

Industry Observations – March 31, 2020

Telecommunication Services Industry

Select Telecommunication Services Public Company Industry Data As of March 31, 2020

(USD in millions, except per share data)

		Market Data					LTM (Operating D	Forward Estimates		
Company Name	Ticker	Price at 03/31/20	% of 52 Week High	Equity Value	Enterprise Value	Debt / Total Capital	Total Assets	LTM Revenue	LTM EBITDA	CY 2020 Revenue Estimate	CY 2020 EBITDA Estimate
Telecommunication Service	ces										
ORBCOMM Inc.	ORBC	\$2.44	28.9%	\$191.16	\$410.93	52.9%	\$580.98	\$272.01	\$51.88	\$287.16	\$67.58
Cogent Communications Holdings, Inc.	CCOI	\$81.97	93.6%	\$3,764.59	\$4,661.29	124.1%	\$932.12	\$531.26	\$179.45	\$582.78	\$219.98
Boingo Wireless, Inc.	WIFI	\$10.61	40.8%	\$469.81	\$624.50	66.8%	\$600.47	\$263.79	\$73.07	\$263.45	\$87.94
Iridium Communications Inc.	IRDM	\$22.33		\$2,952.41	\$4,753.21	55.3%	\$3,623.56	\$560.44	\$307.83	\$585.20	\$349.02
ATN International, Inc.	ATNI	\$58.71	83.9%	\$927.46	\$1,138.97	16.0%	\$1,130.73	\$438.72	\$109.85	\$490.21	\$120.39
Shenandoah											
Telecommunications	SHEN	\$49.25	96.6%	\$2,454.06	\$3,555.53	70.4%	\$1,860.69	\$633.91	\$258.60	\$661.62	\$276.71
Cincinnati Bell Inc.	CBB	\$14.64	91.2%	\$740.26	\$2,855.13	107.6%	\$2,653.80	\$1,536.70	\$386.50	\$1,513.17	\$408.86
T-Mobile US, Inc. United States Cellular	TMUS	\$83.90	82.8%	\$71,896.67	\$154,469.64	60.2%	\$86,921.00	\$44,998.00	\$12,958.00	\$68,513.15	\$22,311.68
Corporation Verizon Communications	USM	\$29.29	57.2%	\$2,523.29	\$4,899.29	37.0%	\$8,164.00	\$4,022.00	\$832.00	\$4,023.68	\$836.29
Inc.	VZ	\$53.73	86.4%	\$222,442.20	\$374,790.40	68.1%	\$291,727.00	\$131,868.00	\$48,203.00	\$132,144.29	\$47,760.43
AT&T Inc.	Т	\$29.15	73.4%	\$209,089.57	\$421,220.17	48.7%	\$551,669.00	\$181,193.00	\$52,645.00	\$178,029.55	\$58,025.04
CenturyLink, Inc.	CTL	\$9.46	61.8%	\$10,307.05	\$46,015.48	73.0%	\$64,742.00	\$22,401.00	\$8,774.00	\$21,658.73	\$8,949.93
Consolidated Communications Holdings,	CNSL	\$4.55	37.6%	\$327.39	\$2,741.78	87.0%	\$3,390.28	\$1,336.54	\$460.69	\$1,295.46	\$523.58
Frontier Communications Corporation	FTR	\$0.38	13.1%	\$39.90	\$16,970.83	133.0%	\$17,488.00	\$8,107.00	\$3,204.00	\$ 7,687.00	\$3,196.91
Telephone and Data Systems, Inc.	TDS	\$16.76	49.1%	\$1,923.67	\$5,820.06	38.4%	\$10,781.00	\$5,176.00	\$1,122.00	\$5,228.51	\$1,253.26

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

The material contained in this publication is meant to provide general information regarding valuation topics. This publication does not constitute investment advice with respect to the securities of any company discussed herein, is not intended to provide information upon which to base an investment decision, and should not be construed as such. Professional advice should be obtained before taking any action based on the information contained herein.

