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Industry Observations – December 31, 2018

Telecommunication Services Industry

Select Telecommunication Services Public Company Industry Data As of December 31, 2018

(USD in millions, except per share data)

| Company Name | Ticker | Market Data | | | | | LTM Operating Data | | | Forward Estimates | |
|--|--------|-------------------|-------------------|--------------|------------------|----------------------|--------------------|--------------|-------------|--------------------------|-------------------------|
| | | Price at 12/31/18 | % of 52 Week High | Equity Value | Enterprise Value | Debt / Total Capital | Total Assets | LTM Revenue | LTM EBITDA | CY 2018 Revenue Estimate | CY 2018 EBITDA Estimate |
| Telecommunication Services | | | | | | | | | | | |
| Globakstar, Inc. | GSAT | \$0.64 | 47.4% | \$919.28 | \$1,337.12 | 55.8% | \$1,057.82 | \$127.59 | \$23.39 | \$132.68 | \$41.37 |
| ORBCOMM Inc. | ORBC | \$8.26 | 69.1% | \$651.60 | \$900.61 | 48.7% | \$594.22 | \$285.78 | \$31.70 | \$314.82 | \$78.61 |
| Vonage Holdings Corp. | VG | \$8.73 | 59.3% | \$2,091.54 | \$2,508.87 | 28.1% | \$909.71 | \$1,029.00 | \$148.57 | \$1,170.95 | \$170.16 |
| Cogent Communications Holdings, Inc. | CCOI | \$45.21 | 78.4% | \$2,039.86 | \$2,710.57 | 118.9% | \$757.32 | \$501.17 | \$163.20 | \$556.83 | \$206.05 |
| Boingo Wireless, Inc. | WIFI | \$20.57 | 57.2% | \$874.45 | \$1,071.95 | 20.3% | \$438.70 | \$240.36 | \$77.53 | \$293.85 | \$105.91 |
| Fusion Connect, Inc. | FSNN | \$1.68 | 28.7% | \$137.95 | \$763.69 | 0.0% | \$0.00 | \$0.00 | \$0.00 | \$579.03 | \$143.87 |
| Zayo Group Holdings, Inc. | ZAYO | \$22.84 | 57.6% | \$5,403.10 | \$11,893.10 | 83.7% | \$9,137.40 | \$2,588.00 | \$1,184.60 | \$2,578.41 | \$1,302.55 |
| Iridium Communications Inc. | IRDM | \$18.45 | 75.8% | \$2,054.20 | \$3,950.51 | 56.1% | \$4,106.69 | \$506.31 | \$244.56 | \$541.31 | \$320.70 |
| ATN International, Inc. | ATNI | \$71.53 | 80.6% | \$1,141.62 | \$1,224.20 | 10.0% | \$1,184.05 | \$451.10 | \$132.26 | \$441.40 | \$117.03 |
| Shenandoah Telecommunications | SHEN | \$44.25 | 86.1% | \$2,192.97 | \$3,121.06 | 63.6% | \$1,469.83 | \$622.44 | \$261.09 | \$672.30 | \$317.54 |
| Cincinnati Bell Inc. | CBB | \$7.78 | 36.7% | \$390.29 | \$2,492.16 | 101.8% | \$0.00 | \$1,378.20 | \$353.60 | \$1,544.98 | \$406.09 |
| T-Mobile US, Inc. | TMUS | \$63.61 | 89.7% | \$53,965.54 | \$89,288.61 | 55.3% | \$72,468.00 | \$43,239.00 | \$11,833.00 | \$45,663.55 | \$12,967.68 |
| United States Cellular Corporation | USM | \$51.97 | 88.9% | \$4,461.73 | \$5,652.16 | 28.8% | \$7,228.00 | \$3,944.00 | \$772.00 | \$4,031.10 | \$790.71 |
| Verizon Communications Inc. | VZ | \$56.22 | 91.3% | \$232,301.89 | \$335,134.96 | 67.4% | \$264,829.00 | \$130,863.00 | \$44,272.00 | \$132,280.96 | \$48,598.59 |
| AT&T Inc. | T | \$28.54 | 72.6% | \$207,714.12 | \$398,026.78 | 47.7% | \$531,864.00 | \$170,756.00 | \$56,326.00 | \$184,179.44 | \$60,613.22 |
| CenturyLink, Inc. | CTL | \$15.15 | 62.6% | \$16,371.99 | \$49,383.83 | 64.5% | \$70,242.00 | \$23,443.00 | \$8,416.00 | \$22,744.30 | \$9,071.27 |
| Consolidated Communications Holdings, CNSL | | \$9.88 | 69.4% | \$703.96 | \$3,046.96 | 82.7% | \$3,596.02 | \$1,410.68 | \$465.23 | \$1,344.27 | \$515.53 |
| Windstream Holdings, Inc. | WIN | \$2.09 | 21.7% | \$89.74 | \$10,527.38 | 115.0% | \$10,710.10 | \$5,817.20 | \$1,928.10 | \$5,440.53 | \$1,829.69 |
| Frontier Communications Corporation | FTR | \$2.38 | 20.4% | \$251.21 | \$17,419.15 | 90.0% | \$24,033.00 | \$8,704.00 | \$3,475.00 | \$8,176.79 | \$3,362.68 |
| Sprint Corporation | S | \$5.82 | 87.9% | \$23,731.50 | \$58,324.00 | 58.5% | \$86,404.00 | \$33,242.00 | \$13,131.00 | \$33,305.18 | \$12,724.81 |
| Telephone and Data Systems, Inc. | TDS | \$32.54 | 89.1% | \$3,674.21 | \$6,101.78 | 31.7% | \$9,719.00 | \$5,085.00 | \$1,073.00 | \$5,136.21 | \$1,247.33 |
| Trilogy International Partners Inc. | TRL | \$1.20 | 25.9% | \$64.93 | \$589.38 | 106.7% | \$717.67 | \$791.59 | \$128.27 | \$771.74 | \$136.13 |
| IDT Corporation | IDT | \$6.19 | 49.2% | \$146.82 | \$94.32 | 0.0% | \$399.85 | \$1,516.26 | \$22.07 | \$0.00 | \$0.00 |

