



# **CytoSorbents Corporation** (NASDAQ: CTSO)

**A Leader in Critical Care Immunotherapy**

Q3 2016 Earnings Conference Call

November 7, 2016

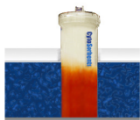
# Safe Harbor Statement

Statements in this presentation regarding CytoSorbents Corporation and its operating subsidiaries CytoSorbents Medical, Inc and CytoSorbents Europe GmbH that are not historical facts are forward-looking statements and are subject to risks and uncertainties that could cause actual future events or results to differ materially from such statements. Any such forward-looking statements are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. It is routine for our internal projections and expectations to change. Although these expectations may change, we are under no obligation to inform you if they do. Actual events or results may differ materially from those contained in the projections or forward-looking statements. The following factors, among others, could cause our actual results to differ materially from those described in a forward-looking statement: our history of losses; potential fluctuations in our quarterly and annual results; competition, inability to achieve regulatory approval for our device, technology systems beyond our control and technology-related defects that could affect the companies' products or reputation; risks related to adverse business conditions; our dependence on key employees; competition for qualified personnel; the possible unavailability of financing as and if needed; and risks related to protecting our intellectual property rights or potential infringement of the intellectual property rights of third parties. This list is intended to identify only certain of the principal factors that could cause actual results to differ from those discussed in the forward-looking statements. Readers are referred to a discussion of important risk factors detailed in the Company's Form 10-K filed with the Securities and Exchange Commission on March 9, 2016 and other reports and documents filed from time to time by us, which are available online at [www.sec.gov](http://www.sec.gov).

# **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



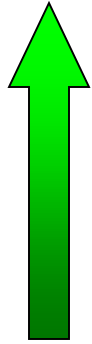
# CytoSorb® Removes the Fuel to the Fire

- CytoSorb® targets the \$20+ billion opportunity in critical care and cardiac surgery
- Approved in the European Union as the only specifically approved extracorporeal cytokine filter
- Approved for use in any situation where cytokines are elevated
- Removes cytokines and many other inflammatory mediators such as free hemoglobin, bacterial toxins, myoglobin, and activated complement
- Works with standard dialysis and heart-lung machines
- Safe and well-tolerated: In ~17,000 human treatments, up from 14,000 last quarter

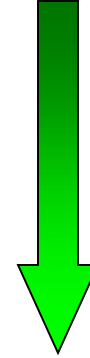




# Goal: To Prevent or Treat Organ Failure

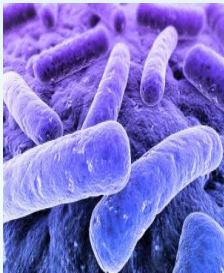


Improve  
Patient  
Outcome  
and  
Survival

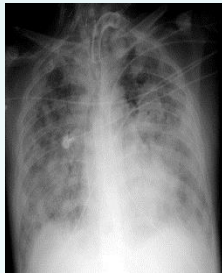


Decrease  
Costs Of  
ICU and  
Patient  
Care

Sepsis



ARDS



Burn Injury



Trauma



Pancreatitis



Influenza



Surgical



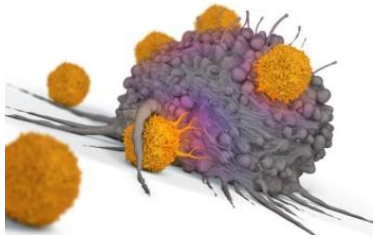
The Potential to Revolutionize Critical Care Medicine



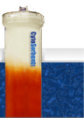
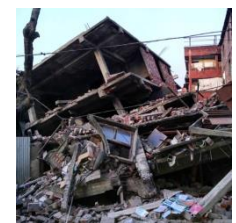
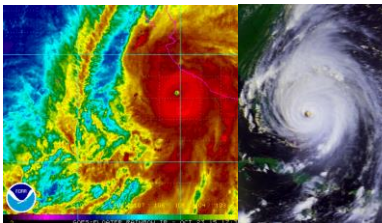
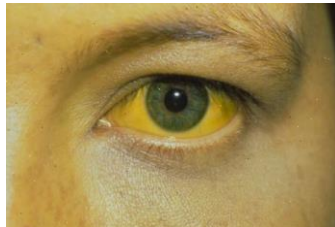
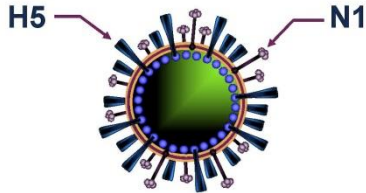
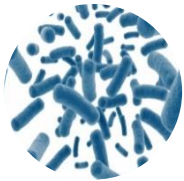
**CytoSorbents**

Working to Save Lives Through Blood Purification

# The World Needs **CytoSorb®**



## H1N1



**CytoSorbents**  
Working to Save Lives Through Blood Purification

# Financial Highlights

# Q3 2016 Comparative Revenue Results

	3 Months Ended Sept 30, 2016		3 Months Ended Sept 30, 2015		% Incr.
Product revenue	\$ 2,143,116		\$ 1,071,459		100%
Grant and other income	268,592		272,166		(1)%
Total revenue	\$ 2,411,708		\$ 1,343,625		79%

