



Houlihan Lokey

# Connectivity Software

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MARKET UPDATE | Q1 2023

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Investors

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# Here's What Happened in Q1 2023

## Q1 Processes Got Pushed Out

Events in the banking sector led companies into wait-and-see mode. With the FDIC placing a lid on the SVB situation and improved visibility on lingering systemic risks, companies are preparing for H2 processes.

## Houlihan Lokey Published a 2023 Outlook

Our second edition of Software for the Connected World, contains 90 pages of content on themes that we expect to shape the year ahead. The report can be found [here](#).

## The Industry Gathered at MWC

Nearly 100,000 participants from governments, mobile operators, device manufacturers, technology providers, vendors, and content owners gathered in Barcelona to discuss the future of connectivity.

## Underlying Demand Continued to Grow

Underlying growth drivers appear as strong as ever despite recent market volatility. Many clients reported outperformance, new contract wins, and record pipelines. Growth rates of 30%, 50%, and 100%+ have been commonly observed.

## Companies Turned to Existing Investors

During the heightened volatility of Q1, companies with existing PE and VC backing turned to existing investors to help finance growth and provide working capital. Many founder-owned, bootstrapped businesses have been preparing to run capital-raising processes in the coming quarters.

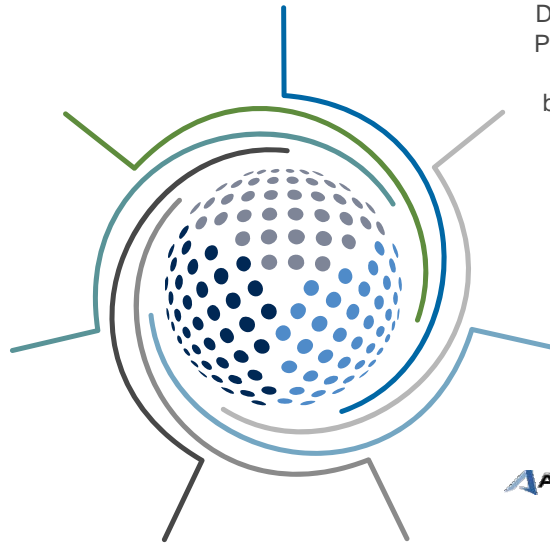
## Equity Capital Markets Remained Open

While the pace of deal-making significantly slowed in Q1, several companies managed to complete significant growth equity raises:



## Companies Developed Strategic M&A Plans

Companies with scale (\$20 million+ revenue) began actively searching for inorganic growth opportunities to build on their positions in their respective end markets. In the lower end of the market (<\$10 million revenue), numerous add-on opportunities have emerged—particularly in the deployment management space, where we are following more than a handful of planned sale processes.



# Mobile World Congress Recap



## Key Points

- In February, the GSMA hosted the Mobile World Congress in Barcelona. The annual conference is the largest and most influential connectivity event in the world. The event brings together governments, MNOs, device manufacturers, technology providers, vendors, and content owners.

## Notable Themes

### Virtualization

- Virtualization of hardware components is allowing for greater flexibility, scalability, cost savings, and management of complex systems.

### Open Networks

- Growing adoption of open standards and protocols that enable interoperability between different devices and networks. This allows for greater innovation, competition, flexibility in the industry, and better security and privacy.

### Sustainability

- Per the GSMA, 85% of operators rate energy efficiency as their number one priority in network transformation.
- In response to this, numerous vendors have announced new products and innovations to improve cell site and network energy efficiency.

### Automation

- Use of network automation software to plan, test, assure, and implement across a network's lifecycle is allowing network providers to assure long-term profitability and monetize networks in new and innovative ways.

### Private Networks

- Telecom and tech incumbents and emerging providers are racing to enable private wireless networks for manufacturing, industrial, healthcare, and other use cases.

## Key Stats

**90,000**  
Participants

**2,500**  
Exhibitors

**1,000**  
Speakers

**200**  
Countries With  
Participants

## Notable Attendees























## Notable Product Launches

- **AWS Telco Network Builder:** helps telcos deploy and manage public and private networks on AWS. Provides a turnkey blueprint to stand up network resources. This dramatically simplifies what used to be a thousand tiny private cloud design decisions for network engineers and offers it as a fully managed service.
- **GSMA Open Gateway:** provides a framework for universal APIs to developers so they can access carriers' network data (such as location or identity verification) to use in third-party apps.














