

IMV, Inc. (Nasdaq/IMV)

BUY
Price Target US \$15.00

IMV is an immuno-oncology (IO) company with multiple Phase 2 trials ongoing with other IO products including PD-1s with multiple data read outs next year.

December 14, 2018

Carol Ann Werther

Life Sciences Research Analyst

646-753-5230

cwerther@dawsonjames.com

DPX-Survivac Demonstrates Duration of Response (DOR) Rates as Long as 15 months to over 2 years; Raising Price Target to US \$15.00 from \$11.50.

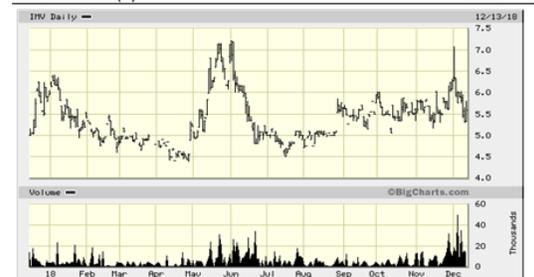
- IMV announced the clinical marker associated with DPX-Survivac response is Baseline Tumor Burden (BTB), a measure of tumor size. Thirty-seven and a half percent (12/32) of evaluable study subjects began treatment with a non-bulky disease defined as BTB < 5 cm. Seventy-three percent (8/11) of tumor regressions and 80% of clinical responses (4/5) observed in subset of patients with BTB < 5 cm. The responders showing prolonged duration of clinical benefits reaching up to more than two years. This is much longer than other immunotherapies in a similar refractory ovarian cancer patients.
- One hundred percent of durable clinical responses were correlated with T cell infiltration, validating the mechanism of action of DPX-Survivac.
- The two groups, the 100mg epacadostat and the 300mg epacadostat were balanced. And once again there were no serious adverse events and the safety profile had few grade 3 or 4 events. Recall, that the Phase 2 trial now continues with DPX-Survivac as monotherapy.
- Next Steps include: 1) FDA meeting next week in December to discuss potential accelerated path to registration and breakthrough designation. We expect an update following the release of the minutes which takes 30 days. With the BTB clinical marker, the added mechanism of action (MOA) information, the safety profile and the long DOR, we are hopeful that the FDA may allow for treatment of some patients at an earlier stage in development in 2019; 2) Expand clinical data with ongoing Phase 2 monotherapy study; 3) data from the combinations with Keytruda and other checkpoints which will also evaluate earlier lines of treatments as monotherapy and/or in combination with SOC; and 4) collaborate with potential partners beyond checkpoint inhibitor players.

Current Price \$5.65
Price Target \$15.00

Estimates	F2017A	F2018E	F2019E
Revenue (C\$000s)	\$189	\$476	\$15,000
1Q March	0	96 A	3,750
2Q June	0	129 A	3,750
3Q September	0	125 A	3,750
4Q December	189	126	3,750
EPS (C\$)	(\$0.32)	(\$0.47) E	(\$0.04) E
1Q March	(0.06)	(0.07) A	(0.01)
2Q June	(0.12)	(0.12) A	(0.01)
3Q September	(0.07)	(0.14) A	(0.01)
4Q December	(0.22)	(0.14)	(0.01)
P/E (x)	N/A	N/A	N/A

EBITDA/Share	NA	NA	NA
EV/EBITDA (x)	NA	NA	NA

Stock Data		
52-Week Range	\$4.50 -	\$7.21
Shares Outstanding (mil.)		44.9
Market Capitalization (mil.)		\$241.7
Enterprise Value (mil.)		\$232.2
Cash & marketable securities (mil.)		\$15.2
Debt	\$	6.70
Book Value/Share	\$	0.19
Price/Book		29.8 X
Average Trading Volume (3-month) (K)		4.6
Insider Ownership		18.0%
Institutional Ownership		22.6%
Short interest(K)		10.6


Price target and ratings changes over the past 3 years:

Initiation - June 1, 2018 - Buy - Price Target \$10.00.

Note - November 26, 2018 - Buy - Price Target \$11.50.

