forward-looking statements

This presentation contains certain forward-looking statements with respect to the business of Novocure and certain of its plans and objectives, including with respect to the development and commercialization of its lead product candidate, Optune, for a number of oncology indications. These forward-looking statements can be identified in this presentation by the fact that they do not relate only to historical or current facts. Forward-looking statements often use words "expect", "intend", "anticipate", "plan", "may", "should", "would", "could" or other words of similar meaning. These statements are based on assumptions and assessments made by Novocure in light of industry experience and perception of historical trends, current conditions, expected future developments and other appropriate factors. By their nature, forward-looking statements involve risk and uncertainty, and Novocure’s performance and financial results could differ materially from those expressed or implied in these forward-looking statements due to general financial, economic, regulatory and political conditions as well as more specific risks and uncertainties facing Novocure such as those set forth in its Annual Report on Form 10-K filed on February 22, 2018, or in subsequent quarterly filings with the U.S. Securities and Exchange Commission. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described in this presentation. Novocure assumes no obligation to update or correct the information contained in this presentation, whether as a result of new information, future events or otherwise, except to the extent legally required.

The statements contained in this presentation are made as at the date of this presentation, unless some other time is specified in relation to them, and service of this presentation shall not give rise to any implication that there has been no change in the facts set out in this presentation since such date. Nothing contained in this presentation shall be deemed to be a forecast, projection or estimate of the future financial performance of Novocure, except where expressly stated.

As of the date of this presentation, Optune is only FDA-approved for the treatment of adults with supratentorial glioblastoma, or GBM, and its approval for other indications is not certain. Novocure can provide no assurances regarding market acceptance of Optune or its successful commercialization, and can provide no assurances regarding the company’s results of operations or financial condition in the future. This presentation is for informational purposes only and may not be relied upon in connection with the purchase or sale of any security.
a global oncology company with a proprietary platform

- **2** FDA-APPROVED INDICATIONS
- **5** INDICATIONS IN LATE-STAGE PIPELINE
- **140+** ISSUED PATENTS GLOBALLY
- **$248M** NET REVENUES FY 2018
- **>40%** REVENUE GROWTH 2018 COMPARED TO 2017
- **$246M** CASH ON HAND
## 2018 key accomplishments

### ADVANCE OUR PIPELINE
- STELLAR mesothelioma data presented and submitted to FDA for approval
- First patient enrolled in PANOVA-3
- HEPANOVA open for enrollment
- Novel algorithms developed to optimize dose delivery

### DRIVE OPTUNE ADOPTION
- >40% growth in prescriptions for newly diagnosed GBM
- $248M net revenues
- Collaboration with Zai Lab in China
- National reimbursement in Sweden
- Substantial progress with Medicare
we can leverage physics to fight cancer

AN ELECTRIC FIELD EXERTS FORCES ON CHARGED OBJECTS

TUMOR TREATING FIELDS USES ELECTRIC FIELDS TO DISRUPT CELL DIVISION

MISALIGNED TUBULINS INTERFERE WITH FORMATION OF MITOTIC SPINDLE

ALTERNATING ELECTRIC FIELDS DISRUPT CANCER CELL DIVISION

CANCER CELL DEATH

TUMOR TREATING FIELDS DESCRIBES ELECTRIC FIELDS THAT ALTERNATE 100,000 TO 300,000 TIMES PER SECOND TO TARGET CANCER CELLS
single mechanism of action provides pipeline in a product

<table>
<thead>
<tr>
<th>CANCERS OF THE CENTRAL NERVOUS SYSTEM</th>
<th>PRE-CLINICAL EVIDENCE</th>
<th>FIRST IN HUMAN EVIDENCE</th>
<th>CLINICAL EVIDENCE</th>
<th>FDA APPROVAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glioblastoma</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brain metastases</td>
<td></td>
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<tr>
<td>Ependymoma</td>
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<tr>
<td>Gliosarcoma</td>
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<tr>
<td>Medulloblastoma</td>
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<tr>
<td>Meningioma</td>
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<tr>
<td>CANCERS OF THE CHEST</td>
<td></td>
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<tr>
<td>Mesothelioma</td>
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<tr>
<td>Non-small cell lung cancer</td>
<td></td>
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<tr>
<td>Small cell lung cancer</td>
<td></td>
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<tr>
<td>CANCERS OF THE ABDOMEN</td>
<td></td>
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<tr>
<td>Ovarian cancer</td>
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<tr>
<td>Pancreatic cancer</td>
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<tr>
<td>Cervical cancer</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Colorectal carcinoma</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Gastric adenocarcinoma</td>
<td></td>
<td></td>
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<tr>
<td>Liver cancer</td>
<td></td>
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<tr>
<td>Renal cell adenocarcinoma</td>
<td></td>
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<tr>
<td>Urinary transitional cell carcinoma</td>
<td></td>
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</tr>
<tr>
<td>OTHER</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast cancer</td>
<td></td>
<td></td>
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<tr>
<td>Malignant melanoma</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
drumbeat of clinical and regulatory milestones

