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## OncoSec Medical Inc. (NASDAQ: ONCS)

November 25, 2020

### BUY: Cliniporator – A Faster Pathway for Internal Cancers and an Enhanced COVID Response in Grandma and Grandpa

OncoSec has licensed the rights to the Cliniporator. This is an electroporation-gene electrotransfer platform from IGEA Clinical Biophysics (IGEA). The license encompasses a broad field of use for gene delivery in oncology, including use as part of OncoSec's visceral lesion applicator (VLA) program. The rationale behind this is time. The FDA has cleared the Cliniporator platform for use in the upcoming Phase 1 trial to be held at Providence Health investigating CORVax12, the Company's DNA-encodable vaccine candidate for COVID-19. CORVax12 combines TAVO™ (tavokinogene telseplasmid), a DNA plasmid-based interleukin-12 (IL-12), with the National Institutes of Health (NIH)'s SARS-CoV-2 virus "spike" protein.

**The Right Delivery Device at the Right Time.** OncoSec research has taken the company in two directions in terms of delivery. Higher voltage lower pulses versus lower voltage and longer pulses. As the company begins the process to look at delivering its TAVO (IL-12 inducing therapy) internally to target cancers (lung and liver), the VLA program data suggests Cliniporator may be more effective, coupled with the fact that the device has a CE mark (Europe) supports a more rapid timeline to the clinic.

**COVID, Too.** Data suggests that low voltage application is desirable for the delivery of DNA vaccines. OncoSec plans to evaluate Cliniporator in U.S. clinics as part of the Phase 1 clinical trial investigating CORVax12. CORVax12 may produce a stronger, longer-lasting immune response and, as such, provide enhanced protection against COVID-19 and other viruses, too. Why is this so important? Consider the patient populations at risk. The elderly and immune-compromised may not be capable of mounting an adequate immune response.

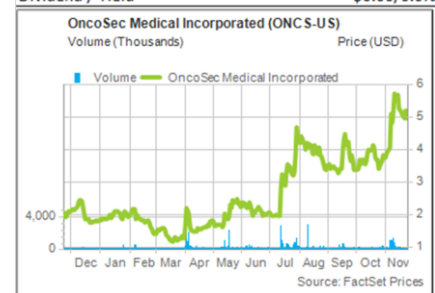
**What is TAVO all About?** The goal is to reverse resistance in patients receiving checkpoint therapies. TAVO, which is plasmid-based interleukin-12, is administered locally via OncoSec's electroporation gene delivery system. TAVO induces the local expression of IL-12, turning "cold" tumors "hot" and enabling checkpoint therapies such as Keytruda (pembrolizumab) to be effective.

**Valuation:** We project revenues in Melanoma, initially in Phase III/IV patients, and then assume broader adoption in earlier-stage patients followed by entry in the SCCHNCC and TNBC markets. We apply probabilities of success in our therapeutic models ranging from 70% to just 50%. Given the micro-cap nature of the Company, we use our highest discount rate of 30% in our FCF, dEPS, and SOP models, which are averaged and rounded to the nearest whole number to determine our 12-month price target.

**Risks to our thesis** include the following: (1) commercial; (2) regulatory; (3) clinical; (4) manufacturing; (5) financial; (6) liability; and (7) intellectual property. We review these and other risks in the Risk Analysis section of this report.

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Current Price	\$4.96		
Price Target	\$10.00		
*Estimates	F2020A	F2021E	F2022E
Expenses (\$000s)	43,409	31,000	34,500
1Q August	9,838	7,750	8,625
2Q November	13,524	7,750	8,625
3Q February	9,835	7,750	8,625
4Q May	10,212	7,750	8,625
*Estimates	F2020A	F2021E	F2022E
*EPS (diluted)	(2.56)	(1.04)	(0.76)
1Q August	(0.92)	(0.28)	(0.19)
2Q November	(1.27)	(0.28)	(0.19)
3Q February	(0.45)	(0.28)	(0.19)
4Q May	0.08	(0.20)	(0.19)
* YE is July			
EBITDA/Share	(\$2.54)	(\$1.10)	\$1.00
EV/EBITDA (x)	-27	-63	69
<b>Stock Data</b>			
52-Week Range	\$1.04	-	\$5.77
Shares Outstanding (mil.)	27.7		
Market Capitalization (mil.)	\$137.3		
Enterprise Value (mil.)	\$69.5		
Debt to Capital	0.0%		
Book Value/Share	\$4.95		
Price/Book	7.0		
Average Three Months Trading Volume (M)	0.4		
Insider Ownership	57.7%		
Institutional Ownership	7.9%		
Short interest (mil.)	1.9%		
Dividend / Yield	\$0.00/0.0%		



