

Digital Infrastructure

INDUSTRY UPDATE | Q4 2022



Houlihan Lokey Digital Infrastructure Industry Update – Q4 2022

Dear Clients and Friends,

Houlihan Lokey is pleased to present its Digital Infrastructure Industry Update for Q4 2022. We have included topical news stories, transaction announcements, public markets valuation data, and industry insights to help keep you abreast of this dynamic and constantly evolving industry.

Given the current volatility in the capital markets, we also have included an update from Houlihan Lokey's Capital Markets team, the largest and most active non-balance-sheet placement agent on Wall Street. The Capital Markets Group brings real-time knowledge of and insight into what is achievable in today's volatile markets based on recent transactions and other in-process financings.

We hope you find this quarterly update to be informative and that it serves as a valuable resource to you. If there is additional content you would find useful for future updates, please don't hesitate to call or email us with your suggestions.

We look forward to staying in touch with you.

Regards,

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Industry Subsectors Covered

Broadband



Data Centers



Wireless Infrastructure



Wireless and Spectrum



Connectivity Software



Digital Infrastructure Services



Accomplishments: Q4 2022 in Review








































Digital Infrastructure

Houlihan Lokey continued its position as a leading investment banking advisor to digital infrastructure and connectivity companies, having recently advised Palisade Infrastructure on its pending acquisition of Rainier Connect, QMC on the sale of its tower portfolio to Crown Castle, T-Mobile on the pending divestiture of its nationwide fiber network to Cogent, and Georgia Public Web on its sale to Accelecom. The group also expanded its digital infrastructure coverage with the pending acquisition of Oakley Advisory, significantly growing the group's European presence.

The Digital Infrastructure team has earned a reputation for providing superior service and achieving outstanding results in M&A advisory, capital raising, restructuring, and financial and valuation advisory. A trusted advisor, the group combines extensive market capabilities with in-depth industry knowledge to help clients maximize shareholder value.

The Digital Infrastructure team is part of Houlihan Lokey's global Technology Group, with more than 200 bankers dedicated to delivering superior results and outstanding service in the TMT sector.

Selected Recent Transactions

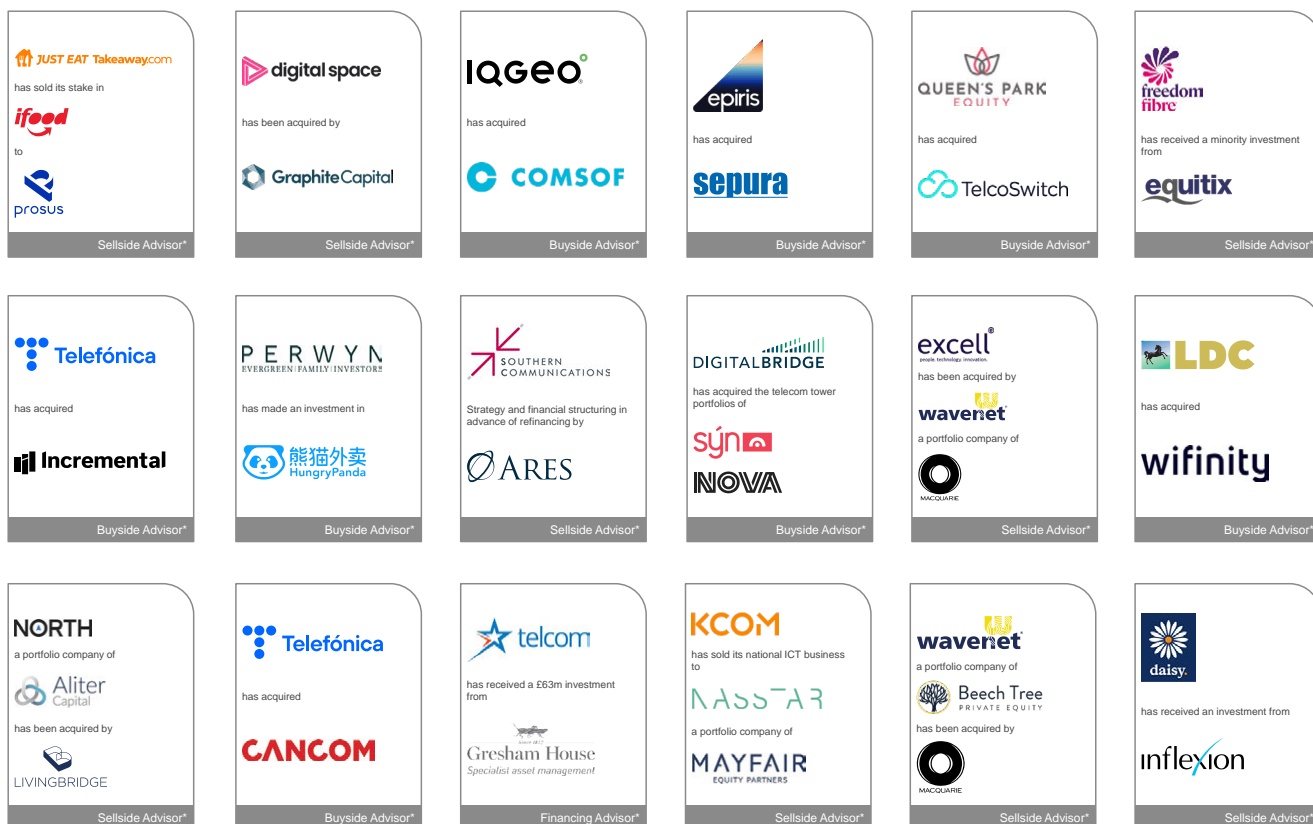
 <p>a portfolio company of</p>  <p>Senior Secured Credit Facility Growth Financing \$100,000,000</p> <p>Exclusive Placement Agent</p>	<p>Transaction Pending</p>  <p>has entered into an agreement to acquire</p>  <p>Buy-side Advisor</p>	 <p>has sold a portfolio of towers to</p>  <p>Sell-side Advisor</p>	 <p>has been acquired by</p>  <p>a portfolio company of Macquarie Capital and funds managed by UBS</p> <p>Exclusive Financial Advisor</p>	<p>Transaction Pending</p>  <p>has agreed to sell its wireline business to</p>  <p>Sell-side Advisor</p>	 <p>a portfolio company of</p>  <p>has been acquired by</p>  <p>Sell-side Advisor</p>
 <p>a portfolio company of</p>  <p>2nd Lien Term Loan Refinancing</p> <p>Exclusive Placement Agent</p>	 <p>has received a growth equity investment of \$50,000,000 from</p>  <p>Exclusive Financial Advisor</p>	 <p>a portfolio company of</p>  <p>has been acquired by</p>  <p>a portfolio company of</p>  <p>Sell-side Advisor</p>	 <p>has acquired</p>  <p>Buy-side Advisor</p>	 <p>has been acquired by</p>  <p>Sell-side Advisor</p>	 <p>has entered into a joint venture with and received a minority equity investment from</p>  <p>Exclusive Financial Advisor</p>
 <p>has received a \$200 million preferred equity investment from</p>  <p>Financial Advisor</p>	 <p>has received an investment to fund acquisitions and organic growth from</p>  <p>Exclusive Financial Advisor & Placement Agent</p>	 <p>has received an investment from</p>  <p>Financing Advisor</p>	 <p>has conveyed a portfolio of tower sites to</p>  <p>Sell-side Advisor</p>	 <p>has been acquired by</p>  <p>Sell-side Advisor</p>	 <p>has acquired</p>  <p>Buy-side Advisor</p>

Houlihan Lokey Expands Global Coverage in Digital Infrastructure With Acquisition of Oakley Advisory

Houlihan Lokey expands its global coverage of the digital infrastructure sector and significantly augments the existing sector coverage through the acquisition of Oakley Advisory. The Oakley Advisory team has an industry heritage of more than two decades and provides clients with a full suite of sector specialist services, including private and public company M&A, equity and debt fundraisings, and IPO advisory. As part of this transaction, Chris Godsmark and Christian Maher join Houlihan Lokey as Managing Directors to spearhead the expansion of the firm's market-leading digital infrastructure coverage into Europe.



Oakley Relevant Transactions



Tombstones included herein represent transactions closed from 2018 forward.

*Selected transactions were executed by Houlihan Lokey professionals while at other firms acquired by Houlihan Lokey or by professionals from a Houlihan Lokey joint venture company.