2016
- PANOVA data (1st cohort)
- PANOVA data (2nd cohort)
- final EF-14 data
- STELLAR data

Today
- INNOVATE data
- HEPANOVA data
- gastric trial data
- LUNAR interim analysis
- METIS data
- FDA approval for MPM

2022
- PANOVA-3 interim analysis
- LUNAR final data
- INNOVATE-3 interim analysis

phase II pilot milestones

phase III pivotal milestones

anticipated milestones
proven to provide long-term quality survival to patients with newly diagnosed GBM

The updated NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Central Nervous System Cancers now include alternating electric field therapy (Optune) in combination with temozolomide (TMZ) following maximal safe resection and standard brain radiation therapy with concurrent TMZ as Category 1 recommended treatment option for patients with newly diagnosed supratentorial glioblastoma (GBM) and good performance status.* There is uniform NCCN consensus for this recommendation based on high-level evidence (Category 1).

---

with more time on Optune predicting survival benefit

86% of patients received a survival benefit from Optune because they used it more than half the time (n=388/450)

Median OS by percentage of monthly time on Optune*

<table>
<thead>
<tr>
<th>Percentage of Monthly Time on Optune</th>
<th>Optune + TMZ</th>
<th>TMZ alone</th>
</tr>
</thead>
<tbody>
<tr>
<td>90%-100% (n=43) 22-24 hours/day†</td>
<td>25 months</td>
<td></td>
</tr>
<tr>
<td>70%-90% (n=257) 17-22 hours/day‡</td>
<td>22 months</td>
<td></td>
</tr>
<tr>
<td>60%-70% (n=46) 14-17 hours/day‡</td>
<td>20 months</td>
<td></td>
</tr>
<tr>
<td>50%-60% (n=42) 12-14 hours/day‡</td>
<td>18 months</td>
<td></td>
</tr>
<tr>
<td>0% (n=229) TMZ alone</td>
<td>16 months</td>
<td></td>
</tr>
</tbody>
</table>

TMZ, temozolomide
* Based on amount of time Optune was turned on and providing therapy over the course of a month.
† This data reflects the average patient usage of Optune for the first 6 months of treatment (months 1-6).
‡ Approximation, based on monthly usage.
Iv i TMZ alone.

Higher energy at tumor bed predicted survival benefit

**Overall survival by energy delivered**

- **Higher energy***: 25 months, n=122, p<0.01
- **Lower energy***: 21 months, n=195
- **TMZ alone**: 16 months, n=229

---

**TMZ** temozolomide

Dose density defined as a factor of both power loss density and monthly usage of therapy.

*Higher energy defined as power loss densities greater than or equal to 1.1 mW/cm³. Lower energy defined as power loss densities less than 1.1 mW/cm³.

1 95% CI 22-37; 76 events, 46 censored
2 95% CI 17-24; 153 events, 42 censored

Post-hoc analysis of EF-14 treatment arm patient data. Of the 466 EF-14 treatment arm patients, the analysis reviewed 317 patients with treatment duration >2 months and sufficient MRI quality.


