays and the manufacture and delivery of our delivery systems would be interrupted for an extended period of time, which would materially adversely affect our business, prospects, financial condition and results of operations.

If the third parties on which we rely to conduct our clinical trials and to assist us with pre-clinical research and development do not perform as contractually required or expected, we may not be able to obtain regulatory approvals for our future delivery systems or commercialize our future delivery systems.

We do not have the ability to independently conduct some of our pre-clinical and all of clinical trials for our delivery systems and we must rely on third parties, such as contract research organizations, medical institutions, clinical investigators and contract laboratories, to conduct such trials. We and these third parties are required to comply with current good clinical practices (“cGCPs“) which are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities for clinical development. We and these third parties are also required to comply with current good laboratory practices (“cGLPs”) which are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities for nonclinical laboratory studies. Regulatory authorities enforce these cGLPs and cGCPs through periodic inspections of trial sponsors, laboratories, principal investigators and trial sites. If we or any of these third parties fail to comply with applicable cGLP and cGCP regulations, the clinical data generated in our nonclinical studies and clinical trials may be deemed unreliable and the FDA or foreign regulatory authorities may require us to perform additional nonclinical or clinical trials before approving our approved applications. We cannot be certain that, upon inspection or review of our files, such regulatory authorities will determine that any of our nonclinical studies or clinical trials comply with the applicable cGLP or cGCP regulations.

Any third parties conducting our nonclinical studies and clinical trials are not and will not be our employees and, except for remedies available to us under our agreements with such third parties, we cannot control whether or not they devote sufficient time and resources to our ongoing pre-clinical, clinical and nonclinical programs. These third parties may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting nonclinical studies, clinical studies or other cancer treatment development activities, which could affect their performance on our behalf. If these third parties do not successfully carry out their contractual duties or regulatory obligations or meet expected deadlines, if these third parties need to be replaced or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory

requirements or for other reasons, our pre-clinical development activities or clinical trials may be extended, delayed, suspended or terminated, and we may not be able to obtain regulatory approval for our delivery systems or successfully commercialize our delivery systems on a timely basis, if at all, and our business, prospects and results of operations may be adversely affected.

If we encounter difficulties enrolling patients in our clinical trials, our clinical trials could be delayed or otherwise adversely affected.

The timely completion of clinical trials depends, among other things, on our ability to enroll a sufficient number of patients who remain in the trial until its conclusion. We may experience difficulties in patient enrollment in our clinical trials for a variety of reasons, including:

- the severity of the disease under investigation;
- the limited size and nature of the patient population;
- the patient eligibility criteria defined in our protocol and other clinical trial protocols;

- the nature of the trial protocol, including the attractiveness of, or the discomforts and risks associated with, the treatments received by enrolled subjects;
- clinicians' and patients' perceptions as to the potential advantages and side effects of TTFields in relation to other available therapies, including any new drugs or treatments that may be approved for the indications we are pursuing;
- availability of other clinical trials;
- the possibility or perception that enrolling in a TTFields clinical trial may limit the patient's ability to enroll in future clinical trials for other therapies due to protocol restrictions;
- patient referral practices of physicians;
- the ability to monitor patients adequately during and after treatment;
- the availability of appropriate clinical trial investigators, support staff and proximity of patients to clinical sites;
- physicians' or our ability to obtain and maintain patient consents; and
- the risk that patients enrolled in clinical trials will choose to withdraw from or otherwise not be able to complete a clinical trial.

Patients may be discouraged from enrolling in our clinical trials if the trial protocol requires them to undergo extensive follow-up to assess the safety and effectiveness of TTFields or if they determine that the treatments received under the trial protocols are not attractive or involve unacceptable risks or discomforts. Patients may also not participate in our clinical trials if they choose to participate in contemporaneous clinical trials of competing products. In addition, the inclusion of critically ill patients in our clinical trials may result in deaths or other adverse medical events for reasons that may not be related to TTFields, or, in those trials where TTFields is being tested in combination with one or more other therapies, for reasons that may be attributable to the other therapies, but which can nevertheless negatively affect clinical trial results. If we have difficulty enrolling a sufficient number or diversity of patients to conduct our clinical trials as planned, we may need to delay or terminate ongoing or planned clinical trials, either of which would have an adverse effect on our business.

Continued testing of Optune or our other delivery system candidates may not yield successful results and could reveal currently unknown safety hazards associated with TTFields.

Our research and development programs are designed to test the safety and efficacy of TTFields through extensive pre-clinical and clinical testing. Even if our ongoing and future clinical trials are completed as planned, we cannot be certain that their results will support our claims or that the FDA and other regulatory authorities will agree with our conclusions regarding them. Success in pre-clinical studies and early clinical trials does not ensure that later clinical trials will be successful, and we cannot be sure that the later trials will replicate the results of prior trials and pre-clinical studies. The clinical trial process may fail to demonstrate that our delivery system candidates are safe and effective for the proposed indicated uses, which could cause us to abandon a delivery system candidate and may delay development of others. It is also possible that patients enrolled in clinical trials will experience adverse side effects that have not been previously observed. In addition, our pre-clinical studies and clinical trials for our delivery system candidates involve a relatively small patient population, and as a result, these studies and trials may not be indicative of future results.

We may experience numerous unforeseen events during, or as a result of, the testing process that could delay or prevent further commercialization of Optune and any of our delivery system candidates, including the following:

- safety and efficacy results for Optune and any of our delivery system candidates obtained in our pre-clinical and clinical testing may be inconclusive or may not be predictive of results obtained in future clinical trials, following long-term use or in much larger populations;
- unanticipated adverse events may occur during TTFields' clinical trials;
- the data collected from clinical trials of our delivery system candidates may not reach statistical significance due to limited sample size or otherwise not be sufficient to support FDA or other regulatory approval; and

- our delivery system candidates may not produce the desired effects or may result in adverse health effects or other characteristics that are not currently known that preclude additional regulatory approval or limit their commercial use if approved.

To date, patients treated with Optune in our EF-11 and EF-14 clinical trials have experienced treatment-related side effects, including dermatitis (including mild to moderate skin irritation) where the transducer arrays are placed, headaches, weakness, falls, fatigue, muscle twitching and skin ulcers. There may be additional side effects observed in future clinical trials and/or through real-world experience with patients using Optune or our other TTFields delivery system candidates. Undesirable side effects caused by our

delivery systems could cause us or regulatory authorities to interrupt, delay or terminate clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other regulatory authorities. Results of our clinical trials could reveal a high and unacceptable severity and prevalence of side effects.

If unacceptable side effects arise in the development of our delivery system candidates, we could suspend or terminate our clinical trials or the FDA or other regulatory authorities could order us to cease clinical trials or deny approval of our delivery system candidates for any or all targeted indications, narrow the approved indications for use or otherwise require restrictive product labeling or marketing, or require further clinical trials, which may be time-consuming and expensive and may not produce results supporting FDA or other regulatory approval of our delivery system candidates in a specific indication. Treatment-related side effects could also affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. In addition, these side effects may not be appropriately recognized or managed by the treating medical staff. We expect to have to train medical personnel using our delivery system candidates to understand the side effect profiles for our clinical trials and upon any commercialization of any of our delivery system candidates. Inadequate training in recognizing or managing the potential side effects of our delivery system candidates could result in patient injury or death. Any of these occurrences may harm our business, prospects and financial condition significantly.

Any delay or termination of our clinical trials will delay the filing of our delivery systems submissions for regulatory approvals and ultimately our ability to commercialize our delivery systems and generate revenues. Furthermore, we may abandon delivery system candidates that we previously believed to be promising. Any of these events could have a material adverse effect on our business, prospects, financial condition and results of operations and cause our stock price to decline.

We face competition from numerous competitors, most of whom have far greater resources than we have, which may make it more difficult for us to achieve significant market penetration and which may allow them to develop additional oncology treatments to compete with TTFields.

The oncology market is intensely competitive, subject to rapid change and significantly affected by new product introductions and other market activities of industry participants. As a monotherapy, TTFields primarily competes with radiation and pharmacological therapies. We may face additional competition as advancements are made in the field of immuno-oncology and to date, we have not conducted any clinical trials where TTFields is used in combination with an immuno-oncological therapy. Many of our competitors are large, well-capitalized companies with significantly more market share and resources than we have. As a consequence, they are able to spend more aggressively on product development, marketing, sales and other initiatives than we can. Many of these competitors have:

- significantly greater name recognition and experience;
- established relations with healthcare professionals, patients and third-party payers;
- established distribution networks;
- additional product lines, and the ability to offer rebates or bundle products to offer higher discounts or more competitive pricing or other incentives to gain a competitive advantage; and/or
- greater financial and human resources for research and development, sales and marketing, patent litigation and/or acquisitions.