Note - December 14, 2018 - Buy - Price Target \$15.00.

- Rating and Valuation.** We reiterate our Buy rating. We are raising our price target to US\$15.00, up from US\$11.50 by our price target based on an average of a 25x multiple of 2026 EPS of C\$4.54 EPS discounted back at 40% and a 12.0x multiple of 2026 adjusted royalties of C\$602M discounted back at 40%. We used a US\$:C\$ exchange of 1:1.34. We have forecasted a 7-year DPX-Survivac revenue rate of 25% annually and a 5-year EPS compounded growth of 25%. In our opinion, there is downside protection for investors since we excluded ROW sales, approval in other indications, and any pipeline value.
- Risks include:** 1) successful clinical trial results; 2) regulatory approval; 3) the need for additional capital; 4) competition; 5) reimbursement; 6) IP; 7) share illiquidity; and 8) formulation/manufacturing.

Additional Details:

1) There was prolonged tumor control observed in 3 of 4 patients in the subpopulation. Three of the four had duration between 15 and 25 months. This is longer than the patients' previous chemotherapy treatment. One patient was taken off study as a non-target lesion grew. Epacadostat did not have activity in these refractory ovarian patients as monotherapy. Keytruda had an ORR of 8% and DOR on average of 8.2 months with a range of 3.3 to 18.6 months. Pfizer's (PFE – not rated) and Merck's KGaA (MKGAF – not rated) Bavencio just missed its primary endpoint in a pivotal Ovarian cancer trial: ORR was 13.3% in combo with liposomal doxorubicin, and 3.7% Bavencio alone.

Exhibit 1. Progression Free Survival (PFS)

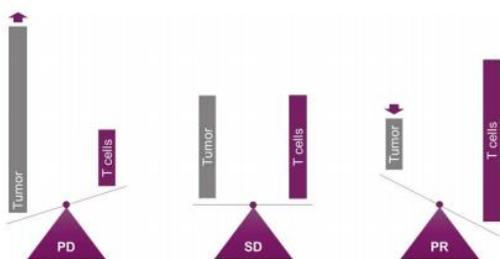
	Previous Chemotherapy treatment Best response and PFS	P1b study Best response and PFS	Improvement over previous treatment
601	PR – 4.6 months (Topotecan)	PR - 22 months	+ 17.4 months
606	CR – 15.8 months (Platinum)	PR - 25 months ongoing	+ 9.2 months ongoing
614	SD - 10 months (Platinum)	PR - 16 months ongoing	+ 6 months ongoing
611	CR – 33 months (Platinum)	PR – 5 months (non-target lesion – PI decision)	none

Source: Company reports.

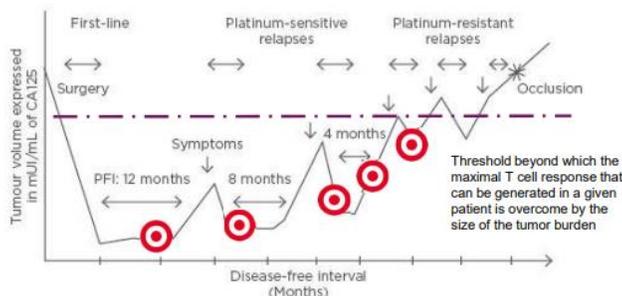
2) One of the most interesting part of the presentation was the relationship between BTB and clinical response. The patients with < 5 cm of tumor is a different disease than patients with 30 cm of tumor burden. There is a limited amount of T-cell stimulation that can be achieved, and it makes sense that the tumor size and number of T-cells ratio is a delicate balance to achieve the best possible outcome. In the trial, the BTB ranged from 1.5 to 30 cm, with average 9 cm. There are important target windows where immunotherapy is most effective which is clearly earlier in the time course of refractory ovarian cancer.

Exhibit 2. Balancing Tumor Burden and T Cells in Ovarian Cancer

Balance between tumor and T cells determine outcome



Target windows of treatment where the balance between T cells and tumor burden is optimal



Ovarian cancer, Giornelli, EMJ 2017

Source: Company reports.

