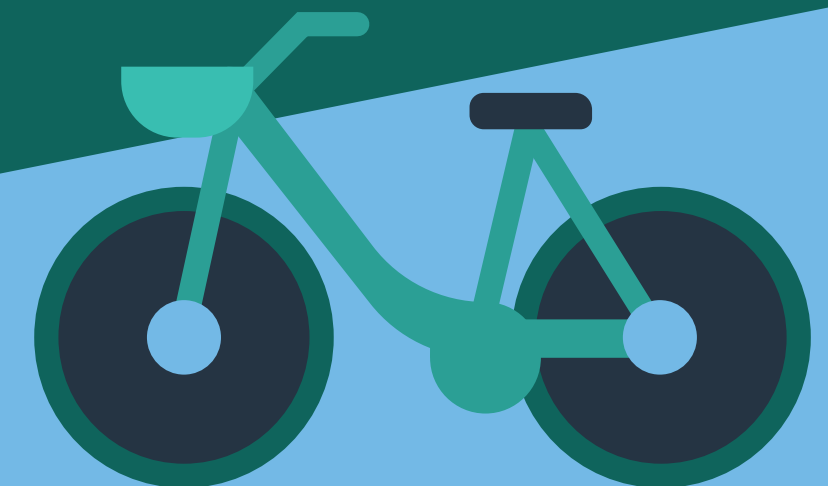


# Mobility Tech

Q2 2020

## Report preview

The full report is available through the PitchBook Platform





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# Key takeaways

**Long-term secular drivers of mobility tech remain intact despite disruption:** We continue to view adoption of electric vehicle technology as a stable secular trend and maintain our favorable long-term outlook on the space. We expect the adoption of connected, autonomous, shared, and electric vehicle technology will continue driving investment into mobility tech. In the near to medium term, social distancing will pressure both incumbents and nascent businesses in this ecosystem. With automakers and transportation companies more likely to be in cash-preservation mode, we expect financial investors and large tech companies with strategic interests in the future of transportation to pick up the slack in financing the ecosystem's future development.

**Investment in electric vehicles remains strong:** Despite fears that COVID-19 could delay the electrification of transportation, public and private markets have continued to funnel capital into electric vehicle technology. Mirroring the significant rise in the share prices of publicly traded electric vehicle companies such as **Tesla**, **NIO**, and **Nikola**, privately backed startups such as **Rivian** and **QuantumScape** continue to raise outsized financing rounds. **Tesla** continues to set impressive milestones, while traditional automakers, such as **Nissan**, **VW**, and **Volvo**, continue to aggressively prioritize electrification. The favorable sentiment surrounding electric vehicles appears to be shared by governments, particularly in Europe and Asia. The UK, Germany, and France have announced plans to ramp up subsidies for electric vehicles, while Chinese government officials have indicated that electric vehicles remain a priority.

**Tech giants are pulling ahead in the race to self-driving:** We believe the current downturn has enabled technology companies to gain a foothold in the autonomous vehicle ecosystem, to the detriment of incumbent automakers. Many automakers are facing

pandemic-induced financial pressure and have been forced to focus inward on their core businesses, leading to delayed projects and curtailed investments in long-term bets such as self-driving technology. Meanwhile, financial investors and tech companies with large cash reserves and strategic interests in transportation continue to invest aggressively in the space. Notably, no major automakers participated in the top autonomous vehicle deals of Q2 2020. Alphabet-owned **Waymo** raised a \$3.0 billion external financing round led by Silver Lake, CPPIB, and Mubadala; Amazon acquired struggling robotaxi startup **Zoox** for \$1.3 billion (after outbidding GM); Intel acquired urban mobility platform **Moovit** for \$900 million; and ridesharing giant **Didi Chuxing**'s autonomous driving unit raised \$500 million from SoftBank.

**Ridesharing severely affected by downturn but stands to benefit from recovery:** During the depths of the crisis, ridesharing companies saw ridership declines of at least 80% in many markets. In the US, the industry was already under scrutiny due to its lack of profitability and regulatory concerns regarding its contracted workforce. Now it also faces costs associated with disinfecting vehicles and paying out sick leave. We believe the industry is in the midst of a turnaround and could benefit from commuters shunning mass transit in favor of hailing private rides. **Uber**'s business in Hong Kong has returned to 80% of its pre-pandemic level, while **Didi Chuxing**'s business in China is back to a normalized level. Ridesharing platforms with diversified services such as delivery and fintech (i.e., payment and ecommerce offerings) could be better positioned to weather the crisis.

