



AUTOMOTIVE VENTURES

AUTO INTEL REPORT \ JANUARY 2022

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WELCOME TO THE



AUTOMOTIVE VENTURES INTEL REPORT

JANUARY 2022

As we kick off 2022, we take some time to reflect on 2021 and the big trends that impacted us throughout the year. It was an incredibly busy year for fundraising and investment across the AutoTech and broader Mobility landscape.

We look at how our predictions for 2021 performed and make another batch of predictions for 2022.

We also start to break out subindices of the *Automotive Ventures Mobility Index*, to better help the industry track the performance of the publicly-traded mobility companies.

As always, please send me a note if there's anything I've missed, or that comes to mind while reviewing this month's content.

Many thanks for your support throughout 2021, and here's to a great 2022 for all of us!

Steve Greenfield
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WHITEPAPERS AVAILABLE

AUCTION DISRUPTORS




















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WHOLESALE AUCTIONS

AUCTION CHANNELS AND MARKET SHARE

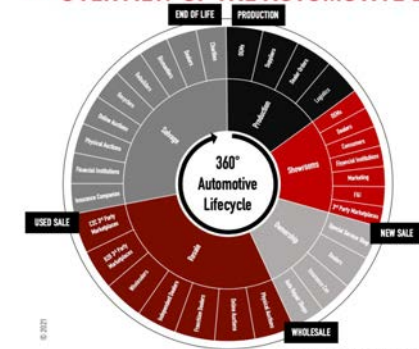
AUCTION CHANNELS AND MARKET SHARE				Market Share by Channel			
				High	Medium	Low	None
				Consignor Type			
Wholesale Channel	Description	Examples	OEM Captive Finance	Financial Institution (Repo)	Fleet	Franchise Dealers	Independent Dealers
Upstream Online	<ul style="list-style-type: none">Off-lease cars listed for sale online, closed (OEM dealer) & open optionsCar is on dealer's lot	 	40%	0%	0%	0%	0%
Dealer-to-Dealer/Trade-ins	<ul style="list-style-type: none">Direct-to-dealer, dealer-to-dealer or between dealers & wholesalersCar location can vary		0%	0%	80%	20%	55%
Digital Trade Network	<ul style="list-style-type: none">Online or mobile live auction for dealers, primarily franchiseCar is on dealer's lot	    	0%	0%	0%	10%	1%
Online Pre- & Post-Auction Sales	<ul style="list-style-type: none">Online sales with buy now or bid sale before and/or immediately after auctionCar at dealer lot, in-transit, or at auction	  	5%	5%	0%	10%	5%
Simulcast	<ul style="list-style-type: none">Live stream of physical auctionRemote buyers for cars in the lane	  	25%	40%	10%	30%	9%
Physical Auction	<ul style="list-style-type: none">Traditional in-person auctionCar is in the lane	  	30%	55%	10%	30%	30%
Total			100%	100%	100%	100%	100%

Source: Automotive Ventures Estimate

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AUTO INDUSTRY OVERVIEW

OVERVIEW OF THE AUTOMOTIVE LIFECYCLE



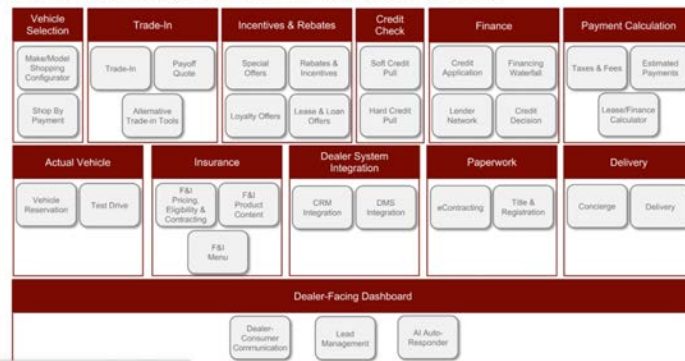
THE AUTOMOTIVE LIFECYCLE IS MULTI-FACED AND SUPPORTS THOUSANDS OF RELATED COMPANIES

