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CytoSorbents Corporation (NASDAQ/CTSO)

August 15, 2019

BUY: Geographic Expansion Continues...

CytoSorbent expands distribution to Brazil, Colombia and Costa Rica, with Contatti Medical, Service & Medical Colombia, and Nutricare Costa Rica, respectively. This news follows a positive quarter of growth with cash and multiple catalysts ahead too.

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Current Price \$5.20
 Price Target \$15.00

Investment Highlights

Hola Cytosorb – Expansion to Brazil, Columbia and Costa Rica.

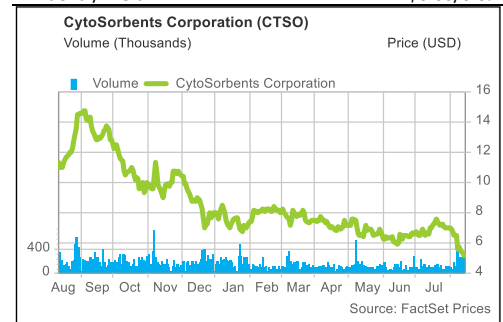
- *The Brazilian market is robust, serving 210 million people, where among the leading causes of death are heart disease, trauma by traffic-accidents, sepsis, as well as chronic liver and kidney disease. When we take a look at the intensive care unit (ICU) figures in public hospitals, the mortality rate due to sepsis is huge - around 45%.*
- *The Columbia market supports over 48 million people and covers the highest number of extracorporeal membrane oxygenation (ECMO) treatments in Latin America – a significant application for CytoSorb. With over 17,000 open heart surgeries per year in the country there should be strong demand for Cytosorb.*
- *Costa Rica. In the country more than 85% of the population has certain support through government HC. Social Security.*

This news compliments partnerships in Mexico, Panama and Chile. The total population now potentially covered is 263 million people, which opens up markets for sales of CytoSorb in the future.

Overall A Significant Market Opportunity. At present, there is a lack of viable treatments for the “cytokine storm” that can cause deadly inflammation and organ failure. Sepsis, trauma, lung injury, and pancreatitis are some of the common critical conditions with which these reactions are associated, accounting for nearly half of the deaths in the intensive care unit (ICU). CytoSorb’s unique blood filtration cartridge has demonstrated proof of concept in thousands of treated patients in Europe. The simple, cost-effective, cartridge runs on virtually any platform, and as such represents a “plug and play” solution related to a multitude of inflammatory conditions from Sepsis to the cytokine storm seen with CAR-T therapies.

U.S. Expansion is Coming. CytoSorb was launched selectively in Europe (beginning in 2013) and today is available in multiple geographies. Cytosorb, the company’s flagship product, is being evaluated in the REFRESH 2-AKI trial and the REMOVE endocarditis trial. The REFRESH trial is a N=400 patient study (currently at N=109 enrolled across 24 sites). It is evaluating the safety and efficacy of CytoSorb in treating acute kidney injury after cardiac surgery complications. The complementary REMOVE Endocarditis trial, (n=250, 222 already enrolled), is focused on valve replacement and

Estimates	F2019E	F2020E	F2021E
Expenses (\$000s)	\$ 41,189	\$ 45,277	\$ 58,224
1Q March	\$ 9,475	\$ 10,414	\$ 13,392
2Q June	\$ 9,862	\$ 10,867	\$ 13,974
3Q September	\$ 10,724	\$ 11,772	\$ 15,138
4Q December	\$ 11,129	\$ 12,225	\$ 15,720
	F2019E	F2020E	F2021E
EPS (diluted)	\$ (0.55)	\$ (0.31)	\$ 0.46
1Q March	\$ (0.15)	\$ (0.07)	\$ 0.11
2Q June	\$ (0.11)	\$ (0.08)	\$ 0.11
3Q September	\$ (0.14)	\$ (0.08)	\$ 0.12
4Q December	\$ (0.14)	\$ (0.08)	\$ 0.12
EBITDA/Share	(\$0.53)	(\$0.34)	\$0.51
EV/EBITDA (x)	0.0	0.0	0.0
Stock Data			
52-Week Range	\$4.75	-	\$14.95
Shares Outstanding (mil.)	32.3		
Market Capitalization (mil.)	\$168		
Enterprise Value (mil.)	\$148		
Debt to Capital	0%		
Book Value/Share	\$0.35		
Price/Book	15.2		
Average Three Months Trading Volume (K)	113		
Insider Ownership	5.1%		
Institutional Ownership	26.6%		
Short interest (mil.)	8.0%		
Dividend / Yield	\$0.00/0.0%		



