CytoSorbents™

HELPING REDUCE DEADLY UNCONTROLLED INFLAMMATION IN HOSPITALIZED PATIENTS WORLDWIDE

NASDAQ: CTSO

BIO CEO & Investor Presentation

February 13, 2018

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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-traded (CTSO): ~$7.00 per share
- CytoSorb®, is E.U. approved, with 35,000+ treatments; distributed in 44 countries
- Pre-announced total 2017 revenue of $15M+, including full year CytoSorb sales of $13.2M, with $17.3M in cash at year-end 2017
- ~90 employees with international footprint across two wholly-owned subsidiaries
  - CytoSorbents Medical, Inc - New Jersey, USA
    - Headquarters, ISO 13485 manufacturing, QA/QC, R&D
  - CytoSorbents Europe GmbH: International sales office - Berlin, Germany
- Strategic Partnerships with Fresenius Medical Care, Terumo, Biocon, and Dr. Reddy's
- Strong government support with nearly $22M in grants, contracts, other non-dilutive funding
- Russell Microcap Index listed with coverage by Cowen, HCW, B Riley, Aegis, Maxim & Zacks

✓ **Expecting rapid growth and operating profitability (on quarterly basis) in 2018**

✓ **On path to potential U.S. approval with U.S. REFRESH 2 pivotal trial in cardiac surgery**

Uncontrolled Inflammation is Deadly

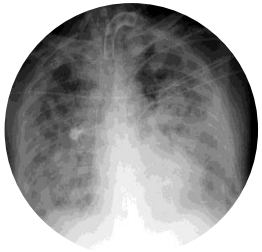
Sepsis

Trauma

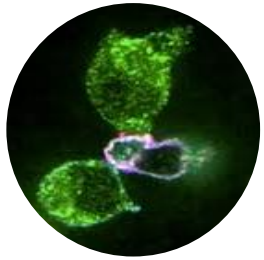
Influenza

Burn Injury

Millions Die Of Uncontrolled Deadly Inflammation Each Year



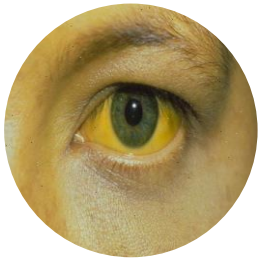
Lung Injury



Cytokine Release Syndrome

Pancreatitis

Surgical Complications

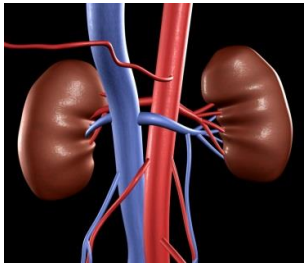
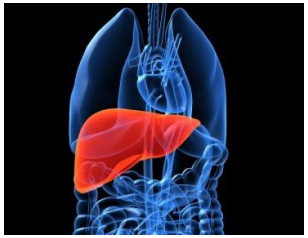
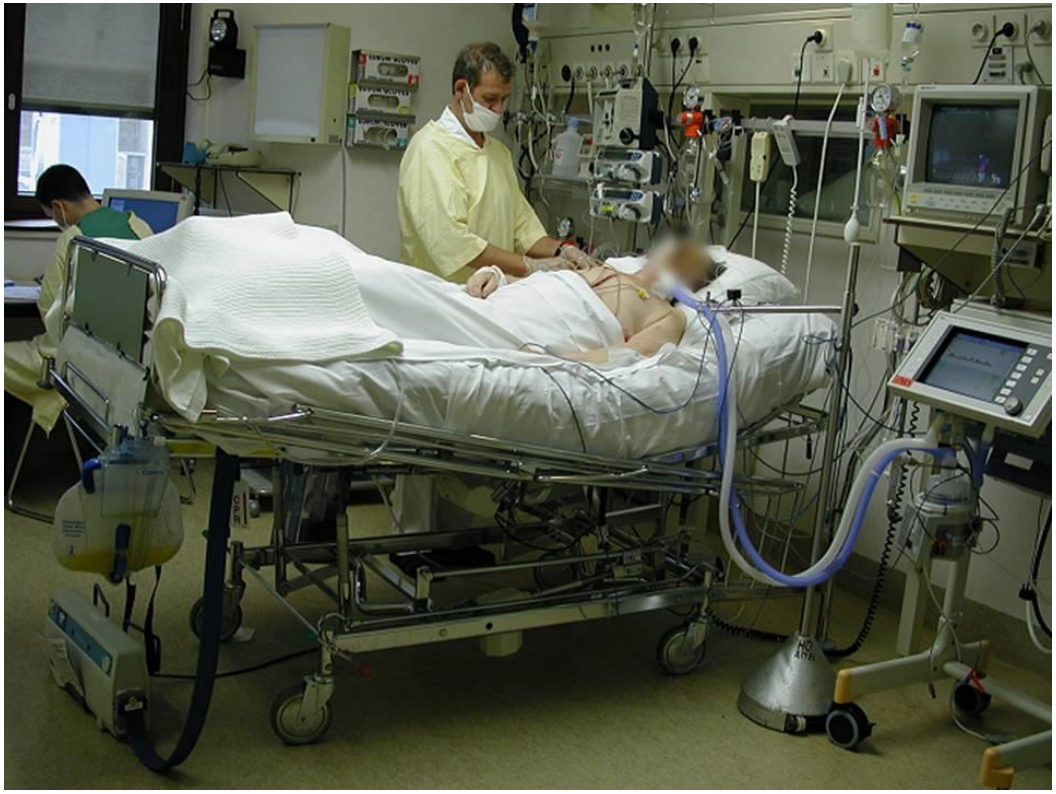