Although we believe TTFields represents a treatment modality that can be used in combination with other cancer treatment modalities, our current competitors or other companies may at any time develop additional drugs and devices for the treatment of GBM and other solid tumors that could be more effective than using our TTFields delivery systems. If an existing or future competitor develops a product that proves to be superior or comparable to Optune or any of our future delivery systems, our revenues may decline. In addition, some of our competitors may compete by changing the price of their cancer treatments. If these competitors' products were to gain acceptance by

healthcare professionals, patients or third-party payers, a downward pressure on prices could result. If prices were to fall, we may not be able to improve our gross margins or sales growth sufficiently to achieve profitability.

As we expand, we may experience difficulties managing our growth.

Our anticipated growth will place a significant strain on our management and on our operational and financial resources and systems. Failure to manage our growth effectively could materially adversely affect us. Additionally, our anticipated growth will increase the demands placed on our suppliers, resulting in an increased need for us to carefully monitor the available supply of components and quality assurance. Any failure by us to manage our growth effectively could have an adverse effect on our ability to achieve our development and commercialization goals.

Because of the specialized nature of our business, the termination of relationships with our key employees, consultants and advisors may prevent us from developing TTFields, conducting clinical trials and obtaining any necessary financing. Further, the inability to recruit and retain additional personnel may have an adverse effect on our ability to successfully operate our business.

We are highly dependent on members of our executive team, the loss of whose services may adversely impact the achievement of our objectives. While we have entered into employment agreements with each of our executive officers, any of them could leave our employment at any time. We do not have “key person” insurance on any of our employees. The loss of the services of one or more of our current employees might impede the achievement of our business objectives. The competition for qualified personnel in the oncology field is intense, and we rely heavily on our ability to attract and retain qualified scientific, technical and managerial personnel. Our future success depends upon our ability to attract, retain and motivate highly skilled employees. In order to commercialize TTFields successfully, we will be required to expand our workforce, particularly in the areas of research and development and clinical trials, sales and marketing and supply chain management. These activities will require the addition of new personnel and the development of additional expertise by existing management personnel. We face intense competition for qualified individuals from numerous pharmaceutical, biopharmaceutical and biotechnology companies, as well as academic and other research institutions. We may not be able to attract and retain these individuals on acceptable terms or at all. Failure to do so would materially harm our business.

Changes in tax or other laws, regulations or treaties, changes in our status under U.S. or non-U.S. laws or adverse determinations by taxing or other governmental authorities could increase our tax burden or otherwise affect our financial condition or results of operations, as well as subject our shareholders to additional taxes.

The amount of taxes we pay is subject to a variety of tax laws in the various jurisdictions in which we and our subsidiaries are organized and operate. Our domestic and international tax liabilities are dependent on the location of earnings among these various jurisdictions. Such tax liabilities could be affected by changes in tax or other laws, treaties and regulations as well as the interpretation or enforcement thereof by tax or other governmental entities in any relevant jurisdiction. The amount we pay in tax to any particular jurisdiction depends, in part, on the correct interpretation of the tax laws in such jurisdiction, and we have made a number of determinations as to the effect of such tax laws in our particular circumstances. For example, while our U.S. operations are subject to U.S. federal income tax, we believe that a significant portion of our non-U.S. operations are generally not subject to U.S. tax other than withholding taxes in certain circumstances. In some cases, the determinations we have made as to the effect of the tax laws in a particular jurisdiction depend on the continuing effectiveness of administrative rulings we have received from the tax authorities in that jurisdiction, while in other cases, our determinations are based on the reasoned judgment of our tax advisors. Although we believe that we are in compliance with the administrative rulings we have received, that the assumptions made by our tax advisors in rendering their advice remain correct, and that as a result we are in compliance with applicable tax laws in the jurisdictions where we and our subsidiaries are organized and operate, a taxing authority in any such jurisdiction may challenge our interpretation of those laws and assess us or any of our subsidiaries with additional taxes.

Additionally, from time to time, proposals have been made and legislation has been introduced (for example, the Swiss Corporate Tax Reform III, or CTR III) to change the tax laws, regulations or interpretations thereof (possibly with retroactive effect) of various jurisdictions or limit tax treaty benefits that, if enacted, could materially increase our tax burden, increase our effective tax rate or otherwise have a material adverse impact on our financial condition and results of operations. As an example, recent U.S. legislative proposals would broaden the circumstances under which a foreign corporation like us would be considered a U.S. resident for U.S. federal income tax purposes, in addition to other U.S. legislative proposals that could have a material adverse impact on us by overriding certain tax treaties and limiting the treaty benefits on certain payments, which could increase our tax liability. We cannot predict whether or when any of these potential changes in law might become effective in any jurisdiction. More recently, the

U.S. government has recently called for substantial change to fiscal and tax policies, which may include comprehensive tax reform. We cannot predict whether or when any of these potential changes in law might become effective in any jurisdiction nor the impact, if any, of these changes to our business. It is possible that these changes could adversely affect our business. While we monitor proposals and other developments that would materially impact our tax burden and effective tax rate and investigate our options accordingly, we could still be subject to increased taxation on a going forward and retroactive basis no matter what action we undertake if certain legislative proposals or regulatory changes are enacted, certain tax treaties are amended and/or our interpretation of applicable tax or other laws is challenged and determined to be incorrect. In particular, any alternative interpretations of applicable tax laws asserted by a tax authority or changes in tax laws, regulations or accounting principles that limit our ability to take advantage of tax treaties between jurisdictions, modify or eliminate the deductibility of various currently deductible payments, increase the tax burden of operating or being resident in a particular country, result in transfer pricing adjustments or otherwise require the payment of additional taxes, may have a material adverse effect on our cash flows, financial condition and results of operations

The termination or revision of any of our tax rulings or indirect tax exemptions that we have or may have in the future may have a material adverse effect on our cash flows, financial condition and results of operations.

We believe our ordinary shares should not be treated as stock of a passive foreign investment company, or PFIC, for U.S. federal income tax purposes in the current taxable year or in a future taxable year, but this conclusion is a factual determination that is made annually and thus may be subject to change. If we were to be treated as a PFIC, this could result in adverse U.S. federal income tax consequences to U.S. persons that hold our ordinary shares.

Based on the composition of our assets and the nature of our income, we believe that our shares should not be treated as stock of a PFIC for U.S. federal income tax purposes, but this conclusion is a factual determination that is made annually and thus may be subject to change.

A non-U.S. corporation will be treated as a PFIC for U.S. federal income tax purposes in any taxable year in which a specified percentage of its gross income is "passive income" or a specified percentage of its assets produce or are held for the production of passive income ("passive assets"), including cash. If we are treated as a PFIC, and a U.S. person that holds our ordinary shares, either directly or indirectly, did not make one of the applicable available elections, such U.S. person would be subject to adverse U.S. federal income tax consequences on distributions with respect to the ordinary shares to the extent the distributions are "excess distributions," which are generally distributions in excess of a normal rate of distribution as calculated for PFIC purposes. Gain realized on the sale or other disposition of the ordinary shares would generally not be treated as capital gain, but rather would be treated as if such U.S. person had realized such gain and certain "excess distributions" ratably over the holding period for the ordinary shares and would be taxed at the highest tax rate in effect for each such year to which the gain was allocated, together with an interest charge in respect of the tax attributable to each such year. Partial redemptions would also be treated as excess distributions. We will, upon request from any shareholder, prepare and provide information as necessary for "qualified electing fund" elections but we make no representation as to the availability of "mark to market" elections that may mitigate the consequences of our being a PFIC to any U.S. investor. Prospective U.S. investors should consult their own U.S. tax advisors regarding the potential application of the PFIC rules.

Product liability suits, whether or not meritorious, could be brought against us due to alleged defective delivery systems or for the misuse of our delivery systems. These suits could result in expensive and time-consuming litigation, payment of substantial damages and an increase in our insurance rates.

If our current or future delivery systems are defectively designed or manufactured, contain defective components or are misused, or if someone claims any of the foregoing, whether or not meritorious, we may become subject to substantial and costly litigation. For example, we may be sued if our delivery systems cause or are perceived to cause injury or are found to be otherwise unsuitable during clinical testing, manufacturing, marketing or sale. This may occur if Optune is misused or damaged, has a sudden failure or malfunction (including with respect to safety features) or is otherwise impaired due to wear and tear. Even absent a product liability suit, malfunctions of the device or misuse by the physician or patient would need to be remedied swiftly in order to maintain continuous use and ensure efficacy of TTFields.

Any product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the delivery system, negligence, strict liability or a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of Optune and our delivery system candidates. Even successful defense may require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for our TTFields delivery systems;
- injury to our reputation;
- withdrawal of clinical trial participants and inability to continue clinical trials;
- initiation of investigations by regulators;

- costs to defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to trial participants or patients;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenues;
- exhaustion of any available insurance and our capital resources;
- the inability to commercialize any delivery system candidate; and
- a decline in our share price.

Product liability claims could divert management's attention from our core business, be expensive to defend and result in sizable damage awards against us. We may not have sufficient insurance coverage for all claims. Any product liability claims brought against us, with or without merit, could increase our product liability insurance rates or prevent us from securing continuing coverage, could harm our reputation in the industry and could reduce revenues. Product liability claims in excess of our insurance coverage would be paid out of cash reserves, if any, which could have a material adverse effect on our business, prospects, financial condition and results of operations and cause our stock price to decline. Even if our agreements with our manufacturers and suppliers entitle us to indemnification against losses, such indemnification may not be available or adequate should any claim arise.

