

## CytoSorbents Corporation (NASDAQ/CTSO)

April 29, 2022

### BUY: First Patient Enrolled in DrugSorb-STAR-D Trial

*CytoSorbents announced the enrollment of the first patient in the Safe and Timely Antithrombotic Removal-Direct Oral Anticoagulants or STAR-D trial. This is a double-blind, randomized, controlled clinical trial designed to support FDA marketing approval of the DrugSorb-ATR Antithrombotic Removal System for intraoperative removal of apixaban and rivaroxaban during cardiothoracic surgery. The STAR-D trial is being performed under the auspices of an FDA Breakthrough Device Designation and is expected to enroll up to 120 patients across 30 sites in the United States.*

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### Investment Highlights

**The STAR-D Pivotal Study:** The STAR-D trial targets Ticagrelor (& more): STAR-D (Safe and Timely Antithrombotic Removal – Direct Oral Anticoagulants [DOAC]) is a double-blind, randomized, controlled U.S. trial. It's important to note that the trial is being performed under the previously announced FDA Breakthrough Device Designation granted to the DrugSorb-ATR™ Antithrombotic Removal System for the removal of apixaban (Eliquis®, Bristol-Myers-Squibb/Pfizer) and rivaroxaban (Xarelto®, Janssen/Bayer) in a cardiopulmonary bypass circuit to reduce the likelihood of serious perioperative bleeding in urgent cardiothoracic surgery. The STAR-T trial is expected to enroll up to 120 patients across 20 sites and be completed by 2022.

**First Patient Enrolled:** The first patient was enrolled at Virginia Commonwealth University's Pauley Heart Center by Principal Investigator Dr. Patricia A. Nicolato, D.O, Cardiothoracic Surgeon and Associate Professor in the Department of Surgery, Division of Cardiothoracic Surgery, Director of the Extracorporeal Life Support Program.

**Why has the stock pulled back?** It may be related to Covid. The perception that Covid would accelerate sales of Cytosorb coupled with the reality that Omicron is looking more like Nature's vaccine and will drive the pandemic to its endemic stage. We remain focused on progress with the STAR trials.

**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 derive a \$9.00 price target. If we choose a more aggressive 15%, we arrive at a \$26.00 target. We select 25% to balance risk versus reward to derive a \$16.00 target,

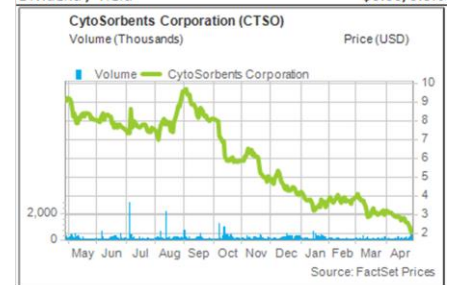
**Risks** to our price target include: market, regulatory, financial, and commercialization risks.

Current Price \$2.04  
Price Target \$16.00



Source: Cytosorbents

Stock Data			
52-Week Range	\$1.89	-	\$9.80
Shares Outstanding (mil.)	43.5		
Market Capitalization (mil.)	\$89		
Enterprise Value (mil.)	\$69		
Debt to Capital	0%		
Book Value/Share	\$0.35		
Price/Book	2.9		
Average Three Months Trading Volume (K)	153		
Insider Ownership	11.8%		
Institutional Ownership	44.3%		
Short interest (mil.)	3.7%		
Dividend / Yield	\$0.00/0.0%		