**Micromobility poised to draw commuters from public transit:** The e-bike and e-scooter industry could benefit in the long term as economic activity resumes and urban commuters remain wary of public transit. China-based **Hellobike**, **Mobike**, and **Didi**



## KEY TAKEAWAYS

**Chuxing** reported normalized ridership levels as COVID-19 cases dwindled and employees began returning to work. We expect better-capitalized providers to gain market share as newer startups struggle to manage reduced activity and suspend operations. In the long term, micromobility could play an important role in helping cities incorporate social distancing practices for commuters, while also solving existing issues related to congestion and emissions.











**Last-mile delivery a focal point of corporate and VC investment:** Consumer demand for delivery has grown significantly since the beginning of the COVID-19 pandemic, driving investors and corporates to ramp up investment in 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. Mobility tech platforms such as **Uber** and **Didi Chuxing** are increasing their investments into restaurant, grocery, and convenience item delivery. Companies developing delivery robots and drones, such as **Nuro** and **Flytrex**, are seeing an uptick in regulatory approvals and partnerships as the need for autonomous delivery is highlighted.

**Online car sales to take share from physical dealers, boosted by pandemic:** We expect used car sales will gradually shift online as ecommerce penetrates the car-buying industry. The coronavirus pandemic has catalyzed demand for end-to-end contactless online car buying, including touchless financing approval and home delivery. Demand for used cars has recently increased, driven by aversion to mass transit and the contracted supply of new cars due to factory shutdowns. Online auto commerce startups such as **Shift**, **Blinker**, and **Digital Motors** are well poised to benefit from growth in this market as contactless car buying has many advantages over purchasing via traditional dealerships. Going forward, incumbent automakers and dealers must adapt by investing in online marketplace applications and dealership enablement technologies to succeed.



# VC ACTIVITY

Figure 3.  
Top 10 mobility tech VC mega-deals in Q2 2020

COMPANY NAME	CLOSE DATE	SEGMENT	DEAL SIZE (\$M)	POST-MONEY VALUATION (\$M)*	STAGE	LEAD INVESTOR(S)
 WAYMO	May 12	Autonomous vehicles, ridesharing	\$3,000	\$30,750	Late-stage VC	CPPIB, Silver Lake Management, Mubadala Investment Company
 Didi Bike						
 samsara						
 deliveroo						
 DiDi						
 DOORDASH						
 Xingsheng Selected						
 ninjaban						
 LILIUM						
 instacart						

Source: PitchBook | Geography: Global | \*As of June 30, 2020





# Mobility tech market map

## Autonomous vehicles



## Simulation & development tools

## Teleoperation

## Cameras

### Full stack

### Lidar

### Radar

## Electric vehicles



EV charging, battery & motortech

### Electric vehicles

## Fleet management & connectivity



### Connectivity & data management

### Fleet management

### Cybersecurity

### Parking

### Passenger safety

### V2X

Companies included are VC-backed, segmented by primary value proposition and sorted by total capital raised as of December 31, 2019





