HELPING REDUCE DEADLY UNCONTROLLED INFLAMMATION IN HOSPITALIZED PATIENTS WORLDWIDE

CytoSorbents™

NASDAQ: CTSO

HC Wainwright 21st Global Investment Conference

September 10, 2019
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CytoSorbents is a Leader in Critical Care Immunotherapy

Leading the Prevention or Treatment of Life-Threatening Inflammation in the ICU and Cardiac Surgery using CytoSorb® Blood Purification
CytoSorbents At a Glance (NASDAQ: CTSO $5.15)

- CytoSorb® is E.U. approved as an extracorporeal cytokine adsorber with 67,000+ cumulative treatments (up from 46,000 a year ago) delivered and distributed in 58 countries

- Record 2018 Financial Performance:

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenue</td>
<td>$15.1M</td>
<td>$22.5M</td>
<td>+49%</td>
</tr>
<tr>
<td>Product Revenue</td>
<td>$13.4M</td>
<td>$20.3M</td>
<td>+51%</td>
</tr>
<tr>
<td>Blended Product Gross Margin</td>
<td>71%</td>
<td>74%</td>
<td>-</td>
</tr>
</tbody>
</table>

- Conducting the pivotal REFRESH 2-AKI cardiac surgery trial to support US FDA approval
- Healthy cash balance of ~$20M (7/31/19)
- 152 employees with international footprint across two wholly-owned subsidiaries
  - CytoSorbents Medical, Inc: Headquarters - New Jersey, USA
  - CytoSorbents Europe GmbH: International sales office - Berlin, Germany
- Strategic Partnerships with Fresenius Medical Care, Terumo, Biocon, Dr. Reddy’s
- Strong government support with ~$26M in grants, contracts, other non-dilutive funds
- Russell 2000 & 3000 listed. Coverage by Cowen, B Riley, HCW, Maxim, Dawson James, Zacks
Uncontrolled Inflammation is Deadly

 Millions Die Of Uncontrolled Deadly Inflammation Each Year
Massive Inflammation Causes Organ Failure

Organ failure occurs when vital organs stop working, **causing nearly half of all deaths in the ICU.**

Little can be done to prevent or treat organ failure today.
No Ideal Options to Treat Severe Inflammation

**Anti-Inflammatory (too weak)**
- NSAIDs
- Aspirin
- Anti-cytokine antibodies
- Anti-integrin antibodies
- Anti-oxidants

**Immunosuppressive (too strong)**
- Corticosteroids
- Chemotherapy
- Organ transplant
- Anti-rejection drugs
- Radiation
- Immune system ablation
- Anti-leukocyte Abs
CytoSorb Bridges the Gap

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CytoSorb® Reduces the Fuel to the Fire

- CytoSorb® targets the $20+ billion opportunity in critical care and cardiac surgery
- Approved in the European Union as the first specifically approved extracorporeal cytokine adsorber
- Broad indication for use where cytokines are elevated
- Removes cytokines and many other inflammatory mediators such as free hemoglobin, bacterial toxins, myoglobin, and activated complement
- Safe and well-tolerated: 67,000+ cumulative treatments delivered, up from 46,000 a year ago

*CytoSorb is not yet approved in the U.S.*
Patented Blood Purification Technology

The underlying blood purification technology is based on biocompatible, highly porous polymer beads that act like tiny sponges to remove harmful substances from blood.

- Proprietary patented technology with multiple patents pending worldwide
- Manufactured at our ISO 13485 certified facility in New Jersey
- One of the highest grade medical sorbents on medical market today

Each bead is about the size of a grain of salt.
CytoSorb is “Plug and Play”

Compatible with Existing Dialysis and Heart-Lung Machines

- Place a temporary dialysis catheter in a major vein
- Connect the device to a standard dialysis, ECMO, or heart-lung machine found in hospitals worldwide
- Pump blood out of the body and through the cartridge
- The polymer beads directly contact blood and remove unwanted or toxic substances
- “Purified” blood is pumped back into the patient
- Can treat 70+ total blood volumes per 24 hour treatment
- Each treatment uses a new cartridge
Goal: To Prevent or Treat Organ Failure