**Model Assumptions:**

1. We assume an initial commercial launch of TAVO in Stage III/IV Melanoma beginning in 2020. The market is relatively small, based on our assumptions, just 12,000 patients annually. We assume a price of \$90,000 per year and a peak share of just 9%. We use a 70% probability of success or a 30% risk cut.
2. We assume expansion to the broader metastatic Melanoma marketplace by 2025, targeting 78,000 patients initially. We assume a starting share of just 1% but growing to 17% by 2030. We assume the same pricing as Stage III/IV. We use a 50% probability of success or a 50% risk cut.
3. We assume expansion to SCCHNCC in 2023, 60,000 patients initially. We assume a starting share of just 1% and rising to just 3% by 2030. We assume \$125,000 per therapy course and apply a 55% risk cut.
4. We assume expansion to Triple Negative Breast Cancer in 2024, 41,000 patients initially. We assume a starting share of just 1% and rising to just 7% by 2030. We assume \$100,000 per therapy course and apply a 70% risk cut or 30% probability of success.

**Exhibit 1. Therapeutic Models**

Melanoma (Stage III/IV)	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Prevalence	100,350	101,354	102,367	103,391	104,425	105,469	106,524	107,589	108,665	109,751	110,849
Growth	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Stage III/IV	12,042	12,162	12,284	12,407	12,531	12,656	12,783	12,911	13,040	13,170	13,302
% Market Share			0%	2%	3%	4%	5%	6%	7%	8%	9%
Total Patients			0	248	376	506	639	775	913	1054	1197
Cost per year			\$90,000	\$92,700	\$95,481	\$98,345	\$101,296	\$104,335	\$107,465	\$110,689	\$114,009
% Price Increase			3%	3%	3%	3%	3%	3%	3%	3%	3%
Sales (\$M)			\$0	\$23,002	\$35,894	\$49,787	\$64,742	\$80,822	\$98,092	\$116,623	\$136,488
Risk Adjustment			30%	30%	30%	30%	30%	30%	30%	30%	30%
<b>Revenue (\$M)</b>			<b>\$0</b>	<b>\$16,102</b>	<b>\$25,126</b>	<b>\$34,851</b>	<b>\$45,320</b>	<b>\$56,575</b>	<b>\$68,664</b>	<b>\$81,636</b>	<b>\$95,542</b>

Source: Company reports and Dawson James

Melanoma (All Ex. Stage III/IV)	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Prevalence	100,350	101,354	102,367	103,391	104,425	105,469	106,524	107,589	108,665	109,751	110,849
Growth	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Stage II	75,263	76,015	76,775	77,543	78,318	79,102	79,893	80,692	81,499	82,313	83,137
% Market Share			0%	0%	1%	5%	8%	12%	15%	16%	17%
Total Patients			0	0	783	3955	6391	9683	12225	13170	14133
Cost per year			\$90,000	\$92,700	\$95,481	\$98,345	\$101,296	\$104,335	\$107,465	\$110,689	\$114,009
% Price Increase			3%	3%	3%	3%	3%	3%	3%	3%	3%
Sales (\$M)			\$0	\$0	\$74,779	\$388,964	\$647,423	\$1,010,272	\$1,313,732	\$1,457,787	\$1,611,319
Risk Adjustment			50%	50%	50%	50%	50%	50%	50%	50%	50%
<b>Revenue (\$M)</b>			<b>\$0</b>	<b>\$0</b>	<b>\$37,390</b>	<b>\$194,482</b>	<b>\$323,712</b>	<b>\$505,136</b>	<b>\$656,866</b>	<b>\$728,893</b>	<b>\$805,660</b>