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## Notable Transactions

Date	Target	Acquirer/Investor	Transaction (\$M)	Target Description
Mar-23	 IoT Business Unit		Undisclosed	Twilio's IoT business unit provides connectivity and device builder products that enable developers to build, deploy, manage, and scale IoT businesses.
Mar-23			Undisclosed	Provides global, carrier-grade, white-label cloud communications services, including CPaaS, UCaaS, Microsoft Teams direct-routing-as-a-service, as well as real-time communications APIs and supporting functions.
Mar-23			\$1,350	Mint Mobile is a direct-to-consumer (D2C) prepaid MVNO (mobile virtual network operators) with over 3 million users, reselling the T-Mobile network.
Mar-23			\$2	Provides broadband providers with a purpose-built and fully managed digital commerce solution that enables innovation at speed and scale to quickly transform sales channel performance into high-performing subscriber growth channels.
Feb-23			Undisclosed	Athonet is a private cellular network technology provider that delivers mobile core networks to enterprises and communication service providers.
Feb-23			\$50	Arrcus is a software-based networking alternative for carriers and other major connectivity users that replaces the legacy routers and network switches from Cisco, Juniper, and Arista.
Feb-23			Undisclosed	Provides platforms for telecommunication and government organizations to build out global carrier networks and secure private communication services; focused on the signaling, routing, subscriber, and private networks domains.
Feb-23			Undisclosed	BeQuick is a telecommunications platform servicing MVNOs. The company delivers white-label solutions that manage the entire lifecycle of mobile service providers.
Jan-23			Undisclosed	Skyvera has agreed to acquire the business support, monetization, networking, and analytics solutions business from STL. This includes telecom software capabilities in BSS, monetization, and analytics for communications service providers worldwide.
Jan-23			Undisclosed	Cohere Technologies is a provider of universal spectrum multiplier software for open radio access networks and existing 4G and 5G mobile networks, and the developer of the orthogonal time frequency space 6G wireless system.



## Notable Transactions (cont.)

Date	Target	Acquirer/Investor	Transaction (\$M)	Target Description
Jan-23	 nrby	 XIVENTURES FUND INC	Undisclosed	Nrby simplifies and improves operations by turning every location and asset into actionable digital data. The platform empowers service providers to accelerate infrastructure build outs, optimize tech operations, reduce trouble calls, and improve network performance.
Jan-23	 FORWARD NETWORKS	 MSD	\$50	Forward Networks is the developer of a network assurance platform designed to assist businesses in searching, protecting, and predicting network behavior.
Jan-23	 DIMOCO messaging	 TOFANE	Undisclosed	DIMOCO Messaging is a provider of multifunctional messaging solutions for global aggregators, mobile operators, and enterprise clients. The company delivers approximately 2 billion messages per year.
Jan-23	 blackned 	 RHEINMETALL	Undisclosed	Blackned is a provider of software development and integration services intended to offer secure mission and business-critical communication networks and systems.
Jan-23	 UNITAS GLOBAL	 PACKETFABRIC	Undisclosed	Unitas Global is a provider of network infrastructure services intended to serve large and small enterprises. The company specializes in providing end-to-end network designing, pricing, ordering and visibility, fully managed and private peering services, and route optimization services.
Jan-23	 blues wireless	 POSITIVESUM	\$32	Blues Wireless is an IoT company that makes embeddable, wireless smart device infrastructure to enable the mass digitization of commercial products.

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# Forward Networks Raises \$50 Million to Unlock Data in Digital Infrastructure

## Overview

\$50M Series D of




led by



January 2023

- Forward Networks has announced that it has secured \$50 million in Series D funding.
- The round, led by MSD Partners, includes new investors Section 32 and Omega Venture Partners as well as existing investors Goldman Sachs Asset Management, Threshold Ventures, A. Capital, and Andreessen Horowitz.

<p>Headquarters</p>  <p>Santa Clara, California</p>	<p>~125 Employees</p>	<p>~\$120M Total Capital Raised</p>
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## Transaction Notes

- Proceeds will be used to continue investing in R&D and expanding the company's base of customers.
- Since its last round of funding in 2019, Forward Networks has quadrupled its customer base, opened new headquarters in Santa Clara, California, and extended its development team with an office in Bangalore, India.
- The company achieved 139% ARR growth from FY2021 to FY2022 while experiencing exceptional customer loyalty demonstrated by a 96% retention rate.
- With this funding event, Victor Hwang, Managing Director and Co-Head of MSD Growth, joins the Forward Networks board of directors.

## Target Description

- Forward Networks is revolutionizing the way large networks are managed. The company's software platform delivers a mathematically accurate digital twin of the network, enabling network operators to make data-driven decisions and ensure that the network is secure, reliable, and agile.
- Digital twins—virtual representations of actual systems—have become an important component in how engineers and analysts build, visualize, and operate AI projects, network security, and other complicated architectures that might have a number of components working (or malfunctioning as the case may be) in tandem.
  - “The easiest analogy for this is Google Maps,” said David Erickson, CEO and Co-Founder. “It provides a digital twin experience covering not just navigation but updates on traffic, road conditions, and businesses and their status along those roads. “It’s a massive improvement over paper maps.”
- The platform supports devices from all major networking vendors and cloud operators, including AWS, Azure, and Google Cloud Platform.
- Forward Networks was founded in 2013 by four Stanford Ph.D. graduates and is headquartered in Santa Clara, California.