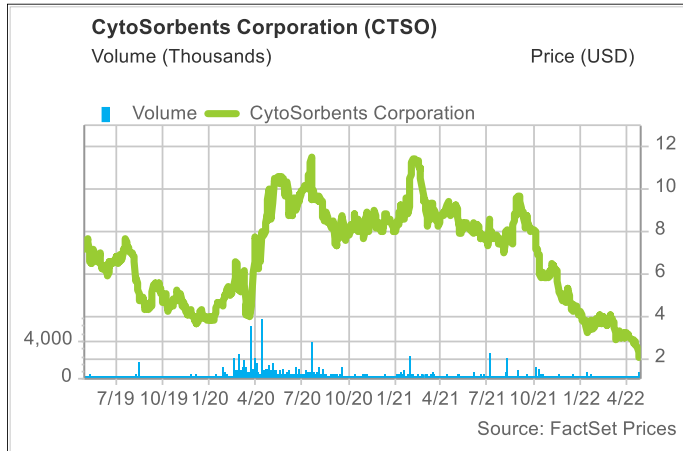
**Exhibit 1. Income Statement**

CTSO.: Income Statement (\$000)																
YE December 31	2019A	2020A	2021A	1Q22E	2Q22E	3Q22E	4Q22E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
<b>Revenue:</b>																
CytoSorb Direct Sales (Germany, Austria, Switzerland)	22,766	25,607	29,354	6,480	6,761	7,325	7,606	28,172	31,046	42,620	49,732	58,030	67,713	79,013	92,198	92,198
CytoSorb Distributor (Rest of EU)		10,240	10,498	2,638	2,752	2,982	3,096	11,468	13,649	15,878	18,472	21,490	25,001	29,085	33,837	33,837
CytoSorb (Cardiac surgery EU)		3,420							11,604	14,022	16,474	16,589	16,705	16,822	16,940	16,940
CytoSorb (Cardiac surgery US)		-	-	-	-	-	-	-	-	21,899	27,593	66,755	67,290	67,829	68,373	68,373
CytoSorb (other US)		-	-	-	-	-	-	-	-	38,459	78,231	190,960	283,238	395,071	602,722	602,722
VetResQ		185	194	47	49	53	55	204	214	225	236					
Other Sales																
<b>Total Product Sales</b>	<b>22,766</b>	<b>39,452</b>	<b>40,047</b>	<b>9,164</b>	<b>9,563</b>	<b>10,359</b>	<b>10,758</b>	<b>39,844</b>	<b>56,513</b>	<b>133,103</b>	<b>190,738</b>	<b>353,824</b>	<b>459,947</b>	<b>587,820</b>	<b>814,070</b>	<b>814,070</b>
Royalty (HemoDefend US)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grant revenue	2,184	1,552	3,062	-	-	-	-	-	-	-	-	-	-	-	-	-
Other revenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Revenue</b>	<b>24,950</b>	<b>41,004</b>	<b>43,109</b>	<b>9,164</b>	<b>9,563</b>	<b>10,359</b>	<b>10,758</b>	<b>39,844</b>	<b>56,513</b>	<b>133,103</b>	<b>190,738</b>	<b>353,824</b>	<b>459,947</b>	<b>587,820</b>	<b>814,070</b>	<b>814,070</b>
<b>Expenses:</b>																
Costs of Goods Sold	7,364	11,052	11,047	1,833	1,913	2,072	2,152	7,969	11,303	26,621	38,148	70,765	91,989	117,564	162,814	162,814
	%COGS	25%	28%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Research and Development	12,092	8,810	16,380	4,144	4,324	4,685	4,865	18,018	19,820	21,802	23,982	26,381	29,019	31,920	35,113	38,624
	%R&D	53%	22%	41%	45%	45%	45%	45%	35%	16%	13%	7%	6%	5%	4%	5%
Selling, General and Administrative	22,006	28,463	35,749	9,045	9,438	10,224	10,618	39,324	40,111	40,913	41,731	42,566	43,417	44,285	45,171	46,075
	%SG&A	97%	72%	89%	99%	99%	99%	99%	71%	31%	22%	12%	9%	8%	6%	6%
Legal, financial and other counseling	2,462	3,048	2,731	628	655	710	737	2,731	2,731	2,731	2,731	2,731	2,731	2,731	2,731	2,731
<b>Total Expenses</b>	<b>43,924</b>	<b>51,373</b>	<b>65,907</b>	<b>15,650</b>	<b>16,330</b>	<b>17,691</b>	<b>18,371</b>	<b>68,042</b>	<b>73,964</b>	<b>92,066</b>	<b>106,592</b>	<b>142,442</b>	<b>167,156</b>	<b>196,501</b>	<b>245,828</b>	<b>250,243</b>
Operating Income (Loss)	(18,974)	(10,369)	(22,799)	(6,486)	(6,768)	(7,331)	(7,613)	(28,198)	(17,451)	41,037	84,147	211,383	292,791	391,320	568,242	563,827
Interest income (expense), net																
Gain (loss) on foreign currency transactions	(1,384)	(1,201)	2													
Change in warrant liability		2,607	(2,569)													
Other income (expense), net																
<b>Total Other Income</b>	<b>(1,384)</b>	<b>1,406</b>	<b>(2,567)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Pretax Income</b>	<b>(20,358)</b>	<b>(8,964)</b>	<b>(25,366)</b>	<b>(6,486)</b>	<b>(6,768)</b>	<b>(7,331)</b>	<b>(7,613)</b>	<b>(28,198)</b>	<b>(17,451)</b>	<b>41,037</b>	<b>84,147</b>	<b>211,383</b>	<b>292,791</b>	<b>391,320</b>	<b>568,242</b>	<b>563,827</b>
Income Tax Benefit (Provision)	1,092	1,127	(2,537)	(778)	(812)	(880)	(914)	(3,384)	(2,618)	7,387	17,671	50,732	81,982	129,136	187,520	186,063
<b>Tax Rate</b>	<b>5%</b>	<b>8%</b>	<b>10%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>12%</b>	<b>15%</b>	<b>18%</b>	<b>21%</b>	<b>24%</b>	<b>28%</b>	<b>33%</b>	<b>33%</b>	<b>33%</b>
<b>GAAP Net Income (Loss)</b>	<b>(19,266)</b>	<b>(7,837)</b>	<b>(22,829)</b>	<b>(5,707)</b>	<b>(5,955)</b>	<b>(6,452)</b>	<b>(6,700)</b>	<b>(24,814)</b>	<b>(14,833)</b>	<b>33,650</b>	<b>66,476</b>	<b>160,651</b>	<b>210,810</b>	<b>262,184</b>	<b>380,722</b>	<b>377,764</b>
<b>GAAP-EPS</b>	<b>(0.62)</b>	<b>(0.20)</b>	<b>(0.57)</b>	<b>(0.13)</b>	<b>(0.14)</b>	<b>(0.15)</b>	<b>(0.15)</b>	<b>(0.57)</b>	<b>(0.34)</b>	<b>0.77</b>	<b>1.51</b>	<b>3.63</b>	<b>4.74</b>	<b>5.87</b>	<b>8.49</b>	<b>8.39</b>
GAAP-EPS (Dil)	(0.60)	(0.20)	(0.53)	(0.13)	(0.14)	(0.15)	(0.15)	(0.57)	(0.34)	0.77	1.51	3.63	4.74	5.87	8.49	8.39
Wgtd Avg Shrs (Bas) - '000s	32,253	38,819	43,358	43,520	43,564	43,607	43,651	43,586	43,760	43,936	44,112	44,288	44,466	44,644	44,823	45,002
Wgtd Avg Shrs (Dil) - '000s	32,253	38,819	43,358	43,520	43,564	43,607	43,651	43,586	43,760	43,936	44,112	44,288	44,466	44,644	44,823	45,002