Notes: LTM (latest twelve months); Enterprise Value (market capitalization less total cash and short-term investments plus short-term borrowings and total long-term debt);

EBITDA (earnings before interest, taxes, depreciation and amortization)

Source: Capital IQ

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Publicly available information utilized in this publication has been obtained from sources deemed to be reliable. Houlihan does not guarantee the accuracy or completeness of the information provided within this publication. The material presented reflects information known to the authors at the time this publication was written and this information is subject to change.

Select Telecommunication Services Public Company Valuation Metrics As of December 31, 2018

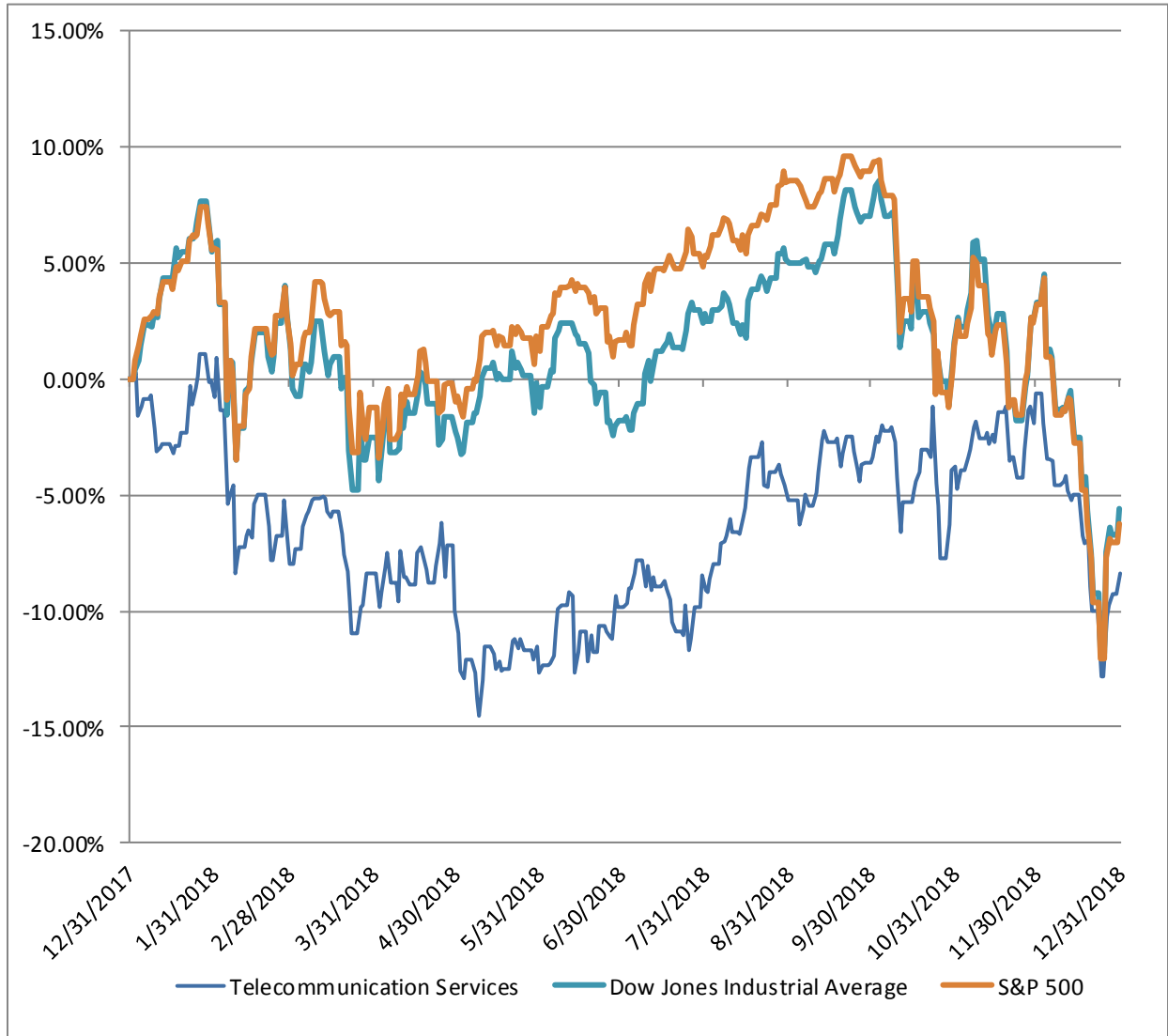
(USD in millions, except per share data)