Post-hoc analysis of EF-14 treatment arm patient data. Of the 466 EF-14 treatment arm patients, the analysis reviewed 317 patients with treatment duration >2 months and sufficient MRI quality.


potential to further improve efficacy via engineering

• Tumor Treating Fields effect is usage and energy dependent
• EF-14 post-hoc analysis confirmed increased energy associated with improved overall survival
• New algorithms developed to enable optimized treatment planning
• Improved transducer arrays in development

HDE application submitted to FDA for unresectable malignant pleural mesothelioma (MPM)

- **Significant extension in overall survival** versus historical control
  - **18.2 month median overall survival** for Optune plus chemotherapy
  - **12.1 month median overall survival in historical control**
- No significant increase in serious adverse events

established international presence

- **UNITED STATES**: 29% estimated penetration
- **EMEA**: 27% estimated penetration
- **JAPAN**: 14% estimated penetration
- **CHINA**: license agreement September 2018

† Considers Q4 2018 active markets: Germany, Austria, Israel and Switzerland.
Information above as of December 31, 2018. Estimated penetration assumes 72% fill rate on Q4 prescriptions. See Novocure’s Form 10-K filed on February 22, 2018 for additional detail.
track record of commercial execution

global net revenues (USD in thousands)

FULL YEAR 2018 NET REVENUES

>40% REVENUE GROWTH 2018 COMPARED TO 2017

See Novocure's Form 8-K filed on or around Jan. 7, 2019 for additional detail.
glioblastoma is tip of the iceberg

potential to significantly expand total addressable market

- 5,000 cases diagnosed annually in the U.S.
- Glioblastoma (GBM)
- Non-small cell lung cancer
- Mesothelioma (MPM)
- Pancreatic cancer
- Brain metastases from non-small cell lung cancer
- Ovarian cancer

See Novocure’s Form 10-K filed on February 22, 2018 for additional detail
cash flow from GBM business largely funding R&D investments

$246M

CASH ON HAND AT 2018 YEAR END
robust intellectual property portfolio

**INTELLECTUAL PROPERTY**
- As of December 31, 2018 over 140 issued patents globally with expected expiration dates as late as 2036
- Numerous patents pending worldwide

**LAYERED PATENT STRATEGY**
- Hold fundamental IP for the use of alternating electric fields in oncology
- Platform technology, tools and multiple applications covered, including mechanism of action, use of alternating electric fields in combination with chemotherapy and delivery of alternating electric fields through transducer arrays
- Continue to file patent applications globally as we enhance our technology and applications

**PMA APPROVAL PATHWAY**
- Optune® classified as class III, life-sustaining device requiring PMA
- Anticipate any competitor device would require clinical trials and extensive data
Novocure is working to...

**Advance** our pipeline

**Drive** Optune adoption

**Invest** in our people and culture

**Create** shareholder value

... **extend survival** in some of the most aggressive forms of cancer
Optune® indications for use and important safety information for GBM

INDICATIONS

• Optune is intended as a treatment for adult patients (22 years of age or older) with histologically-confirmed glioblastoma multiforme (GBM).
• Optune with temozolomide is indicated for the treatment of adult patients with newly diagnosed, supratentorial glioblastoma following maximal debulking surgery, and completion of radiation therapy together with concomitant standard of care chemotherapy.
• For the treatment of recurrent GBM, Optune is indicated following histologically- or radiologically-confirmed recurrence in the supratentorial region of the brain after receiving chemotherapy. The device is intended to be used as a monotherapy, and is intended as an alternative to standard medical therapy for GBM after surgical and radiation options have been exhausted.

CONTRAINDICATIONS

• Do not use Optune in patients with an active implanted medical device, a skull defect (such as, missing bone with no replacement), or bullet fragments. Use of Optune together with implanted electronic devices has not been tested and may theoretically lead to malfunctioning of the implanted device. Use of Optune together with skull defects or bullet fragments has not been tested and may possibly lead to tissue damage or render Optune ineffective.
• Do not use Optune in patients that are known to be sensitive to conductive hydrogels. In this case, skin contact with the gel used with Optune may commonly cause increased redness and itching, and rarely may even lead to severe allergic reactions such as shock and respiratory failure.
Optune® indications for use and important safety information for GBM

