

Transportation
Technology Update

Sector Coverage Report



Introduction

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We are pleased to issue our Transportation Technology Update for O2 2023.

With this update, we introduce detailed profiles addressing market sizing and drivers of technology adoption for each of the eight primary transportation sectors we cover: automotive, aviation, maritime, off-road, public transit, rail, supply chain and logistics, and trucking.

We remain enthusiastic about the transportation technology sector and the long-term opportunities therein. Generally, demand for and interest in transportation technology assets remain strong as key secular tailwinds continue to benefit the sector and encourage adoption of technology solutions. M&A and financing activity has stabilized around normalized pre-COVID-19 levels, while publicly traded players have seen a strong rebound in valuations, with our transportation technology index up 30% YTD.

As our firm continues to execute transactions in this space, we invite you to contact us to discuss past transactions, future opportunities, or the ecosystem more broadly.

Best Regards,

Shane Kaiser

Managing Director, Head of Transportation Technology

Houlihan Lokey's Transportation Technology Practice

Transportation Technology Team



Shane Kaiser Managing Director New York SKaiser@HL.com +1 203.273.0213

Tyler Deck Senior Vice President

TDeck@HL.com

+1 617.316.7106



Tim Macholz Director San Francisco TMacholz@HL.com +1707.363.5446



Tomohiko Kubota **Executive Director** Tomohiko.Kubota@HL.com +81 80 9027 3008

Featured Transactions















David Riemenschneider Senior Advisor London David.Riemenschneider@HL.com +44 (0) 79 5047 6702













Sector Focus Areas

Automotive

Aviation

Maritime

Off-Road

Public Transit



Supply Chain and Logistics

Trucking













Rail





To support our thesis-driven approach, we have developed subsector deep-dives where we have highlighted our views on influential market dynamics, the addressable market, and key participants. Please contact Houlihan Lokey's Transportation Tech practice to connect on recent deep-dive reports.





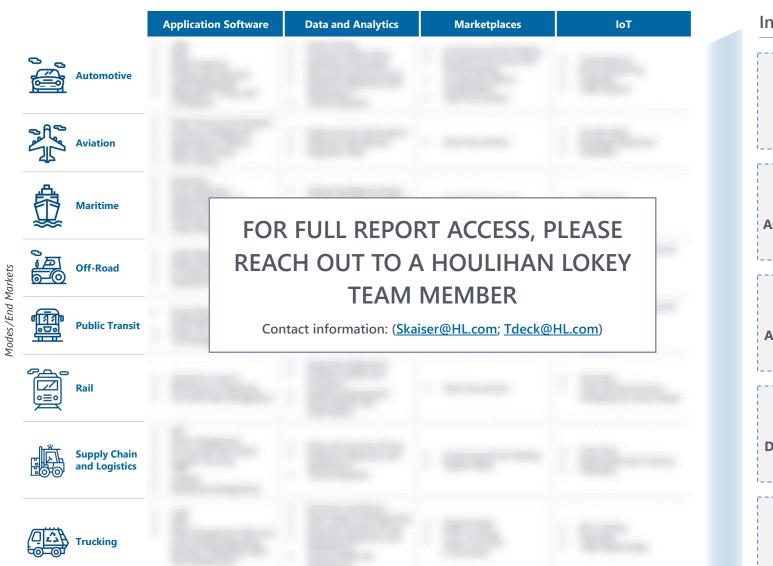








How We Cover Transportation Technology







Labor Shortage



Asset Management and Operations



Asset Maintenance and Repair

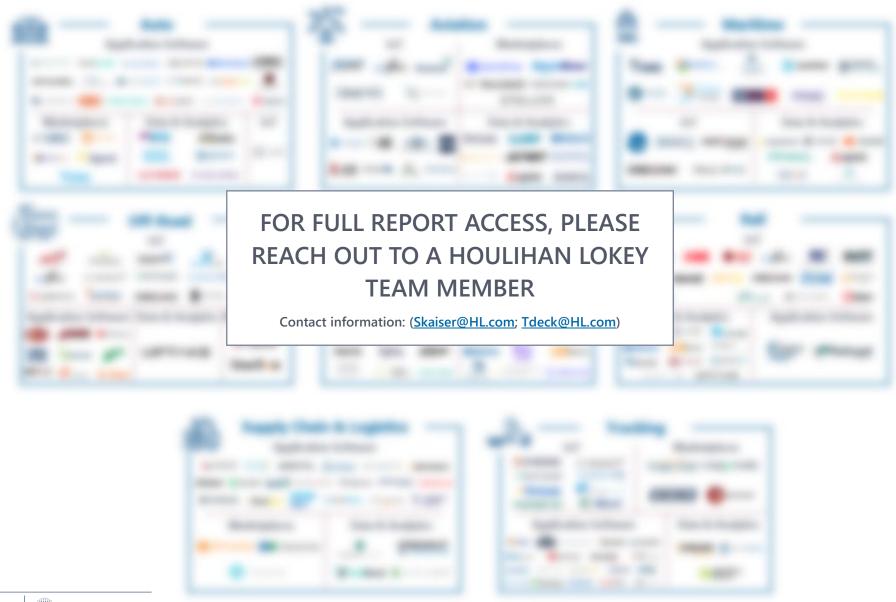


Digitization of Physical Operations



Energy Transition

Representative Transportation Technology Market Map





Themes Driving Tech Investment Across Transportation



Market Overview and Themes Driving Investment in Technology: Automotive

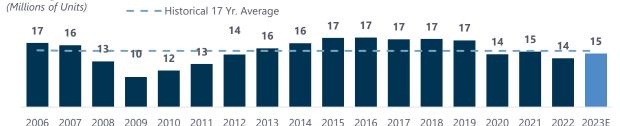
Market Overview

Our Coverage

Our coverage includes B2B automotive software and broader technology providers that primarily serve new and used vehicle dealers, repair and body shops, and fleet owners such as the large rental groups.

Market Update New vehicle sales fell in 2022 (primarily driven by the microchip shortage), leading to an increase in prices and a surge in demand for used vehicles. While production constraints are expected to diminish over the course of the year, higher interest rates will dampen sales activity, leading to another year of below-trend new vehicle sales.

New Light Vehicle Sales in the U.S.(2)



Key Themes Driving Investment in Technology



Consolidation Driving Scale and Tech Spend

- Larger dealer groups are rapidly consolidating (e.g., Lithia acquired 33 dealerships in 2022), gaining scale and the ability to make significant tech investments.
- With more than 17,000 new dealers, 143,000 used dealers, and 364,000 vehicle repair/body shops in the U.S., the automotive market is ripe for consolidation.



ACES (Autonomous, Connected, Electric, Shared)

- These disruptors are fueling the growth of the global automotive software and electronics market (expected to reach \$462 billion by 2030, 5.5% CAGR from 2019).
- As vehicles are becoming more advanced, repair/body shops are also investing in tech, such as Alpowered vehicle inspections that help build trust with customers.

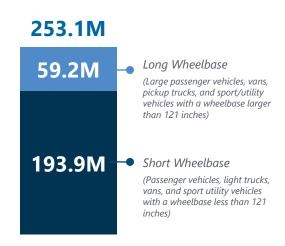


Shortage of Service Technicians

- The shortage of service technicians is driving a need for technology to streamline operations, automate workflows, and improve retention.
- The industry needs to replace ~76,000 service techs annually; however, only ~39,000 new service techs graduate from colleges and training programs.