| Company Name | Ticker | LTM Operating Statistics | | | | | | Trading Multiples | | | |
|--------------------------------------|---------------|--------------------------|------------------------|-------------------------|-------------------|------------------|------------------|------------------------|----------------------------|-----------------------|---------------------------|
| | | Return On Assets | Return On Equity | Return On Capital | Revenue Growth | EBITDA Growth | EBITDA Margin | TEV/ LTM Revenue | TEV/ CY 2018 Revenue | TEV/ LTM EBITDA | TEV/ CY 2018 EBITDA |
| Telecommunication Services | | | | | | | | | | | |
| Globalstar, Inc. | GSAT | -3.6% | 22.9% | -4.8% | 18.6% | 2.1% | 18.3% | 10.5x | 10.1x | 57.2x | 32.3x |
| ORBCOMM Inc. | ORBC | -1.2% | -10.9% | -1.4% | 27.0% | -14.1% | 11.1% | 3.2x | 2.9x | 28.4x | 11.5x |
| Vonage Holdings Corp. | VG | 5.3% | -2.4% | 6.4% | 3.4% | 43.1% | 14.4% | 2.4x | 2.1x | 16.9x | 14.7x |
| Cogent Communications Holdings, Inc. | CCOI | 7.0% | N/A | 8.0% | 7.8% | 12.0% | 32.6% | 5.4x | 4.9x | 16.6x | 13.2x |
| Boingo Wireless, Inc. | WIFI | -0.4% | -1.1% | -1.2% | 25.2% | 68.8% | 32.3% | 4.5x | 3.6x | 13.8x | 10.1x |
| Fusion Connect, Inc. | FSNN | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | N/A | 1.3x | N/A | 5.3x |
| Zayo Group Holdings, Inc. | ZAYO | 3.5% | 8.7% | 4.4% | 4.2% | 4.2% | 45.8% | 4.6x | 4.6x | 10.0x | 9.1x |
| Iridium Communications Inc. | IRDM | 1.0% | 8.9% | 1.2% | 15.1% | 8.6% | 48.3% | 7.8x | 7.3x | 16.2x | 12.3x |
| ATN International, Inc. Shenandoah | ATNI | 2.5% | 9.5% | 3.1% | -10.1% | -12.5% | 29.3% | 2.7x | 2.8x | 9.3x | 10.5x |
| Telecommunications | SHEN | 4.0% | 24.8% | 4.9% | 1.3% | 17.7% | 41.9% | 5.0x | 4.6x | 12.0x | 9.8x |
| Cincinnati Bell Inc. | CBB | 0.0% | N/A | 3.6% | 7.0% | 25.3% | 25.7% | 1.8x | 1.6x | 7.0x | 6.1x |
| T-Mobile US, Inc. | TMUS | 4.7% | 12.2% | 6.2% | 6.5% | 9.7% | 27.4% | 2.1x | 2.0x | 7.5x | 6.9x |
| United States Cellular Corporation | NYSE:USM | 1.2% | 11.2% | 1.6% | 2.0% | 15.7% | 19.6% | 1.4x | 1.4x | 7.3x | 7.1x |
| Verizon Communications Inc. | NYSE:VZ | 6.4% | 32.3% | 10.2% | 3.8% | -5.9% | 33.8% | 2.6x | 2.5x | 7.6x | 6.9x |
| AT&T Inc. | NYSE:T | 3.6% | 11.9% | 5.1% | 6.4% | 24.0% | 33.0% | 2.3x | 2.2x | 7.1x | 6.6x |
| CenturyLink, Inc. Consolidated | NYSE:CTL | 2.8% | -8.0% | 3.5% | 32.8% | 39.3% | 35.9% | 2.1x | 2.2x | 5.9x | 5.4x |
| Communications Holdings, Inc. | NasdaqGS:CNSL | 0.5% | 12.8% | 0.7% | 60.5% | 49.4% | 33.0% | 2.2x | 2.3x | 6.5x | 5.9x |
| Windstream Holdings, Inc. | NasdaqGS:WIN | 2.1% | N/A | 2.4% | 2.7% | 6.4% | 33.1% | 1.8x | 1.9x | 5.5x | 5.8x |
| Frontier Communications Corporation | NasdaqGS:FTR | 3.7% | -54.3% | 4.6% | -6.6% | -4.0% | 39.9% | 2.0x | 2.1x | 5.0x | 5.2x |
| | Mean | 2.3% | 4.9% | 3.1% | 10.9% | 15.3% | 29.2% | 3.6x | 3.3x | 13.3x | 9.7x |
| | Median | 2.5% | 9.2% | 3.5% | 6.4% | 9.7% | 32.6% | 2.5x | 2.3x | 8.4x | 7.1x |