Source: Dawson James estimates and company reports

**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
- Update – Buy – August 19, 2019 – Price Target \$15.00
- Update – Buy – November 6, 2019 – Price Target \$15.00
- Update – Buy – February 19, 2020 – Price Target \$15.00
- Price Target Increase – Buy – March 9, 2020 – Price Target \$17.00
- Update – Buy – March 25, 2020 – Price Target \$17.00
- Update – Buy – April 13, 2020 – Price Target \$17.00
- Update – Buy – May 6, 2020 – Price Target \$17.00
- Update – Buy – June 9, 2020 – Price Target \$17.00
- Update – Buy – July 31, 2020 – Price Target \$15.00
- Update – Buy – August 12, 2020 – Price Target \$16.00
- Update – Buy – September 16, 2020 – Price Target \$16.00
- Update – Buy – October 14, 2020 – Price Target \$16.00
- Update – Buy – November 5, 2020 – Price Target \$16.00
- Update – Buy – December 2, 2020 – Price Target \$16.00
- Update – Buy – January 12, 2021 – Price Target \$16.00
- Update – Buy – January 19, 2021 – Price Target \$16.00
- Update – Buy – April 20, 2021 – Price Target \$16.00
- Update – Buy – May 6, 2021 – Price Target \$16.00
- Update – Buy – July 6, 2021 – Price Target \$16.00
- Update – Buy – September 1, 2021 – Price Target \$16.00
- Update – Buy – October 15, 2021 – Price Target \$16.00
- Update – Buy – November 9, 2021 – Price Target \$16.00
- Update – Buy – November 22, 2021 – Price Target \$16.00
- Update – Buy – January 18, 2022 – Price Target \$16.00
- Update – Buy – March 9, 2022 – Price Target \$16.00
- Update – Buy – April 29, 2022 – Price Target \$16.00

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- 2) **Neutral:** The analyst believes the price of the stock is fairly valued for the next 12-18 months;
- 3) **Sell:** The analyst believes the price of the stock will decline by at least 20% over the next 12-18 months and should be sold.

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.

Current as of... 26-Apr-22

	Company Coverage		Investment Banking	
Ratings Distribution	# of Companies	% of Total	# of Companies	% of Totals
Market Outperform (Buy)	32	74%	4	13%
Market Perform (Neutral)	11	26%	0	0%
Market Underperform (Sell)	0	0%	0	0%
Total	43	100%	4	9%

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