3) Survivin-specific T cells can be detected in the circulation of all evaluable subjects. Most evaluable subjects (20 out of 27 tested so far; 74%) generated positive responses (≥ 62 SFU). The high systemic survivin-specific T cell responses and evidence of survivin-specific T cells tumor infiltration correlated with clinical benefits. The 100 mg cohort responded similarly to the previous Phase 1 and 1b monotherapy study in 56 patients. Lower T cell responses and peak observed in preliminary analysis of the 300 mg dose cohort.

Exhibit 3. Systemic Survivin-Specific T Cells

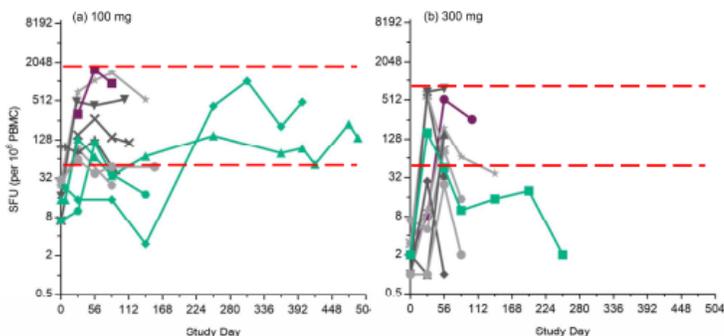


Figure 1: Antigen-specific T cells were detected in PBMCs of all evaluable subjects by *ex vivo* IFN- γ ELISPOT

Source: Company reports.

	100mg	300mg
Positive responses	100%	56%
Peak responses	62-1505 SFU	82-764 SFU

4) 100% of durable clinical responses in the subpopulation with non-bulky disease (BTB <5cm). There were a higher number of responses seen in 100 mg versus 300 mg epacadostat. In our opinion, it appears that epacadostat may have hindered DPX-Survivac’s efficacy in the 300mg dose. In addition, due to fatigue there was a 46% drop out rate. Eight patients were still on treatment at the time of data cut-off.

Exhibit 4. Best on study clinical response by RECIST v1.1 for evaluable study subject (baseline tumor burden + sum of target lesions).

Efficacy Parameter	Total target lesion size < 5 cm			Total target lesion size ≥ 5 cm		
	100 mg (N=5)	300 mg (N=7)	All (N=12) N (%)	100 mg (N=5)	300 mg (N=15)	All (N=20) N (%)
Regression	5 (100)	3 (42.9)	8 (66.7)	0 (0)	3 (20.0)	3 (15.0)
PR ⁽¹⁾	3 (60.0)	1 (14.3)	4 (33.3)	0 (0)	1 (6.7)	1 (5.0)
SD ⁽²⁾	2 (40.0)	4 (57.1)	6 (50.0)	2 (40.0)	10 (66.7)	12 (60.0)
DCR ⁽³⁾	5 (100)	5 (71.4)	10 (83.3)	2 (40.0)	11 (73.3)	13 (65.0)