Total Addressable Market⁽¹⁾

of Light Vehicles in the U.S.









Market Overview and Themes Driving Investment in Technology: Aviation

Market Overview

Our Coverage Our coverage includes aviation software and broader technology providers that serve OEMs, commercial passenger airlines, cargo transportation providers, MROs, corporate air travel fleets, charter operations, airports, FBOs, suppliers, and more.

Market Update Air freight rates skyrocketed during COVID-19 as capacity declined significantly (~50% of air freight is transported in passenger planes), and the congestion issues in ocean freight kept rates elevated even as air freight capacity recovered. As ocean shipping has recovered, air rates have begun normalizing; however, fuel and labor costs are expected to prevent a return to pre-COVID-19 levels.

Global Inbound Air Freight Price Index(2)

(% change since January 2017)



Key Themes Driving Investment in Technology





Competition With Ocean Freight

- Now that ocean freight congestion has moderated, air freight demand is under pressure as shippers opt for ocean freight that is generally less expensive, less pollutant, and increasingly digitized.
- The air freight industry will have to invest in automation, visibility, and online booking platforms to remain competitive.



Surge in Business Aviation

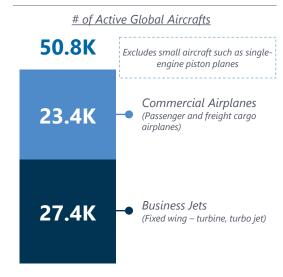
- Coming off record highs during COVID-19, driven by customers circumventing restrictions, business aviation is down from peak levels but still up 13% 2023 YTD vs. 2019.
- Investment in flight management systems, intelligence and forecasting, and marketplaces to connect industry players has been essential to keep up with demand.

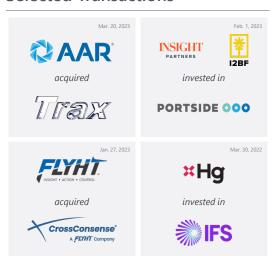


Not Enough Pilots, Mechanics, and Other Aviation Workers

- Over the next several years, it is expected that the shortage of pilots and mechanics will grow to 24,000 and 40,000, respectively, due to early retirements during COVID-19 and baby boomer retirements.
- Companies will have to invest in recruiting technology tools, autonomous ground support equipment, MRO software, and AI/VR tools for training.

Total Addressable Market⁽¹⁾





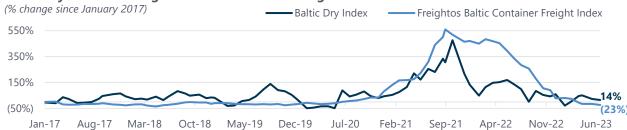
Market Overview and Themes Driving Investment in Technology: Maritime

Market Overview

Our Coverage Our coverage includes maritime software and broader technology providers that serve ship owners and brokers as well as other players in the broader ecosystem such as producers, distributors, trading houses, financial institutions, and end customers.

Market Update After a historic boom over the pandemic era, both dry bulk and container freight rates have normalized. Dry bulk rates are expected to increase slightly in the medium term with the recovery of demand from China and limited fleet growth, while container freight rates are expected to remain under pressure given ongoing investment in vessel capacity and reduced port congestion.

Baltic Dry Index vs. Freightos Baltic Container Freight Index⁽²⁾



Key Themes Driving Investment in Technology



Emerging Tech Is Key to Achieving ESG Goals

- Emissions from the maritime industry have tripled over the past three decades, and shipping is responsible for 2.5%-3.0% of global greenhouse gas (GHG) emissions.
- Advancements in big data and monitoring systems are reducing emissions (e.g., route optimization), while robotics and automation can reduce hazardous work.



Visibility Is Critical to Reducing Costs

- The adoption of visibility software for ocean freight has been much slower than for over-the-road shipping (50% vs. 73%), with many still relying on manual processes.
- Ocean freight tracking, with accurate predictive ETAs, can help shippers identify and prevent issues and costs related with demurrage and detention.



Digitization of Outdated Processes

- Only ~1% of bills of lading are electronic (eBL) today; however, carriers are aiming for 5% adoption by the end of 2023 and 100% adoption by 2030.
- Data standardization across the industry enabling 100% eBL is estimated to unlock \$50 billion in total value globally through cost savings and trade enablement.

Total Addressable Market⁽¹⁾

of Global Merchant Ships

52.9K

2.2K
Liquefied natural gas tankers

5.6K
Container ships
Chemical tankers

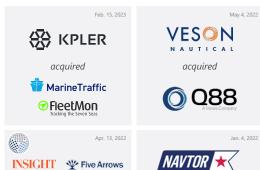
8.3K
Crude oil tankers

12.9K

Bulk cargo carriers

17.8K

General cargo ships
(Roll-on/roll-off)







Market Overview and Themes Driving Investment in Technology: Off-Road

Market Overview

Our Coverage

Our coverage includes software and broader technology providers enabling off-road mobile equipment across a wide range of construction (commercial, residential, industrial, etc.), agriculture, mining, oil and gas, and other heavy-equipment industries.

Market Update Despite a challenging macroenvironment, construction and agriculture equipment sales in North America remain above the historical average. Delayed COVID-19 infrastructure investments continue to support the construction equipment industry, despite rising interest rates, while the rising penetration of farm mechanization practices is driving steady farm equipment sales.

Total North America Construction and Agriculture Equipment Unit Sales(2)



Key Themes Driving Investment in Technology



Lag in Productivity Requires Digitization

- As one of the least digitized sectors in the economy, the construction industry's productivity growth has also lagged (1% annually vs. 2.8% for the broader economy).
- Equipment and vehicle tracking devices can minimize late deliveries, reduce idle time, and prevent loss/theft, ultimately driving productivity.





Sustainable Job Sites Are Essential to Lowering Emissions

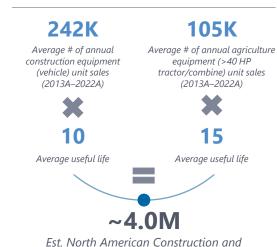
- The building and construction industry accounts for 39% of energy and process-related CO₂ emissions, and there's significant pressure to reduce this impact.
- Real-time visibility into machine utilization, diagnostic data, and preventive maintenance solutions can improve asset management and reduce fuel consumption.



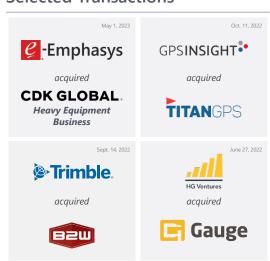
Retirements Continue Driving Labor Shortage

- The construction industry needs to attract 546,000 additional workers on top of the normal hiring pace in 2023 to meet demand. With nearly 1 in 4 construction workers older than 55, retirements will continue.
- Semi-autonomous machinery and 3D mapping technology can help reduce safety risks, which is a very important criteria for younger generations.

Total Addressable Market(1)



Agriculture Equipment Fleet Size



Market Overview and Themes Driving Investment in Technology: Public Transit

Market Overview



Our coverage includes public transit software and broader technology providers that serve a wide range of stakeholders, including all levels of government (county, city, state, etc.), transit authorities, transit and paratransit operators, school districts, universities, and more.

Market Update COVID-19 had an unprecedented effect on public transportation as ridership decreased by more than 50% in 2020 due to stay-at-home orders, workplace closures, and population losses near significant public transportation systems. Despite some recovery in 2022, ridership and fare revenue are not expected to return to pre-pandemic levels for several years, creating a strain on agency budgets.

