PitchBook

PitchBook 2019 Emerging Technology Outlook

Forecasting the primary trends that will shape mobility and fintech in the year to come

PitchBook is a Morningstar company. Comprehensive, accurate and hard-to-find data for professionals doing business in the private markets.

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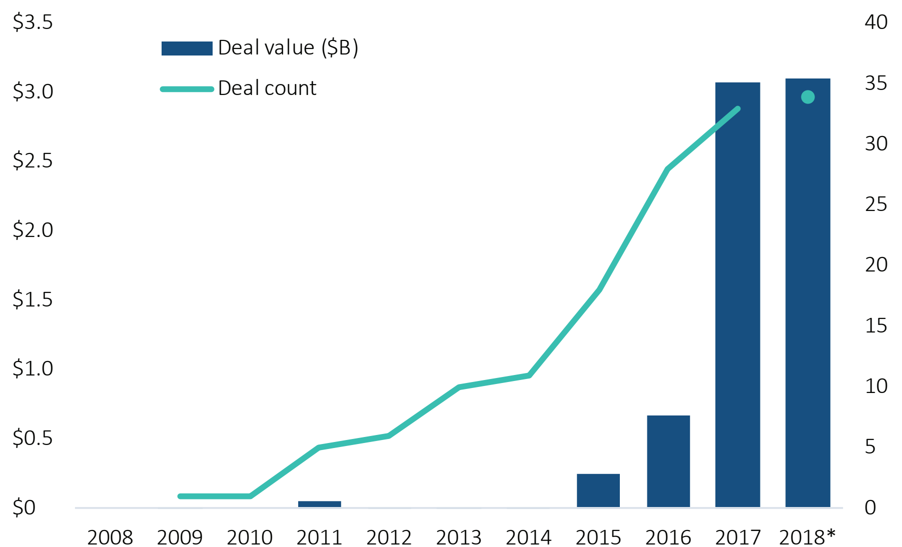
Prediction: We expect a secular shift away from pure-play shared mobility applications toward bundled MaaS.

Rationale: We expect automakers, ridesharing companies and investors in the mobility space to increasingly pivot toward last-mile, micro-mobility and bundled mobility-as-a-service (MaaS) solutions, marking a secular shift away from pure-play ridesharing applications, resulting in elevated levels of M&A activity in the space in 2019.

Caveat: Last-mile and micro-mobility solutions often involve asset ownership, which is a fundamentally different business model than ridesharing; in a choppy economic environment, investors could shy away from such a capital-intensive business model.

2017 and 2018 are standout years for micro-mobility
Global micro-mobility VC deal activity