SCCHNC	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Prevalence	59,067	59,658	60,254	60,857	61,465	62,080	62,701	63,328	63,961	64,601	65,247
Growth	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
% Market Share			0%	1%	2%	3%	3%	3%	3%	3%	3%
Total Patients			0	609	1229	1862	1881	1900	1919	1938	1957
Cost per year			\$125,000	\$128,750	\$132,613	\$136,591	\$140,689	\$144,909	\$149,257	\$153,734	\$158,346
% Price Increase			3%	3%	3%	3%	3%	3%	3%	3%	3%
Sales (\$M)			\$0	\$78,353	\$163,021	\$254,387	\$264,639	\$275,304	\$286,398	\$297,940	\$309,947
Risk Adjustment			55%	55%	55%	55%	55%	55%	55%	55%	55%
<b>Revenue (\$M)</b>			<b>\$0</b>	<b>\$35,259</b>	<b>\$73,360</b>	<b>\$114,474</b>	<b>\$119,087</b>	<b>\$123,887</b>	<b>\$128,879</b>	<b>\$134,073</b>	<b>\$139,476</b>

Source: Company reports and Dawson James

Breast Cancer - Triple Negative	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
BC Prevalence	276,480	279,245	282,037	284,858	287,706	290,583	293,489	296,424	299,388	302,382	305,406
Growth	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Triple Negative Breast Cancer (15%)	41,472	41,887	42,306	42,729	43,156	43,587	44,023	44,464	44,908	45,357	45,811
Percent of PD1/PD-L1 non-responders (70%)	29,030	29,321	29,614	29,910	30,209	30,511	30,816	31,125	31,436	31,750	32,068
% Market Share				0%	1%	2%	3%	4%	5%	6%	7%
Total Patients				-	302	610	924	1,245	1,572	1,905	2,245
Cost per year				\$100,000	\$103,000	\$106,090	\$109,273	\$112,551	\$115,927	\$119,405	\$122,987
% Price Increase				3%	3%	3%	3%	3%	3%	3%	3%
Sales (\$M)				\$0	\$31,115	\$64,739	\$101,022	\$140,124	\$182,213	\$227,468	\$276,074
Risk Adjustment				70%	70%	70%	70%	70%	70%	70%	70%
<b>Revenue (\$M)</b>				<b>\$0</b>	<b>\$9,335</b>	<b>\$19,422</b>	<b>\$30,306</b>	<b>\$42,037</b>	<b>\$54,664</b>	<b>\$68,240</b>	<b>\$82,822</b>

Source: Company reports and Dawson James estimates

**Valuation.** Using our therapeutic models above (see those assumptions), we project revenues out to the year 2030. Our valuation is also based on projected, fully diluted, out-year share count and assumes multiple capital raises. We apply probabilities of success in our therapeutic models ranging from 70% to just 50%. Given the micro-cap nature of the Company, we use our highest discount rate of 30% in our FCFF, dEPS, and SOP models, which are averaged and rounded to the nearest whole number to determine our 12-month price target.

### Exhibit 2. Free Cash Flow Model

Average \$ 10													
Price Target \$ 10													
Year 2020													
<b>DCF Valuation Using FCFF (M):</b>													
units ('000)		2019A	2020A	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
EBIT		(30,275)	(43,126)	(31,000)	(34,500)	10,252	95,745	298,197	442,217	636,464	804,877	901,052	1,003,625
Tax Rate		0%	0%	0%	0%	10%	20%	30%	35%	36%	37%	38%	
EBIT(1-t)		(30,275)	(43,126)	(31,000)	(34,500)	9,227	76,596	298,197	309,552	413,701	515,121	567,662	622,247
Change in NWC													
FCF		(30,275)	(43,126)	(31,000)	(34,500)	9,227	76,596	298,197	309,552	413,701	515,121	567,662	622,247
PV of FCF		(39,357)	(43,126)	(23,846)	(20,414)	4,200	26,818	80,313	64,132	65,930	63,148	53,530	45,137
Discount Rate		30%											
Long Term Growth Rate		1%											
Terminal Cash Flow		2,167,137											
Terminal Value YE2030		204,360											
NPV		480,825											
NPV-Debt		7,528											
Shares out (thousands)		47,130	2030E										
NPV Per Share	\$	10											