Growing Focus on Fiber Deployment

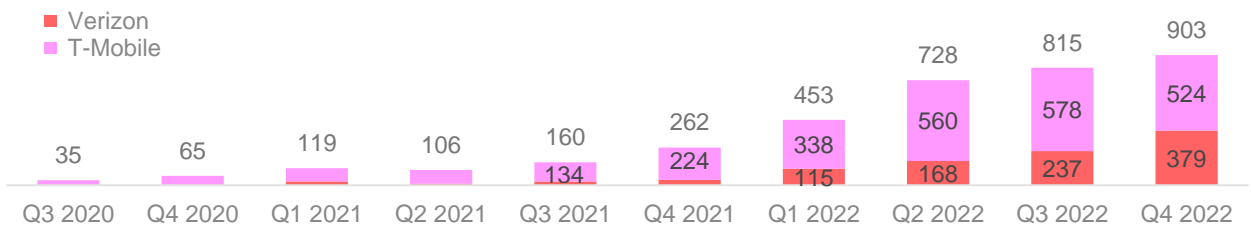
Digital Infrastructure

In Q4 2022, AT&T and BlackRock signed a definitive agreement to form a joint venture that will operate a commercial fiber platform. This joint venture, Gigapower, expects to provide a best-in-class fiber network to internet service providers (ISPs) and other businesses across the United States. Gigapower will serve customers outside AT&T's traditional 21-state wireline service footprint. The joint venture will deploy a reliable multigig fiber network to an initial 1.5 million customer locations using a commercial open access platform.

While T-Mobile has been placing an emphasis on the deployment of its fixed wireless access network, the company is also rumored to be in talks with potential partners to form a joint venture to accelerate its own fiber deployment in the U.S.⁽¹⁾

T-Mobile Is a Leading Contributor to Fixed Wireless Net Subscriber Additions

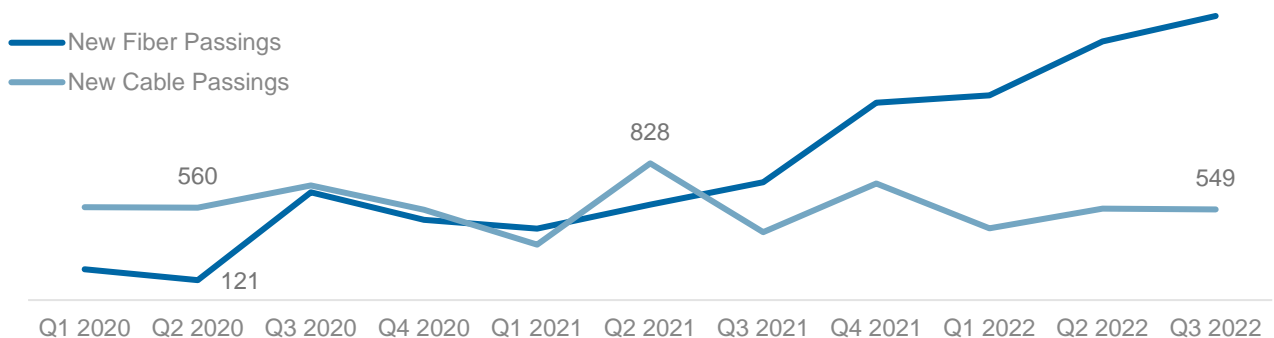
Quarterly Fixed Wireless Subscriber Net Additions (in Thousands)



Over the past two years, public companies have accelerated the construction of new fiber passings.⁽²⁾ In Q3 2022, publicly traded companies constructed 1.7 million new fiber passings, bringing the total fiber passings to ~27 million. Publicly traded cable companies built 549,000 new passings and now have ~126 million total passings as of Q3 2022. While cable companies are building fewer passings, both Comcast and Charter have announced plans to upgrade 50 million and 55 million of their respective cable passings to DOCSIS 4.0 by 2025.

Acceleration of New Fiber Passings by Public Companies⁽¹⁾

Quarterly New Passings⁽²⁾



(1) Bloomberg article, November 7, 2022.

(2) Altice, Cable One, Charter, Comcast, Shenandoah Telephone, Verizon, AT&T, Consolidated Communications, and Frontier.

Key Industry Trends by Sector

Broadband

Fiber Build-Outs

- Fiber build-out targets continue to be announced by enterprise and residential broadband ISPs in Q4 2022.
 - Frontier has completed 50% of its 10 million passings target and is targeting a 15%–20% penetration rate within 12 months.
 - Clearwave announced that it has built 100,000 passings one year into its 2026 target of 500,000 passings.
 - Surf Internet is targeting 200,000 new fiber passings in Illinois, Indiana, and Michigan.

Expansion of Fixed Wireless Offerings

- Both Comcast and Charter have continued to invest in their cable plant in an attempt to meet customers' demand for higher speeds.
- Comcast announced its intention to start delivering symmetrical multigig plans beginning in 2023 and reach more than 50 million homes and businesses by the end of 2025.
- At a recent investor day, Charter unveiled a plan to start upgrading its entire 55 million passings network to support 10 GB speeds by 2025 at an expected cost of \$100 per passing.

Government Subsidy Programs

- BEAD funds continue to be allocated as U.S. senators push Congress for the funds to go to any provider who can provide service of 100/20 Mbps instead of solely fiber providers.
- The FCC continues to process RDOF awards, releasing funds to parties like Shenandoah Telecom and California Internet while other parties like Peoples Communication default on some bids.
- Congress introduced legislation to exempt subsidies received by broadband providers for the deployment of broadband to underserved areas from income tax.

Data Centers and Managed Services

Strong Construction Pipeline

- 2022 has been a strong year for continued development and new announcements of data center projects across the North American, EMEA, and APAC regions.
- Select notable developments underway:
 - NAM: 100 MW facility by Aligned Data Centers in Salt Lake City, Utah.
 - EMEA: 30 MW facility by Africa Data Centers in Accra, Ghana.
 - APAC: 500 MW facility by YTL Corp. in Johor, Malaysia.
- Globally, the hyperscale construction pipeline consists of 300+ new sites.
 - It is anticipated to cross the 1,000 hyperscale site mark in 2024, up from ~500 sites five years ago.

Supply/Demand Imbalance Leading to Rise in Prices

- Rising demand has outpaced supply levels, resulting in elevated rental rates on existing facilities.
 - In the U.S., the average monthly asking rate for 250–500 KW in primary markets is \$127.50 per KW, a ~6% increase YoY.
- Primary constraints on supply include limited availability of land and power, resulting in data center developers/operators further expanding into Tier II and Tier III markets.
 - Among secondary markets, Hillsboro, Oregon, saw the largest supply increase in 1H '22 of ~140 MW YoY.

Shift to the Edge

- The edge data center market continues to grow rapidly as customers look to improve performance, reduce latency, and meet evolving technological advancements such as 5G.
 - TAM is expected to grow at a ~25% CAGR between 2022–2030, achieving a ~\$60 billion+ market size.

Key Industry Trends by Sector (cont.)

Wireless Infrastructure

M&A and Capital-Raising Activity

- In October 2022, Everest Infrastructure Partners announced it had completed the acquisition of a portfolio of wireless communication tower assets from PeakNet in premium locations in Florida, Indiana, and North and South Carolina. This transaction represents the largest acquisition that Everest has completed since inception.
- In November 2022, Vodafone sold a portion of its ownership of Vantage Towers to KKR and Global Infrastructure Partners (GIP) and formed a JV. The deal values Vantage Towers at \$16.3 billion. By creating the new JV, Vantage will be able to grow its co-location business and pursue new business opportunities from small cells, DAS, and edge computing.
- In November 2022, CTI Towers, a portfolio company of Palistar Capital, announced the acquisition of 180 towers located in 14 states from Uniti Group. This represents CTI's second transaction for 2022.
- In December 2022, Helios Towers completed the acquisition of a 70% share of Omantel Telecommunication's passive infrastructure assets in Oman for \$495 million. The acquisition adds 2,519 sites to its portfolio and represents its first transaction in the Middle East.
- In December 2022, StratCap announced a JV with DataCom, a digital infra investment fund controlled by IBI Investment House. DataCom expects to contribute up to \$150 million as part of its 49% interest in the JV. The strategic partnership aims to capitalize on the demand for essential U.S. digital infra assets, such as cell towers and fiber networks.

Other Recent Developments

- In December 2022, U.S. Cellular announced that its 5G network is expanding by ~5% due to a software update that enhances the 5G coordination between its cell sites using a technique known as X2 coordination.
- In December 2022, Verizon announced that it had deployed more than 10,000 vRAN cell sites across the U.S., marking significant progress toward its goal of rolling out 20,000+ sites by 2025.

Wireless and Spectrum

5G Deployments Continue to Expand

- T-Mobile now covers 260 million Americans with Ultra Capacity 5G, which the carrier achieved weeks ahead of schedule. In conjunction with this additional coverage, T-Mobile has amplified speed and capacity with 1900 MHz spectrum being deployed nationwide.
- Similarly, Verizon's Ultra Wideband 5G service is 13 months ahead of schedule and now covers more than 175 million Americans. In contrast to T-Mobile, Verizon's network depends solely on C-band spectrum, with additional capacity provided by mmWave spectrum.
- AT&T has reiterated that 2023 will be a peak year for capital investment, particularly in the company's 5G network, with sustained demand for connectivity despite the pessimistic economic outlook.