Update - August 12, 2019 - Buy - Price Target \$15.00

bypass surgeries. The trial is almost fully enrolled with data expected by year end 2020. We assume commercialization of Cytosorb by 2021.

Universal Technology Application. The salt grain-sized porous beads that constitute the proprietary patented technology in CytoSorb have the capability of being modified in size to filter numerous small or large contaminants. Seven devices are in the pipeline that utilizes various bead sizes to address a wide range of other indications such as blood transfusions, drug overdose, hyperkalemia, IV contrast, and more. The millions of pores and channels together create an immense surface area that absorbs and removes targeted substances from the blood while safely allowing desirable bodily fluids to pass through unaffected.

HemoDefend – RBC Program. This is the blood purification technology program. It is on track to file an IDE later this year, enabling the start of the U.S. pivotal trial.

Pharmaeconomic Benefit - Intensive care units tend to lose money, that could change. The expense of intensive care units (ICUs) in hospitals tends to exceed the revenues associated with treating patients. Patients, on average, spend 16 days in the ICU. Approximately 15% of a hospital's total budget is expensed for attempting to prolong the life of these critically ill patients. Mortality rates are high, with the leading cause of death being sepsis-induced organ failure. Each patient on mechanical ventilation costs about \$5,000 per day. If Cytosorb can shorten a patient's stay in the ICU by just one day (we believe it can do much better than that), it creates significant savings for hospitals versus the cost of cartridge, (we assume a price point of \$1,000 per cartridge and an average of five cartridges per treatment).

High Margins, High Hopes. The Cytosorb cartridge represents a low cost, high margin cartridge that can work on any number of platforms, easily fitting into the existing treatment paradigms. With an efficient, vertically integrated manufacturing model, the company expects blended gross margins to reach 80% at scale. By focusing on supplying cartridges (versus systems), CytoSorbents creates a high margin product opportunity closer to a specialty pharma business model versus medical technology. By developing a product that is consistent with the existing treatment paradigm, that is, the ability for a technician to connect a Cytosorb to a common dialysis or blood pump machine without extensive training, lowers the barrier for market penetration.

Safe and reliable blood transfusions. CytoSorbents' other technology, HemoDefend, is on track to improve the safety profile of blood transfusions. The pivotal human trial to support FDA approval can be expected to begin later this year (2H19). After in-vitro testing, the 25-volunteer trial will measure the ability of HemoDefend to filter non-infectious contaminants from the patients' blood. The anticipated success of this trial may place HemoDefend on the U.S. market before CytoSorb, creating a second pathway and associated catalysts.

Valuation. We use a series of therapeutic models across the various indications and geographies and project product revenues for the company out to the year 2030. In our U.S. therapeutic models, we apply a 30% risk cut (70% success probability) that both U.S. approvals and our market share forecasts can be realized. For us, valuation becomes an interesting question when we discuss the appropriate "r" risk-rate to use in our three model metrics, free cash flow to the firm (FCFF), Discounted EPS and Sum-Of-The-Parts (SOP) models, which are equal weighted, averaged and rounded to the nearest whole number. Typically for early-stage companies with no revenues, we use 30%, and for companies with established products and revenues, we use a lower 15%. CytoSorbents arguably is somewhere in the middle, as products are approved and selling in Europe but not yet in the U.S. If we select a conservative 30%, we drive a \$9.00 price target. If we select a more aggressive 15%, we arrive at a \$28.00 target. If we select a mid-point (22.5%), we derive a \$15.00 target. Given their unique position of approval in Europe, established proof of concept and a product that works, we select the mid-point of 22.5% and set our target for CytoSorbents at \$15.00.