Liver Failure

CytoSorbents™

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

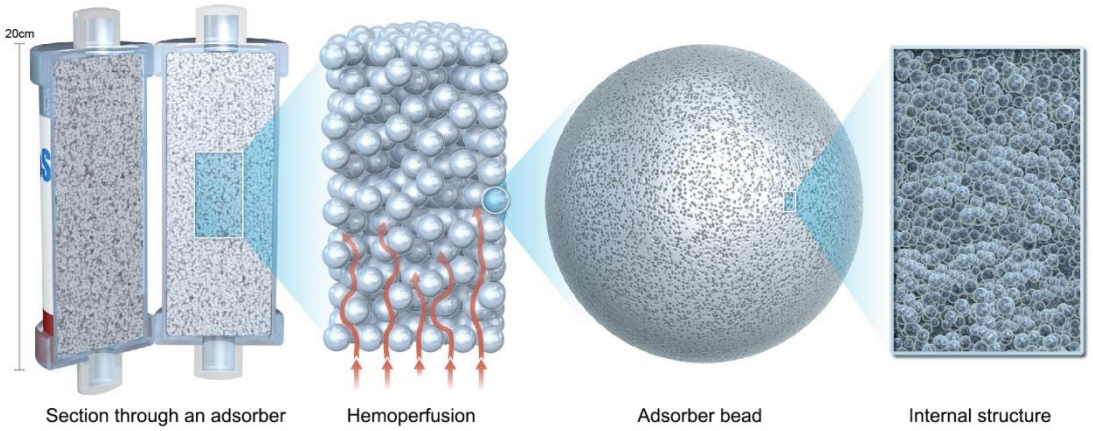
CytoSorb® Reduces the Fuel to the Fire

- CytoSorb® targets the $20+ billion opportunity in critical care and cardiac surgery
- Approved in the European Union as the only 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: ~35,000 cumulative treatments delivered, up from 20,000 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

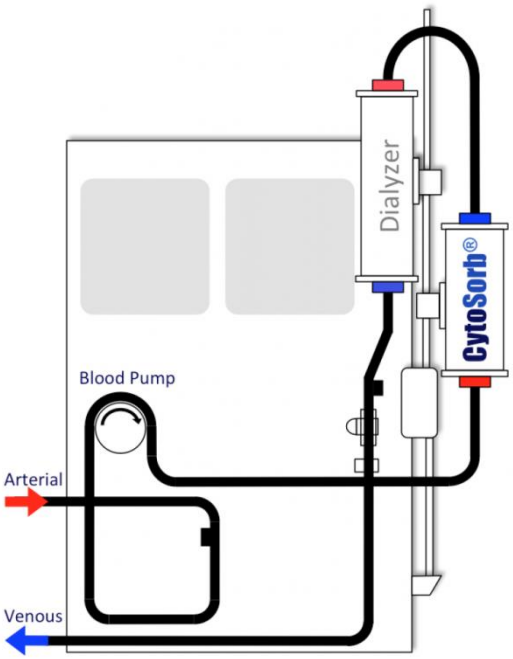


Each bead is about the size of a grain of salt

- 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

CytoSorb is “Plug and Play”