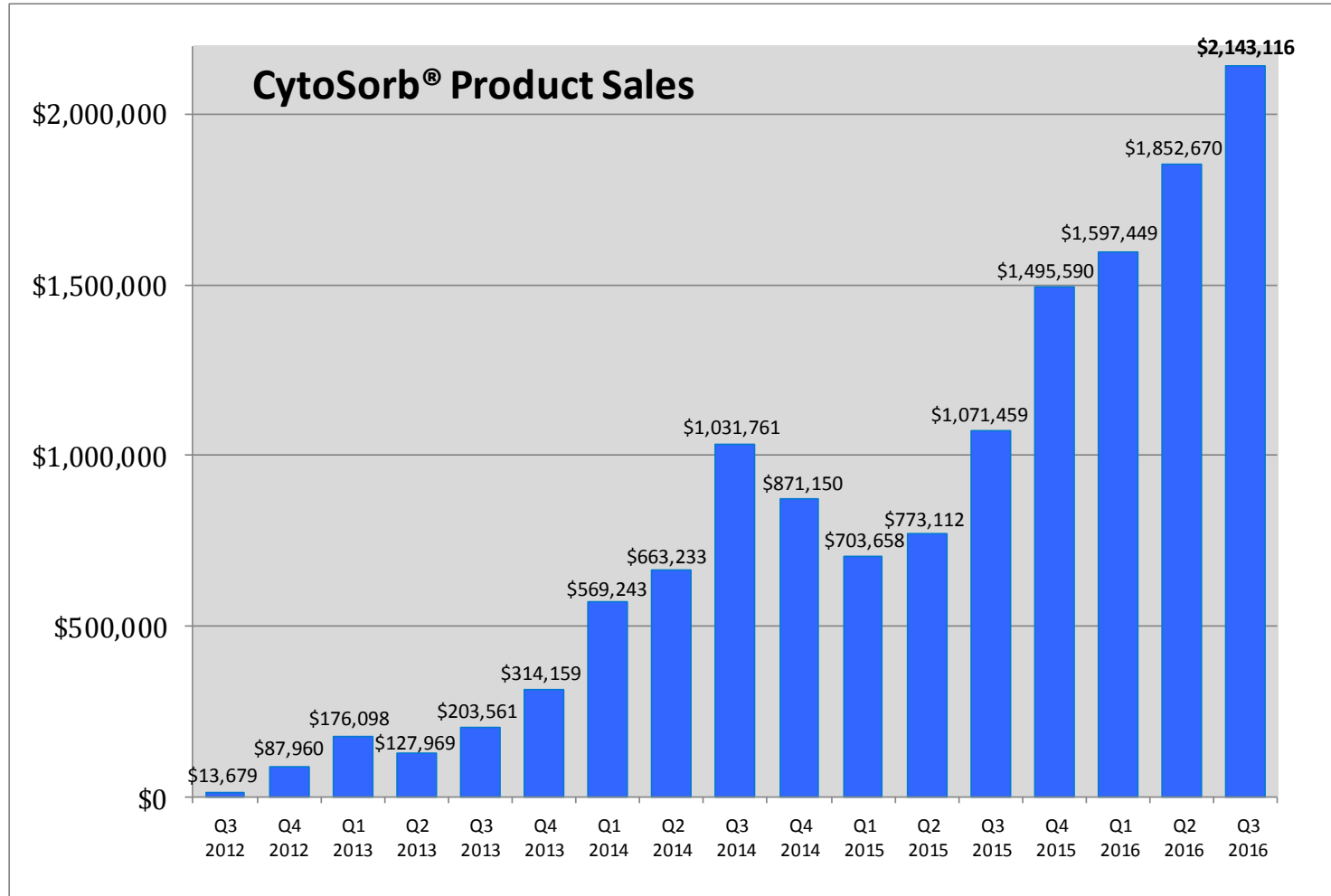
- CytoSorb® product sales doubled to \$2.14M for Q3 2016, compared to \$1.07M in Q3 2015
- Annualized CytoSorb sales run rate was ~\$8.6M based on Q3 2016 versus ~\$4.3M in Q3 2015
- Total revenue for Q3 2016, which includes both product sales and grant revenue, increased 79% to \$2.4M compared to \$1.3M for Q3 2015
- Q3 2016 gross profit more than doubled to approximately \$1.49M compared to \$705K for Q3 2015
- Gross profit margins on product sales increased to ~68% for Q3 2016, as compared to 63% for Q3 2015