Risk. Market risks, Regulatory risks, Financial risks and Commercialization risks.

Modeling Assumptions

1. We assume continued steady growth for CytoSorb in the current key EU direct sales countries of Germany, Austria and Switzerland.
2. We assume a selling price per cartridge of \$1,000 for direct sales and \$600 for distribution sales. We estimate that each patient will require an average of five units (CytoSorb cartridges) for sepsis treatment and three units for cardiac treatment.
3. We conservatively assume that CytoSorb can achieve a ten percent market share of the market in Germany, Austria and Switzerland, and 3% of the market in the rest of the EU by 2030.
4. Our model includes CytoSorb revenues in the U.S. for cardiac surgery and sepsis beginning in 2021 upon commercialization. To these revenues, we apply a 70% probability of success (or 30% risk cut).

Exhibit 1. CytoSorb sepsis EU direct sales (Germany, Austria, and Switzerland)

CytoSorb - Direct Sales (Germany, Austria, Switzerland)	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
EU population	506,327,109	507,441,029	508,557,399	509,676,225	510,797,513	511,921,267	513,047,494	514,176,199	515,307,386	516,441,062	517,577,233	518,715,903	519,857,078
Germany population	81,202,563	81,632,936	82,065,591	82,500,539	82,937,791	83,377,362	83,819,262	84,263,504	84,710,100	85,159,064	85,610,407	86,064,142	86,520,282
Austria population	8,446,189	8,448,723	8,451,257	8,453,793	8,456,329	8,458,866	8,461,404	8,463,942	8,466,481	8,469,021	8,471,562	8,474,103	8,476,646
Switzerland population	8,098,152	8,115,158	8,132,200	8,149,277	8,166,391	8,183,540	8,200,726	8,217,947	8,235,205	8,252,499	8,269,829	8,287,196	8,304,599
Critical care population (Sepsis included)	488,509	500,804	503,110	505,428	507,759	510,101	512,455	514,822	517,200	519,591	521,994	524,410	526,838
Percent of patients with access to hospitals with CytoSorb	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Total patients	249,254.60	250,401.88	251,555.07	252,714.20	253,879.30	255,050.41	256,227.55	257,410.75	258,600.06	259,795.49	260,997.08	262,204.88	263,418.89
Market penetration	1.2%	1.7%	1.8%	3.0%	4.0%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%	10.0%	10.0%
Total addressable patients	2,991	4,257	4,528	7,581	10,155	12,753	15,374	18,019	20,688	23,382	26,100	28,220	26,342
Estimated units per patient	5	5	5	5	5	5	5	5	5	5	5	5	5
Total filter needed	14,955	21,284	22,640	37,907	50,776	63,763	76,869	90,084	103,440	116,908	130,499	131,102	131,709
Cost of therapy	\$ 1,030	\$ 1,041	\$ 1,051	\$ 1,062	\$ 1,072	\$ 1,083	\$ 1,094	\$ 1,105	\$ 1,116	\$ 1,127	\$ 1,138	\$ 1,149	\$ 1,161
Change in price	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Revenue ('000)	\$ 15,408	\$ 22,148	\$ 23,795	\$ 40,239	\$ 54,439	\$ 69,046	\$ 84,070	\$ 99,520	\$ 115,405	\$ 131,735	\$ 148,520	\$ 150,699	\$ 152,911
Risk factor													
Total revenue ('000)	\$ 15,408	\$ 22,148	\$ 23,795	\$ 40,239	\$ 54,439	\$ 69,046	\$ 84,070	\$ 99,520	\$ 115,405	\$ 131,735	\$ 148,520	\$ 150,699	\$ 152,911

Source: Dawson James estimates

Exhibit 2. CytoSorb sepsis EU sales by distributorship (excluding Germany, Austria, and Switzerland)