Compatible with Existing Dialysis and Heart-Lung Machines



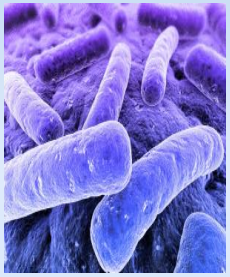
- Place a temporary dialysis catheter in a major vein
- Connect the device to a standard dialysis, ECMO, or heart-lung machine found in hospitals worldwide
- Pump blood out of the body and through the cartridge
- The polymer beads directly contact blood and remove unwanted or toxic substances
- “Purified” 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

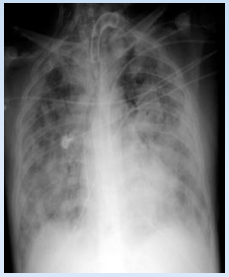
Improve Patient Outcome and Survival

Decrease Costs Of ICU and Patient Care

Sepsis



ARDS



Burn Injury

Trauma

Pancreatitis

Influenza

Surgical

The Potential to Revolutionize Critical Care Medicine

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*
  - Reversal of shock in 65% of patients treated with CytoSorb
  - 28-day survival was 45%, a 25-45% absolute improvement over expected (0-20%)
  - Reduction of IL-6 from an initial average of 87,000 pg/mL to below 10,000 pg/mL after 24 hours of treatment

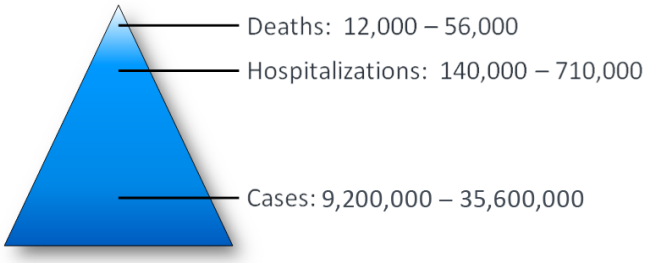
- A similar population (n=16) receiving standard of care, where shock could not be reversed, also on mechanical ventilation with an initial lactate level of 6.1 ± 4 mmol/L, and 75% requiring renal replacement therapy had a mortality of 100% at 28 days.**

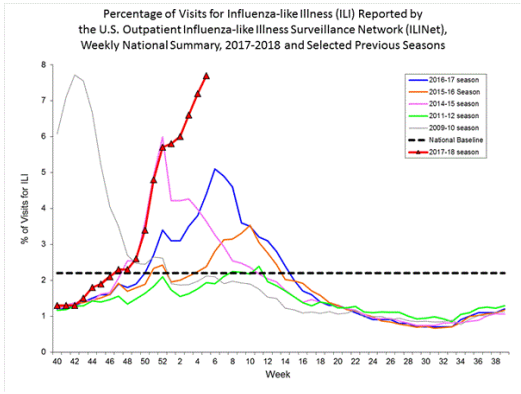
* Friesecke, S, et.al.,"Extracorporeal cytokine elimination as rescue therapy in refractory septic shock: a prospective single center study", J Artif Organs 2017; 20(3):252-259.

** Conrad, M., et. al., "Early prediction of norepinephrine dependency and refractory septic shock with a multimodal approach of vascular failure", J Crit Care, 2015; 30:739-743.

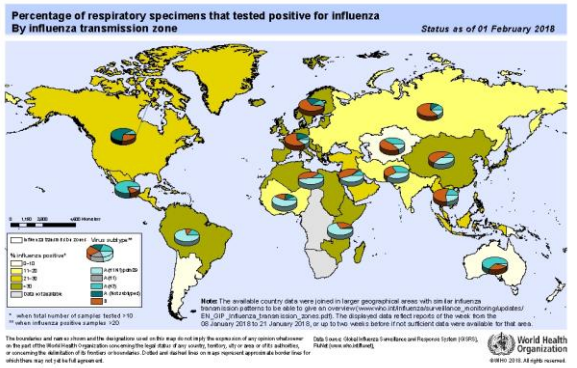
Seasonal Influenza

- Seasonal influenza in the US (CDC data)





