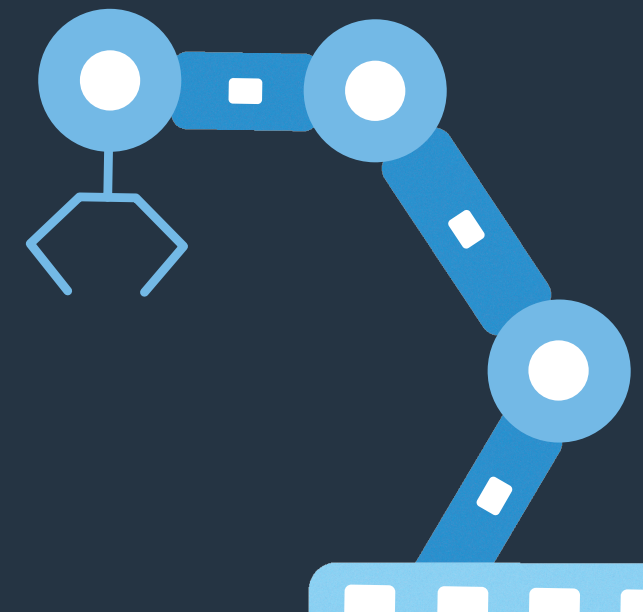
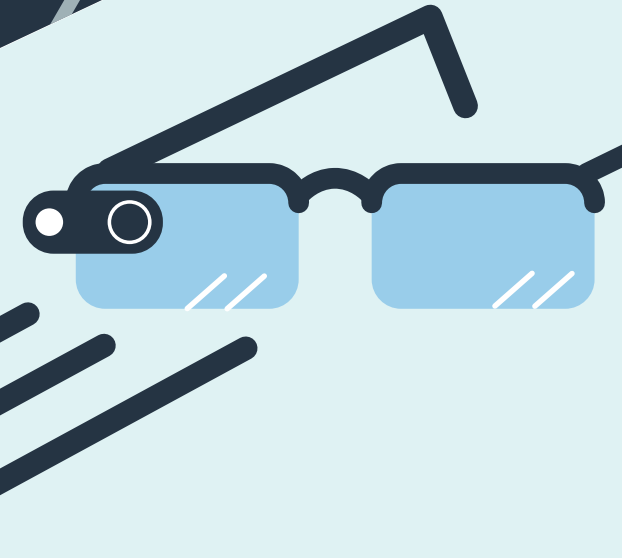


# Supply Chain Tech

Q1 2020

## Report preview

The full report is available through the PitchBook Platform





# Executive summary

The COVID-19 pandemic has strained global supply chains and led to significant mismatches in supply and demand. Assembly and manufacturing plants have faced shutdowns, causing production delays and shortages of global goods. Nonessential goods have been stuck in limbo with retailers unable to accept deliveries. Grocers have struggled to keep household goods on shelves. These disruptions are highlighting the need for technologies that can help ensure business continuity and mitigate the impacts of economic shocks. Additionally, businesses involved in global trade are demanding better visibility across delivery and supply channels, quicker shipping capabilities and the ability to source product on-demand to reflect real-time conditions at the consumer level.

Today's global supply chain is a highly fragmented industry that includes a sprawling ecosystem of disparate providers, each at different stages of technological maturity. We view this as a compelling backdrop for new entrants seeking to address gaps in the status quo and see areas of growth across the value chain, including procurement, inventory management, freight, warehousing, fulfillment and last-mile delivery.

Venture-backed startups are developing software and data services to help companies both improve supply chain operations and manage severe economic disruptions. Significant venture funding has been put to work to both modernize and disrupt this industry. In 2019, VC investors funneled approximately \$11.5 billion into supply chain technology startups in North America and Europe across 370 deals. In Q1 2020, VC investment in the sector totaled \$1.0 billion across nearly 60 deals. This report provides an overview of the technologies benefiting from VC investment and highlights emerging subsectors and opportunities for growth.