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DIGITAL RETAILING

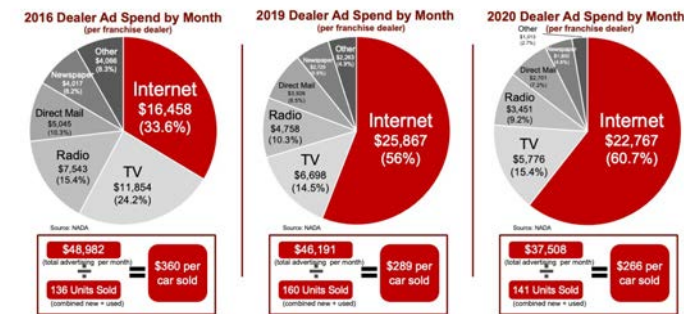
DIGITAL RETAILING: MULTIPLE BUILDING BLOCKS



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AUTOMOTIVE ADVERTISING

WHERE DO DEALERS SPEND AD DOLLARS?



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INVESTORS IN AUTO TECH

PRIVATE EQUITY PLAYERS FOCUSED ON AUTOMOTIVE



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IN THE NEWS

>>> IN THE NEWS

It Was a Pretty Good Year in the Car Business – Except for Suppliers

Dec 5, 2021

THE WALL STREET JOURNAL

S&P 500 ends 2021 with a nearly 27% gain, but dips in final trading day

Dec 30, 2021



Global Deal Making Hits Record High at \$5.8 Trillion

Dec 31, 2021

BARRON'S

The chip shortage is still complicated going into 2022

Dec 28, 2021

Automotive News

Three Monster Years for the S&P 500 Set a Towering Bar for January

Dec 31, 2021

Bloomberg

The Fed's Moves Pumped Up Stocks. In 2022, It May Pull the Plug

Dec 31, 2021

The New York Times

Expert Warns China Calling Shots on EV Battery Materials

Dec 8, 2021

WARDSAUTO™

Amazon offers new data tool it says could help carmakers prevent recalls, improve safety

Nov 30, 2021

Automotive News

Demand pushes wholesale used-vehicle prices to new highs, yet again

Dec 8, 2021

Automotive News

How Stellantis plans to make \$22.5B a year from software in its cars, trucks and SUVs

Dec 7, 2021

TECHCRUNCH

Lithium Prices Soar, Turbocharged By Electric-Vehicle Demand and Scant Supply

Dec 13, 2021

THE WALL STREET JOURNAL

Tech Revenue Multipliers Are Soaring. Should We Be Worried?

Dec 3, 2021

crunchbase news


»»THEY SAID IT



Quotes

“We're a \$2 trillion industry that is quite large and quite unconsolidated. We really believe that at Lithia and Driveway, we have the ability to continue to grow that network out to the 500 approximate stores to really get to that 100-mile density that allows us to really service consumers wherever they choose, whenever they choose and however they choose.”

- Lithia Motors CEO Bryan DeBoer



GREENFIELD'S POINT OF VIEW

POINT OF VIEW

It's a brand-new year, which always provides a good reason to reflect and reset.

The past two years amid a global pandemic have accelerated digital transformation and consumer behavior in ways few could have anticipated. As we move into 2022, the major forces and technology that drive the way people spend, invest, shop, interact, and stay healthy are more evident than ever.

For investors' bottom lines, 2021 was a good year. The S&P 500 gained nearly 27% for the year, while the Nasdaq rose nearly 22%.

Globally, M&A transactions hit a record \$5.8 trillion last year, up 64% from the previous year. Record amounts of VC and PE funding were raised, with firms currently sitting on more than \$2 trillion of undeployed "dry powder".

Inflation, and the Fed's reaction to it, is the biggest question mark for 2022. If demand softens and/or supply chains recover, inflation may abate on its own and 2022 could be a great year. If not, inflation worsens, and the Fed is forced to raise interest rates, it could be a

choppy macro-economic environment.