“We're creating a new technology category with a product that our customers deem indispensable as soon as it's implemented. We're excited to put this capital to work to grow sales and deliver a product that unlocks the power of the data inside everyone's digital infrastructure.

**David Erickson**

CEO and Co-Founder, Forward Networks

# Arrcus Raises \$50 Million for Software-Based Hyper-Scale Networking

## Overview

\$50M Series D of




led by



Prosperity7  
AN ARAMCO VENTURES FUND

February 2023

- In February, hyper scale networking software company, Arrcus, announced the close of a \$50 million equity raise led by Prosperity7.
- The round was raised at nearly double the company's prior valuation.
- Meanwhile, business momentum has continued into 2023 with a 100%+ CAGR.

<p>Headquarters</p>  <p>San Jose, California</p>	<p>~150 Employees</p>	<p>~\$125M Total Capital Raised</p>
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## Transaction Notes

- This fresh round of capital will expand Arrcus' focus on its continued drive into 5G, data center, and multi-cloud networking markets.
  - Funding will be used to expand engineering and R&D teams, in addition to expanding its global go-to-market presence.
- Arrcus offered a number of data points to demonstrate its strong performance over the past year, saying it saw:
  - 100%+ growth in bookings; and
  - 2x+ customer expansion year-over-year.
- Those numbers point to a growing demand for Arrcus' disaggregated switching and routing solutions, the company said.
- In addition, the company reported a 70% increase in its global headcount.

## Target Description



- Arrcus is a technology company that provides network operating systems and software solutions for data centers, cloud networks, and edge computing environments.
- Arrcus' flagship product is the ArcOS network operating system, which enables customers to build and operate open, programmable, and scalable networks.
- ArcOS is compatible with a range of industry-standard hardware platforms and offers features such as advanced routing protocols, network automation, telemetry, and security.
- The company also offers the ArcIQ analytics platform, which provides real-time visibility into network performance and security, and the ArcOS Fabric Builder, which enables customers to quickly and easily design and deploy scalable network fabrics.

“ Modern networks that can flexibly leverage private infrastructure, as well as public clouds and 5G, will be key to unlocking the fourth industrial revolution and driving the next wave of digital transformation in critical industries that power the world.

We believe Arrcus is a disruptive leader in next-generation network infrastructure that is software-defined, flexible, programmable, and efficient, and we are excited to support the company and its distinguished team.

**Aysar Tayeb**  
*Executive Managing Director, Prosperity7*

”

# Blues Raises \$32 Million to Accelerate Enterprise IoT Adoption

## Overview

\$32M Series A1 of




led by



January 2023

- Blues Wireless recently announced a Series A1 funding round of \$32 million, led by Positive Sum and including new investors Four Rivers, Northgate, and Qualcomm, as well as previous backers Sequoia, Cascade, Lachy Groom, and XYZ. The funding will be used to accelerate growth and expand operations.

<b>Headquarters</b>  Boston, Massachusetts	<b>~60</b> Employees	<b>~\$65M</b> Total Capital Raised
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## Target Description

- Blues Wireless (Blues) is a hyper-scale cellular IoT solution provider founded in 2019 by serial entrepreneur Ray Ozzie.
- Their flagship products, Notecard and Notehub, work together to provide a complete high-scale device-to-cloud data pump.
- Blues reduces the cost and complexity of building connected products by including provisioning, security, and cloud device management as standard features, with the simplicity and flexibility enabling it to be incorporated within new and existing designs.
- More than 800 forward-thinking companies, from startups to enterprises, use Blues to securely cloud-connect their products.

“ We are thrilled to be partnering with Blues. They are well-positioned to create an inflection point in IoT. Blues is clearly the culmination of Ray’s life’s work, bringing to bear all of his experience and passion. The company has a strong market signal, with rapid growth and demand from some of the world’s leading companies to connect their products to the cloud securely, economically, and with unprecedented speed. Having worked directly in the IoT space for six years, I can confidently say that Blues’ approach is unlike anything we’ve seen, and the opportunity is tremendous.

**Alison Davis Riddell**  
*Partner, Positive Sum*

”

“ Even in these difficult economic times, enterprises will not hesitate to invest in transforming their physical products to be capable of remote monitoring and control. To date, connecting products to the cloud using cellular has been a time-consuming and expensive endeavor, fraught with risk. Complexity kills. Blues has taken a unique, developer-centric approach that simply eliminates complexity from device to cloud, enabling products realistically to go from prototype to scale deployment in months instead of years.

**Ray Ozzie**  
*Founder and CEO, Blues Wireless*

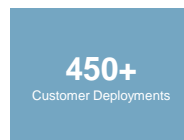
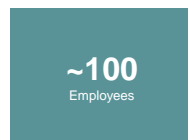
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# HPE Announces Acquisition of Athonet

## Overview



- In February 2023, Hewlett Packard Enterprise (HPE) announced the expansion of its connected edge-to-cloud offering with the acquisition of Athonet, a private cellular network technology provider that delivers mobile core networks to enterprises and communication service providers.