# Key takeaways

## **Last-mile delivery has emerged as a focal point of corporate and VC investment:**

Consumer demand for home delivery has grown significantly since the beginning of the pandemic, propelling investment into last-mile logistics. Retailers such as Rakuten and Home Depot are investing billions to create delivery facilities and fulfillment centers to boost their own delivery capabilities. Partnerships between retailers and startups providing delivery app platforms as well as automated delivery solutions have ramped up significantly. Food delivery apps such as **Instacart** are reporting significant increases in revenue, while the timeline for autonomous delivery is being fast-tracked. We believe startups focused on automated grocery delivery solutions, such as Nuro and Gatik.AI, are well positioned to succeed in this environment.

**Risk management gaining traction:** The coronavirus pandemic has highlighted the need for data analytics and real-time monitoring services that improve visibility and reduce risk exposure. Startups providing these services, such as Interos and **Riskmethods** (both of which raised rounds in Q1), have seen an uptick in venture investment. We expect investment in supply chain risk management platforms to increase going forward as management teams seek greater visibility into their supply chains' exposure to potential shocks ranging from pandemics, geopolitical disruption and natural disasters to hyper-local events such as fires and labor strikes. Startups providing effective end-to-end solutions to identify threats, assess impacts and mitigate risk should be well positioned to succeed.

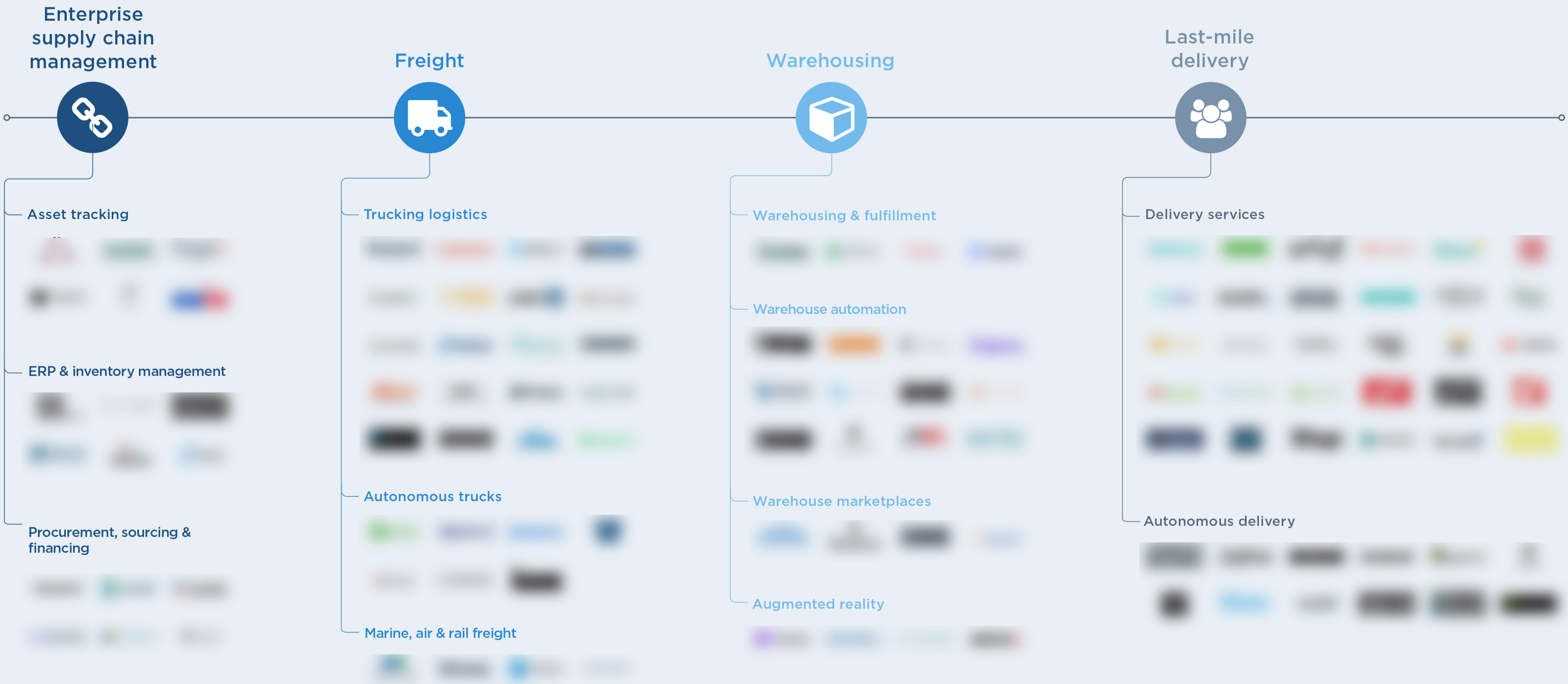
**Warehousing tech seeing surge in investment:** After hitting record levels of venture investment in 2019, warehousing tech startups continued to attract swathes of capital in Q1 2020. The segment raised \$381 million, up 57% over Q1 2019. Outsized deals in the quarter include **Berkshire Grey**'s \$263 million Series B2 round led by SoftBank in January as well