Wages will likely stay elevated through 2022. There is nothing that points to a significant softening in the labor market, particularly not for skilled workers.

The way work gets done has undergone a massive change. Remote or hybrid work is likely here to stay. The last two years have proven that employees can be just as productive at home and quality of life can be vastly improved.

The broader market will continue to re-open and loosen – supply chains should normalize by summer 2022, barring any additional global supply or demand shocks.

2022 will again be a great year for building AutoTech and mobility companies, as the economy continues its secular shift toward on-demand software as the "operating system" of our complex modern life.

Clean tech investments will surge as government and consumer calls for climate action grow louder. The pandemic sparked greater global awareness of environmental issues and a renewed commitment to

finding solutions.

Funding in this area exploded in recent years and will get a fresh boost in 2022 from government programs promoting clean energy and electrification of the transportation network. The boost in funding will have a direct effect on the automotive and broader mobility landscape in 2022 and beyond.

One can only hope that 2022 sees better news on both the economy and the pandemic. If the past two years have taught us anything, however, it is that the future is always uncertain. But that is a takeaway in itself: be prepared for anything and be ready to shift if the market softens or accelerates.

We appreciate you being on this journey with us.

Until next month,



Steve Greenfield

CEO and Founder
Automotive Ventures





2021 YEAR IN REVIEW

>> 2021 YEAR IN REVIEW: TEN BIG THEMES

1

COVID-19

The bad news: COVID-19 seems likely to become an endemic disease; humans will have to continue to adapt to it.

The good news: Vaccinations, immunity gained from prior infection and new treatments all reduce the risks associated with spread of the disease. 42% of the developed world population has completed the original COVID-19 vaccination program, and booster shots are now being distributed. Estimates suggest that over 65% of the world has some form of protection against the virus, either from inoculation or prior exposure. However, more COVID-19 outbreaks are likely, possibly due to new variants.

The automotive industry benefitted, as consumer demand stayed strong and supply shortages of both new and used vehicles meant much higher gross profits per vehicle, less need for discounts and incentives and record profitability for automakers and dealerships.

2

Supply Chain & Semiconductor

After cancelling orders for semiconductor chips in April 2020, automakers discovered they could no longer get their hands on them. As a result, 2021 started with major disruptions to new vehicle production that would grow through the course of the year, driving up both new and used vehicle prices.

It doesn't appear that the microchip situation will be resolved anytime soon. Overall end-user microchip demand continues to exceed total global chip production. The shortage is expected to persist through 2022, but the intensity of inventory constraints throughout the year will diminish.

>> 2021 YEAR IN REVIEW: TEN BIG THEMES

3

Build to Order

By the end of 2021, nearly one third of Ford's U.S. retail sales were being built to order – where customers submit orders for the vehicle they specifically want – including exact model, trim line and color.

Build to Order (BTO) is great for the OEM (more profit per unit) and for the dealer (more profit per unit, fewer days in inventory).

Many of the automakers will try to continue this BTO discipline even after production returns to a more normalized level.