## Target Description



- Athonet is a provider of carrier-grade 4G and 5G mobile core solutions globally. The company's mobile core is open to any scale, application, architecture, or radio and supports APIs, enabling high-value bespoke network deployments.
- Over its decades-long history, the company has completed more than 450 successful customer deployments in various industries, including leading mobile operators, hospitals, airports, transportation ports, utilities, government, and public safety organizations.
  - The company's deployment of private LTE solutions, for industrial IoT monitoring, at an Enel powerplant was one of the first installments of private LTE in the World.
  - Recent deployments of the 5G-SA core include Cambridge 5G, High Speed 1, AWS, and Telenor.

## Transaction Rationale

- The transaction aims to give HPE the most complete private 5G and Wi-Fi portfolio in the market and put HPE at the forefront of a growing private 5G market that IDC predicts to grow to \$1.6 billion annually by 2026. Growth will be driven by:
  - The telecom industry's demand for efficient ways to deploy private 5G to meet customer needs at the connected edge.
  - Enterprise customers demand for a customized 5G experience with low latency, segregated resources, extended range, and security across campus and industrial environments that complement their existing wireless networks.
- HPE will integrate Athonet's technology into its existing CSP and Aruba networking enterprise offerings to create a private networking portfolio that accelerates digital transformation from edge-to-cloud.
  - Integration with HPE will enable network managers to administer Wi-Fi and private 5G through a module and bring to bear the power of AI insights, workflow automation, and robust security.



With the acquisition of Athonet, HPE now has one of the most complete private 5G and Wi-Fi portfolios for CSP and enterprise customers—and we will offer it as a service through HPE GreenLake.

**Tom Craig**

*Global VP and General Manager, Communications Technology Group, Hewlett Packard Enterprises*



# Cohere Receives Strategic Funding From Bell Ventures



## Overview

Investment in



by



January 2023

- On January 30, 2023, Cohere Technologies announced that it had received an investment from Bell Ventures, the corporate venture capital arm of Bell Canada.

**Headquarters**



San Jose, California

**~25**  
Employees

**~\$170M**  
Total Capital Raised

## Target Description

- Cohere Technologies is the developer of 4G/ Universal Spectrum Multiplier software for RAN and open RAN and OTFS waveform for 6G. The company focuses on providing a fully automated and programmable cellular network, offering global operators the best CAPEX performance and the most agile network that will naturally evolve beyond today's 4G/5G capabilities.
- Its Universal Spectrum Multiplier software for existing networks and Open Radio Access Networks (O-RAN), and its xApp for O-RAN can plug into a Real-Time RAN Intelligent Controller (RIC).
  - USM software can be integrated by network equipment suppliers in the RAN or as an xApp in the Telco Cloud.
  - Cohere has already demonstrated up to 2x performance improvement for 4G and 5G for leading wireless carriers.

## Transaction Rationale

- The purpose of the investment is to conduct network trials of Cohere Technologies' Universal Spectrum Multiplier (USM) software for open radio access networks (O-RAN) on Bell's 5G network, as well as to evaluate orthogonal time frequency space (OTFS) for 6G.
- The investment aligns Cohere and Bell Ventures' interests and will allow Cohere to scale faster toward commercializing support for 4G and 5G with its Universal Spectrum Multiplier.
  - Bell is currently rolling out its "next evolution of 5G," which it is branding as 5G+ and refers to the 3.5GHz wireless spectrum. Cohere's technology is well-positioned to minimize Bell's 5G+ rollout.
- According to Chairman and CEO Ray Dolan, "Bell's interest, collaboration, and support is also intended to accelerate OTFS as a candidate for 6G that has unique benefits to the global defense industry as well as satellite connectivity."

“

Bell is delighted to collaborate with Cohere Technologies to further differentiate Bell's world-class networks and to accelerate the maturity of the O-RAN ecosystem and support the global development of more O-RAN standards. Such advancement in the industry will drive innovation in future wireless networks, which is a clear illustration of Bell Ventures' mission.

**Mark McDonald**

*Vice President, Wireless Access, Bell*

”

# VETRO Closes \$7 Million Round to Fund Innovation and Expansion



## Overview

Investment in




by



MAINE VENTURE FUND

March 2023

- VETRO, announced that it has successfully secured a growth capital investment of \$7 million.
- This latest round was led by existing investors Resolve Growth Partners and Maine Venture Fund (MVF) and will be used to fuel global expansion and accelerate product innovation for VETRO's open platform.