U.S. Unlinked Transit Passenger Trips by Transit Mode⁽²⁾



Key Themes Driving Investment in Technology



Smart Cities Revolutionizing Urban Mobility

- Smart cities are driving infrastructure upgrades, safety improvements, pollution reduction, and economic development.
- Transportation tech (e.g., urban planning simulations, mobility-asa-service, optimized waste collection routes, and autonomous and smart vehicles) is a key pillar of smart city development.





Focus on Environmental and Social Benefits

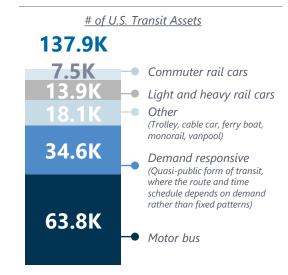
- A low footprint and greater public access to transportation are key drivers of increased government investment in public transit, as federal funding rose to \$21 billion in 2022, up \$8 billion from prior years.
- Private innovation in tech should see a flow-through effect as infrastructure and public fleets modernize to improve efficiency and reduce GHG.



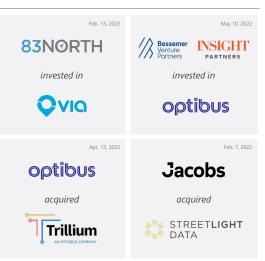
Passenger Satisfaction Is Key to Ridership Recovery

- Transit agencies need to keep pace with rider expectations for reliability and efficiency in order to boost utilization following several years of reduced ridership.
- Investments in real-time optimization, automated scheduling, and self-service mobile apps will be critical.

Total Addressable Market⁽¹⁾



Selected Transactions



Sources: Congressional Research Service, APTA, Federal Transit Administration, National Academies, Pitchbook, Premio, Gitnux, Ecolane, Swiftly.

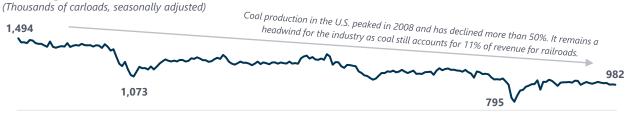
Market Overview and Themes Driving Investment in Technology: Rail

Market Overview

Our Coverage Our coverage includes rail software and broader technology providers that serve class 1, regional, and short-line railroads, rail terminals, shippers/manufacturers, and rail service providers (switching, railcar manufacturing/leasing, transloading, track and railcar maintenance, etc.).

Market **Update** The rail industry has faced challenges, including the long-term decline in coal and, more recently, pressure over safety policies given the Ohio derailment. On the other hand, the industry is efficient, sustainable, and reliable (freight levels bounced back rapidly from COVID-19) and will benefit from the growth of e-commerce as PSR⁽¹⁾ strategies are aligned with the demands of intermodal traffic.

Rail Freight Carloads in the U.S.(2)



2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2022

Key Themes Driving Investment in Technology



Digitization Is Key to Driving Demand

- Despite being up to 40% more cost effective and generating up to 75% fewer emissions, rail's freight market share has declined in favor of trucking, which has adopted technology at a much faster pace.
- The adoption of telematics and software to track location and railcar condition/health should encourage more shippers to choose rail.



Government and Investor Focus on Safety

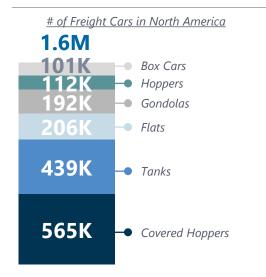
- After the derailment in East Palestine, Ohio, there has been a bipartisan push toward additional safety legislation, including fines that could reach \$50 million+
- Norfolk Southern announced its own plan to invest in its network of detectors as well as develop a next-generation safety inspection technology that uses AI to identify and repair defects.



Worker Shortage After Cuts During PSR

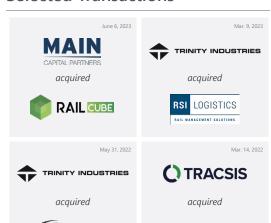
- Since 2015, the rail industry laid off roughly one-fifth of its workforce during the shift to PSR. However, there is now a labor shortage, as it's proving difficult to rehire workers.
- Recruiting and retention tools as well as automation and predictive maintenance technology are likely to see investment in response to worker shortage.

Total Addressable Market(3)



Selected Transactions

QUASAR



() RAILCOMM

Market Overview and Themes Driving Investment in Technology: **Supply Chain and Logistics**

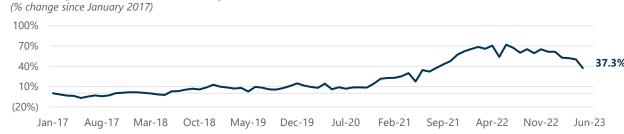
Market Overview



Our coverage includes downstream (e.g., execution) supply chain and logistics software and broader technology providers that serve a range of ecosystem constituents, including carriers (rail, maritime, trucking, aviation), suppliers and manufacturers, and logistics service providers.

Market **Update** COVID-19-induced supply constraints coupled with heightened demand, due to a shift in spending from services to e-commerce goods, compounded existing supply chain challenges (degrading infrastructure, labor shortages, environmental events, etc.) and drove a rapid increase in freight rates. Rates have started moderating as constraints and purchasing patterns are normalizing.

Cass Freight Index – Inferred Freight Rates⁽²⁾



Key Themes Driving Investment in Technology



Go Green or Go Home as ESG **Regulations Mount**

- The EU's Corporate Sustainability Reporting Directive, passed in Nov. 2022, will require disclosure on sustainability targets, including plans to ensure compatibility with the Paris Agreement 1.5°C global warming target.
- Consumer and regulatory pressure is driving investment in software that helps reduce carbon emissions in the supply chain.



E-Commerce and the Rising Need for Visibility

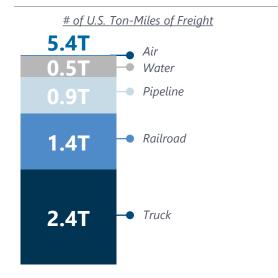
- E-commerce retail sales have spiked from \$156 billion (11% of total retail sales) in Q4 2019 to \$265 billion (15% of total retail sales) in Q4 2022.
- Companies are investing in realtime visibility software in order to better address consumers' rising expectations around delivery times and transparency.



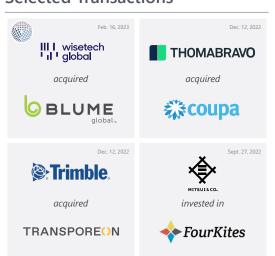
Importance of Inventory **Forecasting**

- Companies have struggled to meet unprecedented demand and supply challenges with homegrown, manual, and/or dated planning tools and applications.
- The adoption rate of inventory optimization technology tools is expected to rise from 28% to 87% over the next five years.

Total Addressable Market⁽¹⁾



Selected Transactions



Sources: Gartner, Supply Chain 24/7, Council of the EU, White & Case, U.S. Department of Commerce, MHI Annual Industry Report, U.S. Department of Transportation.

Market Overview and Themes Driving Investment in Technology: Trucking

Market Overview

Our Coverage

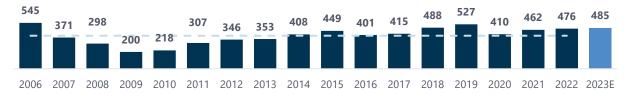
Our coverage includes trucking and fleet software and broader technology providers that focus on fleet management/operations and fleet maintenance.