Other future litigation and regulatory actions could have a material adverse impact on the Company.

From time to time, we may be subject to litigation and other legal and regulatory proceedings relating to our business or investigations or other actions by governmental agencies, including as described in Part I, Item 3 "Legal Proceedings" of this Annual Report on Form 10-K. No assurances can be given that the results of these or new matters will be favorable to us. An adverse resolution of lawsuits, arbitrations, investigations or other proceedings or actions could have a material adverse effect on our financial condition and results of operations, including as a result of non-monetary remedies. Defending ourselves in these matters may be time-consuming, expensive and disruptive to normal business operations and may result in significant expense and a diversion of management's time and attention from the operation of our business, which could impede our ability to achieve our business objectives. Additionally, any amount that we may be required to pay to satisfy a judgment, settlement, fine or penalty may not be covered by insurance. Subject to the Jersey Companies Law, our articles of association permit us to indemnify any director against any liability, to purchase and maintain insurance against any liability for any director and to provide any director with funds (whether by loan or otherwise) to meet expenditures incurred or to be incurred by such director in defending any criminal, regulatory or civil proceedings or in connection with an application for relief (or to enable any such director to avoid incurring such expenditure). In addition, we have entered into indemnification agreements with each of our directors, and we anticipate entering into indemnification agreements with each of our officers, to indemnify them against certain liabilities and expenses arising from their being a director to the maximum extent permitted by Jersey law. In the event we are required to make such payments to our directors, there can be no assurance that any of these payments will not be material.

Global economic, political and industry conditions constantly change and unfavorable conditions, particularly in Israel, may have a material adverse effect on our business and results of operations.

We are a global oncology treatment company with worldwide operations. Volatile economic, political and market conditions, such as political or economic instability, majority hostilities or acts of terrorism, in the regions in which we operate may have a negative impact on our operating results and our ability to achieve our business objectives. We may not have insight into economic and political trends that could emerge and negatively affect our business. In addition, significant or volatile changes in exchange rates between the U.S. dollar and other currencies may have a material adverse impact upon our liquidity, revenues, costs and operating results.

In particular, we have research facilities located in Israel, and one of our key suppliers, which is both a component supplier and finished good manufacturer, manufactures its goods in one physical location in Israel. If recent regime changes and civil wars in neighboring states result in the establishment of fundamentalist Islamic regimes or governments more hostile to Israel, or if Egypt or Jordan abrogates its respective peace treaty with Israel, Israel could be subject to additional political, economic and military confines, which could result in a material adverse effect on our operations. Parties with whom we do business have sometimes declined to travel to Israel during periods of heightened unrest or tension, forcing us to make alternative arrangements when necessary. In addition, the political and security situation in Israel may result in parties with whom we have agreements involving performance in Israel claiming that they are not obligated to perform their commitments under those agreements pursuant to force majeure

provisions in the agreements.

The vote by the United Kingdom electorate in favor of the United Kingdom's exit from the European Union could adversely impact our business, results of operations and financial condition.

The passage of the referendum on the United Kingdom's membership in the European Union, referred to as "Brexit," in favor of the exit of the United Kingdom from the European Union, could cause disruption to and create uncertainty surrounding our business, which could have an adverse effect on our business, financial results and operations. Negotiations are expected to commence to determine the terms of the United Kingdom's relationship with the European Union in the future, including trade terms between the United Kingdom and countries comprising the European Union. The effects of Brexit will depend on any agreements the United Kingdom makes to retain access to markets in the European Union, either during a transitional period or more permanently.

Assuming its implementation, Brexit would result in the United Kingdom no longer being a European Union Member State and a member of the European Union single market, which may result in increased trade barriers. Increased trade barriers could impact our

results of operations. Brexit could result in restrictions on the movement of capital within our organization, the mobility of our personnel and the potential future commercialization of Optune or our delivery system candidates and could change our tax benefits or liabilities, any of which could have a material adverse effect on our business, results of operations or financial condition.

We are increasingly dependent on information technology systems and subject to privacy and security laws, and our systems and infrastructure face certain risks, including from cyber security breaches and data leakage.

We increasingly rely upon technology systems and infrastructure. Our technology systems are potentially vulnerable to breakdown or other interruption by fire, power loss, system malfunction, unauthorized access and other events. Likewise, data privacy breaches by employees and others with both permitted and unauthorized access to our systems may pose a risk that sensitive data (including protected health information ("PHI")) may be exposed to unauthorized persons or to the public, or may be permanently lost. The increasing use and evolution of technology, including cloud-based computing, creates additional opportunities for the unintentional dissemination of information, intentional destruction of confidential information stored in our systems or in non-encrypted portable media or storage devices. We could also experience a business interruption, information theft of confidential information, or reputational damage from industrial espionage attacks, malware or other cyber incidents, which may compromise our system infrastructure or lead to data leakage, either internally or at our third-party service providers or other business partners. Additionally, we must comply with numerous laws and regulations governing the collection, dissemination, access, use, security and PHI, including, in the U.S., The Health Insurance Portability and Accountability Act of 1996 and its implementing privacy and security regulations and applicable state laws, and in the EU, Directive 95/46/EC of the European Parliament and of the Council of October 24, 1995 and applicable national laws. While we have invested heavily in the protection of data and information technology and in related training, there can be no assurance that our efforts will prevent significant breakdowns, breaches in our systems or other cyber incidents or ensure compliance with all applicable security and privacy laws, regulations and standards, including with respect to third-party service providers that utilize sensitive personal information, including PHI, on our behalf. Any such breakdown, breach, incident or failure to comply could have a material adverse effect upon our reputation, business, operations or financial condition. In addition, significant implementation issues may arise as we continue to consolidate and outsource certain computer operations and application support activities.

Changes in our technology could result in impairment charges in future periods.

United States generally accepted accounting principles ("GAAP") require annual (or more frequently if events or changes in circumstances warrant) impairment tests of goodwill, intangible assets and other long-lived assets. Generally speaking, if the carrying value of the asset is in excess of the estimated fair value of the asset, the carrying value will be adjusted to fair value through an impairment charge. Circumstances such as changes in technology or in the way an asset is being used may trigger an impairment review. For example, in connection with our introduction of the second generation Optune in 2016, we recorded an impairment loss with respect to the write-off of our first generation Optune system field equipment (finished goods and production stage). Any negative perception of such a deficit could have an adverse effect on the price of our ordinary shares and could impair our ability to obtain new financing or refinance existing indebtedness.

If any of our facilities are damaged or our clinical, research and development or other business processes interrupted, our business could be seriously harmed.

We conduct our business in a limited number of facilities in the United States, Germany, Switzerland, Israel and Japan. Damage or extended periods of interruption to our or our suppliers' or manufacturers' corporate, development or research facilities due to fire, natural disaster, power loss, communications failure, unauthorized entry, terrorist attacks or other events could cause us to cease or delay development of some or all of our delivery systems. Our internal

computer systems may fail or suffer security breaches, which could result in a material disruption of our business. Our business may be seriously harmed by such delays and interruption.

Additionally, one of our key suppliers, which is both a component supplier and finished goods manufacturer, manufactures its goods in one physical location in Israel. Our Israeli operations are located in Haifa, in northern Israel, and are within range of areas of significant conflict. In recent years, these have included hostilities between Israel and Hezbollah in Lebanon and Hamas in the Gaza strip, both of which resulted in rockets being fired into Israel, causing casualties and disruption of economic activities. Although our facilities have not sustained any damage from such attacks, any future attacks and resulting damage could adversely affect our operations. In addition, our business insurance only covers certain specified events associated with war or terrorism in the Middle East, and may not cover all such events. Although the Israeli government currently covers the reinstatement value of direct damages that are caused by terrorist attacks or acts of war, this government coverage may not be maintained, or may be insufficient to cover all losses we incur, even if available. Any losses or damages incurred by us could have a material adverse effect on our business.

We have significant debt service obligations and may incur additional indebtedness in the future, which could adversely affect our financial condition and results of operations and our ability to react to changes in our business.

As of December 31, 2016, we had $100.0 million of principal indebtedness outstanding under our Loan and Security Agreement dated as of January 7, 2015, between us, as borrower, and Biopharma Secured Investments III Holdings Cayman LP, as lender ("Term Loan Credit Facility"). We may incur additional indebtedness in the future. Our existing indebtedness and any additional indebtedness we may incur could require us to divert funds identified for other purposes for debt service and impair our liquidity position.