 <p>Headquarters Portland, Maine</p>	<p>~90 Employees</p>	<p>~\$25M Total Capital Raised</p>
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## Target Description

- VETRO builds software that makes it radically simpler and faster for broadband providers to plan, design, build, and operate their fiber optic networks.
- The company's map-based SaaS platform is easier to use and more powerful than traditional tools, enabling network operators, ISPs, Electric Co-ops, and local governments to benefit from a modern, integrated, and connected digital hub for their physical network assets.
- VETRO's customers have needed to hire fewer specialty technical staff and routinely report reduced overhead and significant increases in productivity.
- The company aims to provide the world's best mapping platform for internet/broadband infrastructure planning, design, construction, and operations – and, in doing so, deliver a platform that becomes the digital home for the physical internet.

## Transaction Notes

- The investment comes at a time of rapid growth for VETRO. Since early 2021, the company has seen accelerating growth in bookings, revenue, and customer expansion, with network operator customers now in 46 states and 25 countries.
  - Moreover, VETRO has assembled a world-class, highly experienced leadership team to execute its mission of radically simplifying the digitization, data visualization, and management of fiber assets through an open, highly accessible, and precise system of record for network assets.

“ Public funding like the \$42 billion Broadband, Equity, Access, and Deployment (BEAD) Program, coupled with a growing influx of private capital, is fueling a massive build-out of fiber network infrastructure. That build-out is driven by burgeoning demand from consumers and businesses for high-speed internet access. Builders of this telecommunications infrastructure require best-in-class software solutions to plan, design, build, and operationalize fiber assets. And enabling efficiency through all phases of fiber lifecycle management is VETRO's sweet spot.

**Will Mitchell**  
CEO, VETRO

”



# Nrby Raises Series A to Fund Global Expansion



## Overview

Series A of



by



XIVENTURES FUND INC

January 2023

- Nrby announced that it had completed its Series A growth round led by Verstra Ventures and xiVENTURES Fund, both based in Toronto, Canada.

<p>Headquarters</p>  <p>Manchester, New Hampshire</p>	<p>~20</p> <p>Employees</p>	<p>15+</p> <p>Customers</p>
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## Target Description

- Nrby is a dynamic location intelligence platform that provides actionable digital data for broadband service providers and utilities.
- The platform simplifies and improves operations by turning every location and asset into actionable digital data.
  - Specifically, it digitally collects, aggregates, and correlates all of the dynamic data connected to a location, visualizes it, and makes it actionable via its intuitive SmartPins™
- Nrby’s platform is used by some of the largest North and South American wireless, fiber, and broadband service providers to accelerate infrastructure build-outs, optimize tech operations, reduce trouble calls, and improve network performance.

## Transaction Notes

- The investment will be used to help Nrby to accelerate its growth by expanding geographically to bring its solutions to more customers around the world. Initial expansion markets have not been announced.
- The investment will allow Nrby to continue investing in the platform’s capabilities, further expanding its marketability and addressability.

“

Nrby’s platform is a game-changer for the broadband industry. It offers a unique combination of features and capabilities that will help service providers to streamline their operations and improve customer satisfaction. We are confident that this investment will help Nrby to further scale its business and achieve its goals

**Mike Durance**  
CEO, xiVentures Fund

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# Network Automation Has Saved Vodafone €500 Million in Three Years

Customers are using more services, consuming more data, and not paying more to do so, which means operators like Vodafone have to find ways to become more cost-efficient.

## The Background



- On February 20, 2023, Vodafone reported the results of its new digital operations processes that it has been utilizing over recent years.
- Through the digitalization and automation of day-to-day processes, **Vodafone has saved €500 million** in operating and capital expenditures.
  - Vodafone stated in late 2021, when it had 9,000 software engineers, that it planned to add a further 7,000 to its team by 2025, either by hiring **or retraining** existing staff.
  - While these software engineers are essential to Vodafone’s application development, **software is needed to control the networks** as companies in the industry continue to cloudify their infrastructure.
- Cost savings, created by digitization, automation, and optimization, are contributing towards the **€1 billion cost-savings plan** currently being overseen by Margherita Della Valle.

“ Five years ago, when we were planning the network, we looked at technical parameters [to figure out] the best place to put a base station and assess how much capacity we needed, how many antennas we needed. Now, though, we have 300 data sources that all feed into a digital twin of our network and then help us make the right decisions—not just technical decisions, but commercial decisions ... it starts to automate the way we run our network, and it has generated some really significant savings for us.