Market Update 2022 commercial truck sales were up slightly YoY as demand continued to outpace supply due to the semiconductor microchip shortage and scarcity of other key inputs. Sales are expected to rise just slightly again in 2023, as higher financing rates and tighter lending standards offset most of the benefits of increased supply.

New Commercial Truck Sales in the U.S.(2)

(Thousands of Units)

- - Historical 17 Yr. Average



Key Themes Driving Investment in Technology



Rising Insurance Costs and the Focus on Safety

- As insurance premiums increase to cover rising payout and litigation costs, transport companies of all sizes face financial uncertainty (especially due to nuclear verdicts).
- Fleets are complementing current asset tracking capabilities with dash cam and driver safety solutions to protect against fraudulent claims and improve driver training opportunities.



ACES (Autonomous, Connected, Electric, Shared)

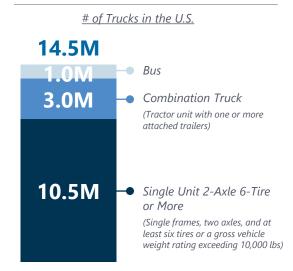
- Despite making up <1% of total truck manufacturing, electric truck production is expected to **triple in 2023**, as charging infrastructure remains the primary constraint.
- Progress with autonomous trucks has stumbled despite massive investment. They should see continued interest given the significant potential benefits (improved reliability and efficiency).



Shortage of Truck Drivers

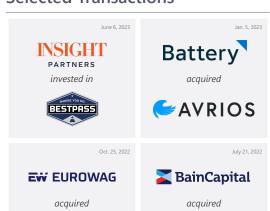
- The trucking industry was short ~78,000 drivers in 2022, and the shortage could swell to 160,000+ over the next decade due to a high number of retirements, the challenging lifestyle, low pay, etc.
- Fleets that invest in software to enhance recruiting efforts and offer younger drivers tech capabilities to improve their experience will have an edge.

Total Addressable Market⁽¹⁾



Selected Transactions

INELO





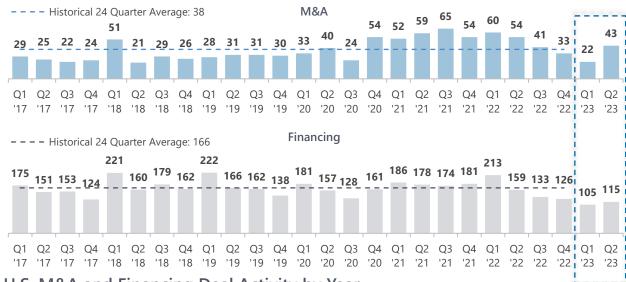
2023 YTD M&A and Financing Activity Within Transportation Technology

- The transportation technology M&A and financing market has normalized in 2023 at levels in line with historical averages.
- While Q1 '23 M&A activity was soft, given macro uncertainty, Q2 '23 saw a rebound to a level in line with pre-pandemic activity (Q1 '17–Q4 '19 average number of deals: 29).
- There has been a balanced appetite for M&A activity thus far in 2023, from both strategic acquirers (48% of transactions) and financial sponsors (52% of transactions).
- Financing activity, on the other hand, remains below historic averages through 1H23, driven primarily by (1) increased investor focus on profitable growth, which has largely shut companies with cash burn out of the financing market, forcing them to seek a strategic exit instead; and (2) hesitation by founders of profitable businesses to raise capital at perceived depressed valuations and/or down rounds from their prior financing.

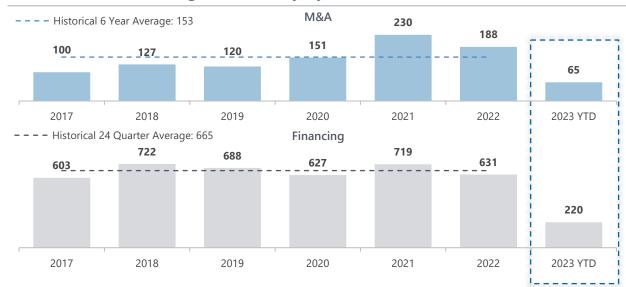
M&A Trends We're Seeing Across Transportation Technology Sectors:

- Large strategics are building out M&A platforms (e.g., Reynolds & Reynolds has been highly active, with three acquisitions this year: American Guardian Warranty Services, AutoVision, and DealerCorp).
- Financial sponsors remain eager to put capital to work, with ample dry powder, but generally lack sufficient quality and actionable assets to back, causing them to redouble their proprietary deal sourcing efforts as well as focus on portfolio management and opportunistic add-ons.
- There has been notable take-private activity as acquirers take advantage of share price declines (e.g., Coupa acquired by Thoma Bravo, Xpediator acquired by BaltCap, HyreCar acquired by Getaround, and Volaris/Constellation Software's attempt to acquire ERoad).

U.S. M&A and Financing Deal Activity by Quarter



U.S. M&A and Financing Deal Activity by Year



Transportation Technology Transaction Timeline

The transportation technology M&A market has been active and balanced with interest from strategics and financial sponsors.



Houlihan Lokey Advises Blume Global On Its Sale to WiseTech Global

Transaction Overview



Houlihan Lokey acted as the exclusive financial advisor to Blume Global on its sale to WiseTech Global (ASX:WTC)

- On February 16, 2023, Blume Global announced that it has been acquired by WiseTech Global (WTC).
- Blume provides visibility throughout the value chain, from sourcing to delivery, allowing customers to use Blume solutions to navigate disruptions and create agile plans amid supply chain uncertainty.
- Blume manages intermodal containers and chassis on behalf of six of the seven Class 1 U.S. railroads, ocean carriers, and global freight forwarders.

Selected Transaction Commentary

Joining the WiseTech Global group means greater scale and resources to make logistics processes more productive, agile, dependable, and sustainable with innovative execution and visibility solutions. We want to thank the team at Apollo for helping to stand up and grow Blume as a standalone company.



Pervinder Johar, CEO, Blume Global

This is another strategically significant acquisition that follows our acquisition of Envase Technologies last month. It further extends our capability in one of our six key CargoWise development priority areas, integrating rail into our landside logistics offering in North America.

Richard White, Founder and CEO, WiseTech Global

With WTC now having TMS capability in both road and rail logistics, we believe the foundations are in place to drive rapid penetration across the landside logistics market while leveraging WTC's extensive freight-forwarder customer network.