The fact that a substantial portion of our cash flow from operations could be needed to make payments on our indebtedness could have important consequences, including the following:

- increasing our vulnerability to general adverse economic and industry conditions or increased interests rates;
- reducing the availability of our cash flow for other purposes;
- limiting our flexibility in planning for or reacting to changes in our business and the markets in which we operate, which would place us at a competitive disadvantage compared to our competitors that may have less debt;
- limiting our ability to borrow additional funds for working capital, capital expenditures and other investments; and
- failing to comply with the covenants in our debt agreements could result in all of our indebtedness becoming immediately due and payable.

Our ability to obtain necessary funds through borrowing, as well as our ability to service our indebtedness, will depend on our ability to generate cash flow from operations. Our ability to generate cash is subject to general economic, financial, competitive, legislative, regulatory and other factors that are beyond our control. If our business does not generate sufficient cash flow from operations or if future borrowings are not available to us under our Term Loan Credit Facility or otherwise in amounts sufficient to enable us to fund our liquidity needs, our financial condition and results of operations may be adversely affected. Our inability to make scheduled payments on our debt obligations in the future would require us to refinance all or a portion of our indebtedness on or before maturity, sell assets or seek additional equity investment. We may not be able to take any of such actions on a timely basis, on terms satisfactory to us or at all.

Covenants in our debt agreements restrict our operational flexibility.

Our Term Loan Credit Facility contains usual and customary restrictive covenants relating to the operation of our business, including restrictions on our ability:

- to incur or guarantee additional indebtedness;
- to incur or permit to exist certain liens;
- to enter into certain sale and lease-back transactions;
- to make certain investments, loans and advances;
- to effect certain mergers, consolidations, asset sales and acquisitions;
- to pay dividends on, or redeem or repurchase, capital stock, enter into transactions with affiliates or materially change our business; and
- to repay or modify certain other agreements with respect to other material indebtedness or modify our organizational documents.

In addition, our Term Loan Credit Facility has a minimum liquidity covenant, which is tested quarterly. We must also meet certain annual pro forma net sales requirements.

Risks relating to regulation

Our delivery system candidates must undergo rigorous pre-clinical and clinical testing and we must obtain regulatory approvals, which could be costly and time-consuming and subject us to unanticipated delays or prevent us from marketing any delivery systems.

Our research and development activities, as well as the manufacturing and marketing of Optune and our delivery system candidates, are subject to regulation, including regulation for safety, efficacy and quality, by the FDA in the United States and comparable authorities in other countries. FDA regulations and the regulations of comparable foreign regulatory authorities are wide-ranging and govern, among other things:

- the conduct of pre-clinical and clinical studies;
- product design, development, manufacturing and testing;
- product labeling;
- product storage and shipping;
- premarket clearance, approval and conformity assessment procedures;
- premarket clearance, approval and conformity assessment procedures for modifications introduced in marketed products;
- post-approval market surveillance and monitoring;
- reporting of adverse events or incidents and implementation of corrective actions, including product recalls;
- pricing and reimbursement;
- interactions with healthcare professionals;
- advertising and promotion; and
- product sales and distribution.

Clinical testing can be costly and take many years, and the outcome is uncertain and susceptible to varying interpretations. Moreover, success in pre-clinical and early clinical trials does not ensure that large-scale trials will be successful or predict final results. Acceptable results in early trials may not be replicable in later trials. A number of companies in the oncology industry have suffered significant setbacks in advanced clinical trials, even after promising results in earlier trials. Negative or inconclusive results or adverse medical events during a clinical trial could cause it to be redone or terminated. In addition, failure to construct appropriate clinical trial protocols could result in the test or control group experiencing a disproportionate number of adverse events and could cause a clinical trial to be suspended, redone or terminated. We cannot be certain if or when the FDA, a foreign regulatory agency or our notified body (a private organization designated in an EU member state to conduct conformity assessment procedures under the Medical Devices Directive) might request additional studies, under what conditions such studies might be requested, or what the size or length of any such studies might be. The clinical trials of our delivery system candidates may not be completed on schedule, the FDA, foreign regulatory agencies or our notified body may order us to stop or modify our research, or these agencies or our notified body may not ultimately approve or issue a CE Certificate of Conformity for any of our delivery system candidates for commercial sale. While we have received regulatory approval for Optune for treatment of adult patients with recurrent GBM in the United States, the FDA required us to initiate a post-approval study and we have met this requirement. The data collected from our clinical trials may not be sufficient to support regulatory approval in the United States, Japan and other countries or to obtain CE Certificate of Conformity in the European Union for our various future delivery system candidates. Even if we believe the data collected from our clinical trials are sufficient, the FDA, equivalent foreign regulatory bodies and notified bodies have substantial discretion in the assessment and approval or conformity assessment processes and may disagree with our interpretation of the data. Our failure to adequately demonstrate the safety and efficacy of any of our delivery system candidates would delay or prevent regulatory approval in the United States, Japan and other countries or the CE marking in the European Union of our delivery system candidates, which could prevent us from achieving profitability.

We currently market Optune in the United States, as well as certain EU member states, Switzerland, Japan and other foreign jurisdictions. We intend to market our TTFields delivery systems in a number of additional international markets. Although certain of our delivery systems have been approved for commercialization in Australia, Switzerland and Israel and are CE marked in the European Union, in order to market our delivery systems in other foreign jurisdictions and for other indications, we must obtain separate regulatory approvals and CE Certificates of Conformity. The requirements governing the conduct of clinical trials and manufacturing and marketing of our delivery system candidates outside the United States vary widely from country to country. Foreign regulatory approvals and CE Certificates of Conformity may take longer to obtain than FDA approvals and can require, among other things, additional testing and different clinical trial designs. Foreign regulatory approval and CE marking processes

include essentially all of the risks associated with the FDA approval processes. Some foreign agencies must also approve prices of the delivery systems. Approval of a product by the FDA does not ensure approval of the same product by the health authorities of other countries or CE marking of Optune in the European Union and vice versa. In addition, changes in regulatory policy in the United States or in foreign countries for the approval or CE marking of a medical device during the period of product development and regulatory agency review or notified body review of each submitted new application may cause delays or rejections.

Upcoming changes in the EU rules governing the placing on the market of medical devices may have a potential impact on the CE marking of Optune and our delivery system candidates in the European Union. In September 2012, the European Commission adopted a package of two legislative proposals designed to replace the existing regulatory framework for medical devices in the European Union. In September 2016, a political agreement was reached between the European Parliament and the Council of the European Union. It is expected that the Medical Devices Regulation, also covering active implantable devices, and the In Vitro Diagnostics Medical Devices Regulation will be finally adopted by the Council in March 2017 and enter into force in April 2017. The regulations will then become applicable in three and five years, respectively. When applicable, the regulations will change the regulatory system for medical devices in the European Union, which may prevent or delay the CE marking of our delivery system candidates or impact our ability to modify Optune for CE marking purposes on a timely basis.

We may choose to, or may be required to, suspend, repeat or terminate our clinical trials if they are not conducted in accordance with regulatory requirements, the results are negative or inconclusive or the trials are not well designed.

Clinical trials must be conducted in accordance with the FDA's cGCPs and the equivalent laws and regulations applicable in other jurisdictions in which the clinical trials are conducted. The clinical trials are subject to oversight by the FDA, foreign regulatory agencies, ethics committees and institutional review boards at the medical institutions where the clinical trials are conducted. In addition, clinical trials must be conducted with delivery system candidates produced under the FDA's Good Manufacturing Practices ("GMP") and in accordance with the applicable regulatory requirements in the other jurisdictions in which the clinical trials are conducted. The conduct of clinical trials may require large numbers of test patients. Patient enrollment is a function of many factors, including the size of the patient population for the target indication, the proximity of patients to clinical sites, the eligibility criteria for the trial, the existence of competing clinical trials and the availability of alternative or new treatments. Clinical trials may be suspended by the FDA or by a foreign regulatory agency at any time if the FDA or the foreign regulatory agency finds deficiencies in the conduct of these trials or it is believed that these trials expose patients to unacceptable health risks.

We, the FDA or foreign regulatory agencies might delay or terminate our clinical trials of a delivery system candidate for various reasons, including:

- the delivery system candidate may have unforeseen adverse side effects;
- the time required to determine whether the delivery system candidate is effective may be longer than expected;
- we may not agree with the FDA, a foreign regulatory authority or an ethics committee regarding the protocol for the conduct of a clinical trial;
- new therapies may become the standard of care while we are conducting our clinical trials, which may require us to revise or amend our clinical trial protocols or terminate a clinical trial;
- fatalities may occur during a clinical trial due to medical problems that may or may not be related to clinical trial treatments;
- the delivery system candidate may not appear to be more effective than current therapies;
- there may be insufficient patient enrollment in the clinical trials; or
- we may not be able to produce sufficient quantities of the delivery system candidate to complete the trials.

Furthermore, the process of obtaining and maintaining regulatory approvals in the United States and other foreign jurisdictions and CE Certificates of Conformity in the European Union for new therapeutic products is lengthy,

expensive and uncertain. It can vary substantially, based on the type, complexity and novelty of the product involved. Accordingly, any of our delivery system candidates could take a significantly longer time than we expect to, or may never, gain regulatory approval or obtain CE Certificates of Conformity in the European Union, which could have a material adverse effect on our business, prospects, financial condition and results of operations and cause our stock price to decline.