as **Vecna Robotics**' \$50 million Series A1 round led by Blackhorn Ventures. We believe this increase in activity is reflective of growing investor interest in warehousing technologies such as micro-fulfillment and automation that can reduce labor costs and improve ecommerce delivery times. The coronavirus pandemic has ushered in significant investment in automation technology to augment human workers, make warehouses safer and ensure continuity of operations.

**Supply Chain as a Service is catching on:** We continue to see growing interest in service-based solutions that can help companies turn fixed expenditures into variable costs. Warehouse marketplaces **Flexe** and Stord offer on-demand, subscription-based solutions that match retailers with warehouses with excess capacity. Providers of industrial and warehousing autonomous robots such as **Locus Robotics**, **Mobile Industrial Robots** and **RightHand Robotics** offer subscription-based, full-service solutions as opposed to individual unit sales. Similar to modern SaaS software, these services help customers reduce capital expenditure and focus on their core business while still enabling access to the latest technology.



# Supply chain tech market map



Companies included are VC-backed, segmented by primary use case and sorted by total capital raised.



SEGMENT DEEP DIVE

# Enterprise supply chain management

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# ENTERPRISE SUPPLY CHAIN MANAGEMENT

## Overview

Supply chain management (SCM) software helps companies manage all aspects of their supply chain processes, including transactions, vendor relationships and inventory management. SCM can improve a company’s ability to manage complex supply chain relationships by providing real-time insights that can enhance customer service, forecasting and financial management. Categories in this segment include:

**ERP & inventory management:** Software platforms providing enterprise resource planning with integrated SCM services (including providers of inventory management software)

**Asset tracking:** Providers of hardware and software platforms enabling companies to track assets and improve asset visibility

**Procurement, sourcing & financing:** Software platforms enabling raw materials procurement, sourcing and payment processing solutions

Traditional supply chains consist of a linear process though which raw materials are procured by suppliers, sold to producers, manufactured into finished goods and sent to distributors to be packaged and delivered to customers for consumption. Enterprise SCM software has traditionally operated in the channels between each linear step, facilitating processes such as planning, ordering and confirming. Separate systems are often used between adjacent parties on the value chain to exchange information, such as orders and returns. These systems are often not integrated to other processes in the supply chain, making data and information sharing difficult. For example, producers shipping to distributors are likely to have little visibility into deliveries, customer satisfaction or other useful insights. Similarly, retailers with real-time consumer insights often have difficulty