- Improve Patient Outcome and Survival
- Decrease Costs of ICU and Patient Care

The Potential to Revolutionize Critical Care Medicine

- Sepsis
- ARDS
- Burn Injury
- Trauma
- Pancreatitis
- Influenza
- Surgical
Refractory Septic Shock

Prospective, single arm study in 20 patients with refractory late-stage septic shock using CytoSorb aggressively every 12 hours with a new cartridge

- Patients had refractory shock despite high doses of vasopressors, respiratory failure requiring mechanical ventilation, oligo-anuric kidney failure requiring dialysis, and lactate > 8 mmol/L

- Results from the CytoSorb Greifswald Study
  - Resolution of shock in 65% of patients treated with CytoSorb
  - 28-day survival was 45%, a 30-40% absolute improvement over expected (0-10%)
  - Reduction of IL-6 from an initial average of 87,000 pg/mL to below 10,000 pg/mL after 24 hours of treatment

- A similar population (n=16) receiving standard of care but no CytoSorb therapy, where shock could not be reversed, also on mechanical ventilation with an initial lactate level of 6.1 ± 4 mmol/L, and 75% requiring renal replacement therapy had a mortality of 100% at 28 days.*

CytoSorb® Is a High Margin “Razorblade”

- High margin “razorblade” fully compatible with existing installed base of “razor” blood pumps: Dialysis/CRRT, ECMO machines (ICU), heart-lung machines (OR)

- Blended gross margins are 76%, expected to rise to ~80% on a quarterly basis in 2019, driven by volume production from our new manufacturing facility

- Average Direct Selling Price is approximately $1,000 per cartridge

- Approximately 1 - 10 cartridges are typically used per patient
  - Open heart surgery: 1-2 cartridges
  - Sepsis: 3-5 cartridges or roughly 1 day in the ICU
  - Severe acute pancreatitis: 5-10 cartridges

- In Germany, 400 hospitals have >400 beds. Each hospital typically sees 300-600 sepsis patients per year. At 3-5 cartridges per patient:
  - Revenue per patient = ~$3,000-5,000
  - Potential revenue per hospital = $1-3M for sepsis alone

- Previously disclosed one German hospital has already achieved sales >$1M, validating revenue model
Product Sales (TTM) and Blended Gross Margins

- **Product Sales (TTM)**
  - Q2 2014: $1,750,196
  - Q2 2015: $3,379,681
  - Q2 2016: $5,017,168
  - Q2 2017: $10,393,062
  - Q2 2018: $17,423,559
  - Q2 2019: $21,000,527

- **Blended Gross Margin**
  - Q2 2014: 60%
  - Q2 2015: 62%
  - Q2 2016: 64%
  - Q2 2017: 66%
  - Q2 2018: 68%
  - Q2 2019: 70%
80% Blended Product Gross Margins Are Near

• We are a vertically-integrated ISO 13485 certified manufacturer of CytoSorb
  • Manufacture our proprietary porous polymer beads from raw chemicals
  • Assemble fully-finished devices
  • Send out for third-party gamma sterilization
  • Conduct all quality assurance and quality control, and ship worldwide

• Increases in blended product gross margins over time have been due primarily to improved manufacturing efficiencies

• New manufacturing facility opened seamlessly in June 2018, with capacity of $80M in sales

• Achieving economies of scale at all levels. Examples include:
  • More efficient and streamlined large scale manufacturing
  • Improved product yields
  • Volume purchasing discounts of raw materials
  • Bulk waste disposal
  • Pallet freight shipping

• We are the beneficiary of cost reductions in manufacturing and continue to expect achievement of 80% blended product gross margins on a quarterly basis this year
Demand for CytoSorb Continues to Grow