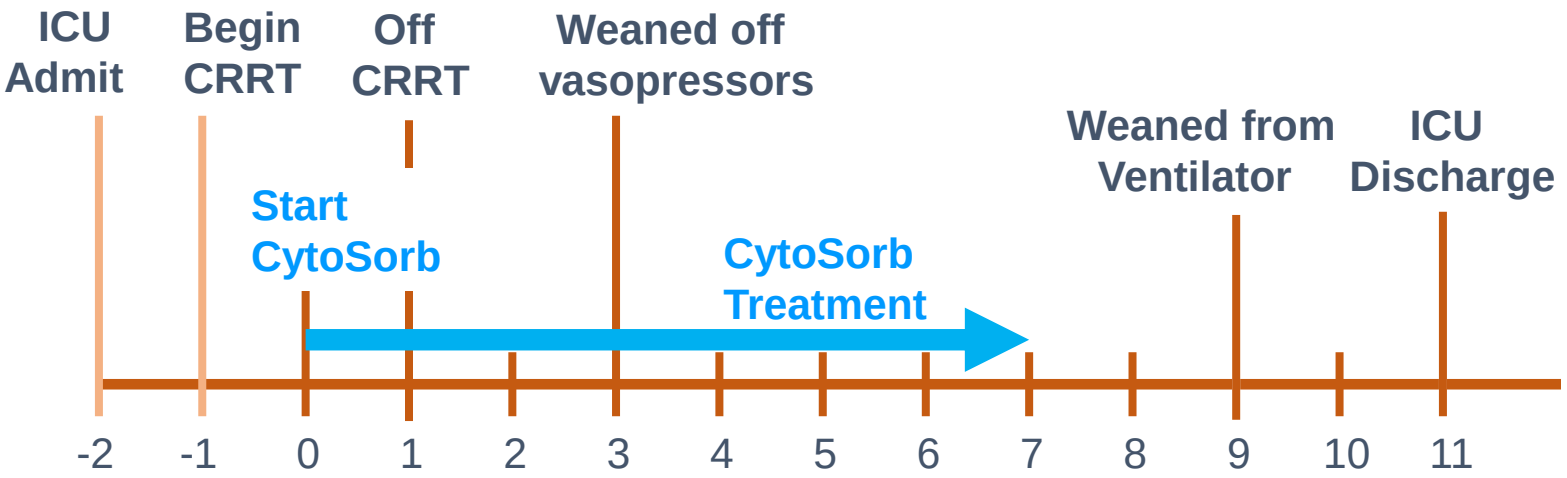
- Current 2017-18 US epidemic is particularly severe
  - Poor vaccine coverage, virulent H3N2 strain, widespread
- In addition to very young and elderly, otherwise healthy people are dying from influenza
  - Cytokine storm, severe inflammation and rapid organ failure
  - Complications including secondary pneumonia and sepsis
- CytoSorb has recently been used to help treat about 2 dozen cases in Europe and India
  - Primary treatment of severe viral sepsis
  - Treatment of septic shock and multiple organ failure
  - With ECMO or dialysis



Case Report: Influenza

56 year old man with documented swine (H1N1) influenza with multiple organ failure. Interferon levels were undetectable

Treatment day	1	2	3	4	5	6	7
IL-6 (before) pg/mL	8,076	1,025	527	172	117	120	107
IL-6 (after) pg/mL	2,621	663	289	76	110	111	94
IL-6 (% change)	-68%	-35%	-45%	-56%	-6%	-8%	-12%



CAR-T Cell Immunotherapy and CRS

- CAR-T cell cancer immunotherapy is one of the most promising treatments for blood cancers. However, ~40-50% of patients develop cytokine release syndrome (CRS), a cytokine storm that can lead to rapid organ failure and death

- CytoSorb® was specifically designed to control cytokine storm and CRS with a dozen successfully treated cases of the closely related disease hemophagocytic lymphohistiocytosis (HLH)

- CytoSorb® represents a potentially unique and easy method to control CRS in cancer immunotherapy, administered after tocilizumab, but before steroids

- In March 2017, the pioneer of CAR T-cell immunotherapy, Dr. Carl June at University of Pennsylvania, joined our Scientific Advisory Board