WARNINGS AND PRECAUTIONS

• Optune can only be prescribed by a healthcare provider that has completed the required certification training provided by Novocure (the device manufacturer).
• Do not prescribe Optune for patients that are pregnant, you think might be pregnant or are trying to get pregnant, as the safety and effectiveness of Optune in these populations have not been established.
• The most common (≥10%) adverse events involving Optune in combination with temozolomide were thrombocytopenia, nausea, constipation, vomiting, fatigue, medical device site reaction, headache, convulsions, and depression.
• The most common (≥10%) adverse events seen with Optune monotherapy were medical device site reaction and headache.
• The following adverse reactions were considered related to Optune when used as monotherapy: medical device site reaction, headache, malaise, muscle twitching, fall and skin ulcer.
• Use of Optune in patients with an inactive implanted medical device in the brain has not been studied for safety and effectiveness, and use of Optune in these patients could lead to tissue damage or lower the chance of Optune being effective.
• If the patient has an underlying serious skin condition on the scalp, evaluate whether this may prevent or temporarily interfere with Optune treatment.
clinical appendix
Tumor Treating Fields is frequency-tuned to cell size to maximize effects on mitosis

<table>
<thead>
<tr>
<th>Normal intestine</th>
<th>Pancreatic cancer</th>
<th>Non-small cell lung cancer</th>
<th>Ovarian cancer</th>
<th>Glioblastoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>~50 kHz</td>
<td>150 kHz</td>
<td>150 kHz</td>
<td>200 kHz</td>
<td>200 kHz</td>
</tr>
</tbody>
</table>

Effects on cells are frequency specific and inversely related to cell size.
**physical, observable mechanism of action**

CONTROL

TUMOR TREATING FIELDS

Blue staining is DAPI, highlighting DNA

Red staining is for PH3, highlighting DNA binding proteins

Green staining is for tubulin, highlighting the mitotic spindle

Novocure data on file
Tumor Treating Fields induced severe spindle damage in cancer cell lines

A549 cells in lung tissue were treated with Tumor Treating Fields for 24 hours.

Tubulin fluorescence images were inverted and pseudocolored so that increasing fluorescence intensity is indicated from blue to red (scale bar represent arbitrary units). Dashed lines define the region between the two spindle poles (white) and overall tubulin fluorescence within the cell (Red).

Tumor Treating Fields resulted in abnormal chromosomal segregation

A2780 cells were treated with TTFields for 96 hours. Chromosome number was evaluated every 24 hours. Horizontal bars indicate median values (p<0.0001; Brown-Forsythe test).

Spectral karyotyping of A2780 cells showing numerical aberrations following TTFields treatment.

Tumor Treating Fields may offer additive or synergistic benefits in combination with chemotherapy

Combination of Tumor Treating Fields and paclitaxel chemotherapy

Ovarian Cancer Cells were treated for 72 hr with paclitaxel alone (1–100 nM) and in combination with TTFields (2.7 V/cm pk-pk, 200 kHz). Dose–response plots of A2780, OVCAR-3 and Caov-3 cells. CI: combination index.

Tumor Treating Fields interfered with DNA damage response

TTF+IR triggers multinucleation and mitotic abnormalities in glioblastoma cells. Cells were exposed to 24 h of TTF, 5 Gy of $\gamma$-rays or 5 Gy of $\gamma$-rays followed by 24 h of TTF, indicated as the TTF, IR and TTF+IR treatments, respectively.

Immunofluorescence microscopy image of cells stained for $\alpha$-tubulin (green) and DAPI. The histograms summarize the results of three independent experiments (with at least 100 cells counted in each experiment in each column). The values represent the means of three experiments ± SD; *p < 0.05, **p < 0.001. Cells were scored for the presence (abnormal) or absence (normal) of chromosome alignment and se.

Tumor Treating Fields may inhibit metastases and activate an immune response

Exemplary photos of surface lung metastases in Tumor Treating Fields treated versus sham control rabbits.

Treatment was initiated on day 12 from implantation of the kidney tumor. The average total number (±SD) of surface metastases in control versus treated rabbits

Discrete intra-tumoral infiltration of CD45 positive T cells in control tumors and abundant intra tumoral CD45 positive T cells in Tumor Treating Fields treated tumors. Scale bar 100 lm

transducer array placement

- abdominal array placement
- torso array placement
- pelvic array placement
completed pilot STELLAR trial in mesothelioma

A pilot, non-randomized, open-label study of Tumor Treating Fields (150 kHz) concomitant with pemetrexed and cisplatin or carboplatin in patients with previously untreated pleural mesothelioma

- 80 patients with comparison to historical controls
- Data presented at the 19th World Conference on Lung Cancer in Toronto on September 25, 2018
- HDE application submitted to the FDA in October 2018