⁽¹⁾ Partial Response (PR) is defined as ≥30% decrease in sum of target lesions

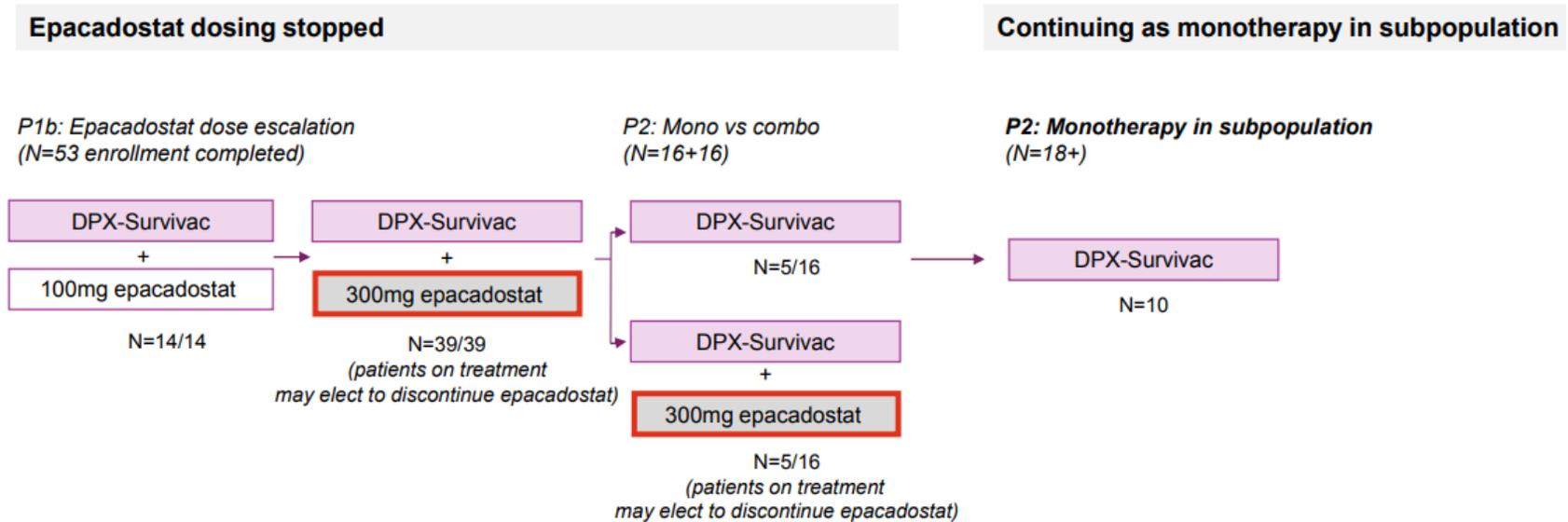
⁽²⁾ Stable Disease (SD) is defined as < 30% decrease and ≤ 20% increase in sum of target tumor lesions

⁽³⁾ Disease Control Rate (DCR) refers to the total number of patients achieving complete response, partial response, and stable disease.

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Source: Company reports.

Exhibit 5. DPX-Survivac Phase 1/2 Trial Design



Source: Company reports.

Exhibit 6. Historical and Projected Income Statement

IMV, Inc.
Income Statement
(in C\$000 except per share values)