Healthcare reform and other legislative and regulatory changes in the United States and in other countries may adversely affect our business and financial results.

In response to perceived increases in healthcare costs in recent years, there have been and continue to be proposals by the U.S. federal government, state governments, regulators and third-party payers to control these costs and, more generally, to reform the United States healthcare system. In the United States, the Patient Protection and Affordable Care Act (the "PPACA"), was enacted in 2010 with a goal of reducing the cost of healthcare and substantially changing the way healthcare is financed by both government and private insurers.

In addition, other legislative changes have been proposed and adopted in the United States since the PPACA was enacted. On August 2, 2011, the Budget Control Act of 2011 created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This included aggregate reductions of Medicare payments to providers of 2% per fiscal year, which went into effect on April 1, 2013. On January 2, 2013, the American Taxpayer Relief Act (the "ATRA"), was signed into law, which, among other things, further reduced Medicare payments to several providers, including hospitals.

More recently, the new United States Administration and members of the U.S. Congress have stated that they will seek to modify, repeal, or otherwise invalidate all, or certain provisions of, the PPACA. On January 20, 2017, President Donald Trump signed an executive order, which stated that it is the policy of his Administration to seek the prompt repeal of the PPACA and directed executive departments and federal agencies to waive, defer, grant exemptions from, or delay the implementation of the provisions of the PPACA to the maximum extent permitted by law. Additionally, the House and Senate recently passed a budget resolution that authorizes congressional committees to draft legislation to repeal all or portions of the PPACA and permits such legislation to pass with a majority vote in the Senate.

There is uncertainty with respect to the impact the new United States Administration, the executive order and the budget resolution may have, if any, and any changes will likely take time to unfold and could have an impact on coverage and reimbursement for healthcare items and services, including Optune and our delivery system candidates. In the future, the U.S. Congress could also pass additional healthcare laws and CMS could implement regulatory changes. Further, various healthcare reform proposals have emerged at the state level. These laws and regulations could potentially affect coverage and reimbursement for Optune and our delivery system candidates. However, we cannot predict the ultimate content, timing or effect of any future federal or state healthcare initiatives or the impact any future legislation or regulation will have on us.

On January 17, 2017 CMS published the Medicare Program: Changes to the Medicare Claims and Entitlement, Medicare Advantage Organization Determination, and Medicare Prescription Drug Coverage Determination Appeals Procedures final rule. This final rule aims to streamline the Medicare appeals process and includes changes such as permitting the designation of Medicare Appeals Council decisions as precedential, expanding the Office of Medicare Hearings and Appeals' available adjudicator pool, and simplifying proceedings when CMS or CMS contractors are involved, among others. The effective date of the final rule is March 20, 2017. However, on January 20, 2017, President Trump issued a Memorandum for the Heads of Executive Departments and Agencies that instituted a regulatory freeze on new and pending regulations. In particular, President Trump's Memorandum directed federal agencies to delay the effective date of any regulation that has been published by the Office of the Federal Register, but that has not taken effect, by 60 days or more, as permitted by applicable law. Thus, under President Trump's regulatory freeze, the effective date of the final rule may be delayed.We are monitoring the implementation of this final rule and cannot predict to what extent CMS may or may not use this final rule in denying coverage for Optune.

Additionally, the process governing Medicare appeals and the significant backlog of appeals at the Administrative Law Judge, or ALJ level is the subject of active litigation in the D.C. federal courts. Specifically, in the American Hospital Association v. Burwell case, 1:14-cv- 00851 (D.D.C. Dec. 5, 2016, the D.C. district court has ordered the Secretary of Health and Human Services to reduce the backlog of Medicare appeals cases pending at the ALJ level by: 30% by the end of 2017, 60% by the end of 2018, 90% by the end of 2019, and 100% by the end of 2020. Subsequently, on January 30, 2017, the Secretary of Health and Human Services appealed this order to the U.S. Court of Appeals for the D.C. Circuit. We are monitoring the impact of this litigation on our ability to secure payment from the Medicare program and can provide no assurance that this settlement will result in payments for amounts that we have and will bill to Medicare.

We believe that substantial uncertainty remains regarding the net effect of the PPACA, or its repeal and potential replacement, on our business, including uncertainty over how benefit plans purchased on exchanges will cover our products, how the expansion or contraction of the Medicaid program will affect access to our products, the effect of risk-sharing payment models such as Accountable Care Organizations and other value-based purchasing programs on coverage for our product, and the effect of the general increase or decrease in Federal oversight of healthcare payers. The taxes imposed and the expansion in government's role in the U.S. healthcare

industry under the PPACA, if unchanged, may result in decreased revenues, lower reimbursements by payers for our delivery systems and reduced medical procedure volumes, all of which could have a material adverse effect on our business, prospects, financial condition and results of operations and cause our stock price to decline. Specifically, beginning in January 2013, PPACA imposed a 2.3% excise tax on the constructive sale price in the United States of certain medical devices by a manufacturer, producer or importer of such devices. This tax was suspended for two years beginning January 1, 2016 and ending December 31, 2017.

The competent authorities in the EU member states, Switzerland, Japan, and other foreign jurisdictions are increasingly active in their goal of reducing public spending on healthcare. We cannot, therefore, guarantee that the treatment of patients with Optune would be reimbursed in any particular country or, if successfully included on reimbursement lists will remain thereon. If adopted, the recent proposals of the European Commission for new rules governing medical devices in the European Union could impose additional requirements on manufacturers of medical devices placed on the market in the European Union. Failure to comply with these new requirements may affect our ability to market our delivery systems in the European Union.

We are subject to extensive regulation by the FDA and equivalent foreign authorities, which could restrict the sales and marketing of Optune and could cause us to incur significant costs. In addition, we may become subject to additional foreign regulation as we increase our efforts to sell Optune outside of the United States.

We sell Optune, and expect to sell our delivery system candidates, subject to extensive regulation by the FDA and numerous other federal, state and foreign governmental authorities. These regulations are broad and relate to, among other things, the conduct of pre-clinical and clinical studies, product design, development, manufacturing, labeling, testing, product storage and shipping, premarket clearance and approval, conformity assessment procedures, premarket clearance and approval of modifications introduced in marketed products, post-market surveillance and monitoring, reporting of adverse events and incidents, pricing and reimbursement, interactions with healthcare professionals, advertising and promotion and product sales and distribution. Although we have received FDA approval to market Optune in the United States for the treatment of adult patients with newly diagnosed GBM (in combination with temozolomide) and recurrent GBM, we will require additional FDA approval to market Optune for other indications. We may be required to obtain approval of a new PMA or PMA supplement application for modifications made to Optune. This approval process is costly and uncertain, and it could take one to three years, or longer, from the time the application is filed with the FDA. We may make modifications in the future that we believe do not or will not require additional approvals. If the FDA disagrees, and requires new PMAs or PMA supplements for the modifications, we may be required to recall and to stop marketing the modified versions of Optune.

In addition, before our delivery systems can be marketed in the European Union, they must obtain a CE Certificate of Conformity from a notified body. New therapeutic uses of CE marked medical devices falling outside the scope of the current CE Certificate of Conformity require a completely new conformity assessment before the device can be CE marked and marketed in the European Union for the new intended purpose.

These processes can be expensive and lengthy and entail significant fees. The process preceding CE marking of a medical device in the European Union or approval in Japan could also be expensive and lengthy and its outcome would be uncertain. We may make modifications in the future that we believe do not or will not require additional approvals or the notification of our notified body and potentially additional conformity assessment to permit the maintenance of our current CE Certificate of Conformity. If the competent authorities of the EU member states or our notified body disagree and require the conduct of a new conformity assessment procedure and the modification of the existing CE Certificate of Conformity or the issuance of a new certificate, we may be required to recall or suspend the marketing of the modified versions of Optune.

In Japan, new medical devices or new therapeutic uses of medical devices falling outside the scope of the existing approval by the MHLW require a new assessment and approval for each such new device or use. Accordingly, we may be required to obtain a new approval from MHLW before we launch of a modified version of Optune or the use of TTFields for additional indications. Approval time frames from the MHLW vary from simple notifications to review periods of one or more years, depending on the complexity and risk level of the device. In addition, importation into Japan of medical devices is subject to "Quality Management System (QMS) Ordinance," which includes the equivalent of "Good Import Practices" regulations in the United States. As with any highly regulated market, significant changes in the regulatory environment could adversely affect our ability to commercialize Optune and our other delivery systems in Japan.