# Quarterly Product Sales

Sixth consecutive quarter of product sales growth

Fifth consecutive quarter of record sales



# Comparative 9-Month Revenue Results

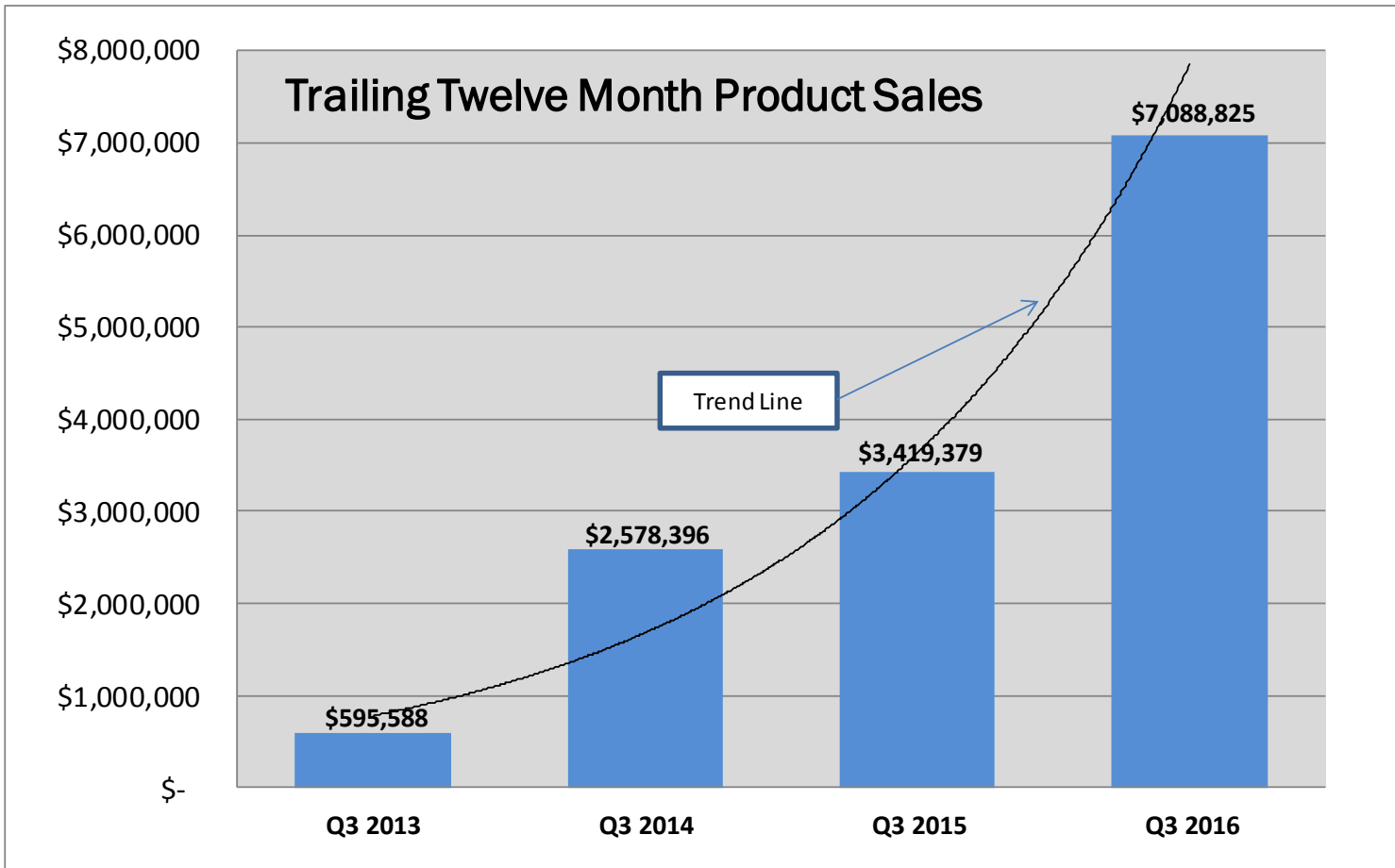
	9 Months Ended Sept 30, 2016		9 Months Ended Sept 30, 2015		% Incr.
Product revenue	\$ 5,593,235		\$ 2,548,229		119%
Grant and other income	850,993		482,393		76%
Total revenue	\$ 6,444,228		\$ 3,030,622		113%

- CytoSorb® product sales for the first nine months of fiscal 2016 increased 119% to \$5.6M, from \$2.5M for the same period a year ago
- Grant revenue in the first nine months of 2016 grew 76% to \$851K compared to \$482K in the same period last year
- Total revenue, which includes both product sales and grant revenue, increased by 113% to \$6.4M as compared to \$3.0M for the first nine months of fiscal 2016 and 2015, respectively.



# Trailing Twelve Months Product Sales

Over the past three years, the compound growth rate of return (“CAGR”) on product sales was 128%



# CytoSorb® Distributed in 42 Countries



IntensivMed

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TekMed



WMC

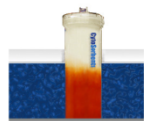


# Working Capital and Cap Table

Working Capital as of					
	9/30/16	12/31/15	12/31/14	12/31/13	12/31/12
Current Assets:					
Cash and short-term investments	\$ 6,375	\$ 7,509	\$ 5,550	\$ 2,183	\$ 1,729
Grants and accounts receivable, net	1,406	649	819	453	51
Inventories	1,052	1,191	538	245	682
Prepaid expenses and other current assets	220	512	700	605	476
Total current assets	9,053	9,861	7,607	3,486	2,938
Current Liabilities(1):					
Accounts payable	740	685	698	787	801
Accrued expenses and other current liabilities	1,540	723	825	362	350
Current maturities of long-term debt	417				
Deferred revenue		-	1	272	-
Total current liabilities	2,697	1,408	1,524	1,421	1,151
Net Working Capital	\$ 6,356	\$ 8,453	\$ 6,083	\$ 2,065	\$ 1,787