CytoSorb - Distributor (Rest of EU)	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
EU population (Germany, Austria and Switzerland excluded)	408,580,205	409,244,211	409,908,351	410,572,616	411,237,001	411,901,499	412,566,104	413,230,806	413,895,600	414,560,479	415,225,435	415,890,462	416,555,551
Critical care population (Sepsis included)	2,083,759	2,087,145	2,090,533	2,093,920	2,097,307	2,100,698	2,104,087	2,107,477	2,110,868	2,114,258	2,117,650	2,121,041	2,124,433
Percent of patients with access to hospitals with CytoSorb	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
Total patients	833,503.62	834,856.19	836,213.04	837,566.14	838,923.48	840,279.06	841,634.85	842,990.84	844,347.02	845,703.38	847,059.89	848,416.54	849,773.32
Market penetration	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	1.0%	1.1%	1.2%	1.3%	1.4%
Total addressable patients	1,667	2,505	3,345	4,188	6,711	8,403	12,825	16,860	21,109	25,371	25,412	25,452	25,493
Estimated units per patient	5	5	5	5	5	5	5	5	5	5	5	5	5
Total filter needed	8,335	12,523	16,724	20,939	33,557	42,014	63,123	84,299	105,543	126,856	127,059	127,262	127,466
Cost of therapy	\$ 618	\$ 624	\$ 631	\$ 637	\$ 643	\$ 650	\$ 656	\$ 663	\$ 669	\$ 676	\$ 683	\$ 690	\$ 697
Change in price	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Revenue ('000)	\$ 5,153	\$ 7,819	\$ 10,546	\$ 13,336	\$ 21,587	\$ 27,297	\$ 41,422	\$ 55,871	\$ 70,651	\$ 85,766	\$ 86,763	\$ 87,771	\$ 88,790
Risk factor													
Total revenue ('000)	\$ 5,153	\$ 7,819	\$ 10,546	\$ 13,336	\$ 21,587	\$ 27,297	\$ 41,422	\$ 55,871	\$ 70,651	\$ 85,766	\$ 86,763	\$ 87,771	\$ 88,790

Source: Dawson James estimates

Exhibit 3. CytoSorb U.S. sales for cardiac surgery

CytoSorb Cardiac Surgery US	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
US population	327,296,502	329,587,577	331,894,690	334,217,953	336,557,479	338,913,381	341,285,775	343,674,775	346,080,499	348,503,062	350,942,583	353,399,182	355,872,976
Cardiac surgery	1,009,027	1,012,054	1,015,090	1,018,136	1,021,190	1,024,254	1,027,326	1,030,408	1,033,499	1,036,600	1,039,710	1,042,829	1,045,957
Market penetration	0.1%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	1.0%	1.1%	1.2%	1.3%	1.4%
Total addressable patients	1,018	2,042	3,073	4,109	5,152	6,198	7,249	8,299	9,350	10,400	11,450	12,500	13,550
Estimated units per patient	3	3	3	3	3	3	3	3	3	3	3	3	3
Total filter needed	3,054	6,127	9,218	12,328	15,456	18,588	21,726	24,864	28,002	31,140	34,278	37,416	40,554
Cost of therapy	\$ 2,500	\$ 2,513	\$ 2,525	\$ 2,538	\$ 2,550	\$ 2,563	\$ 2,576	\$ 2,589	\$ 2,602	\$ 2,615	\$ 2,628	\$ 2,641	\$ 2,654
Change in price	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Revenue ('000)	\$ 7,636	\$ 15,934	\$ 23,277	\$ 31,284	\$ 40,227	\$ 50,136	\$ 61,000	\$ 72,818	\$ 85,593	\$ 99,425	\$ 114,315	\$ 130,264	\$ 147,282
Risk factor													
Total revenue ('000)	\$ 5,345	\$ 10,776	\$ 16,294	\$ 21,899	\$ 27,993	\$ 34,622	\$ 41,822	\$ 49,601	\$ 58,051	\$ 67,266	\$ 77,251	\$ 88,121	\$ 99,981