In the United States and other jurisdictions, we also are subject to numerous post-marketing regulatory requirements, which include quality system regulations related to the manufacturing of our delivery systems, labeling regulations and medical device reporting regulations, which require us to report to the FDA or other foreign regulatory authorities and notified bodies if our delivery systems cause or contribute to a death or serious injury, or malfunction in a way that would likely cause or contribute to a death or serious injury. In addition, these regulatory requirements may change in the future in a way that adversely affects us. If we fail to comply with

present or future regulatory requirements that are applicable to us, we may be subject to enforcement action by the FDA or other foreign regulatory authorities and notified bodies, which may include any of the following sanctions:

- untitled letters, warning letters, fines, injunctions, consent decrees and civil penalties;
- unanticipated expenditures to address or defend such actions;
- patient notification, or orders for repair, replacement or refunds;
- voluntary or mandatory recall or seizure of our current or future delivery systems;
- administrative detention by the FDA or other foreign regulatory authority of medical devices believed to be adulterated or misbranded;
- operating restrictions, suspension or shutdown of production;
- refusal or delay of our requests for PMA or analogous approval for new intended uses or modifications to Optune;
- refusal or delay of our requests for PMA or analogous approval of new delivery systems;
- refusal or delay in obtaining CE Certificates of Conformity for new intended uses or modifications to Optune;
- suspension, variation or withdrawal of the CE Certificates of Conformity granted by our notified body in the EU member states;
- operating restrictions;
- suspension or withdrawal of PMA or analogous approvals that have already been granted;
- refusal to grant export approval for Optune or any delivery system candidates; or
- criminal prosecution.

The occurrence of any of these events could have a material adverse effect on our business, prospects, financial condition and results of operations and cause our stock price to decline.

Modifications to Optune or any of our delivery system candidates approved in the future may require approvals of new PMA or PMA supplement applications, modified or new CE Certificates of Conformity and analogous foreign regulatory approvals or even require us to cease promoting or to recall the modified versions of Optune until such clearances, approvals or modified or new CE Certificates of Conformity are obtained, and the FDA, foreign regulatory authorities or our notified body may not agree with our conclusions regarding whether new approvals are required.

Any modification to a device approved through the PMA pathway that impacts the safety or effectiveness of the device requires submission to the FDA and FDA approval of a PMA supplement application or even a new PMA application, as the case may be. The FDA requires a company to make the determination as to whether a new PMA or PMA supplement application is to be filed, but the FDA may review the company's decision. For example, in the past, we have made initial determinations that certain modifications did not require the filing of a new PMA or PMA supplement application and have notified the FDA of these changes in our PMA Annual Report, but after its review of our PMA Annual Report, the FDA requested that we submit these modifications to the FDA as a PMA supplement application. From time to time, we may make other changes to the delivery systems, software, packaging, manufacturing facilities and manufacturing processes and may submit additional PMA supplement applications for these changes. FDA may conduct a facility inspection as part of its review and approval process. In addition, it is possible that the FDA will require a human factors study (user interface). It is also possible that the FDA may require additional clinical data. We can provide no assurance that we will receive FDA approval for these changes on a timely basis, or at all. We also may make additional changes in the future that we may determine do not require the filing of a new PMA or PMA supplement application. The FDA may not agree with our decisions regarding whether the filing of new PMAs or PMA supplement applications are required.

In addition, any substantial change introduced to a medical device CE marked in the European Union or to the quality system review by our notified body requires a new conformity assessment of the device and can lead to changes to the CE Certificates of Conformity or the preparation of a new CE Certificate of Conformity. Substantial changes include, among others, the introduction of a new intended purpose of the device, a change in its design or a change in the company's suppliers. Responsibility for determination that a modification constitutes a substantial change lies with the

manufacturer of the medical device. We must inform the notified body that conducted the conformity assessment of the delivery systems we market or sell in the European Union of any planned substantial changes to our quality system or changes to our devices which could affect compliance with the Essential Requirements laid down in Annex I to the Medical Devices Directive or the devices' intended purpose. The notified body will then assess the changes and verify whether they affect the delivery system's conformity with the Essential Requirements laid down in Annex I to the Medical Devices Directive or the conditions for the use of the device. If the assessment is favorable, the notified body will issue a new CE Certificate of

Conformity or an addendum to the existing CE Certificate of Conformity attesting compliance with the Essential Requirements laid down in Annex I to the Medical Devices Directive. There is a risk that the competent authorities of the EU member states or our notified body may disagree with our assessment of the changes introduced to our delivery systems. The competent authorities of the EU member states or our notified body also may come to a different conclusion than the FDA on any given product modification.

If the FDA disagrees with us and requires us to submit a new PMA or PMA supplement application for then-existing modifications and/or the competent authorities of the EU member states or our notified body disagree with our assessment of the change introduced in a product, we may be required to cease promoting or to recall the modified product until we obtain approval and/or until a new conformity assessment has been conducted in relation to the product, as applicable. In addition, we could be subject to significant regulatory fines or other penalties. Furthermore, our delivery systems could be subject to recall if the FDA, analogous foreign regulatory authorities, or the competent authorities of the EU member states or our notified body determine, for any reason, that our delivery systems are not safe or effective or that appropriate regulatory submissions were not made. Any recall or requirement that we seek additional approvals or clearances could result in significant delays, fines, increased costs associated with modification of a product, loss of revenues and potential operating restrictions imposed by the FDA, analogous foreign regulatory authorities, or the competent authorities of the EU member states or our notified body. Delays in receipt or failure to receive approvals, the loss of previously received approvals, the failure to conduct appropriate conformity assessments prior to CE marking of our delivery systems, or the failure to comply with any other existing or future regulatory requirements, could reduce our sales, profitability and future growth prospects.

We will spend considerable time and money complying with federal, state and foreign regulations in addition to FDA regulations, and, if we are unable to fully comply with such regulations, we could face substantial penalties.

We are subject to extensive regulation by the U.S. federal government and the states and foreign countries in which we conduct our business. U.S. federal government healthcare laws apply when we submit a claim on behalf of a U.S. federal healthcare program beneficiary, or when a customer submits a claim for an item or service that is reimbursed under a U.S. federal government-funded healthcare program, such as Medicare or Medicaid. The laws that affect our ability to operate our business in addition to the Federal Food, Drug, and Cosmetic Act and FDA regulations include, but are not limited to, the following:

- the federal anti-kickback statute, which prohibits offering or providing remuneration of any kind for the purpose of inducing or rewarding referrals for items or services reimbursable by a federal healthcare program;
- the U.S. federal False Claims Act (the “False Claims Act”) which prohibits submitting false claims or causing the submission of false claims to the federal government;
- Medicare laws and regulations that prescribe requirements for coverage and payment, including the conditions of participation for DME suppliers, and laws prohibiting false claims for reimbursement under Medicare and Medicaid;
- healthcare fraud statutes that prohibit false statements and improper claims to any third-party payer;
- the federal physician self-referral prohibition, commonly known as the Stark law, which prohibits physicians from referring Medicare patients to an entity for the provision of certain designated health services (including DME) if the physician (or a member of the physician’s immediate family) has an impermissible financial relationship with that entity;
- similar state anti-kickback, false claims, insurance fraud and self-referral laws, which may not be limited to government-reimbursed items, as well as state laws that require us to maintain permits or licenses to distribute durable medical equipment;
- federal, state, and foreign accreditation and licensing requirements applicable to DME providers;
- the U.S. Foreign Corrupt Practices Act, which can be used to prosecute companies in the United States for arrangements with physicians or other parties outside the United States if the physician or party is a government official of another country and the arrangement violates the law of that country;

- the Federal Trade Commission Act, the Lanham Act and similar federal and state laws regulating advertising and consumer protection;
- the Physician Payments Sunshine Act (the "Sunshine Act") and similar state and foreign laws, which require reporting of payments and other transfers of value to health care practitioners periodically; and
- the laws and codes of practices applicable in the EU member states, Switzerland, Japan and other foreign jurisdictions concerning the marketing and promotion of medical devices, interactions with healthcare professionals, consumer protection, comparative advertising and unfair commercial practices, data protection, anti-corruption, bribery and reimbursement of medical devices.

The laws and codes of practices applicable to us are subject to evolving interpretations. Moreover, certain federal and state laws regarding healthcare fraud and abuse and certain foreign laws regarding interactions with healthcare professionals are broad and we may be required to restrict certain of our practices to be in compliance with these laws. Similar law exists in the European Union, individual EU member states and other foreign countries. These laws are complemented by EU or national profession codes of practices. Healthcare fraud and abuse laws also are complex and even minor, inadvertent irregularities can potentially give rise to claims that a statute has been violated. If a governmental authority were to conclude that we are not in compliance with applicable laws and regulations, we and our officers and employees could be subject to severe criminal and civil penalties, including, for example, exclusion from participation as a supplier of delivery systems to beneficiaries covered by federal healthcare programs. For example, most states require us to maintain a license as a DME provider. The Medicare program requires that we maintain accreditation with an independent quality body. Loss of this accreditation would result in loss of our billing privileges to Medicare.