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 March 31, 2020

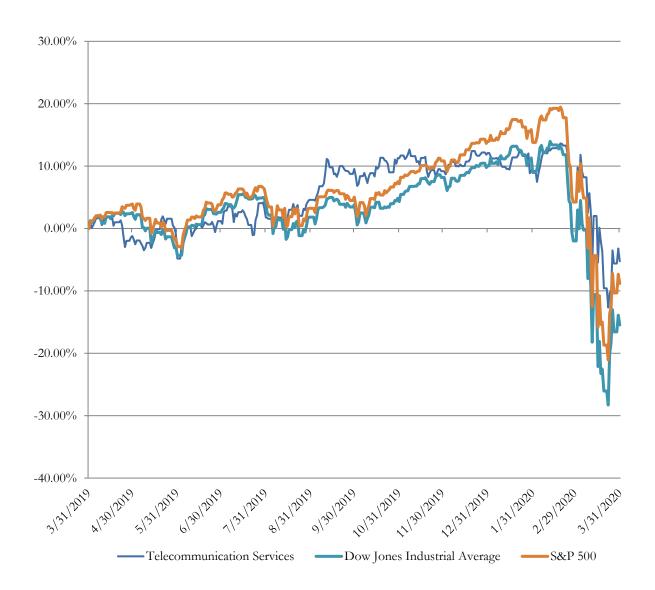
(USD in millions, except per share data)

		LTM Operating Statistics						Trading Multiples				
		Return	Return	Return				TEV/	TEV/	TEV/	TEV/	
		On	On	On	Revenue	EBITDA	EBITDA	LTM	CY 2020	LTM	CY 2020	
Company Name	Ticker	Assets	Equity	Capital	Growth	Growth	Margin	Revenue	Revenue	EBITDA	EBITDA	
7T.1												
Telecommunication Service	ces											
ORBCOMM Inc.	ORBC	0.5%	-7.3%	0.5%	-1.5%	37.8%	19.1%	1.5x	1.4x	7.8x	6.1x	
Cogent Communications												
Holdings, Inc.	CCOI	7.4%	N/A	8.3%	4.6%	7.6%	33.8%	8.3x	8.0x	24.6x	21.2x	
Boingo Wireless, Inc.	WIFI	-0.2%	-9.2%	-0.5%	5.2%	-8.2%	27.7%	2 2	2.4	7.9x	7.1x	
Iridium Communications	WIFI	-0.270	-9.270	-0.370	3.270	-0.270	27.770	2.2x	2.4x	/.9X	/.1X	
Inc.	IRDM	0.2%	-10.6%	0.2%	7.2%	18.5%	54.9%	8.1x	8.1x	14.7x	13.6x	
-								-				
ATN International, Inc.	ATNI	1.2%	0.2%	1.4%	-2.8%	-12.7%	25.0%	2.4x	2.3x	9.6x	9.5x	
Shenandoah												
Telecommunications	SHEN	3.6%	12.1%	4.3%	0.5%	-0.8%	40.8%	5.5x	5.4x	13.4x	12.8x	
Cincinnati Bell Inc.	CBB	1.9%	N/A	2.7%	11.5%	9.3%	25.2%	1.9x	1.9x	7.4x	7.0x	
Спісници вен піс.	Свв	1.970	IN/ A	2.770	11.370	9.370	23.270	1.9X	1.9X	/.4x	/.UX	
T-Mobile US, Inc.	TMUS	5.0%	13.0%	6.2%	4.1%	9.4%	28.8%	2.5x	2.3x	8.8x	6.9x	
United States Cellular												
Corporation	USM	1.1%	3.2%	1.3%	1.4%	5.3%	20.7%	1.2x	1.2x	5.7x	5.9x	
Verizon Communications												
Inc.	VZ	7.1%	33.7%	10.8%	0.8%	-0.4%	36.6%	2.7x	2.8x	7.4x	7.8x	
AT&T Inc.	Т	3.2%	7.6%	4.5%	6.1%	-7.6%	29.1%	2.2x	2.4x	7.7x	7.3x	
CenturyLink, Inc.	CTL	3.7%	-31.6%	4.7%	-4.4%	-2.7%	39.2%	2.0x	2.1x	5.1x	5.1x	
Consolidated												
Communications Holdings,	CNSL	1.4%	-5.2%	1.8%	-4.5%	-1.0%	34.5%	2.0x	2.1x	5.8x	5.2x	
Frontier Communications	rotrue.											
Corporation	FTR	4.3%	N/A	5.5%	-5.9%	-7.6%	39.5%	2.1x	2.2x	5.3x	5.3x	
Telephone and Data Systems, Inc.	TDS	1.2%	2.7%	1.4%	1.3%	4.0%	21.7%	1.1x	1.1x	5.0x	4.6x	
bysicins, inc.	1103	1.470	۷.170	1.470	1.370	4.070	41.//0	1.1X	1.1X	J.UX	X0.+	
	Mean	2.8%	0.7%	3.6%	1.6%	3.4%	31.8%	3.0x	3.0x	9.1x	8.4x	
	Median	1.9%	1.5%	2.7%	1.3%	-0.4%	29.1%	2.2x	2.3x			