## Enterprise supply chain management



### Asset tracking



### ERP & inventory management



### Procurement, sourcing & financing



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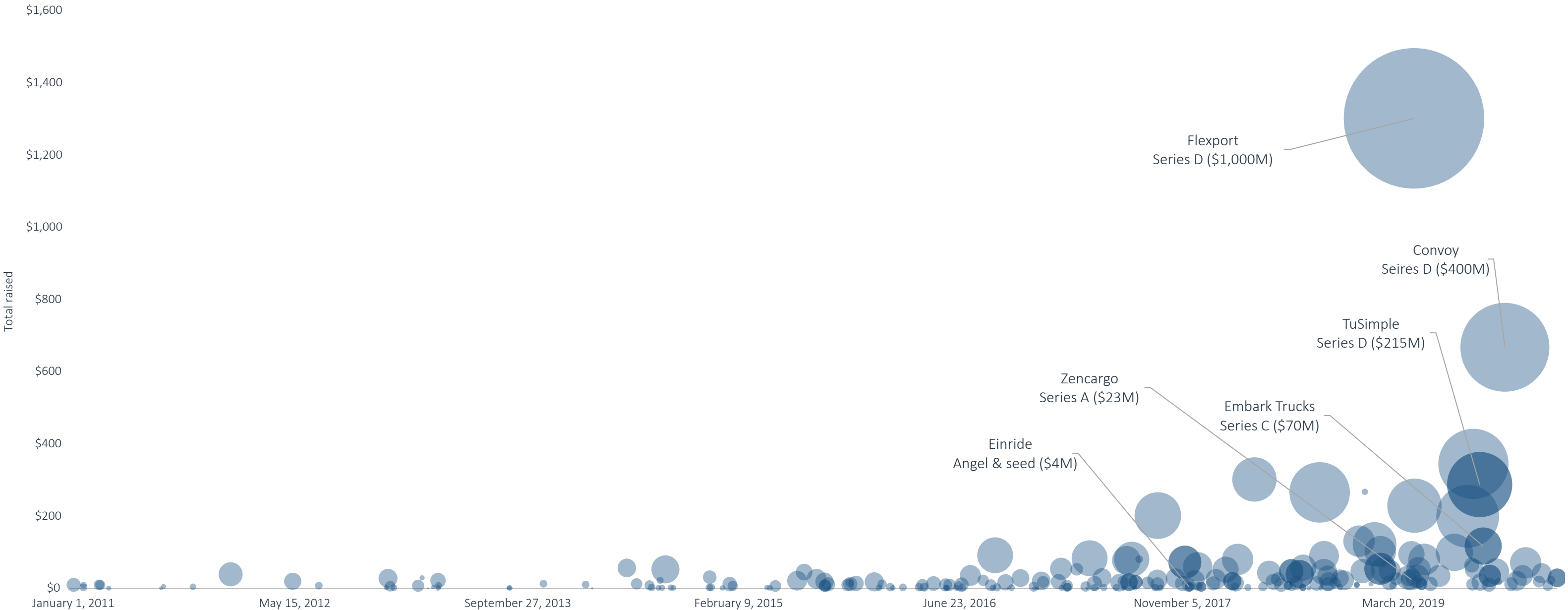
# Freight

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FREIGHT

Figure 16.  
Freight VC landscape (\$M)



Source: PitchBook  
Note: The left axis indicates total VC raised as of deal date. Bubbles indicate amount raised.