J.P.Morgan

J.P. Morgan Equity Research

Blume Global Highlights



Complete and scalable multimodal digital operating platform **transforming** the transportation ecosystem **status quo**



Trusted partner to the largest global **transportation carriers** (rail, ocean, air, and land), **LSPs, and shippers**



Carbon-neutral company with emission-reducing **technology solutions** aligned with emerging ESG initiatives



Recognized as a challenger in the **2022 Gartner Magic Quadrant**



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Other Notable Transactions

Insight Partners' Financing of Bestpass | Announced and Closed on June 6, 2023





- Bestpass is a comprehensive payment platform provider and leader in toll management solutions for commercial fleets of all shapes and sizes.
- Bestpass' platform facilitates a variety of transponder and toll coverage options, toll passes, weigh station services, and toll
 customer service to tolling authorities and related organizations, thereby enabling data accuracy, consolidating payments, and
 facilitating time and cost savings.
- "Our mission is to provide solutions for our customers that simplify back-office management, saving time and money and enabling fleets and drivers to focus on their core business. This investment is an endorsement of the Bestpass vision and allows us to continue to innovate, expand our reach, and delight our customers." —Tom Fogarty (CEO, Bestpass)

Bestpass Profile:

- Founded in 2001
- 30,000+ customers
- Industries: trucking fleets, auto fleets, tolling authorities, owner-operators, and providers and OEMs
- Geographies Served: North America

PartsTech's Series C Financing Led By OpenView | Announced on May 5, 2023; Closed on May 18, 2023



financing of



- PartsTech provides repair shops with the most connected, accurate, and efficient parts procurement platform designed to help mechanics find and order the right parts.
- PartsTech's platform has local inventory from preferred part stores, parts geolocation based on availability, and an up-to-date
 catalog with high-quality images and videos, enabling customers to run their businesses effectively and profitably through ecommerce and data innovation.
- "Vehicles are staying on the road longer than ever before, and shops are increasingly embracing digital solutions to improve the way
 they work. PartsTech drastically improves the way repair facilities operate, and we're excited to continue providing the resources Greg
 and his team need to drive market expansion and deliver unmatched value to customers." —Tim Keeble (Partner, OpenView)

PartsTech Profile:

- Founded in 2012
- 2,000+ repair shops, tire shops, and dealers; 30,000+ parts stores
- Industries: auto repair shops, part distributors, and manufacturers
- · Geographies Served: Global Reach

e-Emphasys Technologies' (TA Associates and True Wind Capital) Acquisition of CDK Global Heavy Equipment | Announced and Closed on May 1, 2023



acquisition of



- · e-Emphasys Technologies is a global provider of enterprise software for the heavy equipment and industrial machinery industry.
- e-Emphasys Technologies' suite of solutions includes CRM, business intelligence, mobile field service, inspection, and e-commerce customer portal applications plus RFID, artificial intelligence, IoT, and telematic.
- The merger brings together the talent, technologies, and partnerships to deliver digital transformation capabilities across heavy
 equipment and industrial machinery sectors seeking modern solutions for increasing efficiency and profitability.
- "Adding CDK Global Heavy Equipment's talented team of associates, patented intellectual property, and exceptional service and support
 operations will expand our global footprint, bringing modern solutions and a seamless customer experience to clients who want to grow
 their businesses based on the latest technology and industry best practices." —Jeffrey Hart (CEO, e-Emphasys)

e-Emphasys Profile:

- Founded in 2001
- ~4,200 rooftops
- Industries: construction, material handling, equipment rental, heavy trucks, mining, agriculture, industrial
- Geographies Served: Global Reach

Morgan Stanley Investment and StepStone Group's Financing of Everstream Analytics | Announced and Closed on April 4, 2023

Morgan Stanley
INVESTMENT MANAGEMENT





- Everstream Analytics risk scores and predictive insights sets the world's supply chain standard, helping global companies turn supply chains into business-changing, market-shifting, competition-crushing assets.
- Everstream Analytics, through the application of artificial intelligence and predictive analytics to its vast proprietary dataset, delivers the predictive insights and risk analytics that businesses need for a smarter, more autonomous, and sustainable supply chain.
- "2023 has already been momentous for Everstream, and we're not even through the first half. This funding comes when we are
 doubling down on our product innovation and executing rapidly and decisively to advance supply chain sustainability, which is more
 critical now than ever." —Julie Gerdeman (CEO, Everstream)

Everstream Analytics Profile:

- Founded in 2012
- ~200 employees
- Industries: auto, chemicals, energy, heavy equipment, retail, tech, life sciences, and food and beverage
- Geographies Served: Global Reach

Active Strategic Acquirers

Among all transportation modes, strategic buyer rationales mainly include the expansion of transportation networks and diversification of end markets.

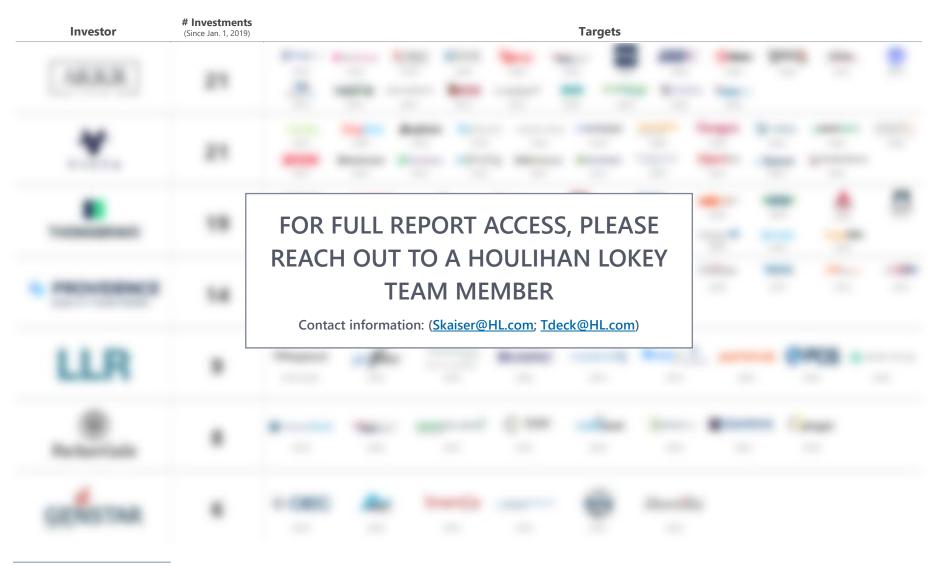
Acquisitions
Acquirer (Since Jan. 1, 2019)
Targets

FOR FULL REPORT ACCESS, PLEASE REACH OUT TO A HOULIHAN LOKEY TEAM MEMBER

Contact information: (Skaiser@HL.com; Tdeck@HL.com)

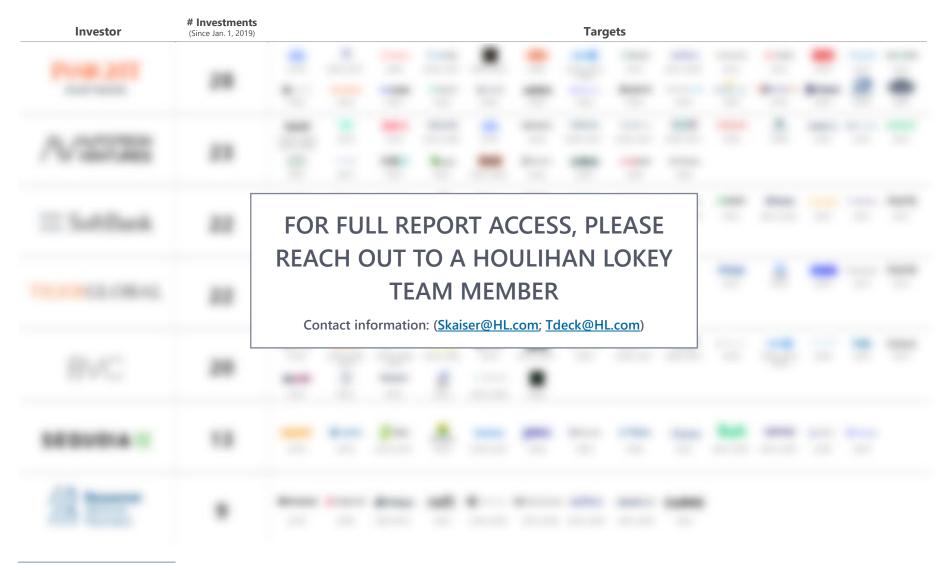
Active Majority Investors

Financial sponsors have been very active, executing new acquisitions as well as supporting their existing portfolio companies.