**Scott Petty**  
CTO, Vodafone

## How They Achieved It

- Vodafone’s efforts to boost its internal software engineering capabilities, and ultimately **evolve to become a “techco” rather than a telco**, have progressed significantly, with the operator having hired just over 2,000 software engineers over the past 18 months, taking the total to 11,000.
  - This shift in focus has enabled Vodafone to build its own capabilities and launch new services and products.
- Specifically, Vodafone has **accelerated application development** and **leveraged ML and AI** capabilities to drive efficiency in network operations.
- As Vodafone cloudifies its infrastructure, software is needed to control how the network is running. A simple example is digital channels:
  - Vodafone executes 300 software releases a month—and sitting in front of every channel is a web application firewall.
  - Previously, Vodafone would release the software and an engineer would log into the web application firewall and update the rules manually; now, with 300 releases each month, that human process is no longer manageable.
  - Vodafone has **automated that process by embedding it into its CI/CD pipelines and software code** so that, as the company releases new features, it updates all of the infrastructure that sits below that.
  - **Software is now able to control the network**, which gives Vodafone much **greater velocity** than it had previously.
  - By layering machine learning and AI on top of its network services, Vodafone feels that it has improved decision-making processes.

# Amazon Web Services Launches Telco Network Builder



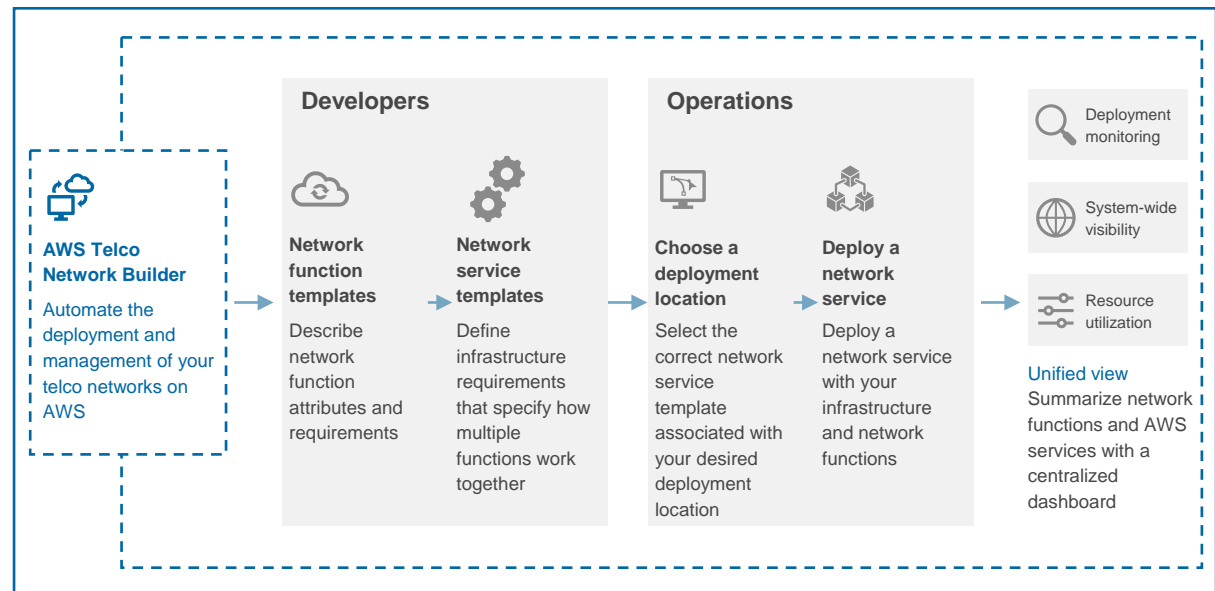
## Key Points

- On February 22, 2023, AWS announced the general availability of AWS Telco Network Builder (AWS TNB), a network automation service that makes it easier and faster to deploy and manage telco networks on AWS while still using telecom industry standards.
- In short, TBN helps communications service providers (CSPs) **automate the deployment and management of telco networks on AWS**.
  - With AWS Telco Network Builder, the telco first defines network requirements by using telecom industry standards.
  - Then, AWS TNB maps the industry standard network requirements to a cloud architecture and **automatically provisions appropriate compute, storage, and networking** resources.
  - AWS TNB removes the burden of **translating a CSP's desired telco network into a cloud architecture**, allowing them to modernize and scale to meet demand while freeing time and capital to build new offerings, expand coverage, and focus on innovation.

Some of the biggest challenges CSPs face as they look to migrate include manually configuring and then managing these complex networks, which impedes growth and stifles innovation. Groundbreaking in the value it provides to the telecom industry, AWS Telco Network Builder removes the burden of translating a customer's desired telco network into a cloud architecture.

**Jan Hofmeyr**

*VP, Amazon Elastic Compute Cloud*



# Athonet and SpaceX to Enable Artic Exploration



## The Background

- Athonet, a leader in private cellular network technology, and SpaceX announced the setup of a **private cellular network at Union Glacier, Antarctica** for critical voice and data communications.
- The team needed a network that was rugged enough to withstand harsh conditions at the South Pole, including temperatures averaging -30°C and high winds.