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 March 31, 2020



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 YTD as of March 31, 2020

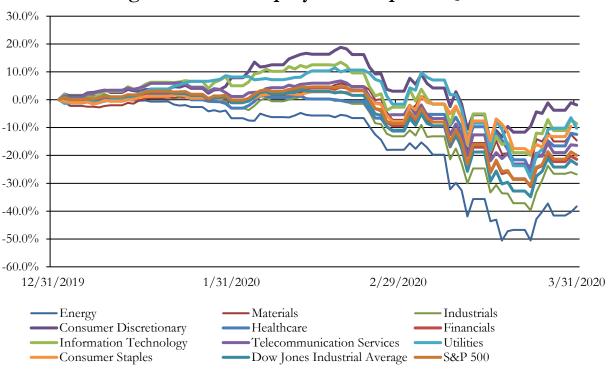
(USD in millions)

Close Date	Target	Acquirer	Target Company Primary Industry E	Implied interprise Value
12/4/2019	Viacom Inc.	CBS Corporation (nka:ViacomCBS Inc.)	Movies and Entertainment	\$20,225.00
8/23/2019	Fox Sports Net LLC	Sinclair Broadcast Group, Inc.	Cable and Satellite	\$10,600.00
9/19/2019	Tribune Media Company	Nexstar Media Group, Inc.	Broadcasting	\$6,239.08
7/1/2019	Epsilon Data Management, LLC	Publicis Groupe Holdings B.V.; MMS USA	Advertising	\$4,400.00
8/29/2019	Yankees Entertainment & Sports Network, LLC	Amazon.com, Inc.; Yankee Global Enterprises	Broadcasting	\$3,470.00
11/19/2019	Gannett Co., Inc.	New Media Investment Group Inc. (nka:Gannett	Publishing	\$2,227.20
7/30/2019	MG LLC	Willis Towers Watson Public Limited Company	Advertising	\$1,334.50
11/25/2019	Kansas City Royals Baseball Corporation	NA	Movies and Entertainment	\$1,000.00
9/10/2019	Broadcast Satellite Service Business of EchoStar Corporation	DISH Network Corporation	Alternative Carriers	\$810.37
9/19/2019	11 Local Television Stations In Eight Markets	TEGNA Inc.	Broadcasting	\$740.00
9/19/2019	Eight Television Stations of Nexstar Media Group Inc.	Scripps Broadcasting Holdings LLC	Broadcasting	\$580.00
10/1/2019	Data, Video and Voice Business and Related Assets of Fidelity	Cable One, Inc.	Integrated Telecommunication Services	\$525.86
5/1/2019	15 Television Stations of Cordillera Communications	Scripps Media, Inc.	Broadcasting	\$521.00
9/3/2019	U.S. Tower Portfolio of Grain Management, LLC	American Tower Corporation (REIT)	Wireless Telecommunication Services	\$500.00
12/17/2019	Radio Portfolio, CoxReps and Gamut Businesses of Cox Media	Apollo Global Management, LLC (nka:Apollo	Broadcasting	\$500.00
9/19/2019	Elemica, Inc.	Eurazeo SE; Eurazeo Capital IV	Interactive Media and Services	\$390.00
8/30/2019	Fiber Network of Bluebird Network, LLC	Uniti Group Inc.	Alternative Carriers	\$319.00
7/1/2019	Zoosk, Inc.	Spark Networks SE	Interactive Media and Services	\$257.90
8/8/2019	WBNS TV, Inc.	TEGNA Inc.	Broadcasting	\$245.00
11/15/2019	Insomniac Games, Inc.	Sony Interactive Entertainment LLC	Interactive Home Entertainment	\$229.00
1/9/2019	One Sixty Over Ninety, Inc.	Endeavor, LLC	Advertising	\$229.00
11/26/2019	eLocal USA LLC	HomeServe USA Corp.	Advertising	\$177.22
11/1/2019		•		\$177.22
7/3/2019	The EHE Group, LLC Bayou City Broadcasting Evansville, Inc. and Bayou City	Arthur J. Gallagher & Co. Allen Media Broadcasting LLC	Advertising Broadcasting	\$165.00
				\$162.30
4/1/2019 10/11/2019	RhythmOne plc	Taptica International Ltd. (nka:Tremor	Interactive Media and Services	\$162.30 \$152.25
12/18/2019	MJR Theatres, Inc.	Kinepolis Group NV	Movies and Entertainment	
	Shoptalk Commerce LLC/Groceryshop LLC	Hyve Group Plc Stillfront Group AB (publ)	Advertising Interactive Home Entertainment	\$145.00
6/24/2019	KIXEYE, Inc.	· · · · /		\$120.00 \$100.00
6/12/2019	Infinite Esports & Entertainment	Immortals, LLC	Movies and Entertainment	