Active Minority Investors

Minority investors have provided strategic capital to new best-in-class companies across sectors to execute their growth strategies.



Precedent Transactions

Date	Transaction Type	Acquirer	Target	Description	EV (\$M)	EV/LTM Rev.
6/8/2023	Acquisition	Reynolds&Reynolds.	AUTOVISION	Offers an online car marketplace designed to help clients boost efficiency and automate buying, selling, and inventory management	n/a	n/a
6/7/2023	Financing	MOORE CAPITAL MANAGEMENT, LF	SHIFT 5	Offers data and software solutions designed to help clients in the rail, aviation, and defense industries increase operational efficiency and improve cybersecurity through actionable fleet intelligence	n/a	n/a
6/6/2023	Financing	NSIGHT PARTNERS	BESTPASS	Offers a comprehensive payment platform with a focus on toll management for commercial fleets of all sizes	n/a	n/a
6/6/2023	Acquisition	MAIN CAPITAL PARTNERS	RAIL CUBE	Offers freight railway management enterprise resource planning software designed to automate core processes across all business domains	n/a	n/a
5/31/2023	Acquisition	INGKA	M A D E 4. N E T	Offers a supply chain execution and warehouse management platform designed to track labor and transportation in real time, enabling clients to streamline the flow and visibility of inventory	Conf.	Conf.
5/22/2023	Acquisition	D Dealer Built	Oplogic	Offers an Al-driven dealership customer relationship management (CRM) platform designed to help clients streamline their customer tracking, sales, and financing	n/a	n/a
5/18/2023	Financing	OPENVIEW	PARTSTECH AUTOMOTIVE L-COMMERCE TECHNOLOGY	Offers a web-based auto parts ordering platform designed to help mechanics and repair shops find and order the right parts	n/a	n/a
5/1/2023	Acquisition	9 -Emphasys	CDK GLOBAL.	Offers an integrated dealer management software designed to help heavy equipment and industrial machinery clients optimize their business operations	n/a	n/a
4/17/2023	Acquisition	mióvision	OPTICOM GLOBAL TRAFFIC TECHNOLOGIES	Provides an Al-based traffic control and sensing system, including hardware and SaaS for businesses in the traffic management industry	\$107	2.7x
4/4/2023	Financing	Morgan Stanley INVESTMENT MANAGEMENT STEPSTONE	everstream ANALYTICS	Offers a supply chain risk management platform designed to leverage machine learning and artificial intelligence to predict, assess, and mitigate the risk of supply chain disruptions	n/a	n/a

-	Date	Transaction Type	Acquirer	Target	Description	EV (\$M)	EV/LTM Rev.
	4/3/2023	Acquisition	Reynolds&Reynolds.	Dealer Corp	Offers digital retailing software solutions to dealers such as desking, F&I, and inventory management	n/a	n/a
	3/20/2023	Acquisition	⊘ AAR	Trax	Offers a web-based enterprise MRO software solution for aircraft maintenance and fleet management	\$140 ⁽¹⁾	n/a
-	3/9/2023	Acquisition	TRINITY INDUSTRIES	RSI LOGISTICS	Offers proprietary software, logistics services, and terminal management solutions to the North American rail industry	\$70	n/a
-	2/28/2023	Acquisition	Cox Automotive	FleetNet	Offers emergency roadside assistance, mobile truck repair, cost- reduction data, fleet maintenance, towing and recovery, preventive maintenance, and tire repair solutions	\$100	n/a
	2/16/2023	Acquisition	III I wisetech	BLUME	Offers a multimodal supply chain orchestration platform that unites end-to-end visibility, supplier management, and logistics execution	\$414	Conf.
	2/15/2023	Acquisition	∰ KPLER	MarineTraffic	Offers real-time ship tracking and maritime intelligence to the global maritime industry	n/a	n/a
	2/14/2023	Acquisition	DESC ARTES	GROUNDCLOUD	Offers cloud-based final-mile carrier solutions and road safety compliance tools	\$218 ⁽²⁾	n/a
	2/2/2023	Financing	83N@RTH	Q VIQ	Offers a public mobility platform designed to optimize networks of buses, shuttles, wheelchair accessible vehicles, school buses, autonomous vehicles, and electric vehicles around the globe	\$3,500	n/a
-	2/1/2023	Financing	INSIGHT PARTNERS	PORTSIDE 000	Offers a cloud-based product suite designed to bring modern technology to the global business aviation industry and supports a diverse range of flight operations in more than 30 countries	\$150	n/a
-	1/31/2023	Financing	Apax. LLR Partners	Magaya	Offers a supply chain automation and logistics software for freight forwarders, customs brokers, and other international logistics providers	n/a	n/a

Date	Transaction Type	Acquirer	Target	Description	EV (\$M)	EV/LTM Rev.
1/24/2023	Acquisition	III I wisetech 'ıl' global	© ENVASE	Offers a transportation management software designed for intermodal trucking, drayage (container haulage), and landside logistics in North America	\$230	6.6x ⁽¹⁾
12/19/2022	Financing	SILVERSMITH	◊> Impel	Offers auto dealers, wholesalers, OEMs, and marketplaces the industry's most advanced digital engagement platform	n/a	n/a
12/12/2022	Acquisition	THOMABRAVO	‡∷coupa	Offers a cloud-based business spend management platform designed to unify processes across supply chain, procurement, and finance functions	\$8,194	10.0x
12/12/2022	Acquisition	Trimble	TRANSPOREON	Offers a cloud-based transportation management platform designed to provide sourcing, planning, execution, monitoring, and settlement tools	\$1,979	~12.4x
12/12/2022	Acquisition	AutoNation	REPAIR SMITH	Offers a full-service mobile solution for automotive repair and maintenance, designed to help owners maintain their vehicles and maximize uptime	\$190	n/a
11/10/2022	Acquisition	TRADER	Dealertrack de Canada	Offers digital retailing, financing, dealer reports, and deal management software solutions	n/a	n/a
11/7/2022	Acquisition	RITCHIE BROS. Auctioneers	/A	Offers a global digital marketplace connecting vehicle buyers and sellers; designed to facilitate the marketing and sale of total-loss, damaged, and low-value vehicles	\$7,300	3.4x
11/3/2022	Financing	generation A-P-MOLLER	project44	Offers a cloud-based supply chain visibility platform for shippers and logistics service providers	\$2,700	n/a
11/1/2022	Acquisition	◊> Impel	CarLabs.ai	Offers digital sales, service, and customer lifecycle software solutions to automotive dealers	n/a	n/a
10/25/2022	Acquisition	E₩ EUROWAG	INELO	Offers drive time settlement, telematics, and fleet management software solutions	\$305 ⁽²⁾	n/a