Carol Werther
Dawson James Securities
(646) 753-5230, cwerther@dawsonjames.com

	2016	2017	Mar Q1:18A	Jun Q2:18A	Sep Q3:18A	Dec Q4:18E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
DPX-Survivac Ovarian Sales -Risk Adj.																			
US sales	-	-	-	-	-	-	-	-	-	71,041	221,734	384,487	560,029	749,126	865,990	991,074	1,124,851	1,267,819	1,420,504
EU sales	-	-	-	-	-	-	-	-	-	-	30,434	124,171	253,309	387,563	527,086	672,034	754,023	839,022	927,119
DPX-Survivac -DLBCL Sales -Risk Adj.																			
US sales	-	-	-	-	-	-	-	-	-	-	-	141,076	440,549	764,287	1,113,766	1,490,540	1,723,861	1,973,750	2,241,165
EU sales	-	-	-	-	-	-	-	-	-	-	-	-	120,935	308,536	503,773	739,005	983,653	1,171,078	1,365,749
WW DPX-Survivac Sales	-	-	-	-	-	-	-	-	-	71,041	252,168	649,735	1,374,822	2,209,512	3,010,615	3,892,654	4,586,388	5,251,669	5,954,536
Royalty Revenue				17	6	5	28	15,000	15,000	14,208	50,434	129,947	274,964	441,902	602,123	778,531	917,278	1,050,334	1,190,907
Licensing/Milestone Revenue																			
Other/Interest revenue	\$ 189	\$ 96	\$ 112	\$ 119	\$ 121	\$ 448	\$ 509	\$ 525	\$ 650	\$ 750	\$ 900	\$ 1,000	\$ 1,250	\$ 1,500	\$ 1,750	\$ 2,000	\$ 2,250	\$ 2,500	
Total Revenue (000s)	\$ 130	\$ 189	\$ 96	\$ 129	\$ 125	\$ 126	\$ 476	\$ 15,509	\$ 15,525	\$ 29,858	\$ 66,184	\$ 145,847	\$ 290,964	\$ 458,152	\$ 618,623	\$ 795,281	\$ 919,278	\$1,052,584	\$1,193,407
Royalty Payments (Merck KGaA)	-	-	-	-	-	-	-	\$ -	\$ -	\$ 3,552	\$ 12,608	\$ 32,487	\$ 68,741	\$ 110,476	\$ 150,531	\$ 194,633	\$ 229,319	\$ 262,583	\$ 297,727
Gross Profit	130	189	96	129	125	126	476	\$ 15,509	\$ 15,525	\$ 26,306	\$ 53,575	\$ 113,360	\$ 222,223	\$ 347,677	\$ 468,092	\$ 600,648	\$ 689,958	\$ 790,000	\$ 895,680
Operating Expenses																			
R&D	(3,481)	(4,827)	(1,882)	(2,605)	(3,897)	(3,750)	\$ (12,134)	\$ (9,800)	\$ (10,780)	\$ (11,858)	\$ (13,044)	\$ (14,348)	\$ (15,783)	\$ (17,361)	\$ (19,097)	\$ (21,007)	\$ (23,108)	\$ (25,419)	\$ (27,961)
SG&A	(3,165)	(5,203)	(921)	(2,046)	(1,923)	(1,975)	\$ (6,865)	\$ (5,050)	\$ (5,555)	\$ (6,111)	\$ (6,722)	\$ (7,394)	\$ (8,133)	\$ (8,946)	\$ (9,841)	\$ (10,825)	\$ (11,908)	\$ (13,098)	\$ (14,408)
Business develop. And IR	(678)	(1,221)	(369)	(594)	(426)	(400)	\$ (1,789)	\$ (1,500)	\$ (1,650)	\$ (1,815)	\$ (1,997)	\$ (2,196)	\$ (2,416)	\$ (2,657)	\$ (2,923)	\$ (3,215)	\$ (3,537)	\$ (3,891)	\$ (4,280)
Impairment loss	(195)	-	-	-	404	-	\$ 404	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Accreted interest & adjustments	(1,506)	(966)	(266)	(80)	(270)	(250)	\$ (866)	\$ (1,040)	\$ (1,500)	\$ (1,600)	\$ (1,700)	\$ (1,800)	\$ (2,000)	\$ (2,200)	\$ (2,420)	\$ (2,662)	\$ (2,928)	\$ (3,221)	\$ (3,543)
Total Operating Expenses	(9,026)	(12,218)	(3,438)	(5,325)	(6,112)	(6,375)	(21,250)	(17,390)	(19,485)	(21,384)	(23,462)	(25,738)	(28,332)	(31,165)	(34,282)	(37,710)	(41,481)	(45,629)	(50,192)
Operating Income	(8,896)	(12,029)	(3,342)	(5,196)	(5,987)	(6,249)	(20,774)	(1,881)	(3,960)	4,923	30,113	87,622	193,891	316,512	433,811	562,938	648,478	744,372	845,489
Pre-tax Income	(8,896)	(12,029)	(3,342)	(5,196)	(5,987)	(6,249)	(20,774)	(1,881)	(3,960)	4,923	30,113	87,622	193,891	316,512	433,811	562,938	648,478	744,372	845,489
Taxes	-	-	-	-	-	-	\$ -	\$ -	\$ -	1,526	9,335	27,163	60,106	98,119	134,481	174,511	201,028	230,755	262,102
<i>Tax rate 31%</i>										<i>31%</i>	<i>31%</i>	<i>31%</i>	<i>31%</i>	<i>31%</i>	<i>31%</i>	<i>31%</i>	<i>31%</i>	<i>31%</i>	<i>31%</i>
Net Income	(8,896)	12,029	(3,342)	(5,196)	(5,987)	(6,249)	\$ (20,774)	\$ (1,881)	\$ (3,960)	\$ 3,397	\$ 20,778	\$ 60,459	\$ 133,785	\$ 218,393	\$ 299,329	\$ 388,427	\$ 447,450	\$ 513,616	\$ 583,387
GAAP EPS - basic and diluted	\$ (0.29)	\$ (0.32)	\$ (0.07)	\$ (0.12)	\$ (0.14)	\$ (0.14)	\$ (0.47)	\$ (0.04)	\$ (0.08)	\$ 0.06	\$ 0.34	\$ 0.97	\$ 2.11	\$ 3.38	\$ 4.54	\$ 5.78	\$ 6.52	\$ 7.34	\$ 8.18
Basic Shares	31,645	38,692	41,595	43,002	43,246	43,332	42,794	47,561	51,561	52,593	56,644	57,777	58,933	60,112	61,314	62,540	63,791	65,067	66,368
Diluted Shares	31,645	38,692	45,674	45,765	45,857	45,949	45,811	51,653	55,653	56,766	60,901	62,119	63,361	64,629	65,921	67,240	68,585	69,956	71,355