7/1/2019	Appeast, Inc.	StepStone Deutschland GmbH	Advertising	\$93.18
6/18/2019	Justice Network, LLC/Quest Network LLC	TEGNA Inc.	Broadcasting	\$90.59
6/30/2019	82 Communication Sites	SBA Communications Corporation	Wireless Telecommunication Services	\$83.00
1/22/2019	Portfolio of Wireless Communication Towers of Frontier	Everest Infrastructure Partners, Inc.	Wireless Telecommunication Services	\$80.00
12/31/2019	Cable, Broadband and Business Assets of Continuum	TDS Broadband Service LLC	Alternative Carriers	\$80.00
11/22/2019	KVOA-TV of Cordillera Communications, LLC	Quincy Media, Inc.	Broadcasting	\$70.00
9/3/2019	GetFeedback, Inc.	SVMK Inc.	Interactive Media and Services	\$68.13
7/29/2019	SmartBrief, Inc.	Future plc	Publishing	\$66.10
4/29/2019	Cutler Media LLC	Spotify Technology S.A.	Broadcasting	\$56.44
5/1/2019	WWNY and WNYF in New York and KEYC in Minnesota of	Gray Television, Inc.	Broadcasting	\$45.00
10/16/2019	Cadence13 Inc. (nka:Cadence13, a division of RADIO.COM)	Entercom Communications Corp.	Advertising	\$44.18
12/13/2019	FMG Kentucky, LLC/FMG Valdosta, LLC	Billboards LLC	Advertising	\$43.00
7/17/2019	KLOS-FM	Meruelo Media Inc.	Broadcasting	\$43.00
4/5/2019	MasteryConnect Inc.	Instructure, Inc.	Interactive Media and Services	\$42.54
9/30/2019	WISH-TV and WNDY-TV Stations in Indianapolis of Nexstar	Circle City Broadcasting I, Inc.	Broadcasting	\$42.50
10/18/2019	VoIPStreet, Inc.	Sangoma Technologies Corporation	Integrated Telecommunication Services	\$42.07
5/3/2019	Substantially all of the assets of Relativity Media, LLC	UltraV Holdings LLC	Movies and Entertainment	\$40.00
8/30/2019	Midwest Operations of Uniti Fiber LLC	Bluebird Network, LLC	Alternative Carriers	\$37.00
5/28/2019	RotoGrinders.com	Better Collective USA, Inc.	Movies and Entertainment	\$35.00
8/8/2019	RadiOhio, Inc.	TEGNA Inc.	Broadcasting	\$35.00
5/13/2019	The Golf Digest Companies	Discovery, Inc.	Publishing	\$35.00
4/18/2019	PostUp, Inc.	Upland Software, Inc.	Advertising	\$35.00
9/25/2019	KDLT-TV	Gray Television, Inc.	Broadcasting	\$32.50
3/13/2019	Burlington Telecom Inc.	ZRF Partners; Champlain Broadband, LLC	Alternative Carriers	\$30.80
7/31/2019	Veracity Consulting Group, LLC	Resources Connection, Inc.	Advertising	\$30.30
8/30/2019	Midwinter Entertainment, Inc.	Improbable Worlds Ltd.	Interactive Home Entertainment	\$30.03
1/31/2019	Publishing Division of Schurz Communications Inc.	GateHouse Media, LLC	Publishing	\$30.00
7/30/2019	Mad*Pow Media Solutions LLC	Tech Mahindra (Americas), Inc.	Advertising	\$25.71
6/24/2019	Infinity Marketing Team, LLC	Pico North America, Inc.	Advertising	\$25.64
10/1/2019	TOPO Inc	Gartner, Inc.	Advertising	\$25.00
10/1/2019	WCAV and WVAW Televison Stations of Gray Television, Inc.	Lockwood Broadcast Group	Broadcasting	\$25.00
6/18/2019	Pigs In Flight, Inc.	Twitch Interactive, Inc.	Interactive Media and Services	\$25.00
4/15/2019	CloudControlMedia, LLC	QuinStreet, Inc.	Advertising	\$20.00
	· · · · · · · · · · · · · · · · · · ·	Entertainment One Ltd.	Movies and Entertainment	\$19.98
9/12/2019	BLACKFIN INC.	Entertainment One Ltd.	MOVIES and Emeriannient	\$17.7G
	BLACKFIN INC. Delmarva Broadcasting Company, Inc.	Forever Media, Inc.	Broadcasting	\$19.50