Any violation of these laws or equivalent foreign laws and codes of practices regarding interactions with healthcare professionals and bribery could have a material adverse effect on our business, prospects, financial condition and results of operations and cause our stock price to decline. Similarly, if there is a change in law, regulation or administrative or judicial interpretations, we may have to change our business practices or our existing business practices could be challenged as unlawful, which likewise could have a material adverse effect on our business, prospects, financial condition and results of operations and cause our stock price to decline. In addition, although we believe that we have the required licenses, permits and accreditation to dispense Optune and to dispense our delivery system candidates in the future, a regulator could find that we need to obtain additional licenses or permits. We also may be subject to audits, mandatory reaccreditation and other requirements in order to maintain our billing privileges. Failure to satisfy those requirements or successfully address any issues identified in an audit could cause us to lose our privileges to bill public and private payers. If we are required to obtain permits or licenses that we do not already possess, we also may become subject to substantial additional regulation or incur significant expense. Any penalties, damages, fines, curtailment or restructuring of our operations would adversely affect our ability to operate our business, our prospects and our financial results. In addition, any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses, divert our management's attention from the operation of our business and damage our reputation.

If we, our contract manufacturers or our component suppliers fail to comply with the FDA's quality system regulations or equivalent regulations established in foreign countries, the manufacturing and distribution of our delivery systems could be interrupted, and our delivery system sales and results of operations could suffer.

We, our contract manufacturers and our component suppliers are required to comply with the FDA's quality system regulations and the equivalent quality system requirements imposed by the laws and regulations in other jurisdictions, which are a complex regulatory framework that covers the procedures and documentation of the design, testing, production, control, quality assurance, labeling, packaging, sterilization, storage and shipping of our delivery systems. All aspects of our supply chain are subject to periodic inspections and audits by the FDA, notified bodies and other regulatory authorities to ensure continuing compliance. We and the two critical finished goods manufacturers listed in our PMA were inspected by the FDA in the first half of 2012 and again in the fall of 2013. No material inspectional observations were identified and no FDA Form 483s were issued following these inspections. We cannot assure you that our facilities or our contract manufacturers' or component suppliers' facilities would pass any future quality system inspection. If our or any of our contract manufacturers' or component suppliers' facilities fails a quality system inspection, the manufacturing or distribution of our delivery systems could be interrupted and our operations disrupted. Failure to take adequate and timely corrective action in response to an adverse quality system inspection could force a suspension or shutdown of our packaging and labeling operations or the manufacturing operations of our contract manufacturers, and lead to suspension, variation or withdrawal of our regulatory approvals or a recall of our delivery systems. If any of these events occurs, we may not be able to provide our customers with TTFields delivery

systems that they require on a timely basis, our reputation could be harmed and we could lose customers, any or all of which could have a material adverse effect on our business, prospects, financial condition and results of operations and cause our stock price to decline.

Our delivery systems may in the future be subject to recalls that could harm our reputation, business and financial results.

The FDA and similar foreign governmental authorities have the authority to require the recall of commercialized products in the event of material deficiencies or defects in design or manufacture. In the case of the FDA, the authority to require a recall must be based on an FDA finding that there is a reasonable probability that the device would cause serious injury or death. In addition, foreign governmental bodies have the authority to require the recall of our delivery systems in the event of material deficiencies or defects in design or manufacture. Distributors and manufacturers may, under their own initiative, recall a product if any material deficiency in a device is found. A government-mandated or voluntary recall by us or one of our manufacturers could occur as a result of component failures, manufacturing errors, design or labeling defects or other deficiencies and issues. The FDA requires that certain classifications of recalls be reported to the FDA within ten working days after the recall is initiated. Requirements for the reporting of product recalls to the competent authorities are imposed in other jurisdictions in which our delivery systems are or would be marketed in the future. Companies are required to maintain certain records of recalls, even if they are not reportable to the FDA or to the competent

authorities of other countries. In the future, we may initiate voluntary recalls involving our delivery systems that we determine do not require notification of the FDA or to other equivalent non-U.S. authorities. If the FDA or the equivalent non-U.S. authorities disagree with our determinations, they could require us to report those actions as recalls. A future recall announcement could harm our reputation with customers and negatively affect our sales. In addition, the FDA and the equivalent non-U.S. authorities could take enforcement action if we fail to report the recalls when they were conducted. Recalls of any of our delivery systems would divert managerial and financial resources and could have a material adverse effect on our business, prospects, financial condition and results of operations and cause our stock price to decline.

If our delivery systems cause or contribute to a death or a serious injury, or malfunction in certain ways, we will be subject to medical device reporting regulations, which can result in voluntary corrective actions or agency enforcement actions.

Under the FDA medical device reporting regulations and the equivalent regulations applicable in foreign jurisdictions in which our delivery systems are or may be marketed in the future, medical device manufacturers are required to report to the FDA and to the equivalent non-U.S. authorities information that a device has or may have caused or contributed to a death or serious injury or has malfunctioned in a way that would likely cause or contribute to death or serious injury if the malfunction of the device or one of our similar devices were to recur. If we fail to report these events to the FDA or to the equivalent foreign authorities within the required timeframes, or at all, the FDA or the equivalent foreign authorities could take enforcement action against us. Any such adverse event involving our delivery systems also could result in future voluntary corrective actions, such as recalls or customer notifications, or agency action, such as inspection or enforcement action. Any corrective action, whether voluntary or involuntary, as well as defending ourselves in a lawsuit, will require the dedication of our time and capital, distract management from operating our business, and may harm our reputation and financial results.

We may be subject to fines, penalties or injunctions if we are determined to be promoting the use of our delivery systems for unapproved or off-label uses.

Medical devices may be marketed only for the indications for which they are approved. Our promotional materials and training materials must comply with FDA regulations and other applicable laws and regulations governing the promotion of our delivery systems in the United States and foreign jurisdictions. Currently, Optune is approved for treatment of adult patients with newly diagnosed GBM (in combination with temozolomide) and recurrent GBM in the United States and Japan. In the European Union and Switzerland, we have CE marked the Optune delivery system for the treatment of newly diagnosed GBM (in combination with temozolomide), recurrent GBM, and advanced NSCLC (in combination with standard-of-care chemotherapy). Optune is also approved in Israel and in Australia for the treatment of recurrent GBM and newly diagnosed GBM (in combination with temozolomide).

If the FDA or the competent authorities in other jurisdictions, including the EU member states, determine that our promotional materials or training constitutes promotion of an unapproved use, they could request that we modify our training or promotional materials or subject us to regulatory or enforcement actions, including the issuance of an untitled letter, a warning letter, an injunction, seizure, civil fines and criminal penalties. It is also possible that other federal, state or foreign enforcement authorities might take action if they consider our promotional or training materials to constitute promotion of an unapproved use, which could result in significant fines or penalties under other statutory authorities, such as laws prohibiting false claims for reimbursement. In that event, our reputation could be damaged and commercialization of Optune and future delivery systems would be impaired.

U.S. legislative or FDA regulatory reforms may make it more difficult and costly for us to obtain regulatory approval of our delivery system candidates and to manufacture, market and distribute our delivery systems after approval is obtained.

From time to time, legislation is drafted and introduced in the U.S. Congress that could significantly change the statutory provisions governing the regulatory approval, manufacture and marketing of regulated products or the reimbursement thereof. In addition, FDA regulations and guidance are often revised or reinterpreted by the FDA in ways that may significantly affect our business and our delivery systems. Any new regulations or revisions or reinterpretations of existing regulations may impose additional costs or lengthen review times of future delivery system candidates. In addition, FDA regulations and guidance are often revised or reinterpreted by the agency in ways that may significantly affect our business and our delivery systems. It is impossible to predict whether legislative changes will be enacted or FDA regulations, guidance or interpretations changed, and what the impact of such changes, if any, may be. Any change in the laws or regulations that govern the clearance and approval processes relating to our current and future delivery systems could make it more difficult and costly to obtain clearance or approval for new delivery systems, or to produce, market and distribute Optune. Significant delays in receiving clearance or approval, or the failure to receive clearance or approval for our new delivery systems would have an adverse effect on our ability to expand our business in the United States.

As a DME supplier, if we are found to have violated laws protecting the confidentiality of patient health information, we could be subject to civil or criminal penalties, which could increase our liabilities and harm our reputation or our business.

There are a number of federal and state laws protecting the confidentiality of certain patient health information, including patient records, and restricting the use and disclosure of that protected information, as well as data protection laws applicable in other jurisdictions, such as the EU member states. In particular, the U.S. Department of Health and Human Services promulgated patient privacy rules under HIPAA. These privacy rules protect medical records and other personal health information by limiting their use and disclosure, giving individuals the right to access, amend and seek accounting of their own health information and limiting most use and disclosures of health information to the minimum amount reasonably necessary to accomplish the intended purpose. If we are found to be in violation of the privacy rules under HIPAA, we could be subject to civil or criminal penalties, which could increase our liabilities, harm our reputation and have a material adverse effect on our business, financial condition and results of operations.