4

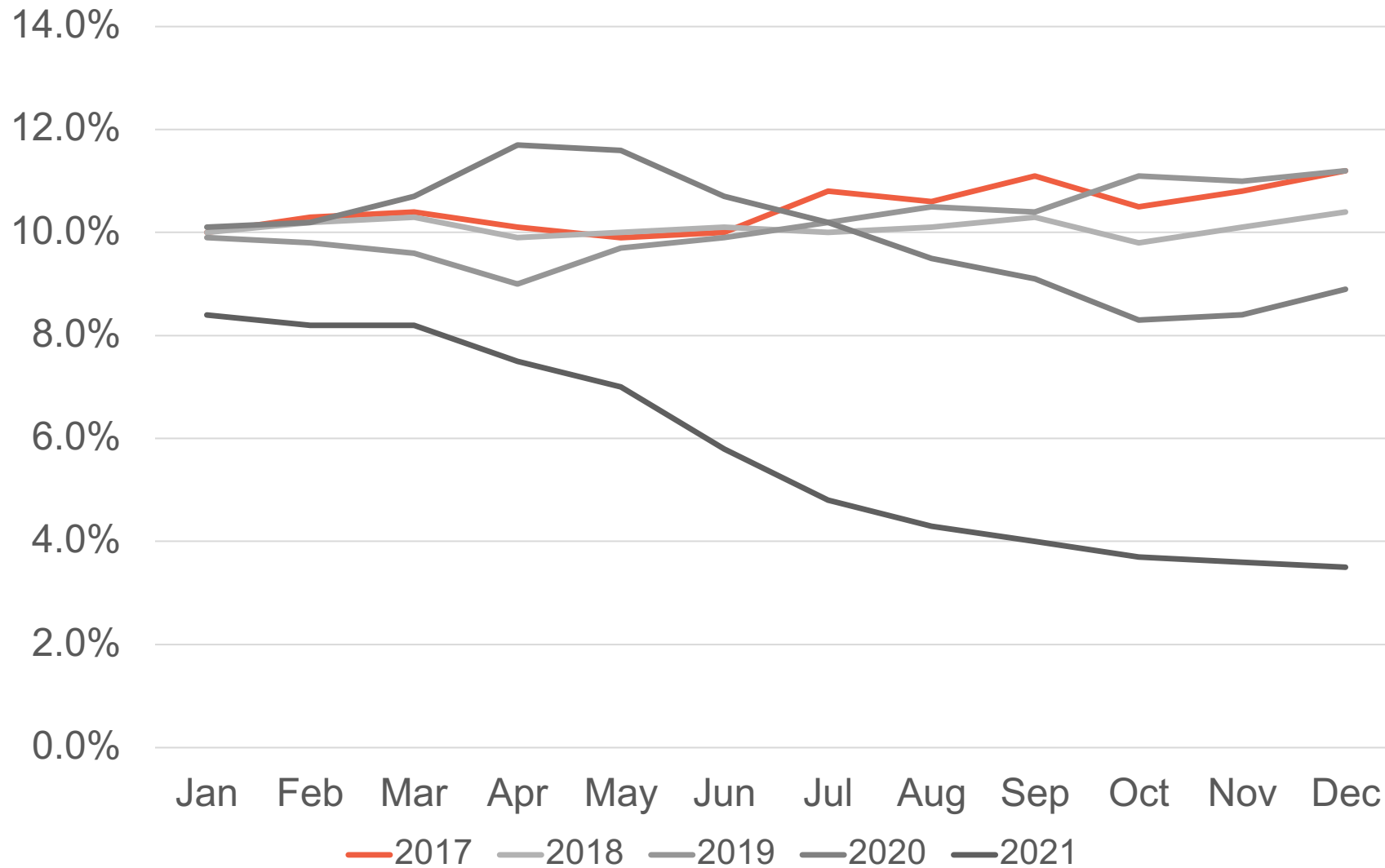
Vehicle Incentives

Favorable supply/demand dynamics due to inventory shortages mean that neither dealers nor automakers were discounting cars. In November, nearly 87% of all new vehicles bought by individual customers sold at or above MSRP, according J.D. Power. That number is well above the pre-pandemic average of about 36% of sales.

As long as end-user demand exceeds production volume, there is less need for OEMs to incentivize buyers.

Lower incentives proved to be good for OEM profits and good for dealers.

>>> NEW CAR INCENTIVES AS % OF MSRP



Source: J.D. Power

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>> 2021 YEAR IN REVIEW: TEN BIG THEMES

5

EV Momentum

In 2021, many of the automakers proclaimed they would be going 100% electric (GM: 2035; Honda: 2040; Volvo: 2030; Mercedes: 2030; Lexus: 2030).

President Biden set a goal for half of all new vehicles sold in the U.S. in 2030 to be zero-emission, including battery-electric, plug-in hybrid and fuel cell. The president signed an executive order to transition the federal vehicle fleet to zero-emission vehicles by 2035.