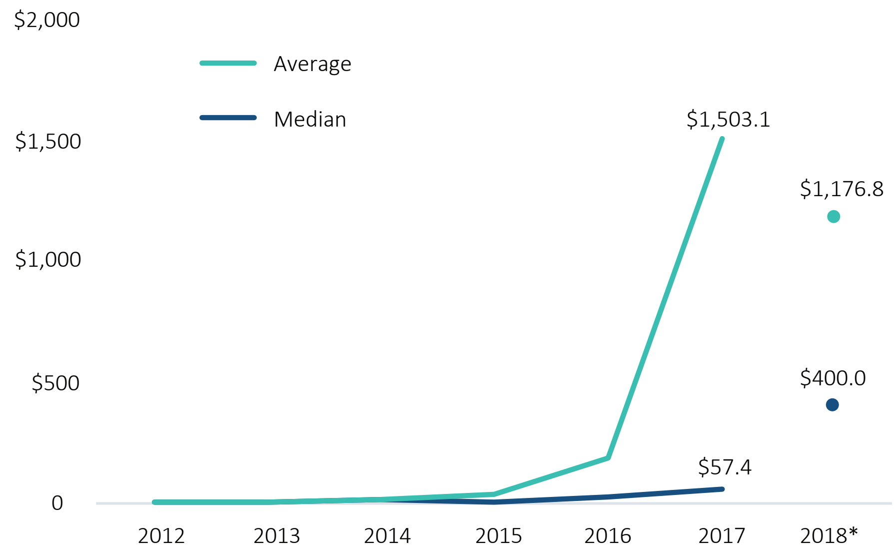


Source: PitchBook
*As of December 4, 2018

Over the past two years, venture funding into micro-mobility startups (startups that target last-mile urban transportation, often utilizing shared bicycles and scooters) has soared. Attracted by the fast growth and disruptive nature of these startups, venture investors have deployed $3.1 billion into the space across 34 deals in 2018, already eclipsing 2017, which saw a total of $3.08 billion across 33 deals.

Micro-mobility valuations seeing an upward trend

Global average & median VC micro-mobility post-money valuations ($M)



Source: PitchBook
*As of December 4, 2018
Note: Some years contain less than 30 datapoints.

Valuations have also seen an upward trend, with the median post-money VC valuation of micro-mobility deals so far in 2018 reaching $400.0 million, well above the previous year's median of $57.4 million. The rise of ridesharing giants such as Uber has been emblematic of the shift away from personal vehicle ownership, and we believe the next shift will be from pure-play ridesharing applications toward bundled MaaS solutions. As seen in micro-mobility, food delivery and public transportation booking apps, MaaS expands beyond personal transportation and enables the movement of people and goods without necessitating vehicle ownership.

Uber perhaps best exemplifies the rise of MaaS. Having gained significant scale as a pure-play ridesharing platform, Uber has since shifted its focus toward additional offerings to drive its next stage of growth. Its fast-growing Uber Eats business comprised $2.1 billion in bookings in the company's most recently disclosed quarter, up 150% YoY. This represents 17% of the company's total gross bookings, up from 9% during the same quarter last year. The company is also investing heavily in micro-mobility solutions, mostly through acquisitions. It bought JUMP bikes for approximately $200 million in April 2018 and subsequently rolled out electric bikes and scooters on its platform. A few months later, the company also made a major investment and partnership with Lime. Since then, the rumor mill has said the company could outright acquire Lime or Bird—this is certainly a possibility, given Uber's $6.6 billion in cash at the end of its most recent quarter. (Lime was most recently valued at $1.1 billion, while Bird was most recently valued at $2.0 billion.)

MaaS is not limited merely to food delivery and micro-mobility. Middle-eastern ridesharing giant Careem recently announced that it is launching a bus-booking service accessible through its app, allowing users to select pickup and drop-off locations and track buses in real time. A few days later, Uber announced that it was also launching a bus-booking service in Egypt. Singapore-based ridesharing giant Grab has rebranded itself as a fintech company, with services ranging from payments to food delivery available on its app.

Moreover, as ridesharing companies shift downstream toward last-mile mobility, downstream mobility companies are moving upstream toward cars. Lime recently launched LimePod, a carsharing service in Seattle in a bid to compete with incumbents Car2Go, ReachNow and Zipcar.

Ultimately, bundling creates a source of competitive advantage for shared mobility companies. By being the one-stop shop for urban transportation as well as auxiliary services, MaaS companies gain access to additional users and can scale more quickly.

Select global micro-mobility M&A transactions

Company name	Deal date	Deal size ($M)	Acquirer
Spin (Electric Scooter Sharing)	November 8, 2018	100	Ford Smart Mobility
Ride (Brazil)	October 29, 2018		Grin
Fleetbird	October 12, 2018		Wunder Mobility
Motivate International	July 2, 2018	250	Lyft
Getbike	May 23, 2018		Rapido
Poleis Consulting	April 27, 2018		Europcar
Jump Bikes	April 10, 2018	200	Uber
Mobike	April 4, 2018	2,700	Meituan-Dianping
Hellobike	October 25, 2018		Youon Bike
Motivate International	November 11, 2014		Bikeshare Holdings
Nextbike	July 29, 2013		Wall

Source: PitchBook
*As of December 13, 2018

Moreover, consumers on the platform for a specific service are more likely to use the same platform for a different service, lending stickiness to the userbase and further contributing to user and ultimately revenue growth.