Source: Dawson James estimates

Exhibit 4. CytoSorb EU sales for cardiac surgery

CytoSorb Cardiac Surgery EU	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
EU population	1,509,018	1,512,036	1,515,050	1,518,090	1,521,125	1,524,169	1,527,217	1,530,271	1,533,332	1,536,399	1,539,471	1,542,550	1,545,635
Cardiac surgery	0.09%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	1.0%	1.1%	1.2%
Market penetration	1,358	1,512	2,273	4,554	6,085	7,621	9,163	10,712	12,267	13,829	15,396	16,969	18,548
Total addressable patients	3	3	3	3	3	3	3	3	3	3	3	3	3
Estimated units per patient	5	5	5	5	5	5	5	5	5	5	5	5	5
Total filter needed	4,074	4,536	6,818	13,663	18,254	22,863	27,490	32,136	36,801	41,478	46,167	50,868	55,581
Cost of therapy	\$ 500	\$ 500	\$ 500	\$ 503	\$ 505	\$ 508	\$ 510	\$ 513	\$ 515	\$ 518	\$ 520	\$ 523	\$ 526
Change in price	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Revenue ('000)	\$ 2,037	\$ 2,268	\$ 3,409	\$ 6,866	\$ 9,218	\$ 11,604	\$ 14,022	\$ 16,474	\$ 18,969	\$ 21,508	\$ 24,091	\$ 26,719	\$ 29,392
Risk factor													
Total revenue ('000)	\$ 2,037	\$ 2,268	\$ 3,409	\$ 6,866	\$ 9,218	\$ 11,604	\$ 14,022	\$ 16,474	\$ 18,969	\$ 21,508	\$ 24,091	\$ 26,719	\$ 29,392

Source: Dawson James estimates

Exhibit 5. CytoSorb U.S. sales for sepsis

CytoSorb Sepsis US	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
US population	327,296,502	329,587,577	331,894,690	334,217,953	336,557,479	338,913,381	341,285,775	343,674,775	346,080,499	348,503,062	350,942,583	353,399,182	355,872,976
Severe sepsis patients	981,890	988,763	995,684	1,002,654	1,009,672	1,016,740	1,023,857	1,031,024	1,038,241	1,045,509	1,052,828	1,060,198	1,067,619
Market penetration	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	1.0%	1.1%	1.2%	1.3%
Total addressable patients	1,003	2,019	3,081	4,148	5,219	6,294	7,372	8,454	9,540	10,629	11,721	12,816	13,914
Estimated units per patient	5	5	5	5	5	5	5	5	5	5	5	5	5
Total filter needed	5,013	10,097	15,413	20,739	26,085	31,440	36,804	42,168	47,542	52,916	58,290	63,664	69,038
Cost of therapy	\$ 2,500	\$ 2,525	\$ 2,550	\$ 2,576	\$ 2,602	\$ 2,628	\$ 2,654	\$ 2,680	\$ 2,707	\$ 2,734	\$ 2,761	\$ 2,788	\$ 2,815
Change in price	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Revenue ('000)	\$ 12,533	\$ 25,494	\$ 38,277	\$ 51,136	\$ 64,022	\$ 76,936	\$ 89,878	\$ 102,848	\$ 115,845	\$ 128,869	\$ 141,920	\$ 154,999	\$ 168,107
Risk factor													
Total revenue ('000)	\$ 8,773												

Valuation. We use a series of therapeutic models across the various indications and geographies and project product revenues for the company out to the year 2030. In our U.S. therapeutic models, we apply a 30% risk cut (70% success probability) that both U.S. approvals and our market share forecasts can be realized. For us, valuation becomes an interesting question when we discuss the appropriate "r" risk-rate to use in our three model metrics, free cash flow to the firm (FCFF), Discounted EPS and Sum-Of-The-Parts (SOP) models, which are equal weighted, averaged and rounded to the nearest whole number. Typically for early-stage companies with no revenues, we use 30%, and for companies with established products and revenues, we use a lower 15%. Cytosorbents arguably is somewhere in the middle, as products are approved and selling in Europe but not yet in the U.S. If we select a conservative 30%, we drive a \$9.00 price target. If we select a more aggressive 15%, we arrive at a \$28.00 target. If we select a mid-point (22.5%), we derive a \$15.00 target. Given their unique position of approval in Europe, established proof of concept and a product that works, we select the mid-point of 22.5% and set our target for CytoSorbents at \$15.00.