- CytoSorb sales are driven primarily by re-orders with ~85% of our invoices from repeat customers.
- The number of CytoSorb cartridges per invoice continues to rise, demonstrating increased usage and adoption at many accounts.
- Usage is increasing because CytoSorb is helping physicians “regain control” of their very sick patients, particularly in controlling complications of inflammation.
- Clinical data generation continues to be robust with more than 120 publications in peer-reviewed scientific and medical journals.
- Clinicians have honed in on key areas where CytoSorb works well such as sepsis, cardiac surgery, and liver failure.
- Starting in the second half of 2018, we had begun to put into place a growth strategy to take advantage of this strong market for CytoSorb.
Investing Heavily for Growth

• Direct sales are ~75% of our product sales, with higher product gross margins

• Doubled the number direct sales countries from 5 to 10 in 2019, adding Poland, Sweden, Netherlands, Norway and Denmark, to Germany, Austria, Switzerland, Belgium and Luxembourg with a combined population of 190M

• Expanded countries to 58, with registration pending at major countries including Brazil, Mexico, South Korea and Colombia that add more than 440M people

• Since September 2018, added 47 people or a 45% increase in headcount to 152, with many key hires in the past 3-6 months. Expansion was lengthy and challenging due to insistence of quality people, tight labor market, and labor laws

• Significantly strengthened the commercial organization
  • Doubled customer facing sales reps and specialists, particularly in Germany
  • Subdivided management of direct sales
  • New leadership and expansion of distributor and partner sales
  • New head of marketing who will report to Christian Steiner, SVP of Sales and Marketing
  • Bolstered manufacturing, quality, clinical, and reimbursement personnel

• Manpower will enable more focused targeting of key accounts, with modest impact this year, but is expected to be a major catalyst for strong growth in 2020
Near Term Clinical Data May Catalyze Sales Also

**CytoSorb®**

<table>
<thead>
<tr>
<th>Indication</th>
<th>Pre-Clinical</th>
<th>Safety Feasibility</th>
<th>Pivotal</th>
<th>APPROVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>Cytokine Storm</td>
<td>Extracorporeal Cytokine, Bilirubin, and Myoglobin Adsorber</td>
<td>231/250</td>
<td>Completion 2019. Data Readout 1H 2020</td>
</tr>
<tr>
<td>EU</td>
<td>Endocarditis</td>
<td>REMOVE Endocarditis Trial</td>
<td>231/250</td>
<td>Interim analysis after 200 patients in Q1 2020. Enrollment completion targeted by end of 2020, PMA submission in 2021</td>
</tr>
<tr>
<td>US</td>
<td>Post-cardiac surgery AKI</td>
<td>REFRESH 2-AKI Pivotal Trial 121/400</td>
<td></td>
<td>On track to file IDE in Q4 2019 for pivotal study, with potential completion of study in 1H 2020, and approval by year-end</td>
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</tbody>
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**HemoDefend-RBC™**

| US         | Purification pRBC | HemoDefend-RBC | | |
CE Mark Renewal to May 2024 Ensures Supply

- The new Medical Device Regulation (MDR) in the E.U. replaces the Medical Devices Directive (MDD) for CE Mark approval for medical devices.

- The MDR was published in May 2017 and will be in full effect in May 2020 after a 3-year grace period and will apply to all medical device companies:
  - Increased requirements on efficacy and clinical data
  - Increased technical documentation
  - Stringent requirements on post-market surveillance
  - Changes to product labels that will enable “track and trace” of individual devices

- Through significant effort, we have received an extension of our CE Mark for CytoSorb through May 2024 under the MDD.

- We believe we would have met the MDR requirements now, but the key is that we have eliminated a significant regulatory risk of any supply interruption of CytoSorb to the market for the next ~5 years.
Investment Summary

• We believe we are a unique company in the medical device space with a high margin razorblade in another company’s razor business model

• We are helping to treat some of the biggest unmet medical needs in modern medicine and are riding the wave of multiple macro trends
  - Aging baby boomer generation and risk of sepsis, structural heart disease, and trauma
  - The pandemic of liver failure
  - The rise of cancer immunotherapy (CART-cell)
  - The opiate crisis
  - Many others

• We have extensive validation from physicians around the world, leading strategic partners, US government agencies, and the media

• We are confident in the future, with management purchasing 100,000+ shares recently
Providing Hope in a helpless situation

Helping Patients Survive Critical Illnesses Worldwide

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