### Key Benefits

- ✓ **“Network-in-a-box” technology that can be deployed to any location with SpaceX Starlink connectivity or traditional wired connectivity**
- ✓ **Resilient hardware operable in extreme conditions**
- ✓ **Full network functionality voice and data communications including push-to-talk, emergency messaging, VoIP**

## The Outcome

- Athonet created a dedicated kit with a complete Athonet 4G network, including antenna, radio, SIMs, core, and applications to send to the Antarctic Logistics & Expeditions (ALE) team in Union Glacier. The private cellular network is connected using SpaceX Starlink as the backhaul connection.
- The kit provided for quick installation and deployment at the base camp; within a few hours, the team had a cellular network umbrella to cover a four- to five-kilometer area providing services to the teams and guests.
- The network enables coverage for critical voice and data communications, including push-to-talk, emergency messaging, VoIP, and other daily activities around camp for the service team. It also provides internet connection to guests, such as tourists and research teams.
- The Athonet and Starlink solution provided the exact solution needed by the South Pole exploration team.

“Communications are necessary in every part of the world, but especially in remote areas where there may be extreme weather or challenging geographical issues. Our private cellular core was designed with these challenges in mind from our very first deployment supporting the earthquake in Italy more than 10 years ago. From there, our solution is now deployed across the world in airports, mines, utilities, governments, schools and universities, and healthcare.

**Gianluca Verin, CEO of Athonet**

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# Leading Independent, Global Advisory Firm

Houlihan Lokey is the trusted advisor to more top decision-makers than any other independent global investment bank.

**2,600+**  
Employees

**36**  
Locations

**\$6 Billion**  
Market Cap <sup>(1)</sup>

HLI  
LISTED  
NYSE

**\$1.8 Billion**  
Annual Revenue <sup>(2)</sup>

**~25%**  
Employee-Owned

**No**  
Debt

## Corporate Finance

- No. 1 Global M&A Advisor Under \$1 Billion
- Leading Capital Markets Advisor Raising More Than \$100 Billion in Past Five Years

### 2022 M&A Advisory Rankings Global Transactions Under \$1 Billion

Rank	Advisor	Deals
1	Houlihan Lokey	381
2	Rothschild	369
3	JP Morgan	217

Source: Refinitiv.  
Excludes accounting firms and brokers.

## Financial Restructuring

- No. 1 Global Restructuring Advisor
- \$3.0 Trillion of Aggregate Transaction Value Completed

### 2022 Global Distressed Debt & Bankruptcy Restructuring Advisory Rankings

Rank	Advisor	Deals
1	Houlihan Lokey	58
2	PJT Partners	30
3	Lazard	29

Source: Refinitiv.

## Financial and Valuation Advisory

- No. 1 Global M&A Fairness Opinion Advisor Over the Past 25 Years
- 1,000+ Annual Valuation Engagements

### 1998 to 2022 Global M&A Fairness Advisory Rankings

Rank	Advisor	Deals
1	Houlihan Lokey	1,232
2	JP Morgan	1,030
3	Duff & Phelps, A Kroll Business	938

Source: Refinitiv.  
Announced or completed transactions.

## Financial Sponsors Coverage

- No. 1 Global Advisor to Private Equity Firms
- 1,000+ Sponsors Covered Globally

### 2022 Most Active Global Investment Banks to Private Equity Firms

Rank	Advisor	Deals
1	Houlihan Lokey	242
2	Lincoln International	192
3	Deloitte	190

Source: PitchBook.

**Houlihan Lokey** +



**Oakley Advisory**

Houlihan Lokey has acquired Oakley Advisory, an independent advisory firm that provides a range of services to clients across the digital infrastructure, communications services, and cloud landscape.

With the addition of Oakley, Houlihan Lokey covers the full spectrum of digital infrastructure and connectivity in the U.S. and Europe...

- Broadband and Connectivity
- Towers and Shared Infrastructure
- Data Centers and Managed Services
- Wireless and Spectrum
- Telecom Services
- Telecom Software

Houlihan Lokey is the trusted advisor to more top decision-makers than any other independent global investment bank.

**2022 M&A Advisory Rankings  
All Global Technology Transactions**

	Advisor	Deals
1	<b>Houlihan Lokey</b>	<b>116</b>
2	Goldman Sachs	106
3	Morgan Stanley	79
4	Rothschild	76
5	JP Morgan	75

Source: Refinitiv. Excludes accounting firms and brokers.

**2022 M&A Advisory Rankings  
Global Transactions Under \$1 Billion**

	Advisor	Deals
1	<b>HoulihanLokey</b>	<b>381</b>
2	Rothschild	369
3	JP Morgan	217
4	Lazard	206
5	Goldman Sachs	203

Source: Refinitiv. Excludes accounting firms and brokers.

**No. 1**

Global M&A Advisor  
Under \$1 Billion

**No. 1**

Global Restructuring Advisor

**No. 1**

Global M&A Fairness Opinion  
Advisor Over the Past 25 Years\*

**\$25 billion**

Raised Over the Past Two Years

**1,500+**

Transactions Completed Valued at  
More Than \$3.0 Trillion Collectively

**1,000+**

Annual Valuation Engagements

\*Announced or completed transactions.