Cable Giants Expand MVNO Platforms

- Both Comcast and Charter Communications have reported that their MVNO platforms hit an inflection point in subscriber growth in Q3.
- Xfinity Mobile, Comcast's wireless service, added a record 333,000 wireless subscribers in Q3 and passed 5 million subscribers in October.
- Spectrum Mobile, Charter's wireless service, also set a record of 396,000 subscribers added, with 4.7 million total subscribers.
- Wireless revenue jumped 30.8% and 40.2% year over year for Comcast and Charter, respectively, with both companies benefitting from the ability to bundle wireless services with wired broadband connections and cable TV.
- Dish, on the other hand, is facing headwinds in its wider commercial launch of the MVNO Boost Infinite, which has been delayed until Q1 2023.

Key Industry Trends by Sector (cont.)

Digital Infrastructure Services

M&A Activity

- M&A activity for digital infrastructure services rebounded to moderate levels in Q4 2022, but the overall number of 2022 deals was down ~50% from 2021 levels.
- Q4 2022 deal activity continued the year's trend of mostly bolt-on acquisitions for established players, with deals completed by Jackson Infrastructure Services (KLH Capital), NextEdge Networks (Bow River Capital), Network Connex (ORIX Capital Partners), and New England Electrical Contracting (Pfungsten Partners). The quarter also welcomed the creation of a new platform with Hastings Equity Partners' investment in GridSource.
- Challenging credit markets have led to deals taking longer and numerous sellers postponing sale processes.

Sector Trends and Challenges

- Industry tailwinds remain strong with 2021 Broadband capex reaching its highest levels in 20 years and 2022 carrier capex growing 20% from 2021.
- The announced AT&T and BlackRock joint venture and the potential T-Mobile joint venture highlight an industry-wide emphasis on fiber builds across the United States. These multibillion-dollar builds represent several years of backlog for digital infrastructure services providers.
- However, digital infrastructure services companies need to stay diligent to avoid issues from supply chain challenges, equipment shortages, the tight labor environment, and rising costs (fuel, materials, etc.).
- As input costs continue to remain elevated, digital infrastructure services companies continue to need to put an emphasis on only taking on jobs that will maintain or expand the company's gross margin profile and push back on unrealistic job cost expectations.

Connectivity Software

Certain Subverticals Remain Active as Ever

- The connectivity-as-a-service/cellular IoT and network deployment management software subverticals were notably active in Q4.
- **Six** transactions were announced in the space.
 - Technically, it was the slowest quarter of the year but in line with others (the most active quarter saw eight deals announced).
 - Notably, Pelion, Kigen, RiPSIM, and one other undisclosed company raised capital in Q4.
 - In December, Aeris announced the strategic acquisition of Ericsson's IoT Accelerator and Connected Vehicle Cloud business.
- **Five** transactions were announced in the network deployment management space—perhaps the most in any one quarter.
 - Trendspek, Deepomatic, and Sonar Software completed equity capital raises.
 - Biarri Networks and Benu Networks announced strategic acquisitions by Dura-Line (Orbia) and Ciena, respectively.
 - PE-backed players hit the gas on hiring: Sitetracker announced multiple corp dev hires; Render Networks CEO Sam Pratt has relocated to the U.S. and hired two U.S.-based executives (plus two more in Q1).
- Wireless-network-related software also saw a pop in activity, with 16 deals in '22 (**five** in Q4).
 - Notably, private networks players Shabodi and Expeto raised \$10 million and \$12 million, respectively.
 - Celona, Federated Wireless, OneLayer, and Pente Networks all raised earlier in the year.

If You Want to Get Deeper in the Sector

- Last April, Houlihan Lokey published its first-ever thought piece on the sector and is releasing a follow-up soon. Contact Will Cooper (WCooper@HL.com) for more.

Significant News Stories

Subject: Cable Companies Launching Mobile Carriers

Cox Announces Successful Completion of Mobile Launch in Markets Nationwide

Cox Communications

Date: January 5, 2023

“Cox Communications is excited to announce the successful national launch of Cox Mobile, the company's new mobile phone service available to Cox Internet customers in Cox markets nationwide. With unlimited talk and text and no term agreements, Cox Mobile customers have access to two simple data plans designed with their needs and budget in mind: Pay As You Gig and Gig Unlimited. Customers also have access to a network with unbeatable 5G reliability as well as the ability to stay connected with Cox Internet at home and with more than 4 million of Cox's on-the-go Wi-Fi hotspots.

“The convergence of wired and mobile communications has never been more important. Customers recognize Cox as a reliable provider of connectivity, so introducing a mobile phone offering was a natural extension of our services,” said Mark Greatrex, president of Cox Communications. “With Cox Mobile, we are offering new mobile phone options for consumers: ones that offer flexibility, reliability, and the opportunity to save money.”

Subject: Software Continues to Revolutionize Telecom

T-Mobile and Cisco Launch World's Largest Cloud Native Converged Core Gateway

T-Mobile Press Release

Date: December 15, 2022

“T-Mobile (NASDAQ:TMUS) announced today it has teamed up with Cisco to launch the world's largest highly scalable and distributed nationwide cloud native converged core gateway. The Un-carrier has moved all its 5G and 4G traffic to the new cloud native core gateway, which immediately boosted performance for customers with more than a 10% improvement in both speed and latency. It's like turning two townhouses into a massive mansion by removing walls (or barriers) and then loading that mansion with the latest, groundbreaking technology. The new converged core gateway also simplifies operations for T-Mobile, allowing the Un-carrier to shift resources with better agility and roll out services like 5G Home Internet. It will also expedite time to market for new 5G and IoT services like network slicing and Voice over 5G (VoNR) by allowing T-Mobile to easily test and deploy new capabilities at scale.”

Subject: Broadband Speeds

Charter Plots Three-Year Upgrade to Deploy DOCSIS 4.0 by 2025

Fierce Telecom

Date: December 14, 2022

“With a new CEO at the helm, Charter Communications unveiled an ambitious plan to overhaul its network over the next three years, aiming to offer download speeds of 5 Gbps across the vast majority of footprint and top-tier speeds of 10 Gbps by 2025. Notably, it is hoping to do so at a \$100 cost per passing. Rich DiGeronimo, Charter's president of Product and Technology, explained during an investor day event that the upgrades will be completed in three phases and eventually touch its entire footprint of 55 million passings. While fiber competitors are deploying new infrastructure at a cost of between \$500 and \$1,500 per passing, DiGeronimo said Charter will be able to get into multigig territory for around \$100 per home, though, unlike fiber its offering, will be asymmetrical. That puts the total cost of its upgrade plan at \$5.5 billion. According to DiGeronimo, the \$100 figure factors in module swaps, the use of in-house labor for the upgrades, and the assumption that Charter can purchase all the 1.8 GHz kit it will need for the DOCSIS 4.0 rollout for the same cost as the 1.2 GHz components it buys. DiGeronimo acknowledged the latter is an “aggressive target” but added, “This is a large-scale deployment that's going to be done over three years, so this is going to be very lucrative for those vendors that choose to partner with us.”

Subject: Dedicated Digital Infrastructure Fund Activity

StratCap Launches Institutional Joint Venture With DataCom, LP, a Digital Infrastructure Fund Controlled by IBI Investment House

Business Wire

Date: December 9, 2022

“StratCap announced today a joint venture with DataCom, LP, a digital infrastructure investment fund controlled by IBI Investment House. IBI Investment House is an Israeli-based market leader in alternative fund offerings. DataCom expects to contribute up to \$150 million as part of its 49% interest in the joint venture. The strategic partnership aims to capitalize on the demand for essential U.S. digital infrastructure assets, such as cell towers and fiber networks whose growth potential is underpinned by an accelerating digital economy. Under the terms of the agreement, the partners will provide capital to acquire U.S.-based digital infrastructure assets. The StratCap team, led by Todd Rowley, a Managing Director of StratCap, will oversee acquisitions, operations, and asset management.”

Significant News Stories (cont.)

Subject: Next-Generation Sustainability Technologies

Continued Focus on Energy Savings

Data Center Knowledge

Date: December 6, 2022

"Intel announced an effort to create a reference design for immersion cooling, a technique that involves immersing servers and other equipment in non-conductive liquids to enable hyper-efficient cooling. It remains unclear what will become of the Intel initiative, whose goal is to create the reference design using something resembling a crowd-sourced approach. But the project shows that tech companies remain committed, at least in principle, to exploring new ways of improving data center sustainability through fundamentally new technologies. 2022 also saw continued interest among tech companies in leveraging hydrogen as a power source for data centers. The technology for making this happen on a large scale isn't quite there yet, but Microsoft announced a successful proof-of-concept in summer 2022 showing that hydrogen cells could replace backup diesel-power generators for its data centers."