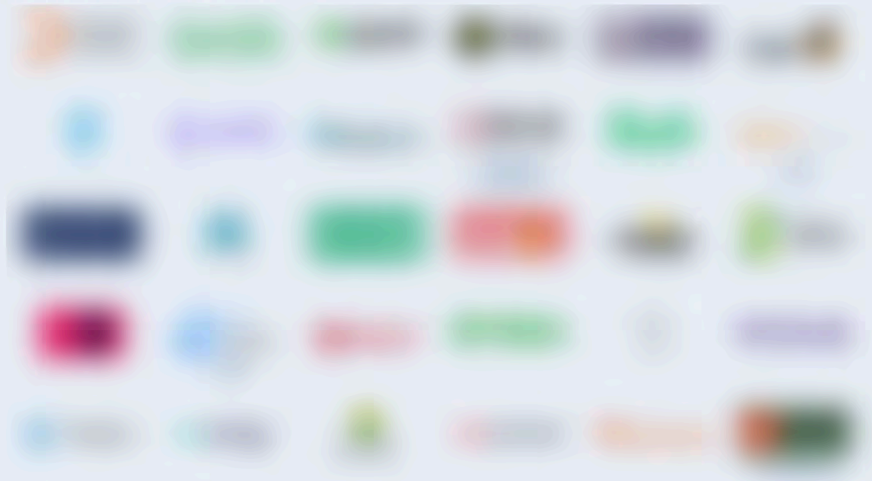
### Ridesharing



Augmented interior

Demand planning

Ridesharing platforms



### Micromobility



Network operators

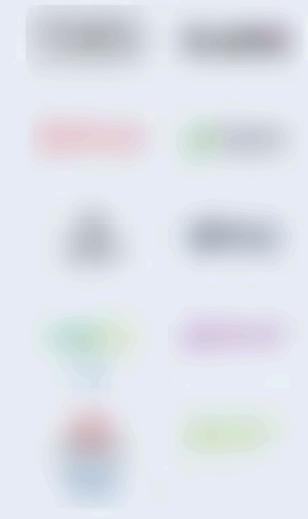
Vehicle suppliers



Management & analytics platform



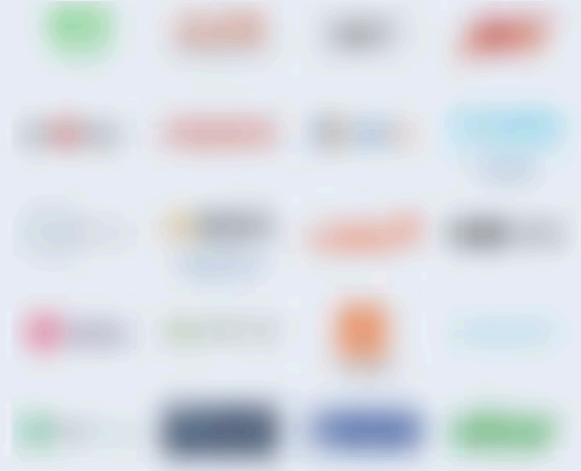
Carsharing



### Auto commerce



Digital marketplace



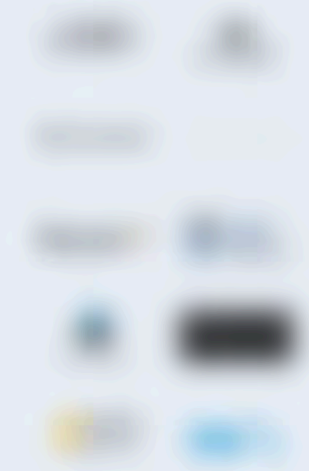
Financing & subscriptions



Repair & maintenance



Air taxis



### Urban air mobility



Unmanned aerial vehicles

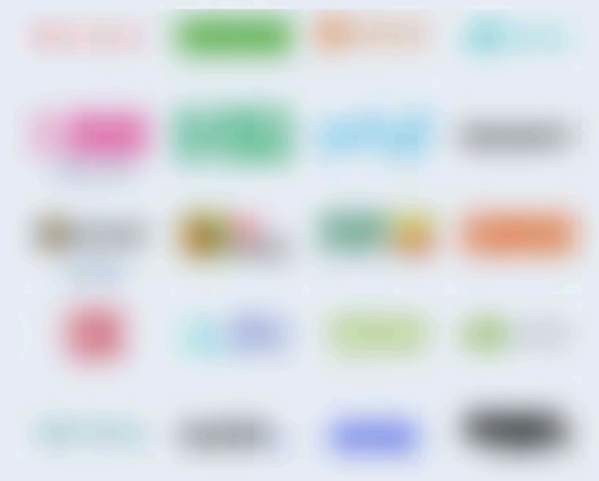
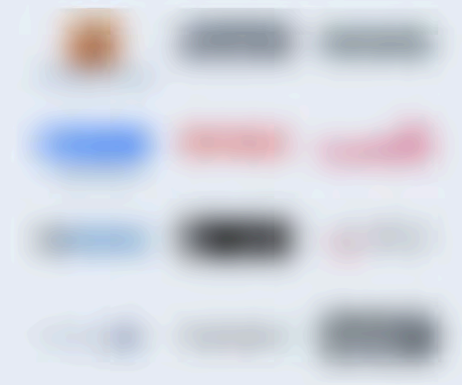


### Transportation logistics



Last-mile delivery

Freight



Companies included are VC-backed, segmented by primary value proposition and sorted by total capital raised as of June 30, 2020