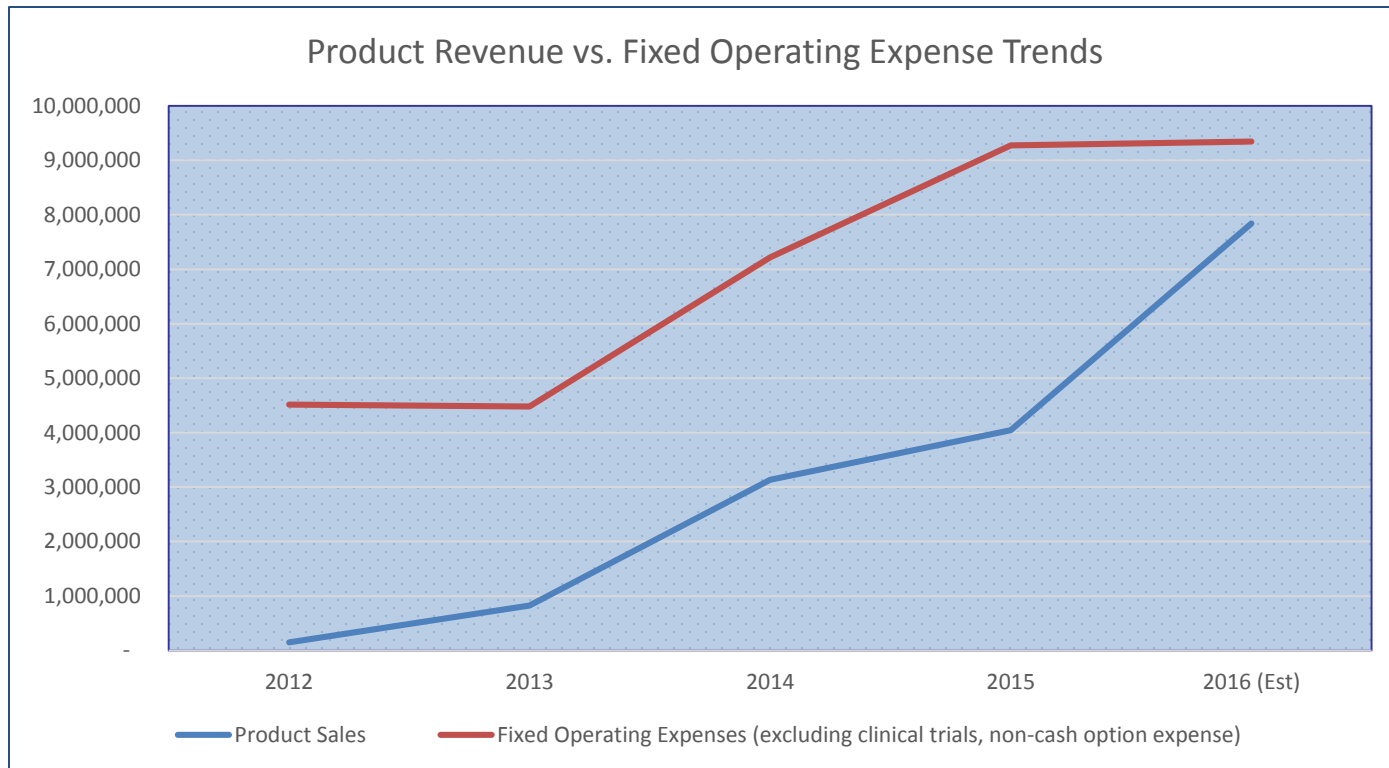
## Cap Table 9/30/2016

(unaudited)	Fully Diluted Common Shares
Common Stock	25,468,966
Options	2,966,391
Warrants	1,092,166
	29,527,523



# Driving Toward Operating Profitability

Product sales continue to grow rapidly while increases in fixed non-clinical, non-cash expenses taper off



# Operating Highlights



**CytoSorbents**

Working to Save Lives Through Blood Purification

# U.S. REFRESH I Trial – Safety Confirmed

## REduction in FREe Hemoglobin



- 40-patient, eight-center study evaluating the safety and efficacy of intra-operative use of CytoSorb® in a heart-lung machine during complex cardiac surgery in elective, non-emergent cardiac surgery > 3 hours
  - Aortic reconstruction, CABG redos, multiple valve replacements, etc
- Primary endpoints: Safety and reduction of plasma-free hemoglobin that can cause post-operative complications
- Working with major U.S. cardiac surgery centers
  - Baylor College of Medicine and Texas Heart Institute
  - Baystate Medical Center
  - Columbia University
  - Cooper University Hospital
  - University of Kentucky
  - University of Maryland
  - University of Pennsylvania
  - University of Pittsburgh Medical Center