Source: Dawson James estimates, company reports

### Exhibit 3. Discounted EPS Model

Current Year	2020
Year of EPS	2030
Earnings Multiple	10
Discount Factor	30%
Selected Year EPS	\$ 13.20
NPV	\$ 10

Source: Company reports and Dawson James

		Discount Rate and Earnings Multiple Varies, Year is Constant					
		2030 EPS					
Earnings Multiple		5%	10%	15%	20%	25%	30%
		0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
5	\$40.52	\$25.45	\$16.32	\$10.66	\$7.09	\$ 4.79	
10	\$81.05	\$50.90	\$32.63	\$21.32	\$14.18	\$ 9.58	
15	\$121.57	\$76.35	\$48.95	\$31.98	\$21.26	\$ 14.36	
20	\$162.10	\$101.80	\$65.27	\$42.64	\$28.35	\$ 19.15	
25	\$202.62	\$127.25	\$81.58	\$53.30	\$35.44	\$ 23.94	
30	\$243.15	\$152.70	\$97.90	\$63.97	\$42.53	\$ 28.73	
35	\$283.67	\$178.15	\$114.22	\$74.63	\$49.61	\$ 33.52	

Source: Dawson James estimates

### Exhibit 4. Sum-of-the-Parts Model

Oncosec Medical Sum of the Parts	LT Gr	Discount Rate	Yrs. to Mkt	% Success	Peak Sales MM\$	Term Val
Melanoma (Stage III/IV)	1%	30%	3	70%	\$136	\$471
NPV						\$2.27
Melanoma (other)	1%	30%	5	50%	\$901	\$3,108
NPV						\$6.33
SCCHNC	1%	30%	5	45%	\$139	\$481
NPV						\$0.88
Breast Cancer - Triple Negative	1%	30%	7	30%	\$276	\$952
NPV						\$0.69
Pipeline	1%	30%	5	50%	\$100	\$345
NPV						\$0.70
Net Margin						70%
MM Shrs OS (2030E)						46
Total						\$11

Source: Dawson James estimates

## Risk Analysis

**Clinical and regulatory risk.** There is no assurance that any of the Company's products will be approved for any of the proposed indications and or that the clinical data will be compelling. We recognize the competitive environment is evolving rapidly, and as such, it is possible that clinical programs may need to be revised, extending timelines.

**Commercial risk.** There are multiple competing therapies, and there can be no assumption that TAVO can be competitive if and when it is ready for approval and commercialization.

**Financial risk.** The Company may need to raise capital in the marketplace, and there can be no assurances that the Company will be able to raise capital and do so on favorable terms successfully.

**Liability.** There can be no assurances that the products and Company are exposed to liabilities from products once commercialized.

**Manufacturing.** The Company will need to manufacture its devices and products, and this may require expansion and capital resources to be able to provide products at scale prior to commercialization. There can be no assurances that the Company will be able to overcome such hurdles.

**Intellectual property risk.** The Company may have to defend its patents and technical know-how, and there can be no assurances that the licenses will not be infringed or will be held as valid if challenged, and the Company may infringe on third parties' patents.