SEGMENT DEEP DIVE

# Autonomous vehicles

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## AUTONOMOUS VEHICLES

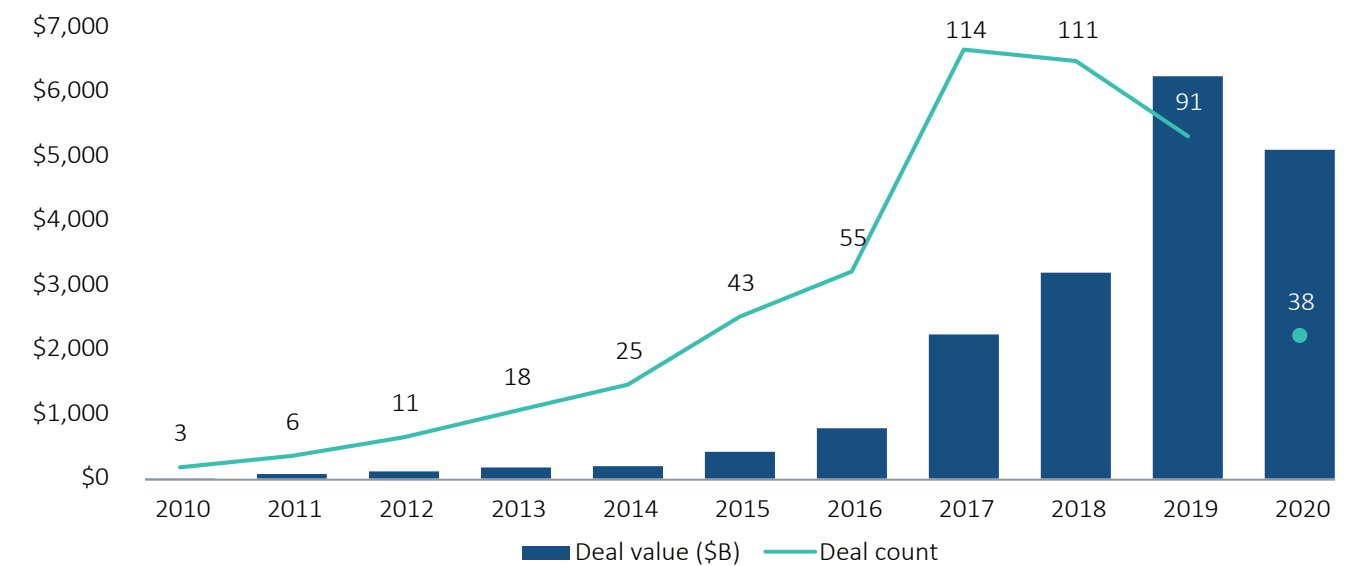
### VC activity

In Q2 2020, venture investment in autonomous vehicles hit a quarterly record of \$3.8 billion, up from \$1.8 billion in Q2 2019 and \$1.3 billion in Q1 2020. **Waymo**'s \$3.0 billion late-stage VC round is the primary contributor to this total. The mega-deal was led by Silver Lake, CPPIB, and Mubadala and pushed the company's post-money valuation to \$30.8 billion. Additional standout deals include **Didi Autonomous Driving**'s \$500 million early-stage VC round led by SoftBank as well as **Inceptio** Technology's \$100 million Series A.

Corporate investment from automakers has driven some of the largest deals in the space. In 2019, **Cruise** Automation received over \$4.0 billion in development capital from SoftBank, **Honda**, and GM. **Ford** has committed \$4.0 billion to autonomous vehicle development, and **Volkswagen** has committed \$2.6 billion into **Ford**-owned **Argo AI**. In 2018, Intel acquired **Mobileye** for \$14.9 billion, marking the largest corporate acquisition in the space so far. Corporate investment may be under pressure in the near term as traditional providers focus on the pandemic-related economic downturn.