SEGMENT DEEP DIVE

# Warehousing

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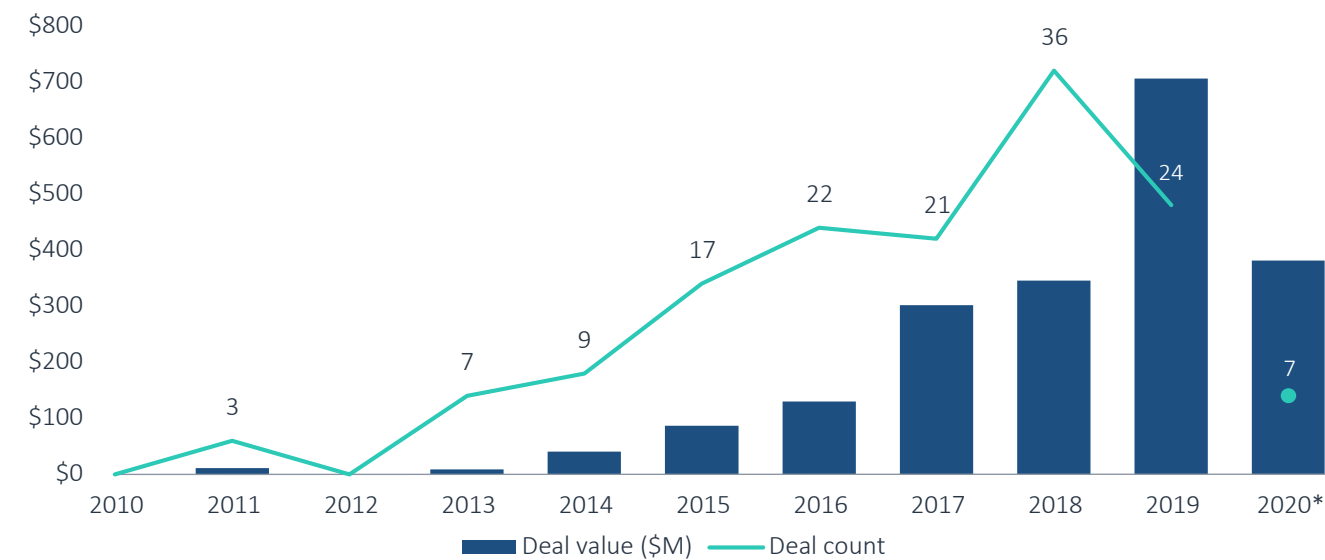
## WAREHOUSING

### VC activity

After hitting record levels of venture investment in 2019, warehousing tech startups continued to attract swathes of capital in Q1 2020. The segment raised \$381 million, up 57% over Q1 2019. Outsized deals in the quarter include **Berkshire Grey**’s \$263 million Series B2 round led by SoftBank in January, as well as **Vecna Robotics**’ \$50 million Series A1 round led by Blackhorn Ventures. Although not included in this dataset, Q2 deals such as **Locus Robotics**’ \$40 million Series D and Clearpath’s \$29 million Series C round showcase continued strength in warehouse automation.

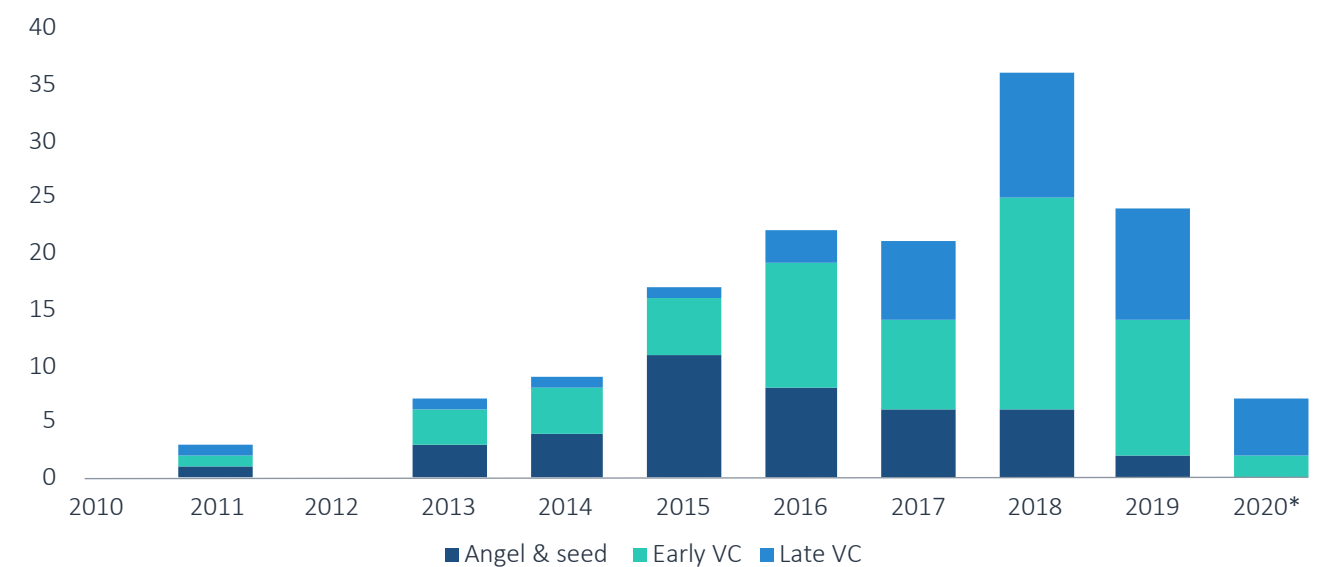
We believe this increase in activity reflects growing investor interest in warehousing technologies such as micro-fulfillment and automation that can reduce labor costs and improve ecommerce delivery times. The coronavirus pandemic is likely driving demand for automation technology that can augment human workers, make warehouses safer and help ensure continuity of operations.