Notes: LTM (latest twelve months); NTM (next twelve months); EBITDA (earnings before interest, taxes, depreciation and amortization); TEV (total enterprise value)

Source: Capital IQ

Telecommunication Services Public Company LTM Equity Performance
As of December 31, 2018



Note: The indices are derived from the equity performance of the previously listed companies. Source: Capital IQ

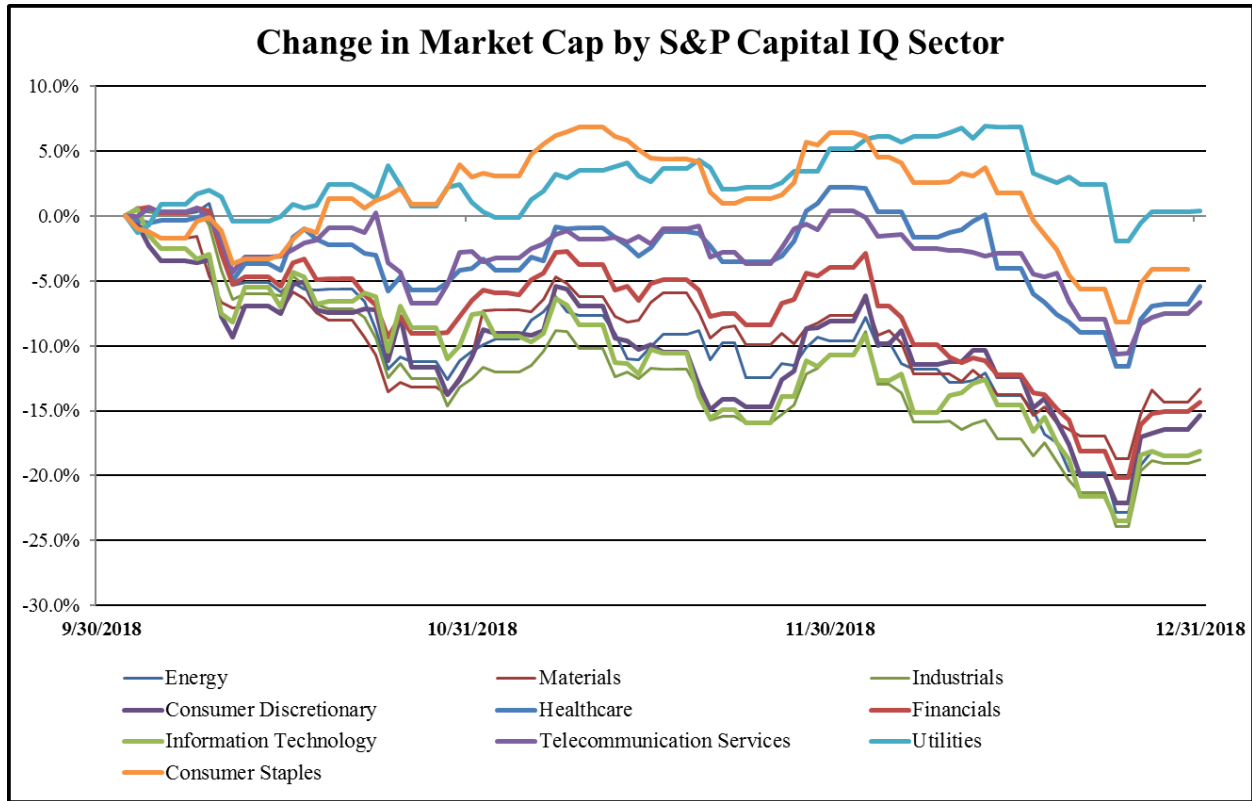
Recent M&A Activity in the Telecommunication Services Industry December 31, 2017 to December 31, 2018