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# REFRESH I Trial – Safety

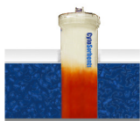
## REduction in FREe Hemoglobin Trial



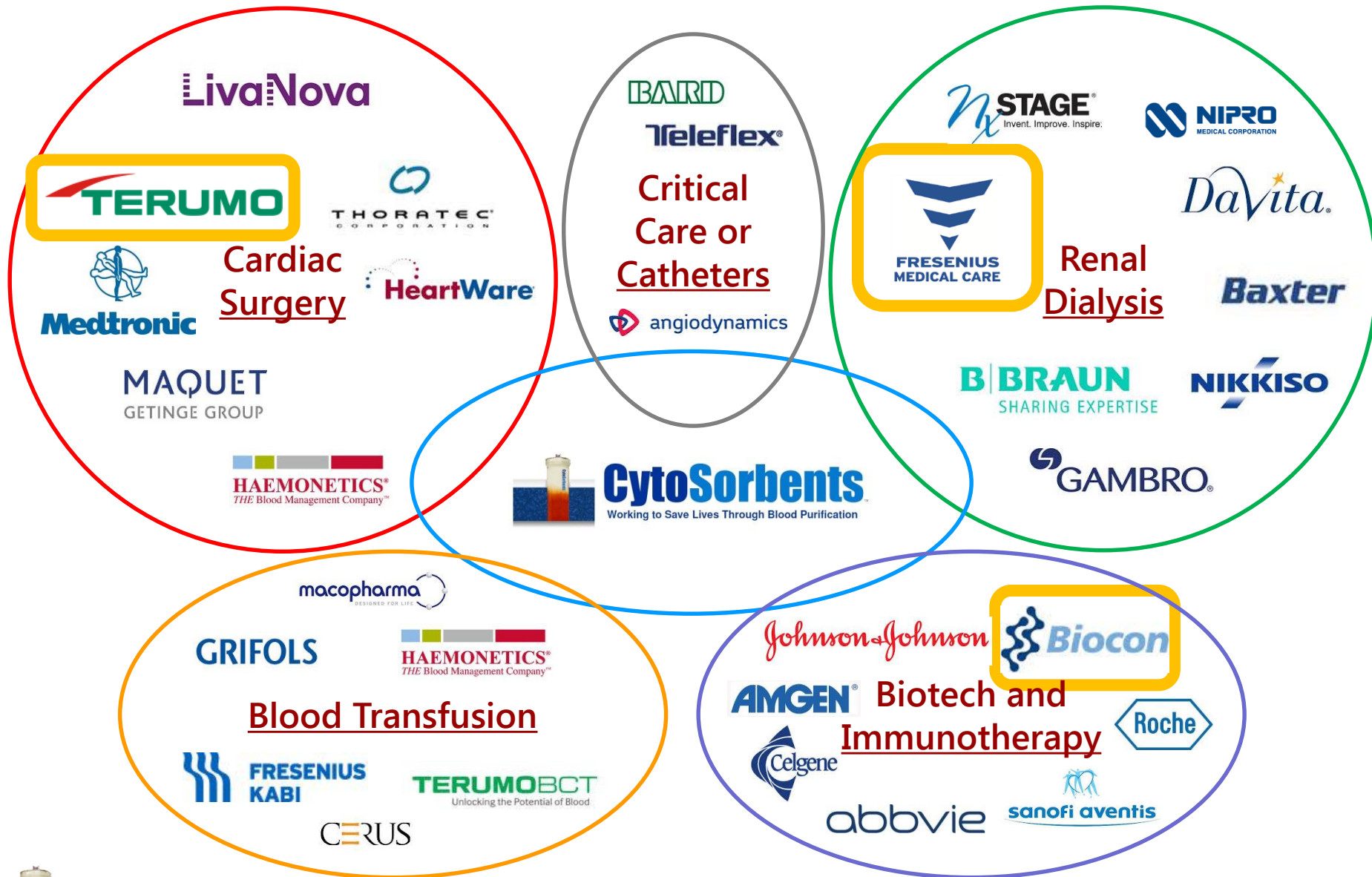
- A total of 46 patients were enrolled with ~40 patients with evaluable biomarker data
- The Data Safety Monitoring Board (DSMB) evaluated all adverse and serious adverse events in the control and treatment arms, and concluded there was no safety issue with CytoSorb therapy, achieving the primary safety endpoint of trial.
- First RCT using CytoSorb in high risk cardiac surgery, demonstrating safety
- The real-time reduction of free hemoglobin would represent one of the newest innovations in cardiac surgery. Because of this, the Company's cardiac surgery advisors and investigators strongly recommended meeting with the FDA first and then presenting these data at a U.S. based cardiothoracic surgery meeting (e.g. STS or AATS)
- Following a meeting with the FDA to discuss the data and clinical path, the company expects to begin the REFRESH 2 trial early next year (2017) with approval possible in 2018-19 depending on the clinical path (de novo 510(k) vs PMA)

# More Studies Underway

- Broad clinical program in Europe with 58 investigator-initiated studies in various stages, including several that have completed and nearly half have started and/or are enrolling
- These studies run the gamut from sepsis, cardiac surgery, post-operative inflammation, liver failure, trauma, and many other applications
- In addition, we have a number of company sponsored trials in cardiac surgery and sepsis that will start next year, in both Europe and the U.S.
- There are more than two dozen publications ranging from case reports, case series, and small randomized controlled studies that have been submitted or are being prepared for submission, including:
  - The University of Greifswald refractory shock trial
  - A second analysis of the International CytoSorb Registry by the University of Jena
  - The first known successfully treated case of malaria using CytoSorb
- These data will be extremely helpful in driving continued usage and adoption, as well as reimbursement of CytoSorb in many different markets



# Three Major Partnerships, Potential for More

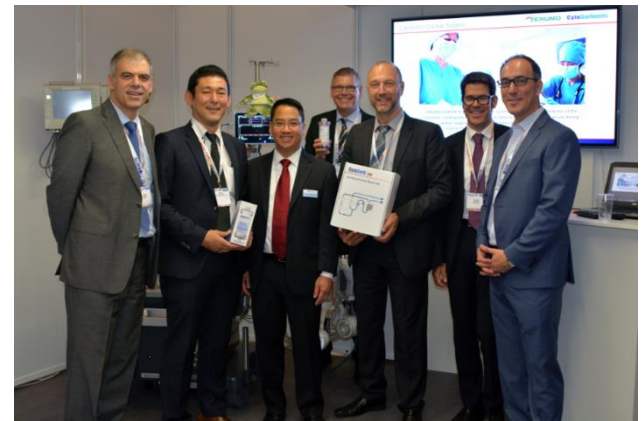


\*Companies listed here are used simply as examples of companies in these respective verticals. We make no other representations to our relationship with any of these companies.