_	Date	Transaction Type	Acquirer	Target	Description	EV (\$M)	EV/LTM Rev.
	10/11/2022	Acquisition	GPSI NSIGHT	TITANGPS	Offers fleet management telematics and global positioning system tracking for auto, trucks, and off-road equipment	n/a	n/a
	9/29/2022	Acquisition	V VALSOFT	(*) INPLAN	Offers end-to-end port management, terminal operating, and logistics software solutions for the maritime industry	n/a	n/a
-	9/14/2022	Acquisition	Trimble .		Offers equipment maintenance and repair, resource scheduling and dispatching, and field tracking software solutions for the off-road equipment industry	\$322	n/a
	7/25/2022	Acquisition	one planet™	autoweb	Offers an automotive matchmaking platform connecting in-market car shoppers to their preferred vehicle transactions	Conf.	Conf.
-	7/21/2022	Acquisition	X BainCapital	Merchants FLEET	Offers cloud fleet and enterprise asset management and maintenance software	n/a	n/a
	7/11/2022	Acquisition	Reynolds&Reynolds.	Motility Software Solutions	Offers end-to-end dealer management, inventory management, and CRM software solutions for specialty dealerships	n/a	n/a
	5/4/2022	Acquisition	VESON	© Q88	Offers SaaS-based subscription solutions and software solutions for chemical tanker owners	n/a	n/a
	4/13/2022	Financing	INSIGHT * Five Arrows PARTNERS * Protopalinestments	∰ KPLER	Offers a commodity data and analytics platform	Conf.	Conf.
-	4/7/2022	Acquisition	Brookfield	CDK GLOBAL	Offers integrated data and technology solutions to the automotive, heavy truck, recreation, and off-road equipment industries	\$8,220	4.7x
-	3/14/2022	Acquisition	() TRACSIS	RAILCOMM Automated Rail Solutions	Offers rail automation systems and software for freight, transit, and industrial markets	\$14 ⁽¹⁾	2.4x

_	Date	Transaction Type	Acquirer	Target	Description	EV (\$M)	EV/LTM Rev.
	2/1/2022	Acquisition	∳ SCLERA	Spireon	Offers cloud-based GPS vehicle tracking and fleet management solutions	n/a	n/a
	12/23/2021	Acquisition	Undisclosed Buyer	Project Jayhawk	Offers a mobile application that connects independent contract drivers to auto sales, rental, and transport businesses	Conf.	Conf.
	12/22/2021	Acquisition	Undisclosed Buyer	Project Impact	Offers shop and supply chain management software solutions to the automotive collision industry	Conf.	Conf.
	11/2/2021	Acquisition	VERRA MOBILITY	(2) SYSTEMS	Offers parking management and intelligent solutions for managing parking, mobility, and transportation services	\$347	n/a
	10/4/2021	Acquisition	S PROVIDENCE EQUITY PARTNERS	tenstreet	Offers driver recruiting software and workflow solutions for the trucking and transportation industry	n/a	n/a
	9/27/2021	Acquisition	RITCHIE BROS.	SmartEquip Be Ready.	Offers a technology platform that supports equipment lifecycle management and integrates parts procurement from OEMs and their dealers	\$175	Conf.
	9/15/2021	Acquisition	STONE POINT CAPITAL	sambasafety	Offers cloud-based driver risk management and motor vehicle records to various industries	Conf.	Conf.
	8/2/2021	Acquisition	BRIDGESTONE	az ū ga.	Offers GPS vehicle tracking and road usage charging solutions	\$391	n/a
	6/2/2021	Acquisition	≑ SOLERA	edriving	Offers a patented driver risk management program that helps organizations reduce collisions, injuries, license violations, and total cost of fleet ownership	Conf.	Conf.
-	5/27/2021	Acquisition	E2 OPEN	B L U J A Y	Offers supply chain software and services to retail, manufacturing, and distribution industries	\$1,700	n/a

_	Date	Transaction Type	Acquirer	Target	Description	EV (\$M)	EV/LTM Rev.
	5/17/2021	Acquisition	∳ SOLERA	© DealerSocket	Offers customer relationship management and dealership training solutions to auto dealers	n/a	n/a
	5/17/2021	Acquisition	∳ SCLERA	@ Omnitracs	Offers a complete fleet intelligence software platform	n/a	n/a
-	4/23/2021	Acquisition	Panasonic	. BlueYonder	Offers end-to-end integrated supply chain and retail management software solutions	\$8,500	8.5x
	4/20/2021	Acquisition	autofutura* Automotive intelligence	GFORCES	Offers automotive retail software and data-driven business intelligence solutions	Conf.	Conf.
	3/10/2021	Acquisition	Q VIQ	况 remix	Offers a planning platform for public transit, designing streets, and managing new mobility	\$100	8.0x
	2/23/2021	Acquisition	MYPOLICY	bright box	Offers vehicle telematics solutions, providing the entire stack of connected car technology, including a cloud IT platform, mobile and web apps, and hardware	Conf.	Conf.
_	1/26/2021	Acquisition	BRXTER	V Vessel Vanguard.	Offers a cloud-based software application that provides automated task management to simplify the ownership and maintenance of boats	n/a	n/a
	11/17/2020	Financing	INV/E/N CAPITAL CEZ GROUP	⊚forto	Offers a digital freight forwarding and supply chain platform	n/a	n/a
	6/16/2020	Acquisition	atp	Flightdocs	Offers aircraft maintenance tracking and inventory management solutions within business aviation	Conf.	Conf.
	1/7/2020	Acquisition	Bregal Unternehmerkapital	iptor. Supply Chain Systems	Offers supply chain management, planning, and logistics software designed to help firms solve their complex order management and fulfillment challenges	Conf.	Conf.



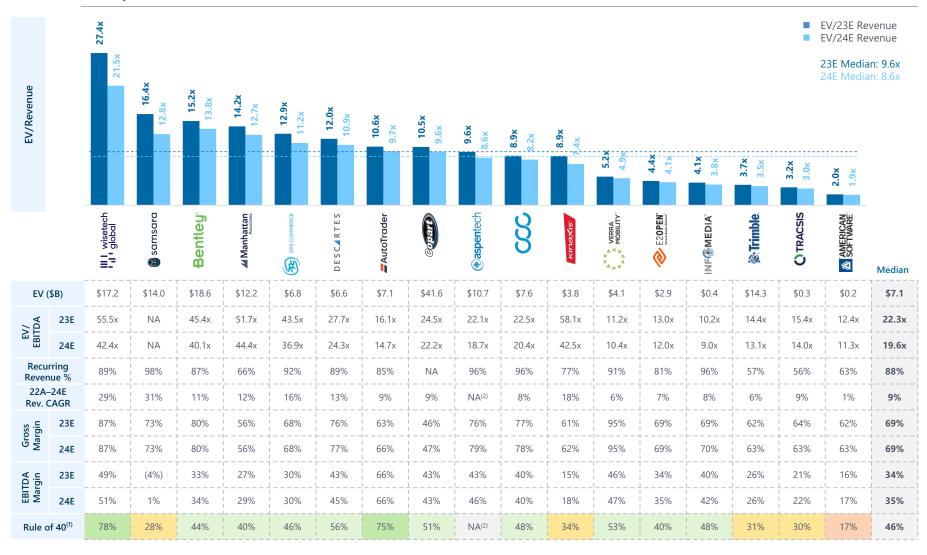
Public Company Valuations: Historical Trends

Recently, transportation technology players have seen their valuations rebound tremendously, while vertical software players have not benefited from the same uplift.