USD in millions)

| Close Date | Target | Acquirer | Target Company Primary Industry | Implied Enterprise Value |
|------------|--|--|---------------------------------------|--------------------------|
| 6/14/2018 | Time Warner Inc. (nka:Warner Media, LLC) | AT&T Inc. | Movies and Entertainment | \$13,426,026.15 |
| 3/6/2018 | Scripps Networks Interactive, Inc. | Discovery Communications, Inc. (nka:Discovery, | Broadcasting | \$1,726,070.91 |
| 2/28/2018 | Regal Entertainment Group | Cineworld Group plc | Movies and Entertainment | \$664,796.50 |
| 3/8/2018 | General Communication, Inc. (nka:GCI Liberty, Inc. prior to | Liberty Ventures (nka:GCI Liberty, Inc.) | Integrated Telecommunication Services | \$354,769.59 |
| 1/30/2018 | Time Inc. | Meredith Corporation | Publishing | \$318,945.26 |
| 10/1/2018 | Axiom LLC | The Interpublic Group of Companies, Inc. | Interactive Media and Services | \$250,631.00 |
| 2/28/2018 | Straight Path Communications Inc. | Verizon Communications Inc. | Alternative Carriers | \$249,778.39 |
| 7/9/2018 | Carolina Panthers, LLC | 1/0/1900 | Movies and Entertainment | \$244,221.25 |
| 1/4/2018 | Metrocast Cablevision of New Hampshire, LLC | Atlantic Broadband Finance, LLC | Cable and Satellite | \$162,729.00 |
| 1/9/2018 | Big Fish Games, Inc. | Aristocrat Technologies, Inc. | Interactive Home Entertainment | \$112,553.10 |
| 12/21/2018 | XO Group Inc. | WeddingWire, Inc. | Interactive Media and Services | \$86,936.68 |
| 1/11/2018 | Carolina Hurricanes Hockey Club | 1/0/1900 | Movies and Entertainment | \$77,954.75 |
| 7/2/2018 | Hawaiian Telcom Holdco, Inc. | Cincinnati Bell Inc. | Integrated Telecommunication Services | \$77,002.27 |
| 6/18/2018 | Los Angeles Times Communications and The San Diego Union- | Nant Capital, LLC | Publishing | \$63,430.90 |
| 1/10/2018 | Nextlink Wireless, LLC | Verizon Communications Inc. | Alternative Carriers | \$59,750.00 |
| 8/15/2018 | Franklin Madison Group LLC | Mill Point Capital LLC; Mill Point Capital Partners, | Advertising | \$59,515.50 |
| 12/21/2018 | GTCR/FMG Blocker Corp/NCP Fairway, Inc. | Lamar Media Corp. | Advertising | \$45,110.12 |
| 2/15/2018 | Broadcasting Stations of Midwest Television, Inc. | TEGNA Inc. | Broadcasting | \$36,816.00 |
| 1/22/2018 | Layer3 TV, Inc. | T-Mobile US, Inc. | Cable and Satellite | \$36,809.50 |
| 4/3/2018 | Jive Communications, Inc. | LogMeIn USA, Inc. | Alternative Carriers | \$36,771.84 |
| 4/16/2018 | Public Relations Solutions and Digital Media Services Businesses | West Corporation | Advertising | \$35,952.20 |
| 5/29/2018 | 3 Arts Entertainment Inc. | Lions Gate Entertainment Corp. | Movies and Entertainment | \$32,448.87 |
| 3/22/2018 | Weather Group Television, LLC | Entertainment Studios, Inc. | Broadcasting | \$31,650.00 |
| 12/31/2017 | Carlin America, Inc. | Round Hill Music, LLC | Movies and Entertainment | \$27,409.38 |
| 12/6/2018 | Azoff MSG Entertainment LLC (nka:The Azoff Company) | Azoff Music Management, LLC | Movies and Entertainment | \$27,348.75 |
| 4/9/2018 | Social Bicycles Inc. | Uber Technologies, Inc. | Interactive Media and Services | \$26,350.00 |
| 2/9/2018 | FiberTower Corporation | AT&T Mobility Spectrum LLC | Wireless Telecommunication Services | \$26,221.73 |