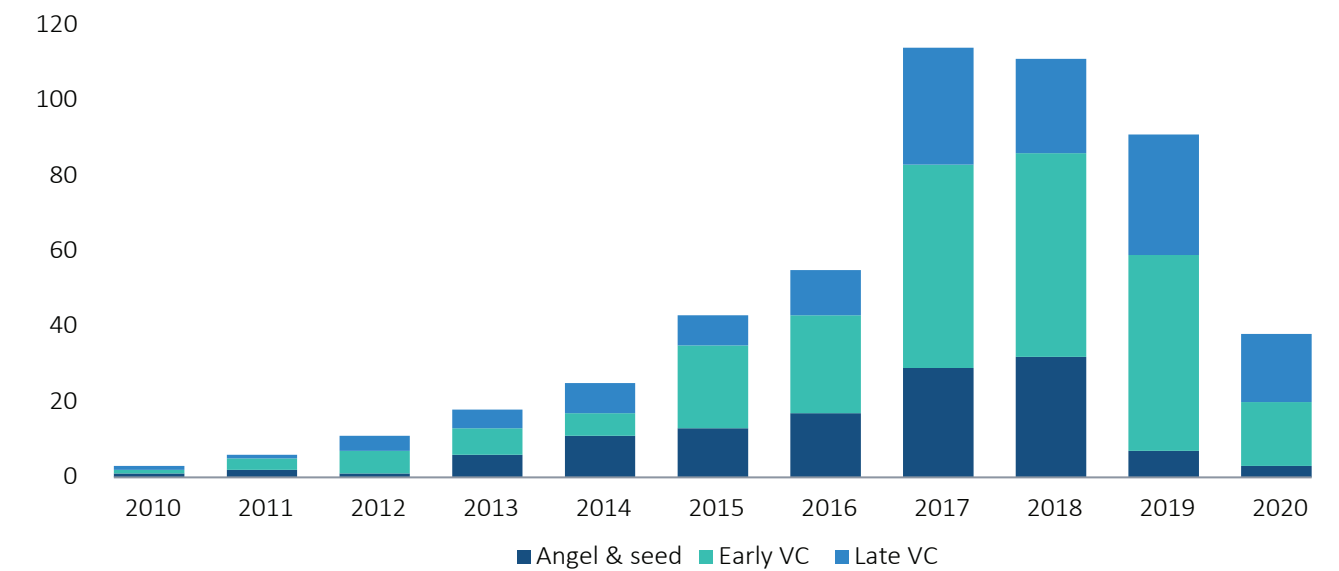
Historically, a significant portion of VC investment has gone toward startups developing full-stack autonomous solutions, such as **Zoox**, **Nuro**, and **Aurora**. This is changing as investors concentrate more capital in companies focused on single aspects of autonomy, such as perception or localization, or that otherwise augment the industry.