Figure 24. WAREHOUSING VC DEAL ACTIVITY



Source: PitchBook | Geography: North America & Europe | \*As of March 31, 2020

Figure 25. WAREHOUSING VC DEALS (#) BY STAGE




Source: PitchBook | Geography: North America & Europe | \*As of March 31, 2020



WAREHOUSING

Figure 29.  
Key VC-backed warehousing companies

COMPANY	TOTAL VC RAISED (\$M)	LAST KNOWN VALUATION (\$M)	SUBSEGMENT	KEY PRODUCTS	PRODUCT DIFFERENTIATION
 BERKSHIRE GREY	\$328	\$214	Automation & micro-fulfillment	Robotic picking, parcel sortation	Flexible, intelligent robotic automation
	\$298	\$600	Warehousing & fulfillment	Consumer storage	On-demand consumer storage; expanding to SMB storage needs
	\$136	\$57	Automation & micro-fulfillment	Micro-fulfillment platform	Highly automated fulfillment platform tailored for same-day delivery
	\$122	\$117	Augmented reality	HMT head mounted displays	Rugged; hands-free, voice-operated OS
	\$94	\$221	Automation & micro-fulfillment	Autonomous mobile robot	Cloud-based; automated material handling and data collection for warehouses
	\$70	\$210	Warehousing & fulfillment	Ecommerce fulfillment	ML-based item tracking and prediction
	\$67	\$184	Automation & micro-fulfillment	Autonomous mobile robot	Highly flexible platform; RaaS business model
	\$63	\$195	Warehousing & fulfillment	Ecommerce fulfillment	Data-driven sales channel integration with major platforms and marketplaces