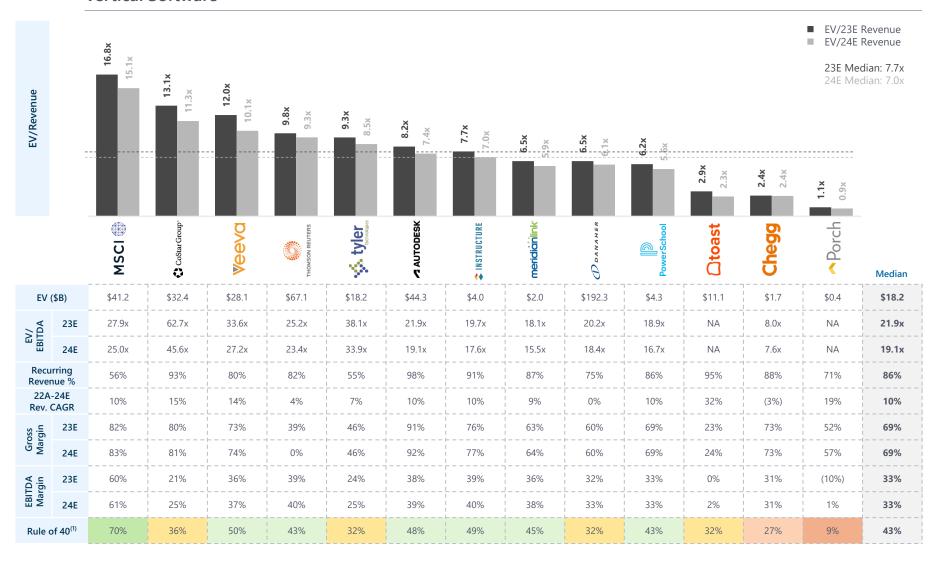
Public Company Valuations

Transportation Tech



Public Company Valuations (cont.)

Vertical Software

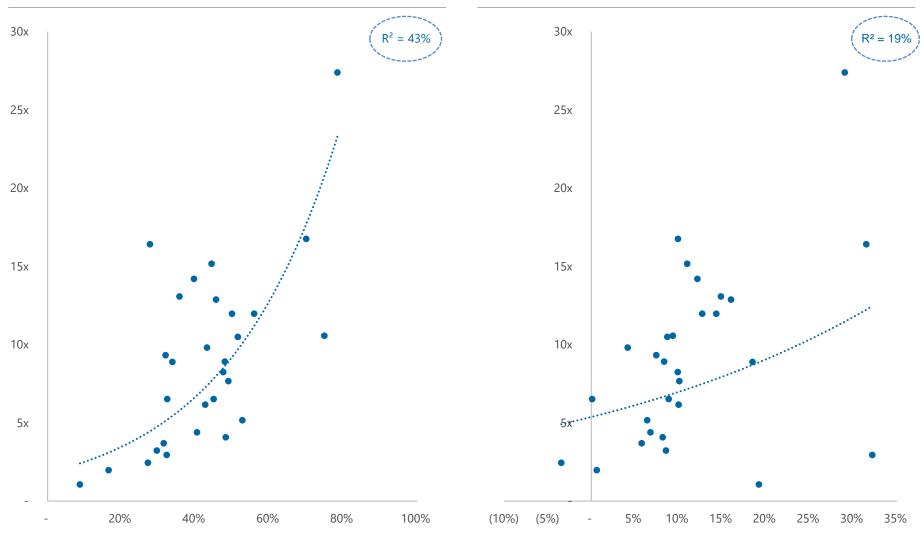


Valuations Correlated to Rule of 40 With Emphasis on Profitable Growth

Investors continue to reward growth as long as it's delivered with an element of profitability. With few exceptions, negative EBITDA margin businesses remain out of favor.

Rule of 40 vs. EV/2023E Revenue

22A-24E CAGR vs. EV/2023E Revenue





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CORPORATE FINANCE

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

	Advisor	Deals
1	Houlihan Lokey	381
2	Rothschild & Co	369
3	JP Morgan	217
4	Lazard	206
5	Goldman Sachs & Co	203

Source: Refinitiv. Excludes accounting firms and brokers.

No. 1

Global M&A Advisor Under \$1 Billion

Leading

Capital Markets Advisor

FINANCIAL RESTRUCTURING

2022 Global Distressed Debt & Bankruptcy Restructuring Rankings

	Advisor	Deals
1	Houlihan Lokey	58
2	PJT Partners Inc	30
3	Lazard	29
4	Rothschild & Co	25
5	Moelis & Co	21
Soui	rce: Refinitiv.	

No. 1

Global Restructuring Advisor

1,500+

Transactions Completed Valued at More Than \$3.0 Trillion Collectively

FINANCIAL AND VALUATION ADVISORY

1998-2022 Global M&A Fairness Advisory Rankings

	Advisor	Deals		
1	Houlihan Lokey	1,232		
2	JP Morgan	1,030		
3	Duff & Phelps, A Kroll Business	938		
4	Morgan Stanley	725		
5	BofA Securities Inc	710		
Source: Refinitiv. Announced or completed transactions.				

No. 1

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

1,000+

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Mergers and Acquisitions



Capital Markets



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Our Tech M&A Team Is No. 1 Globally With Unparalleled Reach

2022 M&A Advisory Rankings All Global Technology Transactions				
	Advisor	Deals		
1	Houlihan Lokey	116		
2	Goldman Sachs & Co	106		
3	Morgan Stanley	79		
4	Rothschild & Co	76		
5	JP Morgan	75		
Source: Refinitiv. Excludes accounting firms and brokers.				

2022 M&A Advisory Rankings U.S. Technology Transactions Under \$1 Billion				
	Advisor	Deals		
1	Houlihan Lokey	49		
2	Canaccord Genuity Grp Inc	37		
2	Lincoln International	37		
4	William Blair & Co	33		
5	Moelis & Co	32		
Source: Refinitiv. Excludes accounting firms and brokers.				



AMERICAS	Atlanta	Miami
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	Chicago	San Francisco
	Dallas	São Paulo
	Houston	Washington, D.C.
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- Panel Discussions From CEOs at High-**Growth Companies:** A wide range of speakers will share their insights about navigating current market conditions and positioning their companies for future success across a variety of technology sectors.
- Featured Speakers: The conference will feature high-profile speakers and candid panel discussions with distinguished tech thought leaders discussing a variety of topical themes.
- Targeted One-on-One Meetings: Houlihan Lokey will arrange targeted one-on-one meetings for presenting companies over the course of the conference, advising on prospects, meeting structure, and materials and coordinating any follow-up.
- **Networking Opportunities:** Join an audience of strategic, financial, and institutional investors as well as other capital providers for lunch and end-of-day cocktails.

AGFNDA

OCTOBER 2

Evening Pre-Conference VIP Reception

OCTOBER 3

CONFERENCE: Panels and 1x1s



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GTC 2022 IN NUMBERS

100 +

PARTICIPATING COMPANIES

TARGETED

ONE-ON-ONE MEETINGS WITH INVESTORS AND STRATEGIC PARTNERS

700+

CONFERENCE ATTENDEES

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LARGE-CAP TRANSACTION **EXPERTISE**

- CEO-level relationships with leading tech companies
- Large senior team with unparalleled transaction experience
- Broad network including Fortune 500 relationships
- Highest-quality client service
- M&A advisory and capital-raising expertise



MIDDLE MARKET / **GROWTH SECTOR FOCUS**

- Unique global access to venture capital, private equity, and strategic
- Growth company focus
- Deep sector expertise and domain knowledge
- Extensive capital markets access
- Late-stage private through public company orientation

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









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.

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.

Over 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 U.S.⁽¹⁾ and Tech M&A⁽²⁾



Significant Experience With Financing Markets



Senior-Level Commitment and Dedication



Deep, Industry-Specific Expertise



Superior Work Product/ Technical Abilities



Creativity, Imagination, Tenacity, and Positivity

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