M&A activity has historically been low in the space until 2018, when Chinese bikesharing platform Mobike was acquired by online food delivery platform Meituan-Dianping for $2.7 billion. Around the same time, JUMP bikes was acquired by Uber for $200 million and Motivate International was acquired by Lyft for $250 million. This trend of elevated M&A activity in the space appears set to continue into 2019—Uber is reportedly exploring acquiring a scooter sharing company such as Lime or Bird. As this trend plays out, with incumbent ridesharing companies moving downstream toward last-mile services and last-mile solutions moving upstream, we anticipate M&A activity in the space to remain at elevated levels as shared mobility enterprises deploy capital in the space to build out their service offerings.

One potential counterpoint to this argument is that last-mile and micro-mobility solutions necessitate asset ownership, which is a fundamentally different business model than ridesharing, which is largely asset light and software oriented. Although high fixed-cost business models have greater potential operating leverage as companies scale, they also have greater propensity for margins to shrink in a downturn. In a choppy economic environment, investors could shy away from such a capital-intensive business model. One scooter-sharing company, Bird, has found a potential solution to this issue. Bird recently announced that it is rolling out a new business model called Bird Platform, which sells scooters to fleet operators in exchange for 20% of the cost of each ride.

Doing so allows Bird to offload the cost of owning and operating scooters, somewhat mitigating the risk inherent to this.

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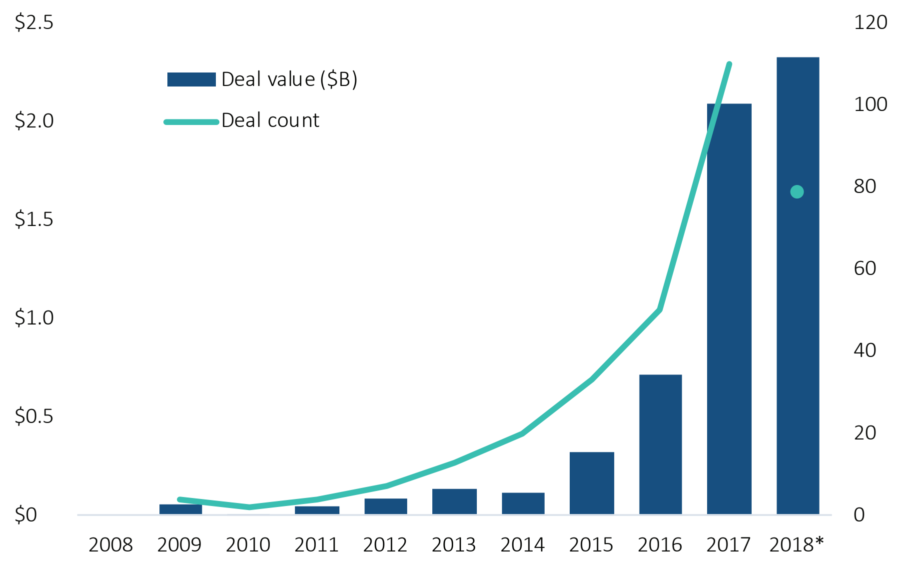
Prediction: Autonomous vehicle partnerships and M&A activity will remain elevated.

Rationale: In 2019, we expect automakers, suppliers, and technology players in the space to continue vertical integration and consolidation, especially as the leaders in the space begin launching commercially available ridesharing networks.