Source: PitchBook

SEGMENT DEEP DIVE

# Last-mile delivery

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## LAST-MILE DELIVERY

### Outlook

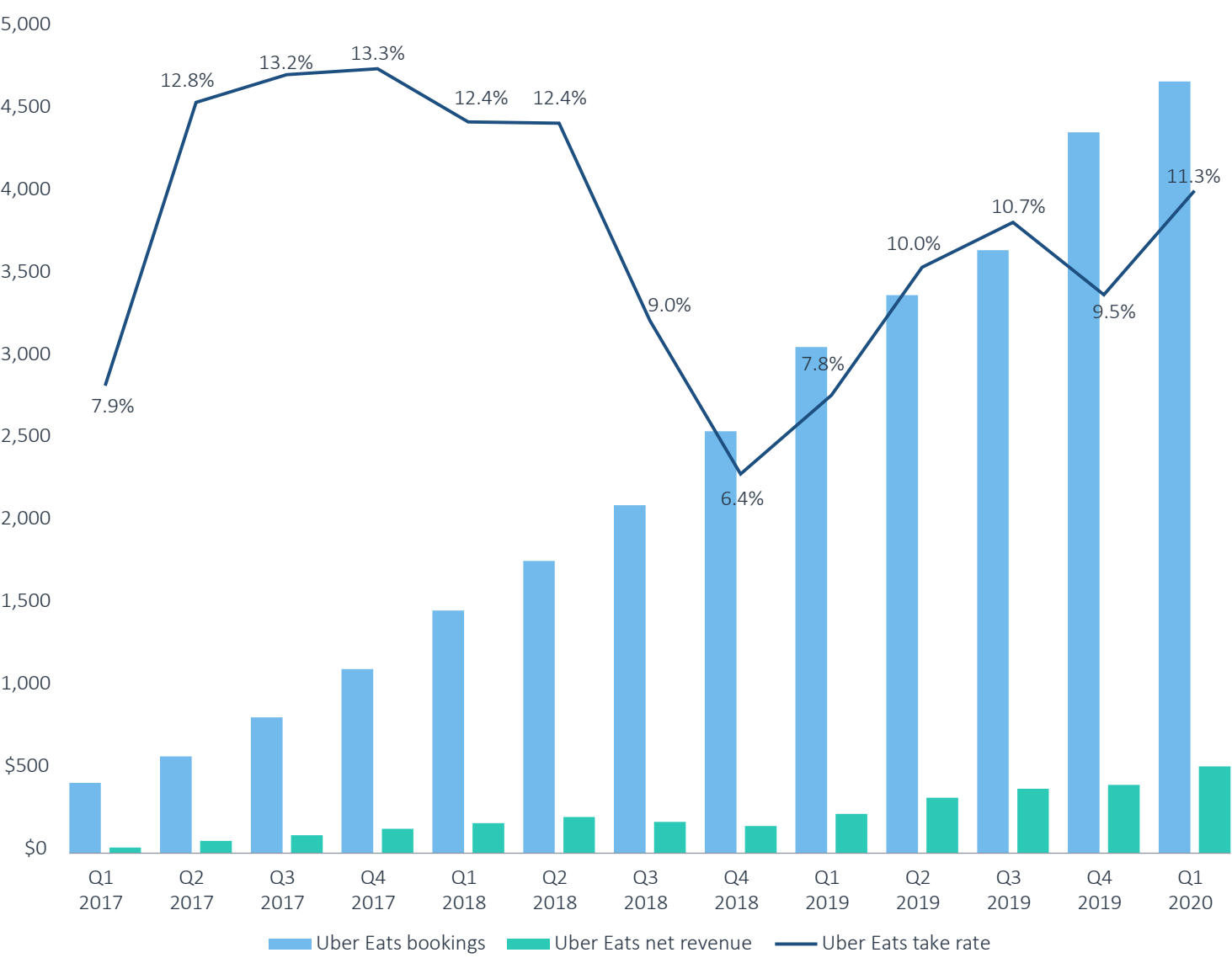
**Social distancing to expand market:** The coronavirus pandemic and subsequent stay-at-home orders have driven more demand for delivery services. We believe much of this demand is coming from first-time buyers that have not been previously exposed to these services. China-based online grocery and food delivery apps **Dada**, **Meituan** and **Ele.me** have seen major surges in demand as government quarantining measures went into effect.<sup>23</sup> We expect a similar dynamic to play out in the US and Europe in the near to medium term. This could give a revenue tailwind to providers such as **DoorDash**, **Uber Eats**, **Instacart** and **Postmates**.

**M&A key to margin story:** Longer term, we believe consolidation will be necessary for the online food delivery industry to achieve sustainable margins. In 2019, **Uber** acquired grocery delivery startup **Cornershop**, and **DoorDash** acquired food delivery competitor Caviar. In early 2020, Just Eat’s acquisition of **Takeaway.com** was finalized, and the company subsequently acquired **Grubhub**, for which **Uber** had also made an offer. Going forward, we view **DoorDash** and **Postmates** as likely merger candidates.

In our view, **Uber** losing out on **Grubhub** to a European competitor could be a setback for improved margins in the North American online food delivery industry. **Grubhub** had been on the decline due to its limited cash availability to invest in expansion, and that has been to the benefit of both **Uber** and **DoorDash**. A well-funded, outside competitor gaining a foothold in the North American market could cut into **Uber** and **DoorDash**’s growth plans and potentially put downward pressure on pricing and margins in the space, delaying the industry’s path to profitability.