Figure 10. AUTONOMOUS VEHICLES VC DEAL ACTIVITY



Source: PitchBook | Geography: Global | \*As of June 30, 2020

Figure 11. AUTONOMOUS VEHICLES VC DEALS (#) BY STAGE



Source: PitchBook | Geography: Global | \*As of June 30, 2020

SEGMENT DEEP DIVE

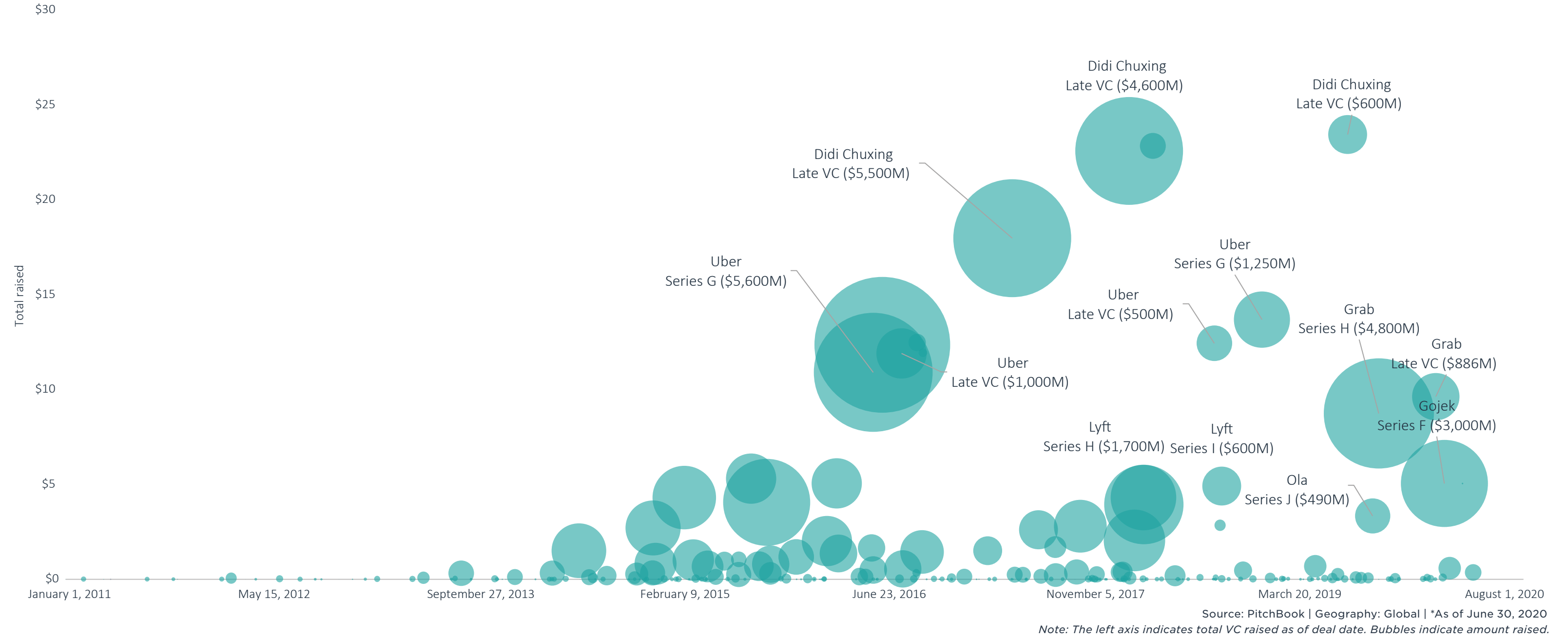
# Ridesharing

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# RIDESHARING

## Figure 21. Ridesharing VC landscape (\$B)





SEGMENT DEEP DIVE

# Electric vehicles

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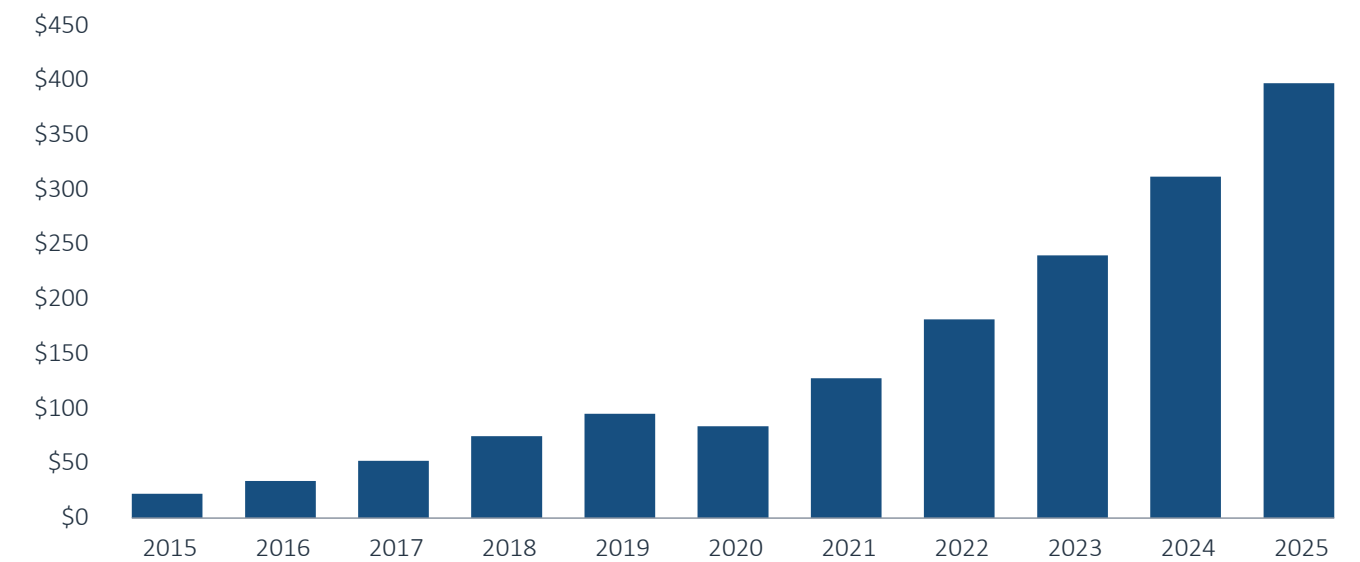
## ELECTRIC VEHICLES

**Favorable regulation:** Countries and municipalities are increasingly introducing rules to curb emissions from gasoline and diesel-powered vehicles while providing subsidies to encourage electric vehicle sales. China, Denmark, France, India, Israel, Norway, the UK, and Sweden have made soft commitments to phasing out new gasoline and diesel vehicle sales by the 2030-2040 timeframe. Municipalities are moving more quickly, with cities including Amsterdam, Brussels, Los Angeles, London, Madrid, Paris, Rome, and Vancouver making soft commitments to phase out gasoline and diesel vehicles by the 2025-2030 timeframe.

### Market size

We expect the total market for plug-in hybrid and battery-powered electric vehicles to expand dramatically by the mid-2020s, from \$95 billion in 2019 to \$398 billion in 2025, driven by further market penetration of electric vehicles to 11.7% of new vehicle sales in 2025, up from 2.4% in 2019. We model a sales decline of 12% YoY in 2020, driven by the coronavirus pandemic. Although new electric vehicle sales will likely face near-term pressure, we expect them to bounce back in 2021 and the following years, propelled by global government incentives for clean energy investment and additional electric vehicle subsidies. In the long term, lower oil prices could affect the relative affordability of electric vehicles, even as battery manufacturing costs decline.