| 2/22/2018 | Vubiquity, Inc. | Amdocs Limited | Movies and Entertainment | \$24,151.68 |
| 9/4/2018 | SpringCM Inc. | DocuSign, Inc. | Interactive Media and Services | \$23,601.60 |
| 5/7/2018 | NeuLion, Inc. | Endeavor, LLC | Cable and Satellite | \$22,813.17 |
| 10/31/2018 | Time Media Brand of Time Inc. | 1/0/1900 | Publishing | \$20,655.85 |
| 8/20/2018 | CQ Roll Call, Inc. | FiscalNote, Inc. | Publishing | \$19,387.80 |
| 10/19/2018 | Handy Technologies, Inc. | ANGI Homeservices Inc. | Interactive Media and Services | \$17,641.75 |
| 12/21/2018 | FORTUNE Media Brand of Meredith Corporation | 1/0/1900 | Publishing | \$16,473.75 |
| 12/24/2018 | MightyHive, Inc. | S4 Capital plc | Advertising | \$16,459.50 |
| 10/1/2018 | Riverside Clinical & Standardized Testing Portfolio of Houghton | Alpine Investors, LP; Alpine Investors VI, LP; | Publishing | \$15,292.90 |
| 9/21/2018 | Eight Radio Stations in San Francisco and Sacramento | Bonneville International Corporation | Broadcasting | \$15,288.63 |
| 5/3/2018 | Edmodo, Inc. | Best Assistant Education Online Limited | Interactive Media and Services | \$14,520.00 |
| 2/28/2018 | Spread Networks, LLC | Zayo Group Holdings, Inc. | Integrated Telecommunication Services | \$14,438.63 |
| 9/4/2018 | B2C Business Division of Purch, Inc. | Future US, Inc. | Publishing | \$14,327.23 |
| 9/10/2018 | Substantially All of the Assets of LeaseLabs Inc. | RealPage, Inc. | Advertising | \$12,639.51 |
| 8/9/2018 | Quartz Media LLC | Uzabase, Inc. | Publishing | \$11,986.70 |
| 2/21/2018 | Ivie & Associates, Inc. | Quad/Graphics, Inc. | Advertising | \$11,586.72 |
| 12/31/2017 | MC Sign LLC | ADM Group Holding Limited | Advertising | \$11,080.00 |
| 9/19/2018 | Fiber Assets of U.S. TelePacific Corp. | Uniti Group Inc. | Integrated Telecommunication Services | \$10,203.00 |
| 12/11/2018 | elandia Technologies, Inc. and AST Telecom, LLC | Amalgamated Telecom Holdings Limited | Alternative Carriers | \$9,815.40 |
| 2/6/2018 | BestReviews LLC | Tribune Publishing Company, LLC | Interactive Media and Services | \$9,098.92 |
| 8/31/2018 | All Assets of Waitt Outdoor LLC | Link Media Omaha, LLC | Advertising | \$8,906.02 |
| 11/2/2018 | Eleven Inc. | Vision 7 Communications U.S. Inc. | Advertising | \$8,776.80 |
| 5/30/2018 | Wongdoody Holding Company, Inc. | Infosys Limited | Advertising | \$7,860.00 |
| 10/4/2018 | Navience Healthcare Solutions LLC | Huntsworth plc | Advertising | \$7,569.80 |
| 11/8/2018 | Cozy Services Ltd. | Apartments, LLC | Interactive Media and Services | \$7,425.26 |
| 12/31/2018 | QuikOrder, Inc. | Pizza Hut, LLC | Interactive Media and Services | \$7,210.50 |
| 12/19/2018 | ForeSee Results, Inc. | Verint Systems Inc. | Advertising | \$7,048.14 |
| 12/31/2017 | KSWD(FM), KSWD-FM2, KSOQ-FM, WGGI(FM), And WGGI- | Educational Media Foundation, Inc. | Broadcasting | \$6,571.37 |
| 7/23/2018 | Student Loan Hero, Inc. | LendingTree, LLC | Interactive Media and Services | \$6,474.00 |
| 4/30/2018 | St. Louis Stations KSHE and The Point KPNT of Emmis | Hubbard Radio, LLC | Broadcasting | \$6,405.00 |
| 10/10/2018 | Stuff Media LLC | iHeartMedia, Inc. | Interactive Media and Services | \$6,001.60 |
| 10/19/2018 | Information Transport Solutions, Inc. | Uniti Group Inc. | Integrated Telecommunication Services | \$5,925.69 |