Subject: Fiber to the Home (FTTH) Follows Expected Growth

Frontier's Fiber Build Is Ahead of Schedule, but It's Not Raising Its 2023 Target—Yet

Fierce Telecom

Date: November 30, 2022

"The second-largest fiber-builder in America is officially at the halfway mark of a plan to reach 10 million homes by 2025, but its progress hasn't come without challenges this year. Speaking at an investor conference on Wednesday, Frontier Communications' SVP of Investor Relations Spencer Kurn noted, 'Building fiber is actually really hard, especially in this type of challenging supply chain environment and macroeconomic backdrop.' He added, 'I never thought it would be this challenging almost two years ago when we developed this plan.' According to Kurn, despite pain-points in capital access and workforce turbulence in 2022, the operator's construction pace has increased six-fold. The pace of builds actually increased by 10% to 20% in 2022 from a goal of 1 million locations to a new target of 1.1 million to 1.2 million. 'What you're seeing now is a team showing the ability to accelerate builds and do so at cost, even in the face of a tightening labor market and a higher cost of capital,' said Kurn. While Frontier began its build in a handful of states in 2021, it expanded to 12 states in 2022 and will extend its reach further into a total of 15 or 16 in 2023, he added. In May 2022, Frontier raised \$1.2 billion in capital that provided enough liquidity to keep building into mid-2024.

Subject: Microsoft Data Center Investments

Microsoft Plans \$1 Billion Campus in North Carolina Cloud Cluster

Data Center Frontier

Date: November 10, 2022

"Microsoft will invest more than \$1 billion to build a trio of data center campuses in Catawba County in North Carolina, the company said this week. Microsoft will join Google, Apple, and Facebook in deploying data centers in Western North Carolina, which has an active cloud cluster west of Charlotte. The new data centers will be on large properties in Conover, Hickory, and Maiden and will create at least 50 new jobs. The site in Maiden will be just across the highway from the Apple 'iDataCenter' campus, which also features an enormous solar array. The project continues Microsoft's expansion of its East Coast infrastructure. The company plans several new campuses in the Atlanta market, an approach that suggests a future Azure cloud region with multiple availability zones. The use of three sites in North Carolina across 670 acres of land also suggests a multizone cloud region. Microsoft will guarantee a minimum investment of \$1 billion in Catawba County in return for an incentive package that includes performance-based tax breaks equal to 50% of real property tax and 85% personal property tax over 10 years."

Subject: Increased International Tower Investment

GIP and KKR-Led Consortium Enters Into Strategic Co-Control Partnership With Vodafone to Invest in Vantage Towers AG

Business Wire

Date: November 9, 2022

"A consortium of funds led by Global Infrastructure Partners (GIP) and KKR entered into a strategic co-control partnership with Vodafone GmbH (Vodafone) for Vodafone's 81.7% stake in Vantage Towers AG (Vantage Towers or the company), a leading telecoms tower company in Europe. Vodafone will transfer its stake in Vantage Towers to a holding company (Oak BidCo), which will be indirectly co-controlled by Vodafone and the Consortium... Together, GIP, KKR, and Vodafone will provide deep infrastructure expertise to help advance the company's strategic plans. The Consortium and Vodafone share a joint ambition to accelerate the company's growth trajectory through additional investments by Vantage Towers in its network and expansion into fast-growing adjacent markets. The Consortium and Vodafone aim to expand Vantage Towers' business to create a leading pan-European telecoms tower business."

Significant News Stories (cont.)

[Subject: Broadband Subsidies](#)

T-Mobile Seeks Fiber-Optic Venture Aimed at Home Internet

Bloomberg

Date: November 7, 2022

“T-Mobile US Inc. is exploring options to create a fiber-optic network, either through a joint venture or a commercial partnership, according to people familiar with the matter. The company is working with Citigroup Inc. to find partners to build a fiber network targeting the home-broadband market that will require several billion dollars of investment, said the people, who asked not to be identified because the matter is private. One of the people said the joint venture could be worth \$4 billion and T-Mobile could chip in on part of that. The significant landline investment would break new ground for T-Mobile, which, unlike wireless peers AT&T Inc. and Verizon Communications Inc., doesn’t own a fiber network and instead leases capacity for its mobile-phone network.”

[Subject: FCC Meeting Agenda](#)

FCC to Examine 12.7 GHz Band for Next-Gen Wireless

FCC

Date: October 27, 2022

“The Federal Communications Commission today voted to launch a proceeding to explore repurposing up to 550 megahertz in the 12.7 to 13.25 GHz band (12.7 GHz band) for next-generation wireless services. The FCC expects that this inquiry is the first step in providing for more intensive use of the 12.7 GHz band, unlocking a significant expanse of valuable mid-band frequencies that may play a key role in delivering on the promise of next-generation wireless services, including 5G, 6G, and beyond.”

This new proceeding is the latest in a series of FCC initiatives to ensure that mid-band spectrum is available for current and future consumer and business wireless needs. Mid-band spectrum offers an ideal blend of capacity and coverage and can support faster speeds and wider coverage. The 12.7 GHz band is believed to be ideally suited for mobile broadband use as it is already allocated for terrestrial mobile services on a primary basis domestically.”

[Subject: Inflation Hinders RDOF Builds](#)

ISPs: Inflation Has Doubled RDOF Build Costs

Fierce Telecom

Date: October 24, 2022

“Inflation is wreaking havoc on several operators’ rural build plans, making financially tough projects even tougher. A number of operators with Rural Digital Opportunity Fund (RDOF) commitments told Fierce the cost estimates for their builds have skyrocketed. Some are finding it difficult to find banks willing to lend them the money needed to complete their projects. That means those ISPs without a hefty amount of cash on hand could be at risk of defaulting on their obligations. Fierce conducted a series of email interviews with Joseph McGrath, owner of Texas-based fixed wireless provider TekWav, Nextlink CEO Bill Baker, and Plains Internet COO Andrew Monroe. Two of the three—McGrath and Monroe—told Fierce the estimated build costs for their RDOF projects have doubled since they were originally calculated, while Baker said costs have risen ‘materially.’”

[Subject: Partnerships Drive Growth](#)

T-Mobile Teams Up With Google Cloud to Transform Customer Experiences

Google News

Date: October 11, 2022

“T-Mobile and Google Cloud today announced plans to transform customer experiences for wireless customers everywhere, leveraging Google Cloud’s expertise in data analytics, artificial intelligence (AI), and machine learning (ML), and its extensive portfolio of leading 5G and edge computing products and solutions. As T-Mobile continues to offer amazing value and a leading 5G network, and its wireless customer base continues to grow, delivering personalized and engaging customer experiences at scale is critical. Aligning with T-Mobile’s ‘customer obsessed’ approach, Google Cloud’s products and global infrastructure will enable the companies to co-create innovative ways to better connect and deliver personalized services for customers wherever they are in the world. ‘At T-Mobile, creating frictionless, simplified, and personalized experiences is key to our relationship with customers,’ said Marcus East, executive vice president and chief digital officer at T-Mobile. ‘We’re thrilled to work with Google Cloud to address trends in consumer behavior, drive deeper relationships, and evaluate our customer-first approach.’”