The shift of fleet sales to battery-electric vehicles will accelerate in 2022-2023 as more EV products become available. 50 major corporations have announced that they will be carbon neutral by 2040, including Wal-Mart, Amazon, FedEx, Unilever, Coca-Cola, and Johnson Controls.

6

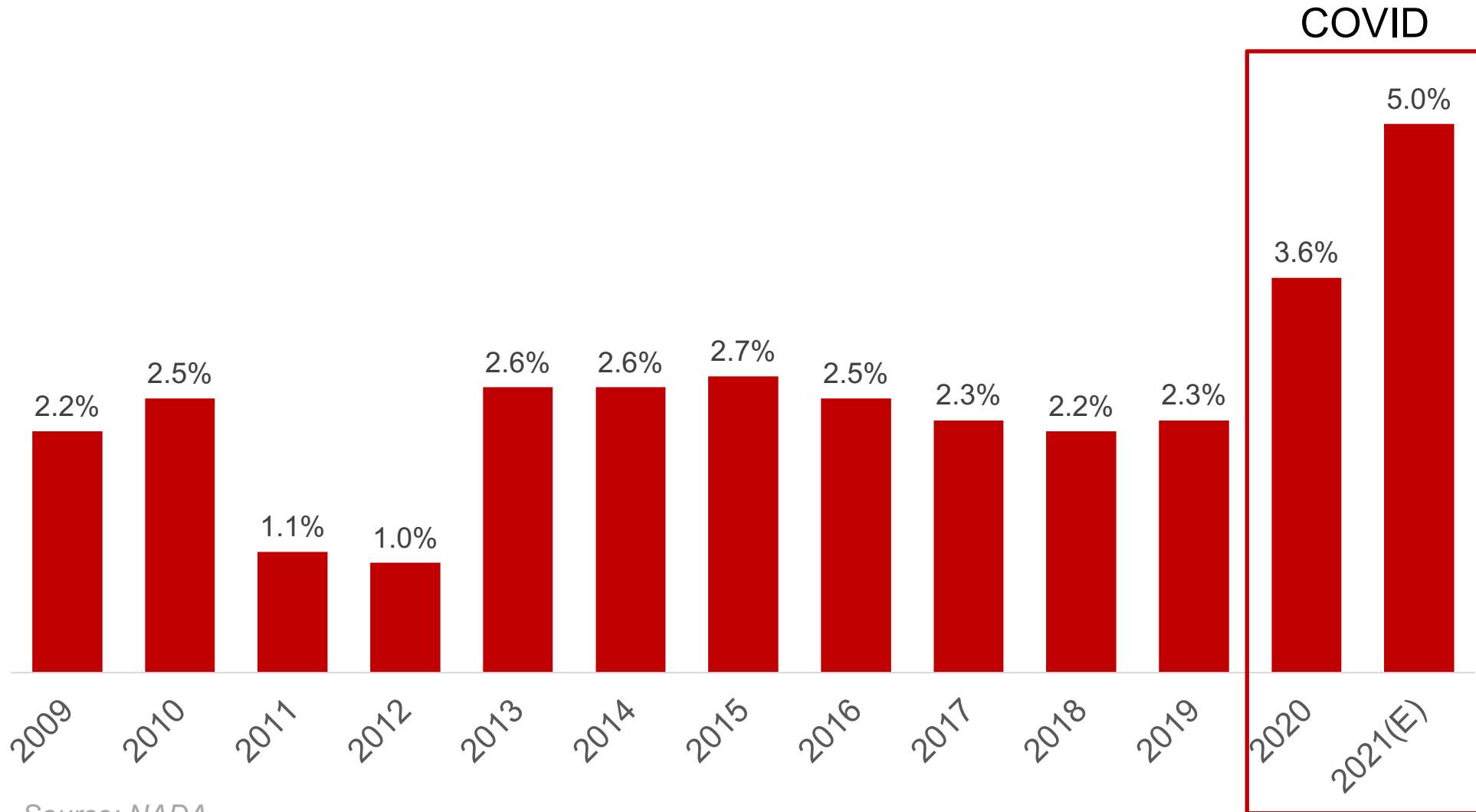
Auto Industry Profitability

Supply and demand imbalances created an environment that allowed franchised dealers to enjoy their most profitable year ever.