# **TERUMO** Partnership

TERUMO CARDIOVASCULAR GROUP

- Entered into a multi-year partnership with Terumo Cardiovascular Group, a global leader in medical devices for cardiac and vascular surgery, for cardiac surgery applications
- Initial exclusive distribution of CytoSorb® in France, Denmark, Norway, Sweden, Finland, and Iceland
- Terumo has committed to annual minimum purchases to maintain exclusivity
- Strong validation of our technology and opens door to potential expansion to other countries, such as Japan – the second largest medical device market in the world
- At the EACTS 2016 conference and in a post-conference perfusionist meeting, we worked closely with Terumo in their marketing launch, ahead of the beginning of their sales launch, and initial orders to us, expected in the very near future

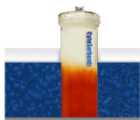




# Strong Technology Validation of CytoSorb

**\$18M in Grant  
and Contract  
Funding**

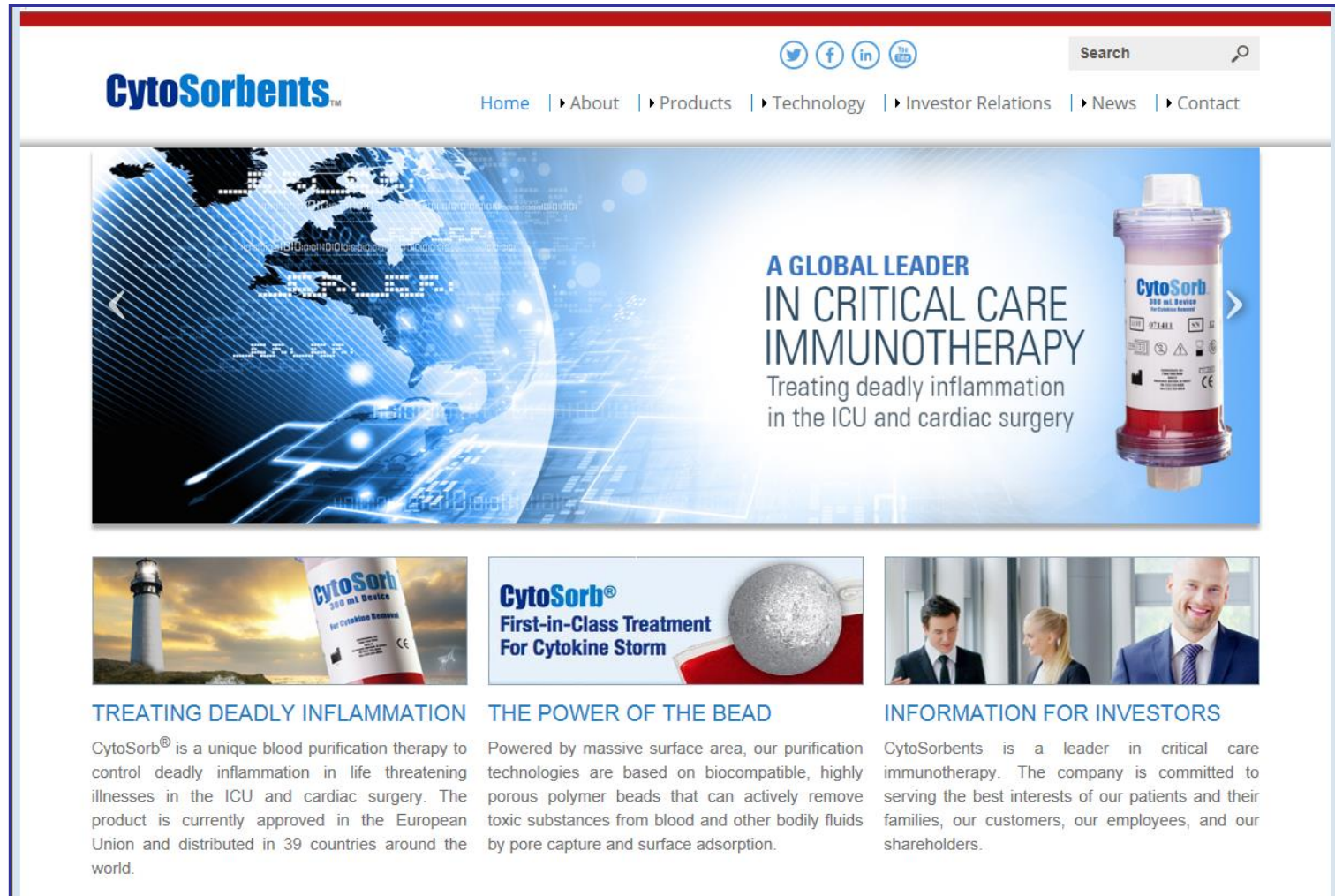
**17,000  
Human Treatments  
and Growing**



# Advanced Development of **CytoSorb-XL**

- CytoSorb-XL is a next generation porous polymer bead technology combining lipopolysaccharide (LPS) endotoxin removal with the robust cytokine, toxin, and inflammatory mediator reduction achieved by CytoSorb®
- Endotoxin is a very potent stimulator of cytokine storm, often resulting in septic shock in serious Gram negative bacterial infections related to abdominal or urinary tract infections, pneumonia, and hospital acquired infections
- In a head-to-head comparison, CytoSorb-XL matched the level of endotoxin reduction of the leading endotoxin adsorber, Toraymyxin™ (Toray, Japan) in an *in vitro* plasma recirculation system
- CytoSorb-XL is expected to offer superior performance to stand-alone endotoxin filters through the removal of endotoxin, and a broad range of inflammatory mediators that drive uncontrolled deadly inflammation
- CytoSorb-XL and its novel endotoxin binding chemistry are the subject of a broad composition of matter patent application, intended to protect the technology worldwide for the next two decades. CytoSorb-XL is intended to succeed CytoSorb® within 5 years