23: "‘I Just Need the Comfort’: Processed Foods Make a Pandemic Comeback," The New York Times, Julie Creswell, April 7, 2020

Figure 40.  
Uber Eats bookings and revenue (\$M)

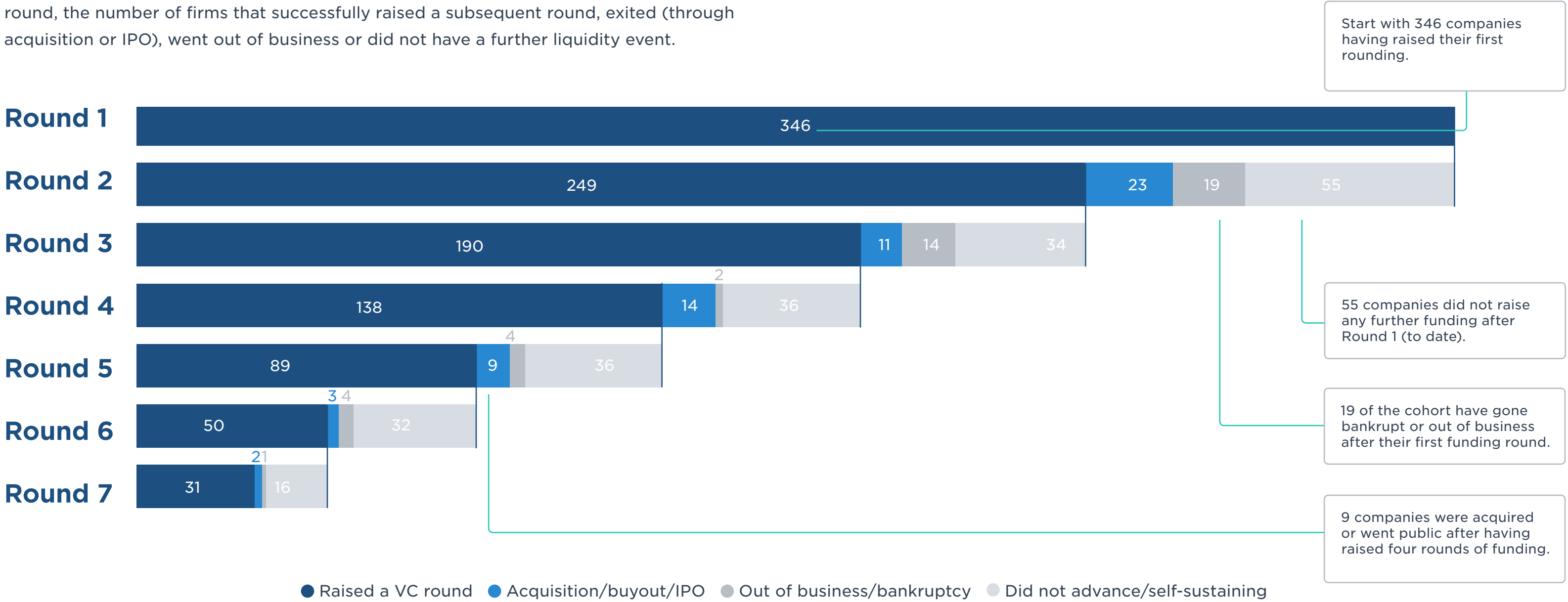


Source: Uber



# Supply chain tech VC funnel

This VC funnel uses PitchBook data to analyze the VC funding life cycle by highlighting, by round, the number of firms that successfully raised a subsequent round, exited (through acquisition or IPO), went out of business or did not have a further liquidity event.







# About PitchBook Emerging Tech Research

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As the private markets continue to grow in complexity and competition, it's essential for investors to understand the industries, sectors and companies driving the asset class.

Our Emerging Tech Research provides detailed analysis of nascent tech sectors so you can better navigate the changing markets you operate in—and pursue new opportunities with confidence.

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