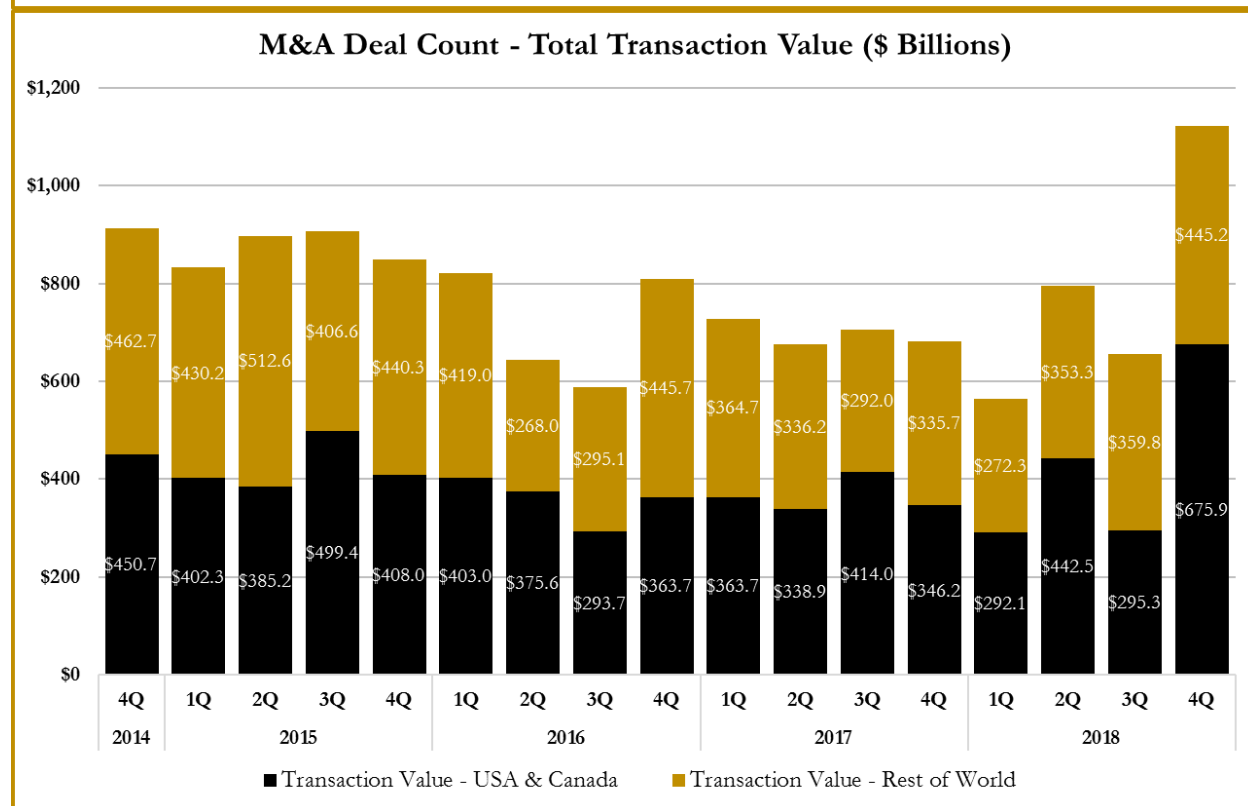
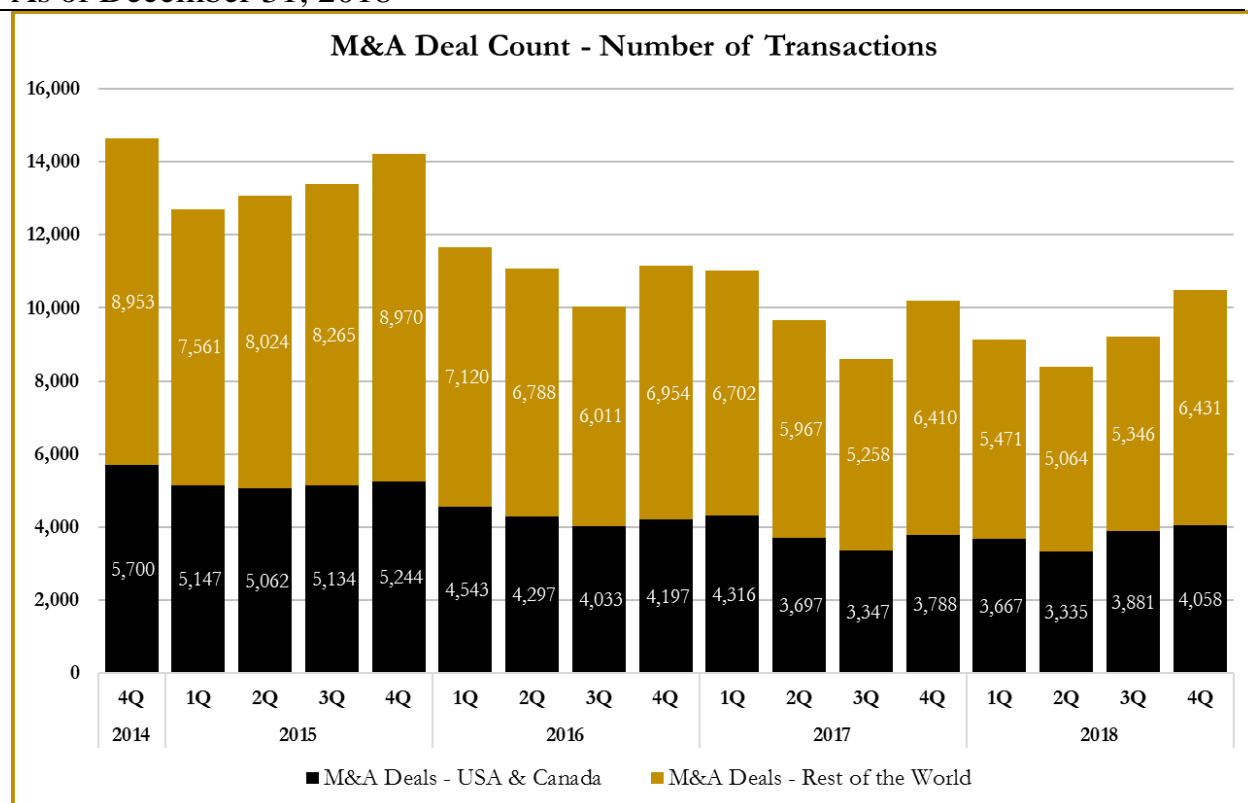
Source: Capital IQ