Select Q4 2022 M&A Transactions

Announced Date	Target	Acquirer	Description
United States			
Broadband			
Dec-22	Smartaira	SDC Capital Partners	Smartaira is a national, independent internet service provider (ISP) specializing in smarter internet and entertainment solutions for property owners and managers. Retail and bulk solutions focus on improving property values and simplifying the experience for users.
Dec-22	Missouri Telecom	Bluebird Networks	Missouri Telecom has entered into an agreement to sell fiber network assets to include 40 route miles of fiber, along with three Points of Presence (PoPs) in Southwest Missouri, including the cities Mount Vernon, Monett, Nevada, and Aurora.
Dec-22	iFIBER (WA)	Ziplay Fiber	FIBER Communications, a provider of high-speed fiber internet services in partnership with local PUDs in Western, Central, and Eastern Washington. Based in Ephrata, Washington, iFIBER's primary offerings are fiber internet and digital phone solutions for residential customers in partnership with Chelan, Douglas, Franklin, Grant, Kitsap, Mason, and Pend Oreille counties.
Dec-22	Rainier Connect	Palisade Infrastructure	Rainier Connect has been in operation in the area for more than 100 years. It serves not only the Tacoma area, operating the city's Click Network, but also customers in Puyallup, Eatonville, and Graham, providing high-speed internet, Stream TV, phone, and Boost networking services.
Dec-22	OpticalTel	Antin Infrastructure Partners	OpticalTel is a fast-growing provider of essential high-speed internet and telecommunication services, with a focus on residential bulk contracts to customers located in homeowners and condo-owners associations.
Dec-22	Ohio Telecom	Omni Fiber	Ohio Telecom provides internet, phone systems, and phone connectivity for residential and business customers. Ohio Telecom currently provides service for many of the largest businesses, government, medical, and financial institutions in Northwest Ohio.
Nov-22	All West Partners	Novacap	All West is a fiber-based provider of data, video, and voice services to residential, commercial, and carrier customers in Utah and Wyoming. Founded in 1912, All West has continued to evolve and adapt its technologies to pursue its core mission: connecting people to what matters most.
Nov-22	GTel	Archtop Fiber (Post Road Group)	The fiber-rich, fourth-generation, family-owned voice, video, and internet service provider based in Germantown, New York. Through this strategic agreement, Archtop Fiber will provide telecommunications services in more than five townships across New York's southern Columbia County, bringing new tech-focused jobs and business opportunities to the area as the need for expanded connectivity and robust broadband services demand.
Nov-22	Mercury Broadband	Northleaf Capital	Mercury Broadband is a leading provider of high-speed internet and digital phone services for homes and businesses across select rural markets in the Midwest. The company was founded in Topeka, Kansas, after recognizing a need for broadband services in the underserved markets. A hybrid approach to serving the "last-mile" customers was developed by extending high-capacity fiber optic networks with the range, reliability, and flexibility of carrier-class wireless technologies to provide next-generation services to customers.
Oct-22	Natel Broadband	Liberty Communications	Natel Broadband launched in 1996 in Fairfield, Iowa, and maintains a high-end network that consists of both state-of-the-art FTTH as well as a robust fixed wireless network covering a broad rural area in Southeast Iowa. Natel has built a strong reputation within its communities for outstanding customer service, high-integrity business practices, and highly reliable network performance.
Data Centers and Managed Services			
Dec-22	Lifeline Data Centers	Netrality	Netrality Data Centers, the largest, privately held owner and operator of core interconnection facilities in the U.S., announced the acquisition of Lifeline Data Centers' 733 West Henry data center on the Indy Telcom campus.
Dec-22	Chase Tower	1547/Harrison Street	1547, a leading developer, operator, and owner of highly interconnected, custom-designed data centers in North America, has partnered with Harrison Street, one of the leading investment management firms exclusively focused on alternative real assets, to purchase the iconic Chase Tower in McAllen, Texas, one of the most important internet exchange locations for telecommunication traffic between Texas and Mexico.
Nov-22	EdgeCore Digital Infrastructure	Partners Group	EdgeCore Digital Infrastructure, a Denver, Colorado-based data center operator, has received up to a \$1.2 billion investment from PE firm Partners Group. Partners Group is acquiring a majority stake in EdgeCore and planning to build new data centers in the U.S.
Wireless Infrastructure			
Nov-22	Uniti Group	CTI Towers	In November 2022, CTI Towers, a portfolio company of Palistar Capital, announced the acquisition of 180 towers located in 14 states from Uniti Group. This represents CTI's second transaction for 2022.
Oct-22	PeakNet	Everest	In October 2022, Everest Infrastructure Partners announced it had completed the acquisition of a portfolio of wireless communication tower assets from PeakNet. The tower assets represent premium locations in Florida, Indiana, and North and South Carolina. This transaction represents the largest acquisition that Everest has completed since inception.
Wireless and Spectrum			
Dec-22	Consolidated Communications	Verizon	Consolidated Communications, based in Mattoon, Illinois, said it plans to divest its limited partnership interests in five wireless partnerships managed by Cellico Partnership. Cellico Partnership is a wholly owned subsidiary of Verizon. Cellico will purchase Consolidated Communications' interests for \$490 million.

Select Q4 2022 M&A Transactions (cont.)

Announced Date	Target	Acquirer	Description
Dec-22	West Central Wireless	Verizon	Verizon has confirmed it is in the process of acquiring West Central Wireless, a regional carrier in mid-Texas. In addition to its mobile service, West Central, based in San Angelo, Texas, also offers fixed wireless access through the brand West Central Net.
Dec-22	Buffalo-Lake Erie Wireless Systems	AT&T	Buffalo-Lake Erie sold two 700 MHz B-Block licenses covering portions of Pennsylvania to AT&T. Valuation for the two 700 MHz B-Block licenses is \$0.82 per MHz Pop (2020) and 7.3x gross/9.8x net auction proceeds.
Dec-22	Smith Bagley, Inc.		The portfolio of licenses include one PCS license (E Block), three AWS-3 licenses (G Block), and three 600 MHz licenses (A, F, G Block) covering portions of Colorado, New Mexico, New York, and Utah. Each of the seven licenses has 10 MHz of bandwidth and, in aggregate, offer 5.7 million MHz-Pop covering a unique population of 351,290.

Telecom Services

Dec-22	Taylor Telecommunications	Verità Telecommunications Corporation	Verità Telecom announced the acquisition of Taylor Telecom, a broadband provider offering a service that enhances its members' lives with convenience, connection, and care.
Dec-22	GridSource Inc.	Hastings Equity Partners	Hastings announced its second Fund V platform investment in GridSource, a leading utility contractor based in Baton Rouge that specializes in infrastructure solutions for the telecom and gas industries.
Dec-22	Fire Fox Aerial Fiber	Network Connex	Network Connex, a leader in mission-critical digital communication infrastructure services, announced the purchase of Fire Fox Aerial Fiber, further expanding the company's aerial FTTH installation capabilities.
Nov-22	Eastern Communications	NEC	NEC, has acquired Eastern Communications, LLC (Eastern). Headquartered in Bloomfield, Connecticut, Eastern is a vertically integrated provider of maintenance, repair, and upgrade services to critical telecommunications infrastructure across the New England region.
Nov-22	Victory Equity Construction	Jackson Infrastructure Services	Jackson Infrastructure Services, a leading utility and infrastructure services provider to the telecommunications, power, gas, and other infrastructure markets across the Mountain West region of the U.S., announced that it has acquired Victory Equity Construction, Inc. (VECI) of Missoula, Montana. VECI specializes in providing underground telecommunications infrastructure services for rural fiber-optic cooperatives.
Nov-22	Southeast Tower Corporation	NextEdge	NextEdge announced its acquisition of Southeast Tower, a turnkey management solution, general contracting corporation that specializes in the management, planning, and building of wireless infrastructures across the continental United States.

Telecom Software

Nov-22	Benu Networks	Ciena	Developer of virtual service platform designed for the creation and delivery of internet protocol (IP) services over a converged infrastructure. The company's platform is a next-generation Virtual Service Edge software platform that combines cable modem termination system (CMTS) functions under one roof, enabling network operators to dynamically scale existing networks for home and business customers.
Oct-22	Versa Networks	BlackRock, Silicon Valley Bank	Developer of software-defined networking (SDN) platform designed to provide integrated cloud, networking, and security services. The company's platform provides network and security infrastructure that runs on x86 servers or white box appliances, combined with management, orchestration, and analytics, enabling enterprises and service providers to lower WAN, branch infrastructure, and circuit costs.
Oct-22	Connectbase	DigitalBridge Ventures	Connectivity marketplace platform Connectbase today announced that it has raised \$21 million in its Series C funding round, led by DigitalBridge Ventures, the Infratech initiative of DigitalBridge Group, Inc. (NYSE:DBRG). Connectbase secured the new equity investment to drive growth of its platform, fueled by the increasing global appetite for bandwidth. All existing Connectbase investors participated in the funding round, including Ascent Venture Partners, Harbert Growth Partners, Nauta Capital, and Osage Venture Partners.
Oct-22	Biarri Networks	Dura-Line	Orbia's Connectivity Solutions business, Dura-Line, announced today that it has acquired Biarri Networks, a leading Denver-based technology provider that specializes in fiber-optic network design solutions for the global telecommunications industry. The strategic investment in Biarri Networks' software and services complements Dura-Line's infrastructure expertise and supports Dura-Line in extending its end-to-end offerings.
Oct-22	Izuma Networks	Softbank	Operator of the unified cloud platform intended for deploying edge applications and devices. The company platform offers globally available edge computing, internet of things management service, and a single pane of glass management, thereby enabling its clients to move edge applications, data, or firmware securely and reliably.
Oct-22	Mavenir	Undisclosed Investors	Mavenir Systems provides cloud-proven, NFV, SDN, and 5G ready software-based solutions for communication service providers (CSPs), enterprises, and application providers worldwide.

International

Broadband

Oct-22	GlobalConnect	Mubadala (UAE Sovereign Wealth)	GlobalConnect is a fiber-based data communications and datacenter services provider to enterprises, public institutions, and consumers in Northern Europe. The company was created in 2019 through the combination of four independent fiber platforms in Denmark, Norway, and Sweden, all owned by EQT Infrastructure.
Oct-22	Rural Broadband Solutions	Tiger Infrastructure	RBBS initially provided broadband through fixed wireless in Shropshire and has started deploying fiber since the establishment of the U.K. government Project Gigabit scheme, which subsidizes broadband roll-out. RBBS' vision is to create a high-quality continuous network initially covering 100,000 remote premises in small towns in Shropshire and Wales.

Data Centers and Managed Services

Dec-22	ODATA	Aligned Data Centers	Aligned Data Centers announced the acquisition of ODATA, a data center service provider offering scalable, reliable, and flexible IT infrastructure in Latin America, from Patria Investments and other selling stakeholders.
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Select Q4 2022 M&A Transactions (cont.)

Announced Date	Target	Acquirer	Description
Nov-22	AIMS Group	DigitalBridge	DigitalBridge Group announced the acquisition of an ownership stake in AIMS Group from TIME dotCom Berhad by funds affiliated with DigitalBridge Investment Management. This will form an edge data center platform focused on the high-growth markets of the Southeast Asia region. AIMS is a leading operator of highly connected ecosystem-centric data centers based in Malaysia.
Oct-22	Firstcolo datacenters	Cube Infrastructure Managers	Cube Infrastructure Managers, an independent mid-market infrastructure investor, announced that Cube Infrastructure Fund III has agreed to acquire firstcolo datacenters GmbH, a Frankfurt-based data center business, from funds advised by EMERAM Capital Partners and its portfolio company diva-e Excellence GmbH.
Oct-22	Datacenter One	AtlasEdge Data Centres	AtlasEdge, a leading pan-European Edge data center provider, has announced the acquisition of Datacenter One. The move furthers AtlasEdge's expansion across Europe, with DC1 a leading data center provider in Germany.