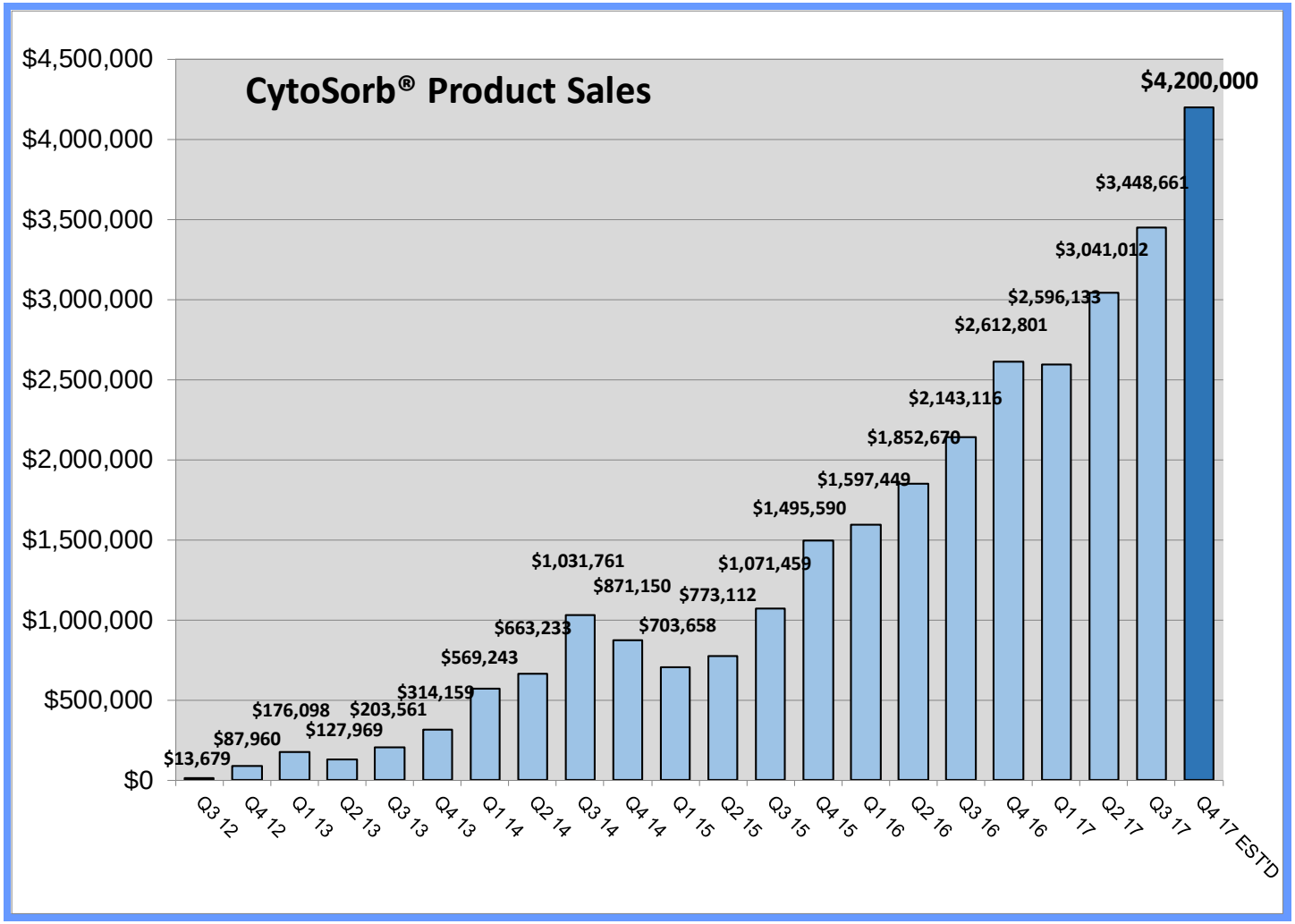
- Dr. June's therapy, Kymriah, licensed by Novartis, and Gilead's Yescarta were recently FDA approved, and will likely gain EU approval later this year, paving the way CytoSorb usage

REFRESH 2 - AKI Targets US Approval

REFRESH 2 – AKI is a pivotal, multi-center RCT using CytoSorb intraoperatively to reduce the incidence or severity of acute kidney injury (AKI) in high risk cardiac surgery patients