The collection and use of personal health data in the European Union is governed by the provisions of Directive 95/46/EC of the European Parliament and of the Council of October 24, 1995, on the protection of individuals with regard to the processing of personal data and on the free movement of such data, commonly known as the Data Protection Directive. The EU member states have adopted national laws and regulations transposing the EU Data Protection Directive into their national laws. The Data Protection Directive and related national laws impose a number of requirements, including an obligation to seek the consent of individuals to whom the personal data relates, the information that must be provided to the individuals, notification of data processing obligations to the competent national data protection authorities of EU member states and the security and confidentiality of the personal data. The Data Protection Directive also imposes strict rules on the transfer of personal data out of the European Union to the United States. We are currently assessing the impact of the recent EU decision overturning the EU-United States data protection safe harbor. Failure to comply with the requirements of the Data Protection Directive and the related national data protection laws of EU member states may result in fines and other administrative penalties. The Data Protection Directive will be replaced in 2018 by the EU's General Data Protection Regulation which imposes a number of new requirements and fines of up to 4% of annual gross revenue.

We are affected by and subject to environmental laws and regulations that could be costly to comply with or that may result in costly liabilities.

We are affected by federal, state, foreign and local laws and regulations, including those that impose various environmental controls on the manufacturing, transportation, storage, use and disposal of batteries and hazardous chemicals and other materials used in, and hazardous waste produced by, the manufacturing of our delivery systems. We incur and expect to continue to incur costs to comply with these environmental laws and regulations. Additional or modified environmental laws and regulations, including those relating to the manufacture, transportation, storage, use and disposal of materials used to manufacture our delivery systems or restricting disposal or transportation of batteries, may be imposed that may result in higher costs.

In addition, we cannot predict the effect that additional or modified environmental laws and regulations may have on us, our third-party suppliers of equipment, batteries and our delivery systems or our customers. For example, we and our suppliers rely on an exemption from the European Directive 2011/65/EU relating to the restriction of the use of certain hazardous substances in electrical and electronic equipment relating to lead content in our transducer arrays. To the extent this exemption is revoked, it may have a material impact on our business and results of operations.

Regulations on the transportation of lithium ion batteries may affect our business.

The Air Line Pilots Association International has called on the U.S. government to prohibit shipments of lithium-ion batteries on cargo and passenger planes pending new regulations, in light of recent incidents involving a battery pack for an electric bicycle and more recently lithium ion batteries in a shipment of electronic cigarettes that may have been a contributing factor in a fire on a FedEx cargo plane. Rechargeable lithium-ion batteries are not as flammable and can be put out with fire extinguishers, but the National Transportation Safety Board has issued a series of recommendations calling for tighter regulation and testing of the batteries. In March 2014, the U.S. Department of Transportation and the Pipeline and Hazardous Materials Safety Administration issued new standards to strengthen safety conditions for the shipment of lithium-ion batteries and cells. The new rules enhance packaging and hazard communication requirements for lithium-ion batteries transported by air, adopt separate shipping descriptions for lithium-ion batteries, revise provisions for the transport of small and medium lithium-ion batteries packed with, or contained in, equipment, and harmonize the provisions for the transport of low production and prototype lithium cells and batteries with the International Civil Aviation Organization's Technical Instructions and the International Maritime Dangerous Goods Code. In February 2015, the U.S. Postal Service revised its policies so that shipping carriers are not permitted to ship packages solely containing lithium-ion batteries internationally. Consequently, we use vendors other than the U.S. Postal Service to ship our lithium-ion batteries.

Additionally, lithium ion batteries are classified as Class 9—Miscellaneous Dangerous Goods by the International Air Transport Association ('IATA"). Our batteries have passed the UN 3480 test for transport as cargo called out in the IATA guidelines. Our larger

batteries (Generation 1-240 Watt-hours) must be properly packaged and labeled (with a class 9 sticker) in order to be shipped by air transport as cargo. Our smaller batteries (Second Generation – 96 Watt-hours) can be shipped without the class 9 sticker if shipped with the device but requires the class 9 sticker if shipped by air separately. The larger batteries are not allowed on passenger aircraft according to the IATA standards. The smaller batteries are allowed as carry on only and cannot be checked as luggage. Consequently, we offer to ship batteries for patients who are traveling by air. If additional restrictions are put in place that limit our ability to ship our delivery systems by air freight or on water borne cargo, it could have an adverse effect on our supply chain, our inventory management procedures and processes and our ability to fill prescriptions and service patients in a timely manner, which could have a material adverse effect on our business, prospects, financial condition and results of operations.

Risks relating to intellectual property

If we are unable to protect our proprietary technology, trade secrets or know-how, we may not be able to operate our business profitably. Similarly, if we fail to sustain, further build and enforce our intellectual property rights, competitors may be able to develop competing therapies.

Our success depends, in part, on our ability to obtain and maintain protection for our delivery systems and technologies under the patent laws or other intellectual property laws of the United States and other countries. The standards that the U.S. Patent and Trademark Office (“USPTO“) and its foreign counterparts use to grant patents are not always applied predictably or uniformly and can change. Consequently, we cannot be certain as to whether pending patent applications will result in issued patents, and we cannot be certain as to the type and extent of patent claims that may be issued to us in the future. Any issued patents may not contain claims that will permit us to stop competitors from using similar technology.

Our existing and future patent portfolio also may be vulnerable to legal challenges. The standards that courts use to interpret patents are not always applied predictably or uniformly and can change, particularly as new technologies develop. On September 16, 2011, President Obama signed into law the Leahy-Smith America Invents Act (“AIA”) a significant patent law reform. The AIA implements a first-inventor-to-file standard for patent approval, changes the legal standards for patentability and creates a post-grant review system. As a result of the uncertainties of patent law in general, and surrounding the interpretation of the AIA in particular, we cannot predict with certainty how much protection, if any, will be given to our patents if we attempt to enforce them and they are challenged in court. Any attempt to enforce our intellectual property rights may also be time-consuming and costly, may divert the attention of management from our business, may ultimately be unsuccessful or may result in a remedy that is not commercially valuable. Such attempts may also provoke third parties to assert claims against us or result in our intellectual property being narrowed in scope or declared to be invalid or unenforceable.

In addition, we rely on certain proprietary trade secrets, know-how and other confidential information. We have taken measures to protect our unpatented trade secrets, know-how and other confidential information, including the use of confidentiality and assignment of inventions agreements with our employees, consultants and certain contractors. It is possible, however, that these persons may breach or challenge the agreements, that our trade secrets may otherwise be misappropriated or that competitors may independently develop or otherwise discover our trade secrets. There is therefore no guarantee that we will be able to obtain, maintain and enforce the intellectual property rights that may be necessary to protect and grow our business and to provide us with a meaningful competitive advantage, and our failure to do so could have a material adverse effect on our business, prospects, financial condition and results of operations and cause our stock price to decline.

The oncology industry is characterized by patent and other intellectual property litigation and disputes, and any litigation, dispute or claim against us may cause us to incur substantial costs, could place a significant strain on our financial resources, divert the attention of management from our business, harm our reputation and require us to

remove certain delivery systems from the market.

Whether a product infringes a patent or violates other intellectual property rights involves complex legal and factual issues, the determination of which is often uncertain. Any intellectual property dispute, even a meritless or unsuccessful one, would be time consuming and expensive to defend and could result in the diversion of our management's attention from our business and result in adverse publicity, the disruption of research and development and marketing efforts, injury to our reputation and loss of revenues. Any of these events could negatively affect our business, prospects, financial condition and results of operations.

Third parties may assert that TTFields, Optune, our other delivery system candidates, the methods employed in the use of our delivery systems or other activities infringe on U.S. or foreign patents. Such claims may be made by competitors seeking to obtain a competitive advantage or by other parties, many of whom have significantly larger intellectual property portfolios than we have. Additionally, in recent years, individuals and groups have begun purchasing intellectual property assets for the purpose of making claims of infringement and attempting to extract settlements from companies like ours. The risk of infringement claims is exacerbated by the fact that there are numerous issued and pending patents relating to the treatment of cancer. Because patent applications can take

many years to issue, and in many cases remain unpublished for many months after filing, there may be applications now pending of which we are unaware that may later result in issued patents that our delivery systems may infringe. There could also be existing patents that one or more components of our delivery systems may inadvertently infringe. As the number of competitors in the market for the treatment of cancer grows, the possibility of inadvertent patent infringement by us or a patent infringement claim against us increases. To the extent we gain greater market visibility, our risk of being subject to such claims is also likely to increase.

If a third party's patent was upheld as valid and enforceable and we were found to be infringing, we could be prevented from making, using, selling, offering to sell or importing Optune or other delivery system candidates, unless we were able to obtain a license under that patent or to redesign our systems to avoid infringement. A license may not be available at all or on terms acceptable to us, and we may not be able to redesign our delivery systems to avoid any infringement. Modification of our delivery systems or development of delivery system candidates to avoid infringement could require us to conduct additional clinical trials and to revise our filings with the FDA and other regulatory bodies, which would be time-consuming and expensive. If we are not successful in obtaining a license or redesigning our delivery systems, we may be unable to make, use, sell, offer to sell or import our delivery systems and our business could suffer. We may also be required to pay substantial damages and undertake remedial activities, which could cause our business to suffer.

We may also be subject to claims alle