**Efficacy Endpoints**

<table>
<thead>
<tr>
<th></th>
<th>TTFIELDS WITH PEMETREXED AND CISPLATIN OR CARBOPLATIN&lt;sup&gt;1&lt;/sup&gt;</th>
<th>PEMETREXED AND CISPLATIN ALONE HISTORICAL RESULTS&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median PFS</td>
<td>7.6 months</td>
<td>5.7 months</td>
</tr>
<tr>
<td>Median OS</td>
<td>18.2 months</td>
<td>12.1 months</td>
</tr>
</tbody>
</table>

## STELLAR study design & patient characteristics

### Unresectable malignant pleural mesothelioma

The sample size provides 80% power (α = 0.05) to detect an increase in median OS of 5.5 months vs historical data (i.e., mOS of 17.6 mo, HR of 0.67).

### Key Inclusion Criteria:
- Pathological evidence of unresectable MPM
- At least one measurable lesion (mRECIST)
- ECOG PS score 0-1

### Key Exclusion Criteria:
- Candidate for curative treatment
- Significant comorbidities
- Implanted electronic medical devices

### Primary Endpoint: OS

Secondary Endpoints: ORR, PFS, Safety

<table>
<thead>
<tr>
<th>Median age, years (range)</th>
<th>67 (27–78)</th>
<th>Epithelioid histology</th>
<th>53 (66%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male</strong></td>
<td>67 (84%)</td>
<td>Sarcomatoid/Biphasic</td>
<td>21 (26%)</td>
</tr>
<tr>
<td><strong>ECOG PS 0</strong></td>
<td>45 (56%)</td>
<td>Unspecified histology</td>
<td>6 (8%)</td>
</tr>
</tbody>
</table>

# STELLAR efficacy results: primary endpoint met

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Median OS (all pts)</td>
<td>18.2 months (95% CI 12.1-25.8)</td>
</tr>
<tr>
<td>1-year OS (all pts)</td>
<td>62.2% (95% CI 50.3%-72.0%)</td>
</tr>
<tr>
<td>Median OS (epithelioid pts only)</td>
<td>21.2 months (95% CI 13.2-25.8)</td>
</tr>
<tr>
<td>Median PFS</td>
<td>7.6 months (95% CI 6.7-8.6)</td>
</tr>
<tr>
<td>mRECIST PR; DCR*</td>
<td>29 (40%); 70 (97%)</td>
</tr>
</tbody>
</table>

* Investigator-assessed partial response & disease control rate (PR + stable disease)

The threshold for significant extension in OS compared to historical control was met (HR 0.663; 95% CI 0.558-0.826; p=0.043).

---


### STELLAR safety results

#### Adverse event reported in >1 patient

<table>
<thead>
<tr>
<th>Adverse event reported in &gt;1 patient</th>
<th>Grade ≥3 AE n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with ≥1 AE, n(%)</td>
<td>21 (26)</td>
</tr>
<tr>
<td>Hematologic Disorders</td>
<td></td>
</tr>
<tr>
<td>Anemia</td>
<td>6 (8)</td>
</tr>
<tr>
<td>Leukopenia</td>
<td>3 (4)</td>
</tr>
<tr>
<td>Neutropenia</td>
<td>6 (8)</td>
</tr>
<tr>
<td>Thrombocytopenia</td>
<td>2 (3)</td>
</tr>
<tr>
<td>Non-hematologic Disorders</td>
<td></td>
</tr>
<tr>
<td>Fatigue</td>
<td>3 (4)</td>
</tr>
<tr>
<td>Skin-related toxicity</td>
<td>4 (5)</td>
</tr>
<tr>
<td>Dyspnea</td>
<td>2 (3)</td>
</tr>
</tbody>
</table>

- Thirty-seven patients (46%) had TTFields-related skin toxicity
- Four patients (5%) had Grade 3 skin toxicity (rash or skin irritation)
  - Resolved after treatment with topical corticosteroids or a short treatment break
- No serious adverse event was related to TTFields

### Median compliance with TTFields was 68% (16.3 hours/day)

Cerasoli, G.L. International Association for the Study of Lung Cancer. MA 12.06 – STELLAR Final Results of a Phase 2 Trial of TTFields with Chemotherapy for First-Line Treatment of Malignant Pleural Mesothelioma. Mini Oral Abstract Session: Mesothelioma Surgery and Novel Targets for Prognosis and Therapy. Tuesday, Sept. 25, 2018, 10:30 p.m. ET.
ongoing METIS trial in brain metastases