**Reimbursement and insurance payment risk.** Insurance payment for products may be an additional hurdle to adoption.

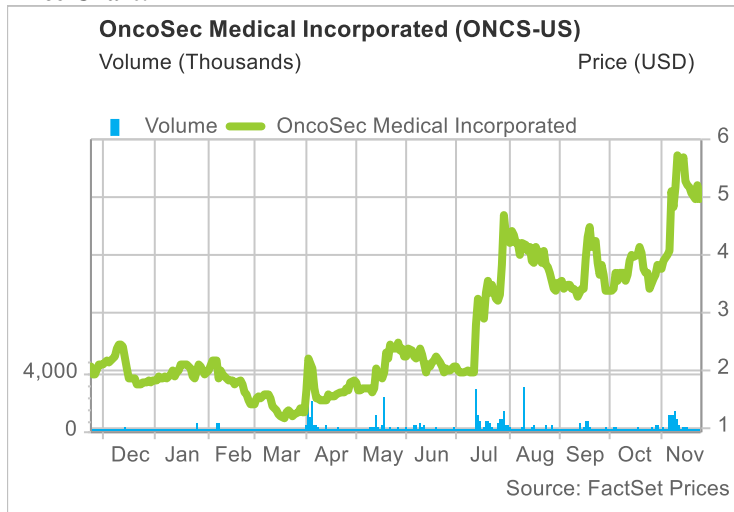
**Exhibit 5. Income Statement**

Oncosec Medical Inc. Income Statement (\$000)	7.2019	Aug-Oct	Nov-Jan.	Feb-Apr.	May-July	7.2020	Aug-Oct	Nov-Jan.	Feb-Apr.	May-July	7.2021	7.2022	7.2023	7.2024	7.2025	7.2026	7.2027	7.2028	7.2029	7.2030
Oncosec Medical - YE Jul 31	2019A	1Q20A	2Q20A	3Q20A	4Q20A	2020A	1Q21E	2Q21E	3Q21E	4Q21E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
<b>Revenue (\$000)</b>																				
Checkpoint Resistant Metastatic Melanoma - Stage III/IV	-	-	-	-	-	-	-	-	-	-	-	-	16,102	25,126	34,851	45,320	56,575	68,664	81,636	95,542
Other Melanoma's	-	-	-	-	-	-	-	-	-	-	-	-	-	37,390	194,482	323,712	505,136	656,866	728,893	805,660
Squamous cell carcinoma head and neck (SCCHN) cancer	-	-	-	-	-	-	-	-	-	-	-	-	35,259	73,360	114,474	119,087	123,887	128,879	134,073	139,476
Triple Negative Breast Cancer (TNBC)	-	-	-	-	-	-	-	-	-	-	-	-	-	9,335	19,422	30,306	42,037	54,664	68,240	82,822
<b>Total Product Sales</b>	-	-	-	-	-	-	-	-	-	-	-	-	51,361	145,210	363,229	518,425	727,635	909,074	1,012,843	1,123,500
Milestones																				
<b>Total Revenues</b>	-	-	-	-	-	-	-	-	-	-	-	-	51,361	145,210	363,229	518,425	727,635	909,074	1,012,843	1,123,500
<b>Expenses</b>																				
Cost of Goods Sold	-	-	-	-	-	-	-	-	-	-	-	-	4,109	10,165	25,426	36,290	50,934	63,635	70,899	78,645
COGS%							10%	10%	10%	10%	10%	9%	8%	7%	7%	7%	7%	7%	7%	7%
General and Administrative	11,971	4,418	7,468	3,732	2,694	18,312	4,250	4,250	4,250	4,250	17,000	20,000	22,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000
G & A %																				
Research and Development	18,445	5,420	6,055	6,103	7,518	25,097	3,500	3,500	3,500	3,500	14,000	14,500	15,000	15,300	15,606	15,918	16,236	16,561	16,892	17,230
R&D %																				
<b>Total expenses</b>	<b>30,417</b>	<b>9,838</b>	<b>13,524</b>	<b>9,835</b>	<b>10,212</b>	<b>43,409</b>	<b>7,750</b>	<b>7,750</b>	<b>7,750</b>	<b>7,750</b>	<b>31,000</b>	<b>34,500</b>	<b>41,109</b>	<b>49,465</b>	<b>65,032</b>	<b>76,208</b>	<b>91,171</b>	<b>104,196</b>	<b>111,791</b>	<b>119,875</b>
Oper. Inc. (Loss)	(30,417)	(9,838)	(13,524)	(9,835)	(10,212)	(43,409)	(7,750)	(7,750)	(7,750)	(7,750)	(31,000)	(34,500)	10,252	95,745	298,197	442,217	636,464	804,877	901,052	1,003,625