# Houlihan Lokey's Tech M&A Team Is No. 1 Globally With Unparalleled Reach

## Americas

- Atlanta
- Baltimore
- Boston**
- Chicago
- Dallas
- Houston
- Los Angeles**
- Miami**
- Minneapolis
- New York**
- San Francisco**
- São Paulo
- Washington, D.C.

## Europe and Middle East

- Amsterdam
- Antwerp
- Dubai
- Frankfurt**
- London**
- Madrid
- Manchester**
- Milan**
- Munich
- Paris**
- Stockholm**
- Tel Aviv**
- Zurich

## Asia-Pacific

- Beijing
- Fukuoka
- Gurugram
- Hong Kong SAR
- Mumbai**
- Nagoya
- Shanghai
- Singapore
- Sydney
- Tokyo**

**No. 1**  
TECH M&A  
ADVISOR\*

**14**  
LOCATIONS  
WORLDWIDE

**200+**  
TECHNOLOGY  
BANKERS

**40+**  
MANAGING  
DIRECTORS

**116+**  
TECHNOLOGY  
DEALS IN CY22

Local Technology team

\*According to data provided by Refinitiv. Excludes accounting firms and brokers.

# Deeply Focused on the Software That Powers Connectivity

Houlihan Lokey Is Tracking More Than 1,000 Companies in the Category

Houlihan Lokey



Application Layer

Network Layer

Category	Key Functions	Incumbents	Challengers
<b>Sales and Marketing</b>	<ul style="list-style-type: none"> <li>Channel Management</li> <li>Marketing Automation</li> </ul>		
<b>Product Management</b>	<ul style="list-style-type: none"> <li>Data + Product Management</li> <li>Product Cataloging</li> </ul>		
<b>Customer Experience</b>	<ul style="list-style-type: none"> <li>Customer + Subscriber Mgmt.</li> <li>Contact Center Software</li> </ul>		
<b>Revenue Management</b>	<ul style="list-style-type: none"> <li>Rating + Charging</li> <li>Billing + Invoicing</li> </ul>		
<b>Cloud Communications</b>	<ul style="list-style-type: none"> <li>VOIP, UCaaS, CPaaS</li> </ul>		
<b>Expense Management</b>	<ul style="list-style-type: none"> <li>Enterprise Telecom, Mobility, and Software Expense Management</li> </ul>		
<b>Deployment Management</b>	<ul style="list-style-type: none"> <li>Mapping, Planning and Design</li> <li>Project + Asset Management</li> </ul>		
<b>Partner Management</b>	<ul style="list-style-type: none"> <li>Supplier Management</li> <li>Carrier Interconnect</li> </ul>		
<b>Network Provisioning</b>	<ul style="list-style-type: none"> <li>Network Planning + Orchestration</li> <li>Customer Order Fulfillment</li> </ul>		
<b>Network Mgmt. + Analytics</b>	<ul style="list-style-type: none"> <li>Network Data + Analytics</li> <li>Network Observability, AI + ML</li> </ul>		
<b>RAN/Spectrum Mgmt.</b>	<ul style="list-style-type: none"> <li>Open RAN</li> <li>Spectral Efficiency</li> </ul>		
<b>Connectivity-as-a-Service</b>	<ul style="list-style-type: none"> <li>Cellular IoT</li> <li>Telecom-as-a-Service</li> </ul>		
<b>Private Networks</b>	<ul style="list-style-type: none"> <li>Private Connectivity (LTE, 5G, Wi-Fi)</li> </ul>		
<b>Decentralized Networks</b>	<ul style="list-style-type: none"> <li>Wireless Networks</li> <li>Broadband Networks</li> </ul>		
<b>Mobile Core</b>	<ul style="list-style-type: none"> <li>Performance Mgmt. + Automation</li> </ul>		

# How Houlihan Lokey Can Help

Our firm is extremely well-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

1  **Corporate Finance**


- Mergers and Acquisitions
- Capital Markets
- Private Funds Advisory
- Board Advisory Services

We are widely recognized as a leading M&A advisor to the mid-cap market 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.

2  **Financial Restructuring**

- Company Advisory
- Special Situations
- Distressed M&A
- Liability Management
- Creditor Advisory

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.

3  **Financial and Valuation Advisory**

- Portfolio Valuation and Fund Advisory
- Transaction Opinions
- Corporate Valuation Advisory Services
- Transaction Advisory Services
- Real Estate Valuation and Advisory
- Dispute Resolution Consulting

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.

## Why We're Different



No. 1 for Global Under \$1B and Technology M&A\*



Significant Experience With Financing Markets



Senior-Level Commitment and Dedication



Deep, Industry-Specific Expertise



Superior Work Product/Technical Abilities



Creativity, Imagination, Tenacity, and Positivity

Source: Refinitiv. Excludes accounting firms and brokers.

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