Source: Capital IQ

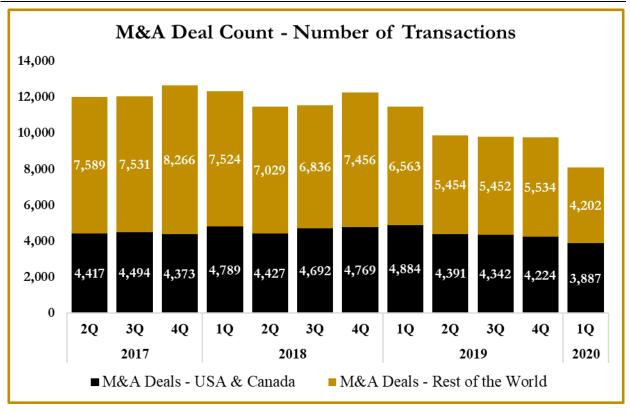
S&P Capital IQ - Sector Last 3 Month Equity Performance As of March 31, 2020

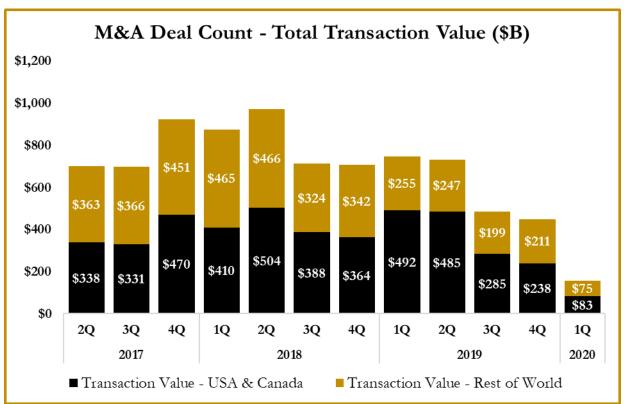
Change in Market Cap by S&P Capital IQ Sector



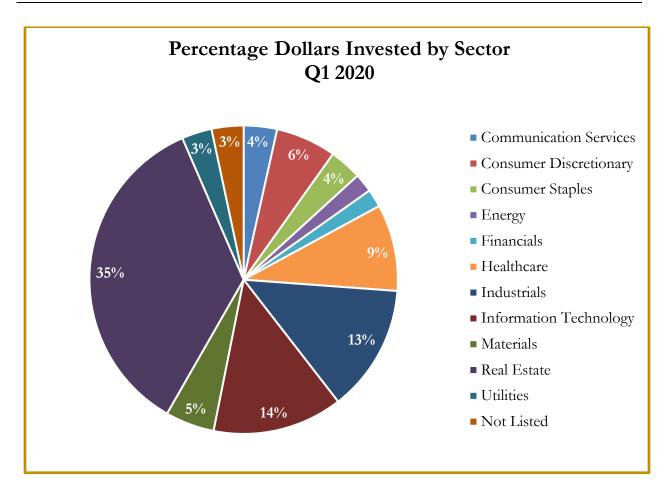
Note: The indices are derived from the equity performance of the S&P Capital IQ Sectors

M&A Deal Flow Statistics by S&P Capital IQ Sector As of March 31, 2020





M&A Deal Flow Statistics by S&P Capital IQ Sector As of March 31, 2020





About Us

Houlihan Capital is a leading, solutions-driven valuation, financial advisory and boutique investment banking firm. We pride ourselves on being thought leaders in an ever-changing landscape.

Houlihan Capital is SOC-compliant, a FINRA and SIPC member and committed to the highest levels of professional ethics and standards.

Valuation & Financial Advisory

We provide an array of services that include enterprise valuations, portfolio valuation, valuation of carried interest, transaction opinions, tax and financial reporting compliance, purchase price allocations, and a wide variety of consulting services through our Financial Advisory Group.

Investment Banking

Through our Investment Banking Group, we offer sell side/buy side advisory and capital raises. Through our Special Situations desk, we provide services that fit outside the archetypal verticals, including liquidity solutions, transactional advisory, and secondary market advisory and trading.

Litigation Support

Our team provides support for a wide variety of situations including commercial and shareholder disputes, derivatives and structured finance litigation, and fraudulent conveyance.

> For additional information about our industry expertise and services, visit:

> > www.houlihancapital.com

Andrew Smith asmith@houlihancapital.com 312.450.8610

Paul Clark pclark@houlihancapital.com 312.450.8656

Michael Norton 312.450.8628

Monica Blocker mnorton@houlihancapital.com mblocker@houlihancapital.com 312.450.8699