Other income, net	440	82	47	55	1	185	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest expense	(4)	(1)	(0)	-	(4)	(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Loss on disposal of property and equipment	(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Foreign currency exchange gain (loss), net	(281)	(4)	(155)	(108)	370	103	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Realized loss on sale of securities, net	(12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Warrant inducement expense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Loss before income taxes</b>	<b>(30,275)</b>	<b>(9,760)</b>	<b>(13,632)</b>	<b>(9,888)</b>	<b>(9,846)</b>	<b>(43,126)</b>	<b>(7,750)</b>	<b>(7,750)</b>	<b>(7,750)</b>	<b>(7,750)</b>	<b>(31,000)</b>	<b>(34,500)</b>	<b>10,252</b>	<b>95,745</b>	<b>298,197</b>	<b>442,217</b>	<b>636,464</b>	<b>804,877</b>	<b>901,052</b>	<b>1,003,625</b>
Provision for income taxes	(1)	-	(2)	-	875	872	-	-	-	-	-	-	1,025	19,149	74,549	132,665	222,762	289,756	333,389	381,377
Tax Rate							0%	0%	0%	0%	0%	0%	10%	20%	25%	30%	35%	36%	37%	38%
<b>GAAP Net Income (loss)</b>	<b>(30,276)</b>	<b>(9,760)</b>	<b>(13,634)</b>	<b>(9,888)</b>	<b>(8,971)</b>	<b>(42,253)</b>	<b>(7,750)</b>	<b>(7,750)</b>	<b>(7,750)</b>	<b>(7,750)</b>	<b>(31,000)</b>	<b>(34,500)</b>	<b>9,227</b>	<b>76,596</b>	<b>223,648</b>	<b>309,552</b>	<b>413,701</b>	<b>515,121</b>	<b>567,662</b>	<b>622,247</b>
<i>Non-GAAP, Adj.</i>																				
<b>Net Margin</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>0.18</b>	<b>0.53</b>	<b>0.62</b>	<b>0.60</b>	<b>0.57</b>	<b>0.57</b>	<b>0.56</b>	<b>0.55</b>
<b>GAAP-EPS</b>	<b>(4.29)</b>	<b>(0.92)</b>	<b>(1.27)</b>	<b>(0.45)</b>	<b>0.08</b>	<b>(2.56)</b>	<b>(0.28)</b>	<b>(0.28)</b>	<b>(0.28)</b>	<b>(0.20)</b>	<b>(1.04)</b>	<b>(0.76)</b>	<b>0.20</b>	<b>1.66</b>	<b>4.84</b>	<b>6.67</b>	<b>8.88</b>	<b>11.02</b>	<b>12.09</b>	<b>13.20</b>
Non GAAP EPS (dil)	(4.29)	(0.92)	(1.27)	(0.45)	0.08	(2.56)	(0.28)	(0.28)	(0.28)	(0.20)	(1.04)	(0.76)	0.20	1.66	4.84	6.67	8.88	11.02	12.09	13.20
Wgtd Avg Shrs (Bas) - '000s	7,053	10,649	10,712	21,953	22,825	16,535	27,456	27,483	27,511	29,538	27,997	35,621	35,764	35,907	36,051	36,195	36,340	36,486	36,632	36,779
Wgtd Avg Shrs (Dil) - '000s	7,053	10,649	10,712	21,953	22,825	16,535	27,456	27,483	27,511	29,538	27,997	45,646	45,829	46,013	46,197	46,382	46,568	46,754	46,942	47,130

Source: Company reports and Dawson James estimates

## **Important Disclosures:**

### **Price Chart:**



### **Price target and ratings changes over the past three years:**

Initiated – Buy – July 27, 2020 – Price Target \$10.00  
 Update – Buy – August 27, 2020 – Price Target \$10.00  
 Update – Buy – November 9, 2020 - Price Target \$10.00  
 Update – Buy – November 25, 2020 - Price Target \$10.00

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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;
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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)	21	78%	4	19%
Market Perform (Neutral)	6	22%	1	17%
Market Underperform (Sell)	0	0%	0	0%
<b>Total</b>	<b>27</b>	<b>100%</b>	<b>5</b>	<b>19%</b>

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