Wireless Infrastructure

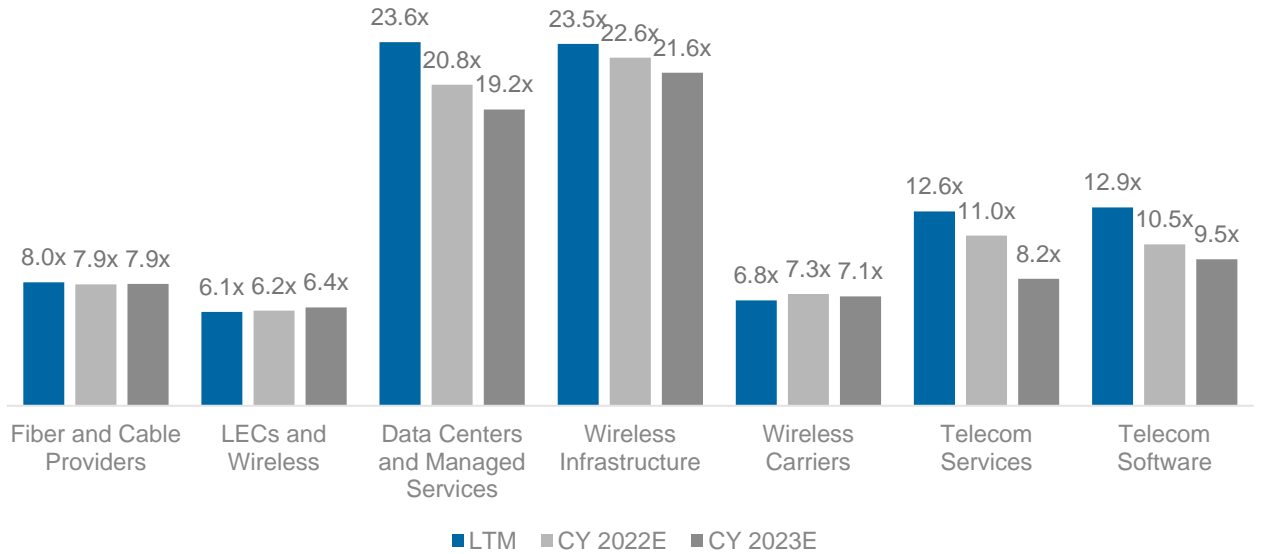
Dec-22	StratCap	DataCom	In December 2022, StratCap announced a JV with DataCom, a digital infra investment fund controlled by IBI Investment House. DataCom expects to contribute up to \$150 million as part of its 49% interest in the JV. The strategic partnership aims to capitalize on the demand for essential U.S. digital infra assets, such as cell towers and fiber networks.
Dec-22	Omantel	Helios Towers	In December 2022, Helios Towers completed the acquisition of a 70% share of Oman Telecommunications' passive infrastructure assets in Oman for \$495 million. The acquisition adds 2,519 sites to its portfolio and represents its first transaction in the Middle East.
Nov-22	Vantage Towers	KKR and CIP Consortium	In November 2022, Vodafone Group sold a portion of its ownership of Vantage Towers to KKR and Global Infrastructure Partners (GIP) and formed a joint venture. The deal values Vantage Towers at \$16.3 billion. By creating the new JV, Vantage will be able to grow its co-location business and pursue new business opportunities from small cells, DAS, and edge computing.

Telecom Software

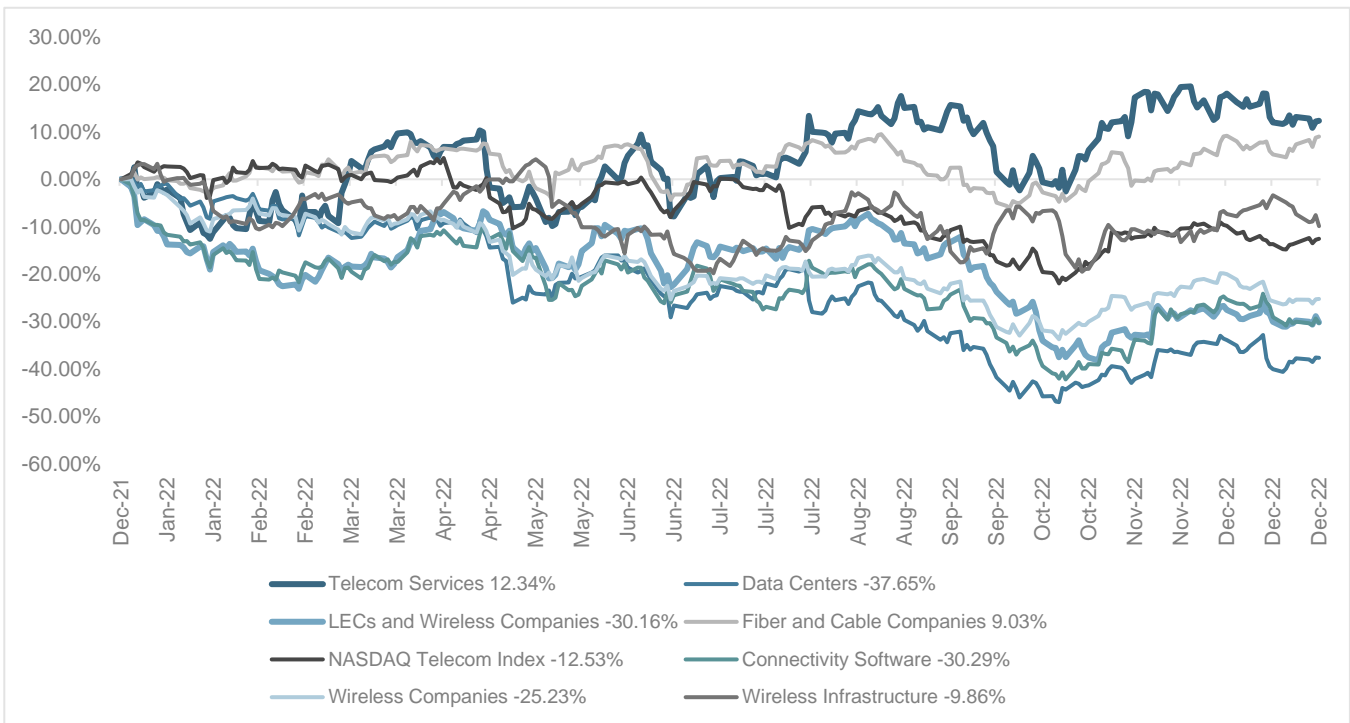
Dec-22	Shabodi	SineWave Ventures	Developer of an application enablement platform designed to build high-performance enterprise applications on 5G. The company's platform provides the ability to leverage an application enablement platform (AEP) and control the network by providing simple application programming interfaces (API) to reconfigure applications on a 5G network, enabling developers to take control, cut costs, and optimize its performance.
Dec-22	Ericsson's IoT Accelerator and Connected Vehicle Cloud Business	Aeris Communications	Aeris Communications provides businesses with intelligent IoT cellular connectivity, security, reliability, and support to simplify and streamline IoT programs at scale. The company addresses industries such as transport, automotive, energy, and healthcare, among others, and has helped thousands of customers deploy and manage their IoT programs end to end.
Dec-22	Expeto	Sorenson Capital	Developer of private mobile networking platform designed to help enterprises control and manage networks. The company platform provides the ability to control, secure, and coordinate all aspects of a connected business from operations and logistics to analytics and reporting, enabling enterprises to deploy connected devices globally within the security of their own private network without relying on third-party or untrusted methodologies.
Nov-22	Deepomatic	Orbia Ventures	Deepomatic provides visual automation technology to field service technicians, primarily in the telecom sector. The company serves a number of blue-chip customers globally, including Bouygues Telecom and Circet in France, Swisscom in Switzerland, CityFibre in the U.K., Unit-T in Belgium, Telefónica in Colombia, and others. This round is intended to drive expansion in the renewable energy, electric mobility, construction, and insurance sectors across Europe, North America, and South America.
Oct-22	Pelion Edge	Izuma Networks	Izuma Networks announced the acquisition of SoftBank's Pelion Edge software business, including the IoT device management products. Izuma inherits the extensive software and intellectual property portfolio that Arm's IoT Services Group (ISG) developed from 2013 to 2020. Izuma also announced an investment by SoftBank Group that enables the new company to hit the ground running.
Oct-22	Kigen	Softbank Investment Advisers	Developer and provider of eSIM and iSIM technology intended to drive eSIM and iSIM to the cornerstone of IoT security. The company delivers trusted and secure enablement technologies and services for remote subscription management into cellular IoT companies globally and also works with partners across an extensive technology ecosystem to provide a broad portfolio of solutions that simplify SIM delivery and management throughout the connected device value chain, thereby enabling businesses to grow their IoT rapidly by integrating trust and security through SIM, eSIM, and iSIM technologies.