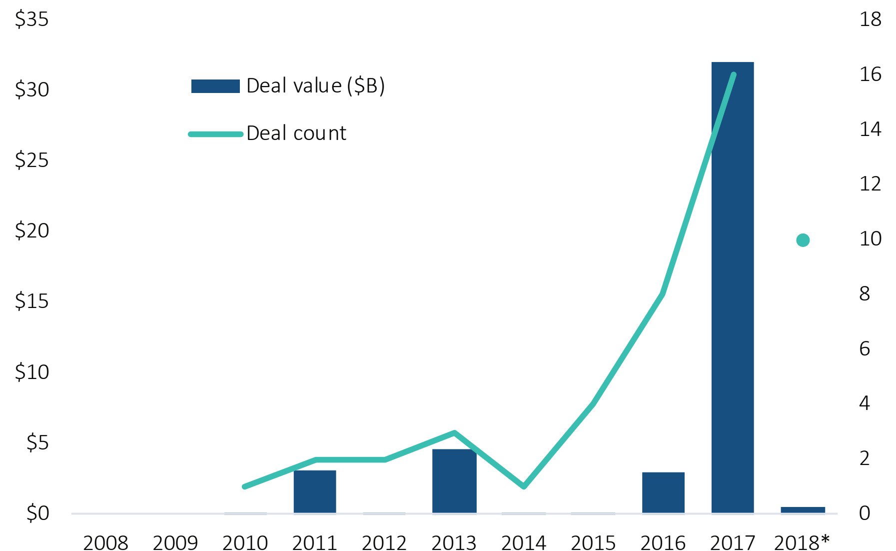
Caveat: Given the immense computational challenge of fully autonomous driving, commercialization could be further out than the most bullish estimates.

VC investing in autonomous vehicles seeing upward trend
Global autonomous vehicle VC deal activity



Source: PitchBook
*As of December 4, 2018

2017 standout year for M&A in autonomous vehicles space
Global autonomous vehicle M&A activity



Source: PitchBook
*As of December 4, 2018

Partnerships and acquisitions related to autonomous vehicles will be key for competitors seeking to close the gap with Waymo, which we view as the leader in the autonomous vehicle technology space. As we discussed in our joint initiation report with Morningstar, we believe Waymo has technological superiority and is leading in potential scalability. This is perhaps not surprising, given Waymo's first-mover advantage—originally part of Google's self-driving project, the team has been researching and developing autonomous vehicles since 2009.

Waymo has also invested significant capital in self-driving cars. According to leaked court filings, Alphabet spent $1.1 billion developing self-driving software and hardware between 2009 and 2015. The company has racked up 10 million+ miles driven on public roads and recently launched Waymo One, a mobile ridesharing service using autonomous vehicles in Arizona, albeit currently with safety operators.

2017 was a standout year in terms of M&A activity in the autonomous vehicle space, most notably with the $15.3 billion acquisition of Mobileye by Intel.

As autonomous vehicle technology has matured, M&A activity in the space has accelerated. 2017 was a standout year with the $15.3 billion acquisition of Mobileye by Intel. Although 2018 was a relatively calmer year in terms of acquisition activity, it was busy with announced partnerships between automakers and technology companies. Some of the largest partnerships announced so far this year include Uber's partnership with Toyota—in which the Japanese automaker will invest $500 million in Uber and provide the company with a fleet of Sienna minivans—to jointly work on self-driving technology.

This is not the first partnership Uber has made. In 2017 the self-driving company announced an agreement with Volvo to purchase up to 24,000 XC90 SUVs equipped with autonomous technology, and the company has an existing partnership with Daimler to bring self-driving Mercedes-Benz vehicles to Uber's network. SoftBank Group, a major investor in Uber, has been at the center of many of these deals. The conglomerate also has a significant stake in Cruise Automation, GM's self-driving car division. In addition, SoftBank recently announced a joint venture with Toyota to develop autonomous driving technologies and other mobility services. With its expansive network of partnerships and deals, SoftBank could contest Waymo for leadership in the autonomous vehicle technology space. Overall, we expect 2019 to be a strong year in terms of partnerships and acquisition activity in the autonomous vehicle space.

An important caveat: given the immense computational challenge of fully autonomous driving, commercialization could be further out than the most bullish estimates. In its current form, one major problem with autonomous solutions utilizing AI is that often they aren't very good at generalization or using context clues to make inferences. Tackling these edge cases is key to creating an autonomous solution ready for commercialization, and if the problem is more difficult than expected to solve, commercialization could be further away than anticipated by investors.