S&P Capital IQ - Sector Last 3 Month Equity Performance
As of December 31, 2018

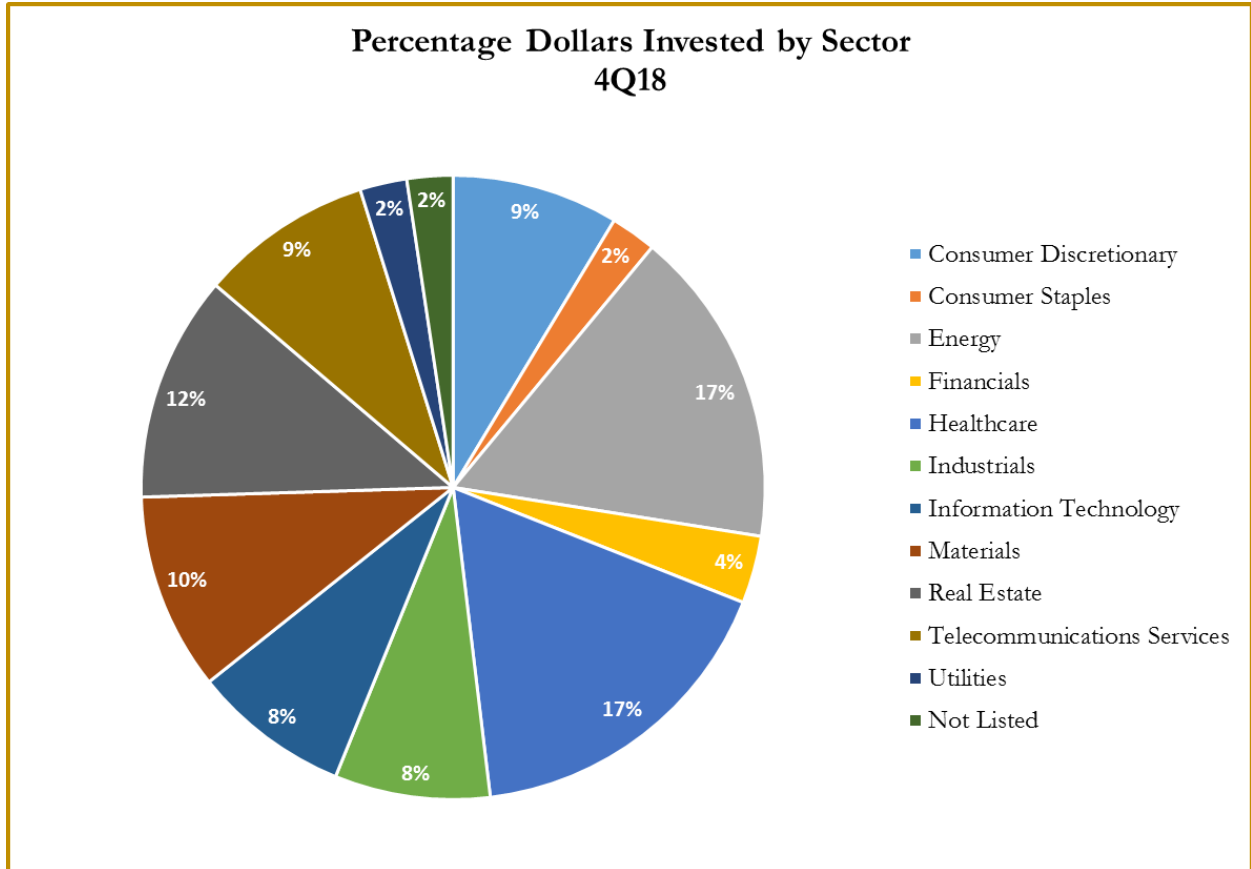


Note: The indices are derived from the equity performance of the S&P Capital IQ Sectors. Source: Capital IQ

M&A Deal Flow Statistics by S&P Capital IQ Sector As of December 31, 2018



M&A Deal Flow Statistics by S&P Capital IQ Sector
As of December 31, 2018





About Us

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