Public Markets Overview

Median EV/EBITDA



12-Month Indexed Stock Price Performance



Source: S&P Capital IQ.

Note: Calendar year consensus estimates used unless otherwise noted.

Components of each sector are detailed on the following pages. All data as of December 27, 2022.

Public Comparables

Fiber Providers, LECs and Cable Companies, Data Centers and Managed Services, and Wireless Infrastructure

Fiber and Cable Providers

Company	Stock Price	% of 52-Week High	Equity Value	Enterprise Value	LTM Lev	EV/Revenue			EV/EBITDA		
						LTM	CY 2022E	CY 2023E	LTM	CY 2022E	CY 2023E
Comcast	\$34.97	67%	\$151,190	\$244,164	2.6x	2.0x	2.0x	2.0x	6.6x	6.6x	6.6x
Charter Communications	339.10	52%	52,619	152,923	4.5x	2.9x	2.8x	2.8x	7.1x	7.1x	6.9x
Altice	4.60	27%	2,097	28,419	6.8x	2.9x	2.9x	3.0x	7.3x	7.3x	7.5x
Cable One	711.86	40%	4,135	7,708	4.4x	4.5x	4.5x	4.5x	8.8x	8.5x	8.3x
Cogent	57.08	77%	2,663	3,792	6.7x	6.5x	6.3x	6.0x	18.2x	16.2x	15.1x
Shentel	15.88	60%	796	844	1.3x	3.2x	3.2x	3.0x	14.0x	11.6x	10.8x
Mean					4.4x	3.7x	3.6x	3.6x	10.3x	9.6x	9.2x
Median					4.5x	3.1x	3.1x	3.0x	8.0x	7.9x	7.9x

Incumbent LECs

Company	Stock Price	% of 52-Week High	Equity Value	Enterprise Value	LTM Lev	EV/Revenue			EV/EBITDA		
						LTM	CY 2022E	CY 2023E	LTM	CY 2022E	CY 2023E
Verizon	\$39.40	71%	\$165,473	\$343,280	4.1x	2.5x	2.5x	2.5x	7.9x	7.2x	7.0x
AT&T	18.41	67%	131,193	306,866	3.0x	2.0x	2.5x	2.5x	5.8x	7.4x	7.2x
Lumen	5.22	37%	5,401	30,783	3.7x	1.7x	1.8x	2.1x	4.4x	4.5x	5.8x
Frontier	25.48	80%	6,243	12,823	3.8x	2.2x	2.2x	2.2x	5.4x	6.2x	6.0x
TDS	10.49	49%	1,191	7,317	4.2x	1.3x	1.3x	1.3x	6.6x	6.2x	6.0x
Consolidated Communications	3.58	42%	413	2,407	5.7x	2.0x	2.0x	2.1x	6.4x	5.9x	6.8x
Mean					4.1x	1.9x	2.1x	2.1x	6.1x	6.2x	6.5x
Median					4.0x	2.0x	2.1x	2.2x	6.1x	6.2x	6.4x

Data Centers and Managed Services

Company	Stock Price	% of 52-Week High	Equity Value	Enterprise Value	LTM Lev	EV/Revenue			EV/EBITDA		
						LTM	CY 2022E	CY 2023E	LTM	CY 2022E	CY 2023E
Equinix	\$655.03	77%	\$60,615	\$74,138	6.6x	11.2x	10.2x	9.3x	30.4x	22.0x	20.1x
Digital Realty Trust	100.27	57%	28,830	48,431	8.0x	10.7x	10.4x	9.5x	22.5x	19.7x	18.4x
DigitalBridge Group	10.94	32%	1,749	10,940	13.5x	8.3x	9.6x	8.4x	24.7x	36.6x	25.0x
Cyxtera	1.92	12%	345	2,591	NM	3.5x	3.5x	3.3x	17.7x	11.0x	9.8x
Mean					9.3x	8.5x	8.4x	7.6x	23.8x	22.3x	18.3x
Median					8.0x	9.5x	9.9x	8.9x	23.6x	20.8x	19.2x

Wireless Infrastructure

Company	Stock Price	% of 52-Week High	Equity Value	Enterprise Value	LTM Lev	EV/Revenue			EV/EBITDA		
						LTM	CY 2022E	CY 2023E	LTM	CY 2022E	CY 2023E
American Tower	\$211.86	72%	\$98,643	\$149,220	7.3x	14.3x	14.0x	13.5x	23.5x	22.6x	21.6x
Crown Castle	135.64	65%	58,739	86,333	6.9x	12.6x	12.4x	12.0x	21.5x	19.9x	19.3x
SBA	280.31	72%	30,264	44,736	9.0x	17.6x	17.0x	16.4x	27.6x	25.3x	23.8x
Mean					7.8x	14.8x	14.5x	13.9x	24.2x	22.6x	21.6x
Median					7.3x	14.3x	14.0x	13.5x	23.5x	22.6x	21.6x

Note: Stock price last updated on 12/31/22
 NM in EV/EBITDA if multiple is greater than 40 or EBITDA is negative
 NA means information is not available or not applicable
 NM represents Not Meaningful

Public Comparables (cont.)

Wireless Carriers, Telecom Services, and Telecom Software

Wireless Carriers

Company	Stock Price	% of 52-Week High	Equity Value	Enterprise Value	LTM Lev	EV/ Revenue			EV/ EBITDA		
						LTM	CY 2022E	CY 2023E	LTM	CY 2022E	CY 2023E
Verizon	\$39.40	71%	\$165,473	\$343,280	4.1x	2.5x	2.5x	2.5x	7.9x	7.2x	7.0x
AT&T	18.41	67%	131,193	306,866	3.0x	2.0x	2.5x	2.5x	5.8x	7.4x	7.2x
T-Mobile	140.00	91%	174,182	281,458	4.3x	3.5x	3.5x	3.4x	10.6x	10.2x	9.5x
U.S. Cellular	20.85	63%	1,777	5,729	3.6x	1.4x	1.4x	1.4x	4.9x	5.9x	5.7x
Mean					3.7x	2.3x	2.5x	2.4x	7.3x	7.7x	7.4x
Median					3.8x	2.3x	2.5x	2.5x	6.8x	7.3x	7.1x

Telecom Services

Company	Stock Price	% of 52-Week High	Equity Value	Enterprise Value	LTM Lev	EV/ Revenue			EV/ EBITDA		
						LTM	CY 2022E	CY 2023E	LTM	CY 2022E	CY 2023E
Quanta Services	\$142.50	92%	\$20,363	\$24,315	3.0x	1.5x	1.4x	1.3x	17.6x	14.5x	13.5x
MasTec	85.33	86%	6,566	8,952	3.9x	1.0x	0.9x	0.7x	13.9x	11.5x	8.0x
Dycom Industries	93.60	77%	2,767	3,578	2.8x	1.0x	1.0x	0.9x	11.3x	10.6x	8.5x
Primoris Services	21.94	79%	1,165	2,417	5.5x	0.6x	0.5x	0.5x	9.8x	8.5x	6.7x
Mean					3.8x	1.0x	1.0x	0.8x	13.1x	11.3x	9.2x
Median					3.4x	1.0x	0.9x	0.8x	12.6x	11.0x	8.2x

Telecom Software

Company	Stock Price	% of 52-Week High	Equity Value	Enterprise Value	LTM Lev	EV/ Revenue			EV/ EBITDA		
						LTM	CY 2022E	CY 2023E	LTM	CY 2022E	CY 2023E
Amdocs	\$90.90	100%	\$10,982	\$11,034	0.9x	2.4x	2.4x	2.2x	12.4x	11.2x	10.4x
CSG Systems	57.20	86%	1,734	2,096	3.2x	2.0x	2.1x	2.0x	13.4x	9.3x	8.6x
Hansen Technologies	3.49	84%	705	734	1.6x	3.6x	3.6x	3.5x	17.2x	10.9x	10.9x
Cerillion	14.58	93%	430	411	0.3x	11.3x	10.0x	8.6x	30.4x	24.0x	21.0x
Enea AB	8.26	29%	176	206	3.0x	2.2x	2.3x	2.3x	11.8x	7.9x	7.4x
Tecnotree	0.67	41%	207	186	NM	2.7x	2.5x	2.3x	10.3x	10.0x	8.0x
Mean					1.8x	4.0x	3.8x	3.5x	15.9x	12.2x	11.0x
Median					1.6x	2.6x	2.4x	2.3x	12.9x	10.5x	9.5x

Note: Stock price last updated on 12/31/22
 NM in EV/EBITDA if multiple is greater than 40 or EBITDA is negative
 NA means information is not available or not applicable
 NM represents Not Meaningful

Digital Infrastructure Team



Jason Hill
Co-Head of U.S. Technology
Global Head of Digital Infrastructure
Boston