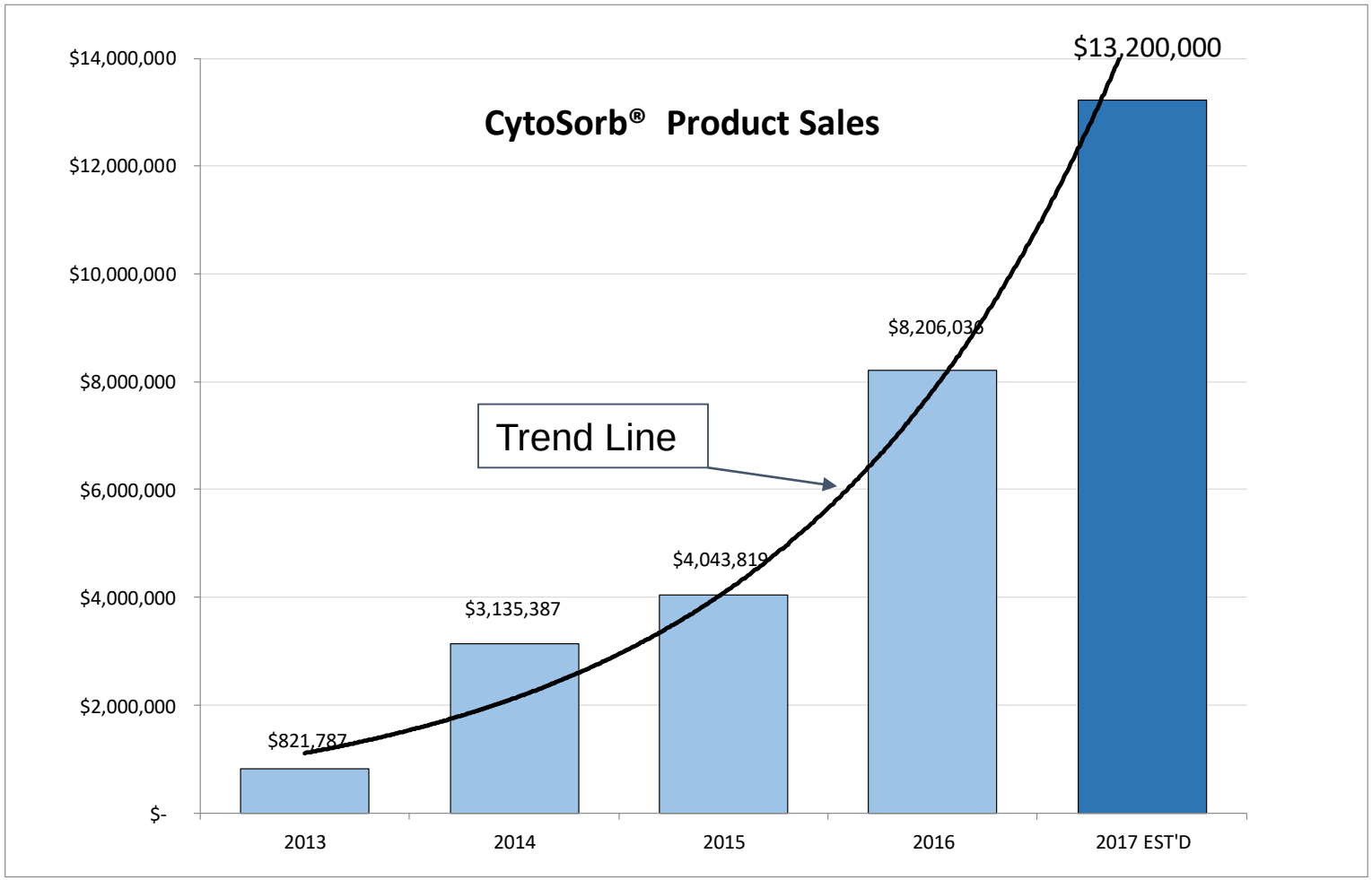
- The development of even mild AKI after surgery predicts 1 and 5 year mortality and progression to chronic kidney disease
- Trial design approved by FDA:
  - Up to 400 patient, 20-25 center 1:1 randomized, controlled PMA trial in elective, valve replacement or aortic reconstruction with hypothermic cardiac arrest
  - Intervention: Standard of care (control) or Standard of care + CytoSorb intraoperatively
  - Primary endpoint: Postoperative acute kidney injury (AKI)
  - Secondary clinical and cost-effectiveness endpoints: Reduction in other organ injury (incidence of stroke, time on mechanical ventilation, hemodynamic stability), days in the ICU
  - Completion of study: 2019 with potential 2020-21 FDA approval
  - Cost: Approximately $12M spread out over 3 years
- With FDA IDE approval, central IRB approval, and recent CMS approval, enrollment expected to begin soon

Quarterly Product Sales



Historical Annual Product Sales

Over the past three years, the compound growth rate of return ("CAGR") on product sales was 62%



Expected 2018 Investor Catalysts

- Ongoing rapid sales growth and gross margin expansion
- Quarterly operating profitability in 2018*
- Potential new and/or expansion of existing strategic partnerships
- Continued execution of pivotal REFRESH 2 study
- Publications of key clinical and research data
- Greater investor awareness through investor meetings, conferences, non-deal roadshows

*Excluding non-cash expenses and clinical trial costs

CytoSorbents™

Working to Save Lives Through Blood Purification

NASDAQ: CTSO
Dr. Phillip Chan, MD, PhD – CEO
pchan@cytosorbents.com