A pivotal, open-label, randomized study of radiosurgery with or without Tumor Treating Fields (150 kHz) for 1-10 brain metastases from non-small cell lung cancer

- 270 patients randomized 1:1
- Tumor Treating Fields until second cerebral progression
- Primary endpoint – time to first intracranial progression
- Secondary endpoints include time to neurocognitive failure, overall survival, radiological response
ongoing LUNAR trial in non-small cell lung cancer

A pivotal, randomized, open-label study of Tumor Treating Fields (150 kHz) concurrent with standard of care therapies for treatment of stage 4 non-small cell lung cancer following platinum failure

- 540 patients randomized 1:1
- Primary endpoint – overall survival (OS)
- Secondary endpoints include:
  - OS of TTFields + docetaxel vs docetaxel alone
  - OS of TTFields + immune checkpoint inhibitors vs immune checkpoint inhibitors alone
  - OS of TTFields + docetaxel vs immune checkpoint inhibitors alone


progression on or after platinum-based therapy

screening and baseline evaluation

randomization 1:1

TTFields + immune checkpoint inhibitor/docetaxel

CT q6w until progression

three post-progression follow-up visits

survival follow up

immune checkpoint inhibitor/docetaxel

CT q6w until progression

three post-progression follow-up visits

survival follow up

patientforward

© Novocure 2019
completed pilot EF-15 trial in lung cancer

A pilot, non-randomized, open-label study of Tumor Treating Fields (150 kHz) concomitant with pemetrexed in pretreated patients with locally advanced non-small cell lung cancer

- 42 patients with comparison to historical controls
- Data published in *Lung Cancer* in September 2013

<table>
<thead>
<tr>
<th>EFFICACY ENDPOINTS</th>
<th>TTFIELDS WITH PEMETREXED¹</th>
<th>PEMETREXED-ALONE HISTORICAL CONTROL²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median in-field PFS</td>
<td>6.5 months</td>
<td>n/a</td>
</tr>
<tr>
<td>Median PFS</td>
<td>5 months</td>
<td>2.9 months</td>
</tr>
<tr>
<td>Median OS</td>
<td>13.8 months</td>
<td>8.3 months</td>
</tr>
<tr>
<td>One-year survival rate</td>
<td>57%</td>
<td>30%</td>
</tr>
<tr>
<td>Partial response rate</td>
<td>15%</td>
<td>9%</td>
</tr>
</tbody>
</table>


ongoing PANOVA-3 trial in pancreatic cancer

A pivotal, randomized open-label study of Tumor Treating Fields (150 kHz) concomitant with gemcitabine and nab-paclitaxel for front-line treatment of locally-advanced pancreatic adenocarcinoma

- 556 patients randomized 1:1
- Tumor Treating Fields until local disease progression in the abdomen
- Primary endpoint – overall survival (OS)
- Secondary endpoints include PFS, objective response rate, rate of resectability, quality of life

completed pilot PANOSA trial in pancreatic cancer

A pilot, double arm, non-randomized, open-label study of Tumor Treating Fields (150 kHz) concomitant with gemcitabine and nab-paclitaxel for frontline treatment of pancreatic adenocarcinoma

- 40 patients (2 cohorts of 20 patients) with comparison to historical controls
- Data published in *Pancreatology* in October 2018

<table>
<thead>
<tr>
<th>EFFICACY ENDPOINTS FOR SECOND COHORT</th>
<th>TTFIELDS WITH NAB-PACLITAXEL + GEMCITABINE¹</th>
<th>NAB-PACLITAXEL + GEMCITABINE HISTORICAL RESULTS²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median PFS</td>
<td>12.7 months</td>
<td>5.5 months</td>
</tr>
<tr>
<td>Median OS</td>
<td>Not yet reached</td>
<td>8.5 months</td>
</tr>
<tr>
<td>One-year survival rate</td>
<td>72%</td>
<td>35%</td>
</tr>
<tr>
<td>Partial response rate (PR)</td>
<td>40%</td>
<td>23%</td>
</tr>
<tr>
<td>Clinical benefit (PR plus stable disease)</td>
<td>87%</td>
<td>50%</td>
</tr>
</tbody>
</table>

planned INNOVATE-3 trial in ovarian cancer

A pivotal, randomized open-label study of Tumor Treating Fields (200 kHz) concomitant with weekly paclitaxel for the treatment of platinum-resistant ovarian cancer