# Newly Launched Corporate Website



The screenshot shows the CytoSorbents corporate website. At the top, there is a navigation bar with the company logo, social media icons (Twitter, Facebook, LinkedIn, YouTube), a search bar, and a menu with links: Home, About, Products, Technology, Investor Relations, News, and Contact. The main banner features a blue background with a globe and circuitry, the text "A GLOBAL LEADER IN CRITICAL CARE IMMUNOTHERAPY", and a sub-headline "Treating deadly inflammation in the ICU and cardiac surgery". To the right of the text is a product image of a CytoSorb 500 ml Device. Below the banner are three columns of content:

- TREATING DEADLY INFLAMMATION**  
CytoSorb® is a unique blood purification therapy to control deadly inflammation in life threatening illnesses in the ICU and cardiac surgery. The product is currently approved in the European Union and distributed in 39 countries around the world.
- THE POWER OF THE BEAD**  
Powered by massive surface area, our purification technologies are based on biocompatible, highly porous polymer beads that can actively remove toxic substances from blood and other bodily fluids by pore capture and surface adsorption.
- INFORMATION FOR INVESTORS**  
CytoSorbents is a leader in critical care immunotherapy. The company is committed to serving the best interests of our patients and their families, our customers, our employees, and our shareholders.

Please visit us at [www.cytosorbents.com](http://www.cytosorbents.com)



# Increasing Media Coverage

## Forbes



Jennifer Hicks Contributor

I write about science, robotics & innovative technologies in Europe.

Opinions expressed by Forbes Contributors are their own.

TECH 8/24/2016 @ 4:09PM | 2,950 views

### This Blood Filtering System Could Help Lower The Risk of Death From Inflammatory Infections



A new blood filter. (Image credit: Kurt Paulus, Munich)

Trauma to the body comes in many forms – severe burns, gun shot wounds, liver failure, drug overdose, sepsis – which can be deadly. Treating these types of trauma to the body means people end up in the intensive care unit (ICU).

## benzinga

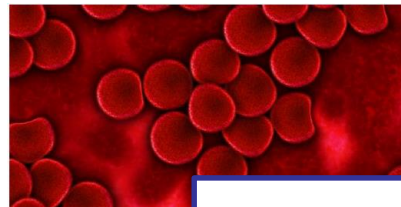
### Exclusive: Cytosorbents CEO On How Its Blood Purification Technology Can Change Healthcare

Jayson Derrick (/users/jayson-derrick), Benzinga Staff Writer

August 15, 2016 8:54am

[Comments](#)

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## proactiveinvestors

USA and CANADA

### CytoSorbents' blood filter is saving lives and money

07/14/07 Jul 2016

Share

CytoSorb is a blood filter designed to reduce the "fuel to the fire" of deadly inflammation. It is approved for use in the EU, with distribution in 34 countries worldwide.



## Medtech Insight

Pharma intelligence

### CytoSorbents Expanding Marketing Reach Of CytoSorb Blood Purifier

by Reed Miller

@MedtechReed

reed.miller@informa.com

#### Executive Summary

CytoSorbents is sponsoring the REFRESH I trial of its CytoSorb extracorporeal cytokine adsorber in the US, which the company hopes will support approval of a pivotal trial of the device for reducing plasma free hemoglobin and cytokines in patients undergoing complex cardiac surgery.



# CytoSorbents

Working to Save Lives Through Blood Purification



# Increasing Analyst Coverage

**AEGIS CAPITAL CORP**

October 26, 2016

Key Metrics	\$5.90
CTSO - NASDAQ	\$20.00
Price Target	\$8.10 - \$3.11
52-Week Range	25.7
Shares Outstanding (mm)	\$151.6
Market Capitalization (mm)	5%
Institutional Ownership	66.33

Biotechnology  
Jason Wittes  
(646) 502-2452  
jwittes@aegiscap.com

Initiating Coverage

## Cytosorbents Rating: Buy

Initiating With A Buy and \$20 Price Target

Investment Highlights:

**CytoSorbents Corporation (CTSO)**  
Healthcare: Medical Technology  
Buy: \$11.25 PT  
Friday, October 7, 2016

**B RILEY**

Discovery Group

Utilizing Blood Purification to Remove Fuel From the ICU's Biggest Killers; Initiating Coverage with a Buy & \$11.25 Price Target

Andrew D'Silva | (818) 746-9523  
adsilva@brileyco.com

Summary and Recommendation  
Cytosorbents (CTSO) has developed a potentially breakthrough therapy to extract inflammatory mediators such as cytokines and toxic proteins from blood in critically ill patients as well as those undergoing cardiac surgery. The company's lead product

**MAXIM GROUP**

EQUITY RESEARCH  
INITIATION

## Cytosorbents Corporation

Buy

Biotechnology

May 23, 2016

CTSO - NYSE

Closing Price 05/23/2016

Rating:

12-Month Target Price:

52-Week Range:

Market Cap (M):

Shares O/S (M):

Floot:

Avg. Daily Volume (000):

Dividend:

Dividend Yield:

Risk Profile:

Fiscal Year End:

Total Revenues ('000)

	2015A	2016E	2017E
1Q	981	1,810A	4,723
2Q	1,233	3,091	4,917

A New Paradigm in Sepsis and More; Initiating Coverage with a Buy Rating and a \$8.00 Price Target