Exhibit 6. FCFF Model

Average \$	15
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Price Target \$	15
Year	2019

DCF Valuation Using FCF (min):

units ('000)	2018A	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
EBIT	(17,830)	(17,160)	(11,025)	16,493	43,837	86,422	151,532	255,996	319,474	360,704	391,365	410,708	407,264
Tax Rate	0%	5%	8%	10%	12%	15%	18%	21%	24%	28%	33%	33%	33%
EBIT (1-t)	(17,830)	(16,302)	(10,143)	14,844	38,577	73,459	124,256	202,237	242,801	259,707	262,215	275,174	272,867
CapEx	(493)	(543)	(597)	(657)	(722)	(794)	(874)	(961)	(1,057)	(1,163)	(1,279)	(1,407)	(1,548)
Depreciation	391	138	-	-	-	-	-	-	-	-	-	-	-
Change in NWC	-	-	-	-	-	-	-	-	-	-	-	-	-
FCF	(17,932)	(16,706)	(10,740)	14,187	37,855	72,664	123,382	201,276	241,743	258,544	260,935	273,767	271,319
PV of FCF	(21,967)	(16,706)	(8,767)	9,454	20,593	32,268	44,727	59,563	58,399	50,985	42,006	35,977	29,106
Discount Rate	22.5%												
Long Term Growth Rate	1%												
Terminal Cash Flow	1,274,569												
Terminal Value YE2030	136,731												
NPV	494,335												
NPV-Debt	-												
Shares out ('000)	33,734												
NPV Per Share	15												

Source: Dawson James estimates

Exhibit 7. Discounted EPS Model

Current Year	2019
Year of EPS	2030
Earnings Multiple	15
Discount Factor	22.5%
Selected Year EPS	8.09
NPV	13.02

Source: Dawson James estimates

		Discount Rate and Earnings Multiple Varies, Year is Constant						
		13.02	5%	10%	15%	20%	25%	30%
Earnings Multiple	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	23.65	14.18	8.69	5.44	3.47	2.26	
	10	47.29	28.35	17.39	10.89	6.95	4.51	
	15	70.94	42.53	26.08	16.33	10.42	6.77	
	20	94.59	56.70	34.77	21.77	13.90	9.03	
	25	118.23	70.88	43.47	27.22	17.37	11.28	
	30	141.88	85.05	52.16	32.66	20.84	13.54	
	35	165.53	99.23	60.85	38.10	24.32	15.80	

Source: Dawson James estimates

Exhibit 8. Sum of the Parts Model

CytoSorbents	LT Gr	Discount Rate	Yrs to Mkt	% Success	Peak Sales (MMs)	Term Val
CytoSorb - Sepsis Direct Sales(EU)	1%	22.5%	0	70%	\$151	\$701
NPV						\$7
CytoSorb - Sepsis Distributor (EU)	1%	22.5%	0	70%	\$88	\$408
NPV						\$4
CytoSorb (Cardiac surgery US)	1%	22.5%	2	50%	\$68	\$318
NPV						\$1.43
CytoSorb (Cardiac surgery EU)	1%	22.5%	0	70%	\$17	\$79
NPV						\$0.7
CytoSorb (Sepsis US)	1%	22.5%	4	50%	\$271	\$1,262
NPV						\$3.8
Net Margin						45%
MM Shrs OS (2030E)						33
Total						\$16

Source: Dawson James estimates

Risk Analysis

Market Share Risk: CytoSorbents' potential inability to further grow product sales in the EU will hinder its profitability as more capital is invested in clinical trials to bring CytoSorb to the U.S. market. The company's product represents a new treatment for critical care patients that may take longer for adoption than predicted.

Regulatory Risk: There may be certain regulatory risks related to CytoSorb approval in the U.S.

Commercial Risk: There is no guarantee that the company will be able to develop and expand sales operations to offset research and development costs. Delays in U.S. commercialization will be negatively reflected in its valuation.

Financial Risk: The company should be expected to raise capital in the near term. We assume a raise and dilution, but there is no guarantee that market conditions will be favorable.