- 540 patients randomized 1:1
- Tumor Treating Fields until progression outside the abdomen/pelvis
- Primary endpoint – overall survival (OS)
- Secondary endpoints include PFS and objective response rate

completed pilot INNOVATE trial in ovarian cancer

A pilot, non-randomized, open-label study of Tumor Treating Fields (200 kHz) concomitant with weekly paclitaxel in patients with recurrent ovarian cancer

- 30 patients with comparison to historical controls
- Data published in *Gynecologic Oncology* in July 2018

**Efficacy Endpoints**

<table>
<thead>
<tr>
<th></th>
<th>TTFields With Paclitaxel&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Paclitaxel Alone Historical Results&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median PFS</td>
<td>8.9 months</td>
<td>3.9 months†</td>
</tr>
<tr>
<td>Median OS</td>
<td>Not yet reached</td>
<td>13.2 months</td>
</tr>
<tr>
<td>One-year survival rate</td>
<td>61%</td>
<td>n/a</td>
</tr>
</tbody>
</table>

ongoing HEPANNOVA trial in liver cancer

A phase 2 pilot trial of Tumor Treating Fields (150 kHz) concomitant with sorafenib for advanced hepatocellular carcinoma

- 25 patients
- Tumor Treating Fields until progressive disease per RECIST in the liver
- Primary endpoint – overall radiological response rate
- Secondary endpoints include in-field control rate, PFS at 12 months and OS at 1 year

screening and baseline evaluation  ---  TTFIELDS + daily sorafenib  ---  CT/MRI scan q12w until progression  ---  survival follow up
additional presentation slides
electric fields exert forces on electrically polarized molecules

**GRAVITATIONAL FIELDS**
exert force on masses

**MAGNETIC FIELDS**
exert force on iron & other magnets

**ELECTRIC FIELDS**
exert force on charges & polarized molecules
an electric field exerts forces on charged objects

TUMOR TREATING FIELDS DESCRIBES ELECTRIC FIELDS THAT ALTERNATE 100,000 TO 300,000 TIMES PER SECOND TO TARGET CANCER CELLS
Tumor Treating Fields uses alternating electric fields to disrupt cell division.

MISALIGNED TUBULINS INTERFERE WITH FORMATION OF MITOTIC SPINDLE

CANCER CELL DEATH
a portable, wearable device that delivers Tumor Treating Fields
the Optune® system

**ELECTRIC FIELD GENERATOR**
Portable Tumor Treating Fields generator

**TRANSDUCER ARRAYS**
Sterile, single-use transducer arrays replaced at least two times per week
The updated NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Central Nervous System Cancers now include alternating electric field therapy (Optune) in combination with temozolomide (TMZ) following maximal safe resection and standard brain radiation therapy with concurrent TMZ as Category 1 recommended treatment option for patients with newly diagnosed supratentorial glioblastoma (GBM) and good performance status. There is uniform NCCN consensus for this recommendation based on high-level evidence (Category 1).

GBM, glioblastoma; TMZ, temozolomide; OS, overall survival; ITT, intent-to-treat
continued growth in active patients

active patients at period end

- Q1 2015: 372
- Q2 2015: 425
- Q3 2015: 468
- Q4 2015: 605
- Q1 2016: 770
- Q2 2016: 891
- Q3 2016: 985
- Q4 2016: 1,091
- Q1 2017: 1,266
- Q2 2017: 1,460
- Q3 2017: 1,683
- Q4 2017: 1,834
- Q1 2018: 2,009
- Q2 2018: 2,169
- Q3 2018: 2,252
- Q4 2018: 2,383

Consecutive quarters of active patient growth since initial presentation of EF-14 data

10,000+ patients treated to date globally

U.S. active patients
EMEA active patients
Japan active patients
robust intellectual property portfolio

140+

ISSUED PATENTS GLOBALLY
AS OF DECEMBER 31, 2018

• Layered patent strategy
• Expiration dates as late as 2036
• Numerous patents pending worldwide
• PMA approval pathway

patientforward