Summary

- Cytosorbents is now commercializing its CE-approved product CytoSorb in the EU (direct in Germany, Austria and Switzerland) and in a total of 32 countries worldwide (ex.US) for complications related to life-threatening inflammatory diseases such as sepsis, trauma, burn injury, liver failure, and lung injury as well as cardiac surgery.
- CytoSorb has the potential to become part of the standard of care for sepsis, a top-10 cause of death worldwide. It is an extracorporeal blood purifier (a filter) that targets the immunological "cytokine storm" that accelerates organ dysfunction and failure and ultimately death. By extending the treatment window for these patients, the product could be the difference between life and death for some patients.
- CytoSorb has yet to build sales traction. Revenues last year from both direct sales and distributorship amounted to a total of only \$4M. Introducing a new treatment paradigm to these very sick patients will take time for adoption in

**H.C. WAINWRIGHT & CO.**

CytoSorbents Corp (CTSO)  
Rating: Buy

Earnings Update  
Medical Device

May 10, 2016

Swayampakula Ramakanth, Ph.D.  
212-356-0544  
sramakanth@hcrresearch.com  
Sean Lee  
212-356-0521  
slee@hcrresearch.com

Fresenius to Rollout in May; REFRESH to Report in 3Q16; Reiterate Buy

Stock Data	05/09/2016
Price	\$4.47
Exchange	NASDAQ

Financial update and changes to our model. CytoSorbents reported 1Q16 financial results and held a conference call on May 9. The company reported revenues of \$1.8M, higher than our estimate of \$1.5M. We expect 2016 revenues to be in the range of \$1.8M to \$2.0M.

**WBB**  
WBB Securities

**WBB Securities, LLC**

Stephen G. Brozak • [sbrozak@wbbsec.com](mailto:sbrozak@wbbsec.com) • (908) 518-7610

INITIATING COVERAGE - FEBRUARY 25, 2015

**CytoSorbents Corporation (NASDAQ:CTSO)**

Initiating Coverage with a Speculative Buy Rating and One-Year Price Target of \$13.00

12 Month Target Price	\$13.00
12 Month Trading Range	\$4.40-\$12.87
Market Capitalization (Mil)	\$267.87

**Zacks Small-Cap Research**

[scr.zacks.com](http://scr.zacks.com)

CytoSorbents Corporation (CTSO-NASDAQ)

CTSO: Fresenius Commences Sales, DSMB Recommends Continuation of REFRESH I

Based on our 10-year DCF model, which uses a 13% discount rate to account for certain risks and uncertainties that CytoSorbents faces, and a 2% terminal growth rate, the shares are valued at approximately \$12.50.

Current Price (06/01/16)  
Valuation

\$4.48  
\$12.50

OUTLOOK

We view 2015 as somewhat of a re-grouping year on the income statement - although "restructuring" should be put into context given that product sales grew 29% - and which would have been almost 50% growth if not for an FX headwind. And if not for the sales force disruption earlier in the year, product sales growth would likely have been even significantly stronger.

We expect to see accelerating product sales growth as well as more strides on the operational front in 2016. In addition to Fresenius coming online, expansion into other geographic territories (in addition to those detailed by Fresenius), an expected continued regular flow of clinical data (including that from the patient registry as well as REFRESH I), potential additional production gains from the direct sales force, sales through Biocon could also accelerate further. And the cardiac-surgery channel also holds significant potential. Consummation of a partnering agreement could further this opportunity.

**CytoSorbents**  
Working to Save Lives Through Blood Purification

# Outlook for 2H 2016

- CytoSorbents has not historically given financial guidance on quarterly results until the quarter has been completed.
- However, we currently expect a strong Q4 2016, with the achievement of numerous operating milestones
- In addition, we reiterate our guidance that we expect second half 2016 CytoSorb sales as well as total revenue to exceed those in the first half of 2016



# CytoSorb®

## SIRS and Sepsis: Regain Control!



**CytoSorbents**

Working to Save Lives Through Blood Purification

# Q&A Session

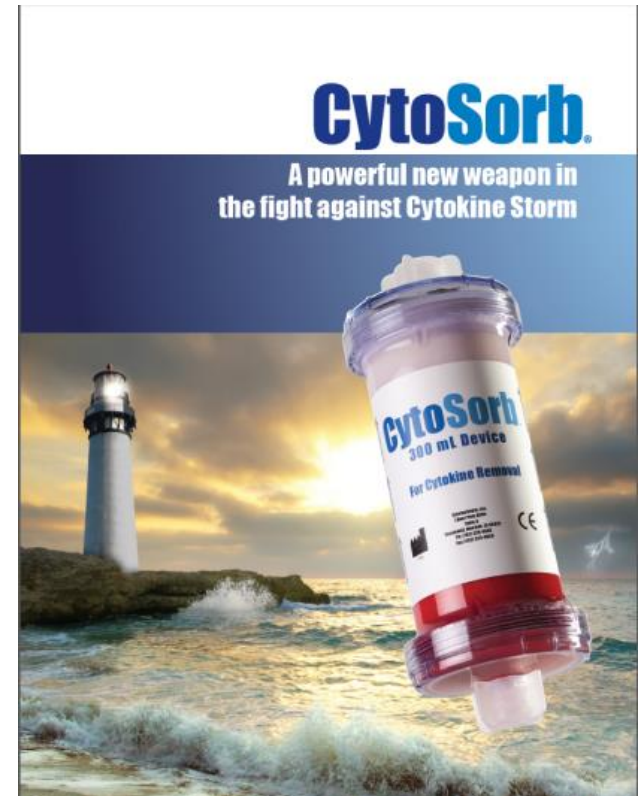
## CytoSorbents Corporation

**NASDAQ: CTSO**

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**A Leader in Critical Care Immunotherapy**



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