Figure 59. ELECTRIC VEHICLES MARKET SIZE (\$B)



Source: Bloomberg New Energy Finance, internal PitchBook estimates | Geography: Global  
Note: Refers to sales of passenger electric vehicles.

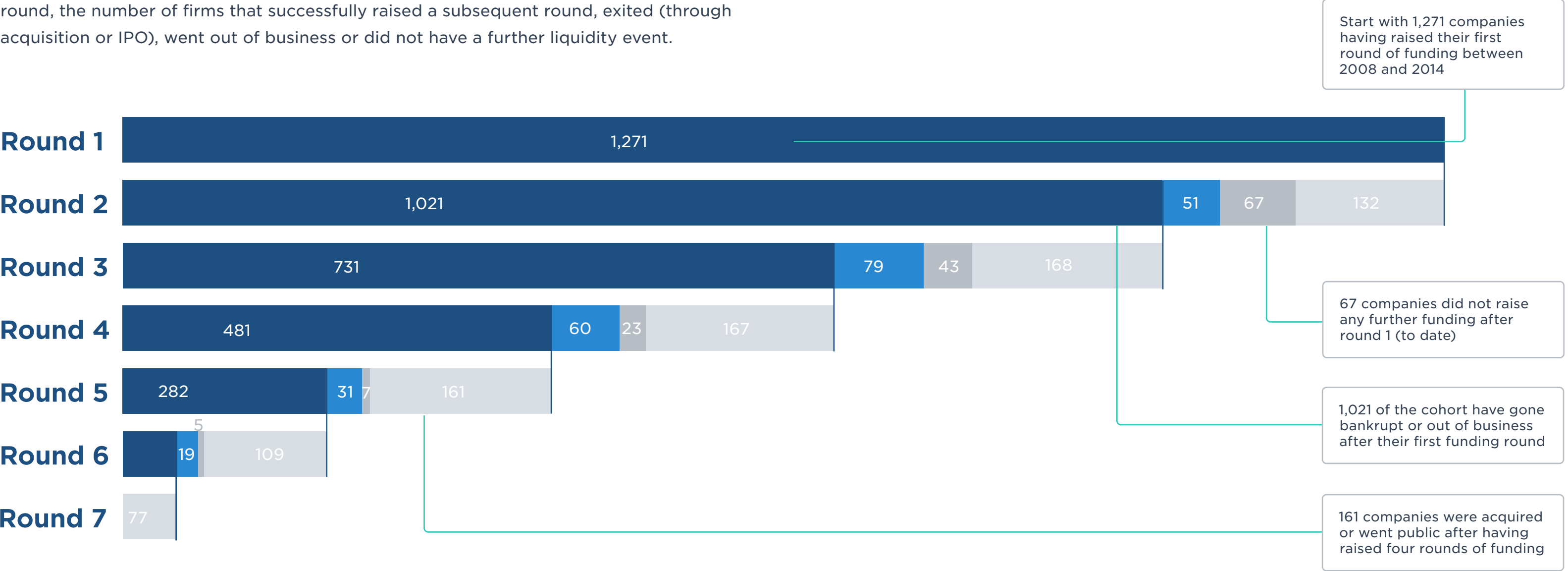
Figure 60. COMMON INDUSTRY KPIS

- Vehicle deliveries
- Production levels
- OEM/Tier-1 partnerships
- MSRP relative to in-class electric vehicle and ICE vehicles
- Range
- Battery cycle life
- Battery efficiency
- Battery energy density
- Availability/utilization of charging infrastructure
- Smart features



# Mobility 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.



● Raised a VC round ● Acquisition/buyout/IPO ● Out of business/bankruptcy ● Did not advance/self-sustaining