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Prediction: The consumer fintech trend of product unbundling in North America and Europe will change course and move toward bundling to mirror trends seen in Asia.

Rationale: As the sector reaches an inflection point, incumbent retail banks will aim to claw back market share, and emergent fintech companies will look to retain their customers and further monetize their customer base via consolidation and product diversification.

Caveat: Global banking data sharing initiatives can bring in a flux of new consumer fintech entrants and further segmenting the retail banking customer base.

A plethora of fintech companies over the past decade have proliferated to shift customers away from traditional retail banks. These retail banks, whose customers primarily consist of individuals and small and medium-sized businesses, offer a full suite of end-to-end banking products, from checking & savings to loans to insurance. Packaging one or more of these types of products into a single offering is known as "bundling." Fintechs have attacked the retail banking value chain via a piecemeal approach, offering targeted, dedicated key services to unbundle these retail banking products. The delivery of these tailored, single-product offerings with new business models, customer acquisition strategies and distribution channels has disrupted the retail banking sector, a development commonly known as "unbundling of the retail bank."

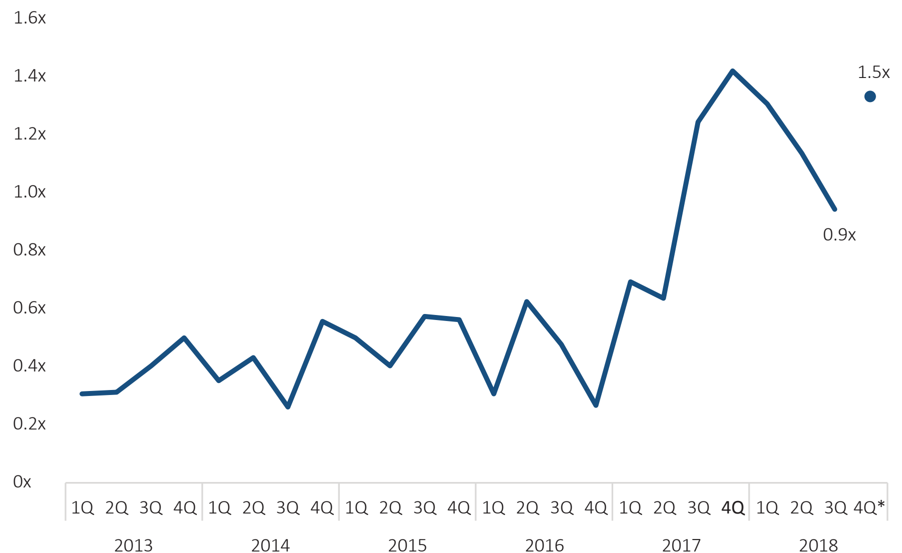
We expect this trend to reverse course this year as many players in the sector will look to deliver bundled offerings. Bundling of retail financial services is commonplace in Asia, where companies like Ant Financial, Tencent or Grab have bundled service offerings in a single mobile application, consisting of services such as banking, payments, lending and investment management (some of these also include bundled messaging, ridesharing and other services). In North America and Europe, two primary factors will lead to increased bundling of services among incumbent and fintech players: consolidation and product diversification.

We foresee consolidation within the sector increasing this year, whereby incumbent retail banks seeking to expand their services or technological capabilities will acquire fintechs. Furthermore, we anticipate established fintechs acquiring or merging with others to increase services offered and market share. Elevated levels of consolidation have started to occur in the second half of 2017,

and we expect those levels to continually increase through 2019. One stipulation of which to be aware is the launch of financial data sharing initiatives globally—recognized as open banking—such as the Revised Payment Services Directive (PSD2) from the European Commission or the Open API Framework from the Hong Kong Monetary Authority, whose primary purpose is to bring new entrants into the market. Even with these proposals, we do not expect the pace of new entrants to outpace the levels of consolidation.