Bill Fanning
Managing Director
Boston



Clayton Funk
Managing Director
Boston



Brian Pryor
Managing Director
Boston



Greg Widroe
Managing Director
London



Jesse Nichols
Managing Director
Boston



Andrew Bracy
Director
San Francisco



Sean Hew
Senior Vice President
San Francisco



Will Cooper
Vice President
Los Angeles



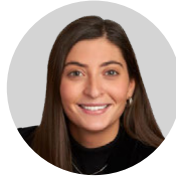
Wayne Harrington
Vice President
Boston



Nate Waldeisen
Vice President
New York



Abe Bui
Vice President
San Francisco



Leticia Plaza Marin
Associate
London



David Roos
Associate
New York



Rob Sniezek
Associate
San Francisco



Thomas Marabondo
Associate
Boston



William Boyce
Associate
New York



Bobby Leyman
Associate
New York



Rob Henry
Financial Analyst
Boston



Robert Petrakis
Financial Analyst
Boston



Thomas Grigglesstone
Financial Analyst
Boston



Harsh Shah
Financial Analyst
Los Angeles



Jeff Kong
Financial Analyst
Boston



James Conley
Financial Analyst
Boston



Ewan Jones
Financial Analyst
New York

Current Capital Markets Backdrop

Digital Infrastructure

U.S. capital markets are currently challenged with investors focused on recession concerns, inflation, supply chain issues, and broader global political and socioeconomic issues. Amid the slowdown and volatility in the syndicated loan and high-yield markets, the direct lending market has been more resilient, offering borrowers an alternative path to committed capital.

Investors are actively looking for high-quality assets in recession-resilient markets.

- Digital infrastructure lenders remain highly active and willing to support companies with strong cash flow, predictable revenue streams, and management teams with a track record of successful expansion.

Please let us know if you'd like to speak with our Capital Markets team about the current financing environment and opportunities in this market.

Houlihan Lokey's Global Capital Markets Team

Houlihan Lokey is the largest and most active non-balance-sheet placement agent on Wall Street.

- 90 dedicated professionals across 11 offices in five countries.
- Over the two years raised approximately \$25 billion in capital and advised on an additional \$12 billion in capital over a total of 250+ transactions with more than 110 different financial sponsors.
- Houlihan Lokey has an unparalleled track record of delivering attractive, customized, and flexible financing solutions for clients.
- Deep industry expertise and experience and strong relationships with decision-makers at a range of capital providers.
- Real-time knowledge of and insight into what is achievable in today's markets based on recent transactions and other in-process financings.

Capital Markets Capabilities

Private Capital Markets Solutions

- Placement of solution-oriented capital for a wide range of financing needs.
- High-touch, confidential, and targeted process across senior debt to minority equity solutions.

Capital Markets Advisory

- Independent advisory on bank commitments and securities offerings.
- Ability to act as bookrunner/co-manager.

Syndicated Leveraged Finance Platform (LBO Finance)

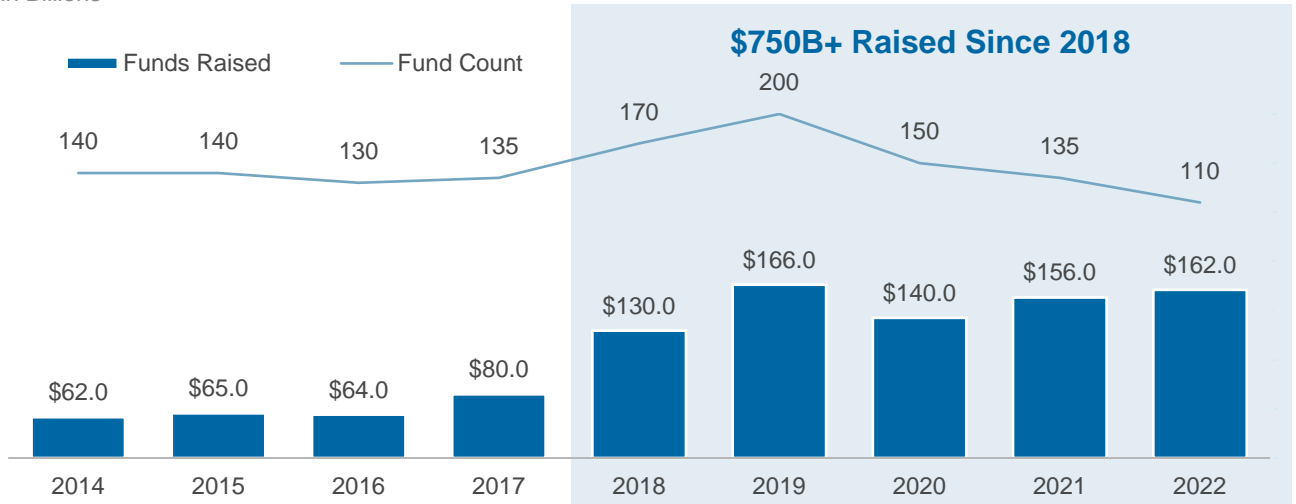
- Arranger of underwritten financings.
- Club distributions, broadly syndicated loans, and bond/bridge underwritings.

Infrastructure Fundraising

Digital Infrastructure

Overview of Historic Infrastructure Investor Fundraising⁽¹⁾

\$ in Billions



Recent Notable Fundraises Focused on Infrastructure Assets

Brookfield	MACQUARIE	ANTIN INFRASTRUCTURE PARTNERS	Ara Partners	CAI CLIMATE ADAPTIVE INFRASTRUCTURE
Brookfield Flagship Infra Fund V	Macquarie Super Core Infrastructure Fund	Antin Infrastructure Flagship Fund V ⁽²⁾	Ara Partners Fund I	Climate Adaptive Infrastructure Debt Fund
Fund Size: \$23.0B	Fund Size: \$13.1B	Fund Size: \$7.6B	Fund Size: \$1.0B	Fund Size: \$1.0B
Vintage: 2022	Vintage: 2022	Vintage: 2022	Vintage: 2022	Vintage: 2022

Many of the largest infra funds have raised or are raising dedicated infrastructure credit funds



Several prominent TMT PE investors have raised or are raising infra funds









(1) Source: Infrastructure Investor.

(2) As of first close.

Sector-Specific Expertise Across the Tech Coverage Universe

Our global industry coverage model brings sector-specific knowledge, experience, and relationships to every client we work with.






					
Broadband and Connectivity	Data Centers and Managed Services	Towers and Wireless Infrastructure	Wireless Services	Digital Infra Services	Communication Software

					
Business Management Software	Digital Media	Data and Analytics	Legal	Semiconductor Technology	GovTech/ Public Sector Software
					
Cloud Software Services	EdTech	Healthcare Software	MarTech	Tech Services	Infrastructure Software
					
Communication Tech Solutions	Energy and Commodities	Human Capital Management	Nonprofit/ Associations	Traditional Media	Retail
					
Cybersecurity	FinTech	Industrial Software	Other Vertical Software	Transportation, Logistics, and Mobility	Travel and Hospitality







How Houlihan Lokey Can Help

Our firm is ideally equipped to help our clients navigate uncertain times. We respond quickly to challenging situations and are constantly helping clients to analyze, structure, negotiate, and execute the best possible solutions from both a strategic and a financial perspective.

What We Offer

<p>1</p>  <p>Corporate Finance</p>	<ul style="list-style-type: none"> Mergers and Acquisitions Capital Markets Private Funds Advisory Board Advisory Services 	<p>We are widely recognized as a leading M&A advisor to the mid-cap and have long-standing relationships with capital providers, including commercial banks and other senior credit providers, insurance funds, asset managers, and mezzanine fund investors. Few other investment banks maintain the breadth of relationships and capital markets intelligence that we do.</p>
<p>2</p>  <p>Financial Restructuring</p>	<ul style="list-style-type: none"> Company Advisory Special Situations Distressed M&A Liability Management Creditor Advisory 	<p>We have the largest restructuring practice of any global investment bank. Since 1988, we have advised on more than 1,500 restructuring transactions (with aggregate debt claims in excess of \$3.0 trillion). We served as an advisor in 12 of the largest 15 bankruptcies from 2000 to 2022.</p>
<p>3</p>  <p>Financial and Valuation Advisory</p>	<ul style="list-style-type: none"> Portfolio Valuation and Fund Advisory Transaction Opinions Corporate Valuation Advisory Services Transaction Advisory Services Real Estate Valuation and Advisory Dispute Resolution Consulting 	<p>Over the past five decades, we have established ourselves as one of the largest financial and valuation advisory firms. Our transaction expertise and leadership in the field of valuation help inspire confidence in the financial executives, boards of directors, special committees, investors, and business owners we serve.</p>

Why We're Different

 <p>No.1 for U.S. Tech* and M&A</p>	 <p>Significant Experience With Financing Markets</p>	 <p>Senior-Level Commitment and Dedication</p>	 <p>Deep, Industry-Specific Expertise</p>	 <p>Superior Work Product/Technical Abilities</p>	 <p>Creativity, Imagination, Tenacity, and Positivity</p>
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Financial Restructuring
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