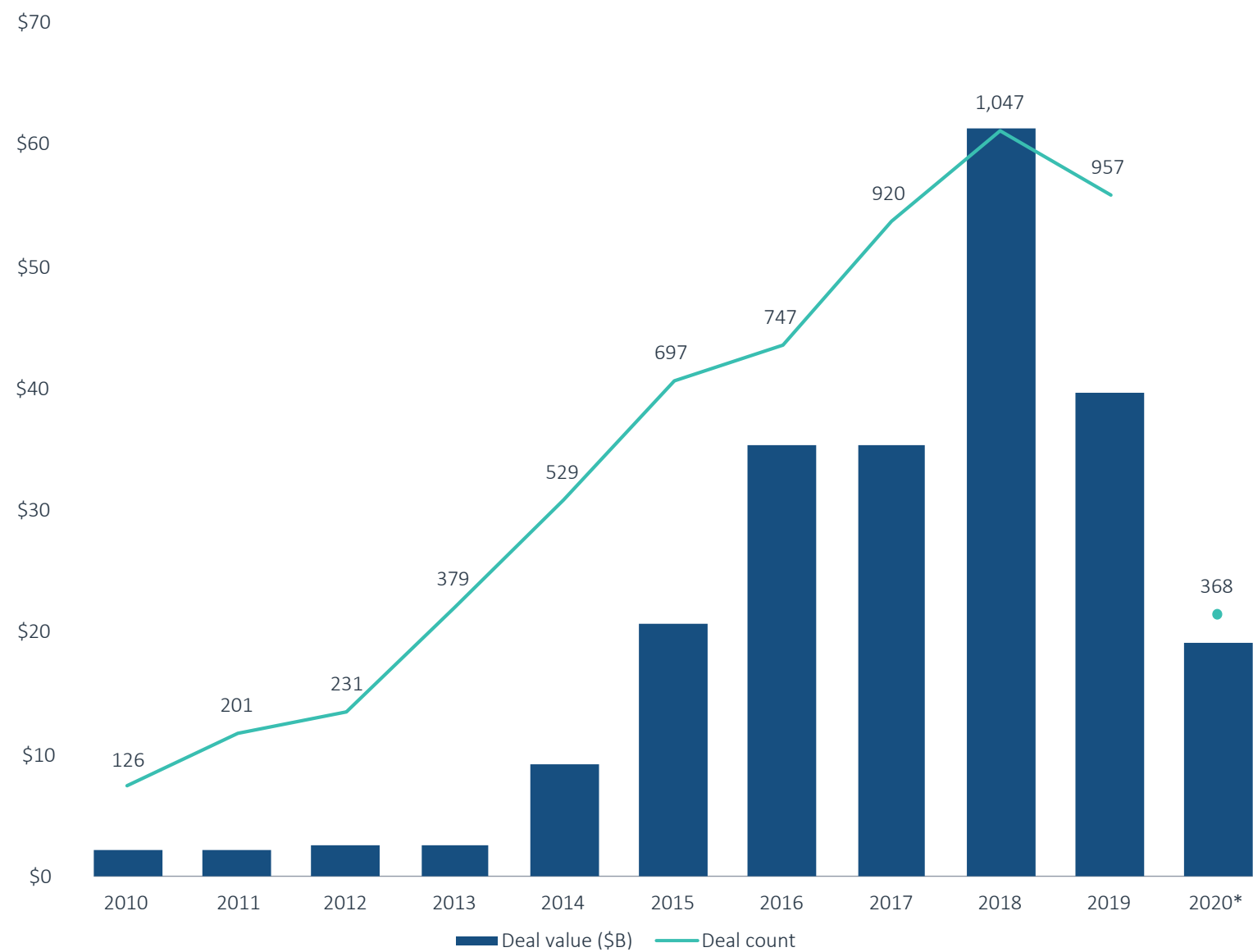




## SUPPLEMENTAL MATERIALS

# Additional VC data

Figure 67.  
Mobility tech VC deal activity



Source: PitchBook | Geography: Global | \*As of June 30, 2020

Figure 68.  
Top 10 mobility tech VC deals in Q2 2020 by size

COMPANY	CLOSE DATE	DEAL SIZE (\$M)	POST-MONEY VALUATION (\$M)
Waymo	May 12, 2020	\$3,000.0	\$30,750.0
Didi Bike	April 20, 2020	\$1,000.0	N/A
Samsara	May 15, 2020	\$700.0	\$5,400.0
Deliveroo	April 17, 2020	\$575.0	N/A
Didi Autonomous Driving	May 29, 2020	\$500.0	N/A
DoorDash	June 18, 2020	\$400.0	\$16,000.0
Xingsheng Selected	June 22, 2020	\$400.0	N/A
Ninja Van	May 5, 2020	\$279.0	N/A
Lilium	June 9, 2020	\$275.0	\$1,511.0
Instacart	June 11, 2020	\$225.0	\$13,700.0

Source: PitchBook | Geography: Global | \*As of June 30, 2020

# 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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