As for product diversification, we expect incumbent banks and established fintechs alike to release new financial products to find novel areas of growth. There are some fintechs who are coming out of the gate with fully bundled product offerings. Companies such as MoneyLion, whose current suite of products for its Plus membership includes zero-fee checking, no-fee managed investing, low-interest loans, cashback rewards and credit monitoring, are already ahead of the curve of the shifting trend. We anticipate fintechs to continue deploying bundled products and services to help them achieve scale and effectively compete with retail-banking incumbents in the long term.

Consumer fintech has seen increased consolidation in the past 18 months
Ratio of M&A to first VC rounds for global fintech companies



Source: PitchBook
*As of December 5, 2018

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Prediction: We expect technology conglomerates to make a grand entrance into the financial services sector via introduction of large-scale financial products, major acquisitions or profound partnerships.

Rationale: Tech giants with robust digital prowess and strong understanding of the customer experience will look to further leverage their substantial customer bases to expand into new, larger markets.

Caveat: Regulatory complexity within financial services is a key hinderance for any company looking to enter the sector. Heightened data privacy concerns in the past year, specifically amid large technology companies, could persist, extending distrust among the public and regulators.

Since the financial crisis, consumer trust in traditional financial systems has eroded and been further degraded by recent controversies such as the Equifax data breach and the Wells Fargo account fraud debacle. This environment has created a battleground for new, non-bank competitors to enter the financial services sector. We believe that the most formidable of these are the large, public technology conglomerates including Facebook, Amazon, Apple and Google. Over the years, these tech giants have sustained uncharted growth and persistently expanded into countless new markets. With their limited exposure within financial services, we anticipate this sector to be a viable new opportunity for these tech companies.

Incumbents in this sector have long been contending with disruption from fintech upstarts and could now have to further cope with deep-pocketed tech giants entering financial services (colloquially known as “techfins”). These techfins have already exhibited interest in the sector through partnerships, investments or acquisitions of financial services providers. Take Google for instance. In recent years, the company has been making various forays into financial services. This includes the launch of a peer-to-peer payments service (Google Pay or formerly Google Wallet), partnering with Lending Club to facilitate financing to Google partners, and more recently, investing in two tranches of Oscar Health’s (a fintech health insurer) Series G round in 2018 through their Capital G growth-stage venture arm and Verily Life Sciences research arm. While we are not necessarily predicting that “Google Bank” or “Amazon Capital” will launch imminently, there are numerous segments within financial services with which these tech giants could vertically integrate new product offerings that fit their existing portfolio of products and services.

A few of these techfins have already rolled out similar payment products, allowing their users to utilize their developed payment platforms to pay merchants as well as to send and receive money. Other areas of financial services we can see techfins entering with a wide-scale financial product are consumer credit, loans, wealth management and insurance. These data-centric segments of financial services could play into the strengths of techfins, which better leverage their technologies, teams and expertise in collecting and analyzing data, enabling the delivery of superior financial products or services.

Ultimately, the incentive to provide a financial service is to gather more information on its users and deepen user engagement—either by spending more time on the platform, purchasing more products or both. This has been exhibited in Amazon, Facebook and Google reportedly asking major US banks to share detailed customer financial information, including account balances and card transactions.[1] Of course, this brings us back to open banking. Although intended to increase competition and the diversity of financial services selection for consumers, we think it could essentially transfer power from the incumbent retail banks to techfins. The principal challenge for techfins to penetrate the financial services sector will be the complex financial regulations currently in place. To combat these challenges, techfins could either seek a major acquisition or look for partnerships with established incumbents, such as Amazon's partnership with Berkshire Hathaway and JP Morgan for a health insurance initiative.

Most active tech giants in fintech in 2018

Investor	Number of fintech investments
Alphabet	14
Salesforce	10
Amazon	6
Microsoft	4
Intel	3

Source: PitchBook
*As of December 5, 2018

Disclaimer: Includes corporate venture capital investment

1: "Facebook to Banks: Give Us Your Data, We'll Give You Our Users," The Wall Street Journal, Emily Glazer, August 6, 2018