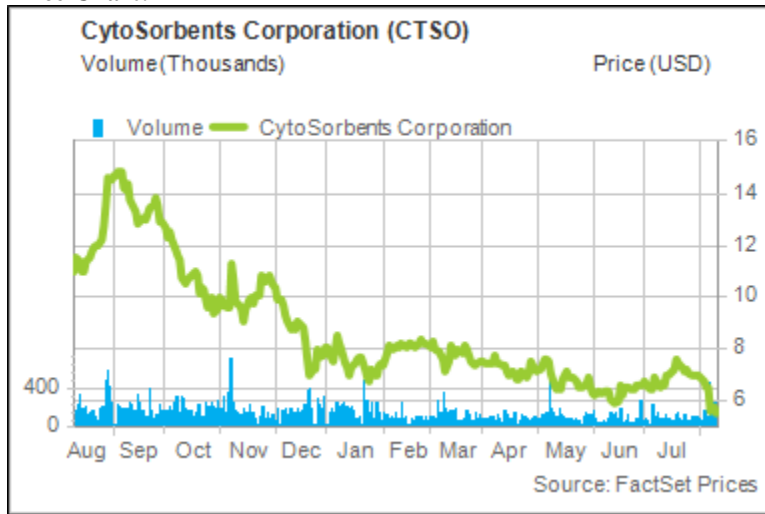
Exhibit 9. Income Statement

CTS0: Income Statement (\$000)																					
..YE December 31	2018A	1Q19A	2Q19A	3Q19E	4Q19E	2019E	1Q20E	2Q20E	3Q20E	4Q20E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Revenue:																					
CytoSorb Direct Sales (Germany, Austria, Switzerland)	20,143	4,576	5,850	6,000	6,200	22,148	6,081	6,345	6,874	7,138	26,439	40,239	54,439	69,046	84,070	99,520	115,405	131,735	148,520	150,699	150,699
CytoSorb Distributor (Rest of EU)			-				3,032	3,164	3,428	3,559	13,183	13,336	21,587	27,297	41,422	55,871	70,651	85,766	86,763	87,771	87,771
CytoSorb (Cardiac surgery EU)							1,045	1,091	1,182	1,227	4,545	6,866	9,218	11,604	14,022	16,474	16,589	16,705	16,822	16,940	16,940
CytoSorb (Cardiac surgery US)							-	-	-	-	-	5,345	10,776	16,294	21,899	27,593	66,755	67,290	67,829	68,373	68,373
CytoSorb (sepsis US)												8,773	17,846	45,376	92,302	187,755	200,508	223,353	246,919	271,225	271,225
VetResQ						300	81	84	91	95	350	368	386	405	425	447					
Other Sales	109																				
Total Product Sales	20,252	4,576	5,850	6,000	6,200	22,626	10,239	10,684	11,574	12,020	44,517	74,927	114,251	170,022	254,140	387,660	469,908	524,849	566,853	595,008	595,008
Royalty (HemoDefend US)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grant revenue	2,252	615	382			997															
Other revenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenue	22,504	5,191	6,232	6,000	6,200	23,623	10,239	10,684	11,574	12,020	44,517	74,927	114,251	170,022	254,140	387,660	469,908	524,849	566,853	595,008	595,008
Expenses:																					
Costs of Goods Sold	7,489	1,738	1,834	1,500	1,550	6,622	2,048	2,137	2,315	2,404	8,903	14,985	22,850	34,004	50,828	77,532	93,982	104,970	113,371	119,002	119,002
%COGS	37%	38%	29%	25%	25%	25%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Research and Development	7,723	2,418	2,930	2,733	2,839	10,513	2,660	2,775	3,007	3,122	11,564	12,721	13,993	15,392	16,931	18,624	20,487	22,536	24,789	27,268	29,995
%R&D	38%	53%	50%	46%	46%	46%	26%	26%	26%	26%	26%	17%	12%	9%	7%	5%	4%	4%	4%	5%	5%
Selling, General and Administrative	20,874	4,758	4,506	5,970	6,200	21,434	5,669	5,916	6,409	6,655	24,649	28,346	31,180	31,804	32,440	33,089	33,751	34,426	35,114	35,817	36,533
%SG&A	103%	104%	77%	99%	100%	95%	55%	55%	55%	55%	55%	38%	27%	19%	13%	9%	7%	7%	6%	6%	6%
Legal, financial and other counseling	2,002	561	592	521	541	2,214	509	531	576	598	2,214	2,214	2,214	2,214	2,214	2,214	2,214	2,214	2,214	2,214	2,214
Total Expenses	38,088	9,475	9,862	10,724	11,129	40,783	10,886	11,359	12,306	12,779	47,330	58,266	70,238	83,415	102,413	131,459	150,433	164,145	175,488	184,300	187,743
Operating Income (Loss)	(15,584)	(4,284)	(3,630)	(4,724)	(4,929)	(17,160)	(647)	(675)	(731)	(760)	(2,813)	16,661	44,014	86,607	151,727	256,200	319,474	360,704	391,365	410,708	407,264