Source: Company reports, Factset, Dawson James Securities research.

Source: Company reports and Dawson James Securities Research.

Exhibit 7 Historical Balance Sheet

IMV Inc.
Balance Sheet
(in C\$000s except per share values)

Carol Werther

Dawson James Securities

 (646) 753-5230, cwerther@dawsonjames.com

	Dec Q4:16	Mar Q1:17	Jun Q2:17	Sep Q3:17	Dec Q4:17	Mar Q1:18	Jun Q2:18	Sep Q3:18
Current Assets								
Cash and cash equivalents	13.5	11.8	19.3	16.6	14.9	24.0	25.1	20.3
Amounts receivable	0.3	0.3	0.3	0.3	0.3	0.4	0.9	0.7
Prepaid expenses and other current assets	0.5	0.5	0.7	0.7	0.8	1.1	1.7	1.4
Investment Tax credits receivable	0.5	0.7	0.6	0.7	0.5	0.7	0.5	0.9
Total current assets	14.8	13.2	20.9	18.3	16.5	26.2	28.3	23.3
Property and equipment, net	0.3	0.3	0.6	0.6	0.6	0.7	2.2	2.9
Intangible asset	-	-	-	-	-	-	-	-
Total Assets	15.1	13.5	21.5	18.9	17.0	26.9	30.5	26.2
Current liabilities								
Accounts payable	1.7	1.2	2.0	1.5	2.8	2.1	4.2	4.6
Amounts due to directors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deferred revenue	-	-	-	-	-	-	-	-
Current portion of long-term debt	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Current portion of lease obligation	-	-	-	-	-	-	0	0
Total current liabilities	1.8	1.3	2.1	1.5	2.8	2.2	4.4	4.8
Lease Obligation							1.4	1.3
Deferred share units	0.2	0.5	0.5	0.6	1.4	1.3	1.3	1.6
Long-term debt	6.1	6.3	6.6	6.4	6.5	6.7	7.0	7.4
Total long-term liabilities	6.3	6.8	7.1	7.0	7.8	8.0	9.6	10.3
Total Liabilities	8.1	8.1	9.2	8.5	10.7	10.2	14.0	15.1
Stockholders' equity:								
Common stock	7.0	5.4	12.3	10.4	6.3	16.7	16.6	11.1
Total stockholders' equity (deficit)	7.0	5.4	12.3	10.4	6.3	16.7	16.6	11.1
Total liabilities and stockholders' equity	15.1	13.5	21.5	18.9	17.0	26.8	30.5	26.2

Source: Company Reports, Factset.

Important Disclosures:



Source: Factset.

Price target and ratings changes over the past 3 years:

- Initiated – Buy – June 18, 2018 – Price Target \$10.00
- Note – Buy – November 26, 2018 – Price Target \$11.50
- Note – Buy – December 14, 2018 – 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;
- 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 in the last twelve months.

Ratings Distribution	Company Coverage		Investment Banking	
	# of Companies	% of Total	# of Companies	% of Totals
Market Outperform (Buy)	37	88%	10	27%
Market Perform (Neutral)	5	12%	0	0%
Market Underperform (Sell)	0	0%	0	0%
Total	42	100%	10	24%

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