Interest income (expense), net	(1,461)	(205)	(214)																		
Gain (loss) on foreign currency transactions	(785)	(393)	297																		
Change in warrant liability																					
Other income (expense), net																					
Total Other Income	(2,246)	(598)	83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pretax Income	(17,830)	(4,882)	(3,547)	(4,724)	(4,929)	(17,160)	(647)	(675)	(731)	(760)	(2,813)	16,661	44,014	86,607	151,727	256,200	319,474	360,704	391,365	410,708	407,264
Income Tax Benefit (Provision)	-	-		(236)	(246)	(858)	(52)	(54)	(59)	(61)	(225)	1,666	5,282	12,991	27,311	53,802	76,674	100,997	129,150	135,534	134,397
Tax Rate	0%	0%	5%	5%	5%	5%	8%	8%	8%	8%	8%	10%	12%	15%	18%	21%	24%	28%	33%	33%	33%
GAAP Net Income (Loss)	(17,830)	(4,882)	(3,547)	(4,488)	(4,682)	(16,302)	(595)	(621)	(673)	(699)	(2,588)	14,995	38,732	73,616	124,416	202,398	242,801	259,707	262,215	275,174	272,867
GAAP-EPS	(0.58)	(0.15)	(0.11)	(0.14)	(0.14)	(0.51)	(0.02)	(0.02)	(0.02)	(0.02)	(0.08)	0.46	1.19	2.24	3.78	6.12	7.31	7.79	7.84	8.19	8.09
GAAP-EPS (Dil)	(0.58)	(0.15)	(0.11)	(0.14)	(0.14)	(0.51)	(0.02)	(0.02)	(0.02)	(0.02)	(0.08)	0.46	1.19	2.24	3.78	6.12	7.31	7.79	7.84	8.19	8.09
Wgtd Avg Shrs (Bas) - '000s	30,719	31,931	32,267	32,299	32,331	32,207	32,364	32,396	32,429	32,461	32,412	32,542	32,673	32,803	32,935	33,067	33,199	33,332	33,466	33,600	33,734
Wgtd Avg Shrs (Dil) - '000s	30,719	31,931	32,267	32,299	32,331	32,207	32,364	32,396	32,429	32,461	32,412	32,542	32,673	32,803	32,935	33,067	33,199	33,332	33,466	33,600	33,734

Source: Dawson James estimates

Important Disclosures:

Price Chart:



Price target and rating changes over the past three years:

- Initiated – Buy – July 11, 2019 – Price Target \$15.00
- Update – Buy – August 12, 2019 – Price Target \$15.00
- Update – Buy – August 15, 2019 – Price Target \$15.00

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- 1) **Buy:** The analyst believes the price of the stock will appreciate and produce a total return of at least 20% over the next 12-18 months;
- 2) **Neutral:** The analyst believes the price of the stock is fairly valued for the next 12-18 months;
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The following chart reflects the range of current research report ratings for all companies followed by the analysts of the Firm. The chart also reflects the research report ratings relating to those companies for which the Firm has performed investment banking services.

Ratings Distribution	Company Coverage		Investment Banking	
	# of Companies	% of Total	# of Companies	% of Totals
Market Outperform (Buy)	42	84%	13	31%
Market Perform (Neutral)	8	16%	0	0%
Market Underperform (Sell)	0	0%	0	0%
Total	50	100%	13	26%

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