According to NADA, the average U.S. dealership recorded net pretax profit of \$3 million through the first nine months of 2021, more than double the \$1.3 million reported through September 2020 and well above the record \$2.1 million for all of 2020.

>> AUTO DEALERSHIP RECORD PROFITS

Net Profit Before Tax as % of Total Sales



Source: NADA

>>> 2021 YEAR IN REVIEW: TEN BIG THEMES

7

Physical Dealership Buy/Sell activity

The environment was near perfect to support a record buy-sell market in 2021:

- Dealership profitability hit historic highs.
- Valuations continue to be very strong.
- Dealers are looking to roll their cash into investments they understand.
- Access to outside capital remains robust.
- Interest rates are at all-time lows.
- Manufacturers are becoming more supportive of larger players/owners.
- Sellers face uncertainty around the future of capital gains tax rates.

8

Inflationary Pressures

The annual inflation rate in the U.S. accelerated to 6.8% in November of 2021, the highest since June of 1982. Excluding food and energy, inflation went up to 4.9% from 4.6%, the highest since June of 1991.

The consensus seems to be building that inflationary pressures will persist through the first half of calendar year 2022 and probably beyond.

Inflation may force the Fed to act more aggressively than expected, which may dampen enthusiasm in the stock market and have an impact on both public and private company valuations.

>>> 2021 YEAR IN REVIEW: TEN BIG THEMES

9

U.S. Legislation on Infrastructure

In November 2021, a \$1.2 trillion infrastructure bill was signed into law, delivering \$550 billion of new federal investments in bridges, roads, broadband, water and energy systems. The need to invest in U.S. infrastructure has been long overdue: “The American Society of Civil Engineers released its 'Infrastructure Report Card' for the U.S., giving it an overall grade of C-.”

The infrastructure bill includes \$7.5 billion to help build 500,000 EV charging stations across the U.S. and \$65 billion for upgrades to the nation's electric grid. Of the \$7.5 billion, the law provides \$5 billion for states to build out a charging network and \$2.5 billion for local grants to support access to EV charging in rural areas and disadvantaged communities.

10

Sustainability/ De- Carbonization

Estimates suggest that \$4–\$6 trillion per year is needed this decade to decarbonize the global economy. To reach President Biden’s goal of decarbonizing the energy grid by 2035, the United States will need to invest up to \$90 billion per year in new wind and solar generation capacity.

As a result, investor funding will continue to pour into clean technologies such as carbon capture, battery storage, renewable energy sources and energy efficiency. The circular economy and agricultural technology will also be areas of investor focus. Carbon offset markets could also present opportunities for investors.



TOP AUTOTECH DEALS OF 2021

TOP AUTOMOTIVE TECHNOLOGY DEALS OF 2021

2021 was an interesting year. We experienced record highs in the stock market, record levels of investment and M&A, a record number of IPOs fueled by the special purpose acquisition company, or SPAC phenomenon, and the highest company valuations on record, including both software companies as well as the valuations of physical dealer locations, which also experienced the largest numbers of deals done in any calendar year.

With that, I want to take the opportunity to highlight the top 10 largest and/or most important AutoTech deals of the year.

1. Rivian IPO

EV automaker **Rivian** delivered the largest IPO of the year, with a total market value of \$78 billion at launch, quickly running up to more than \$100 billion its first day -- outstripping any other OEM's value, other than Toyota and Tesla.

Also, this year, we saw a number of other EV automakers take the opportunity to go public, including **Lucid** and **REE**.

2. Action in the B2B Auction Space

2021 witnessed **ACV Auctions'** successful IPO, as it climbed 25% in its trading debut. Its investors raised \$414 million in an IPO priced above a marketed range, providing an initial total market value to the company of \$4.8 billion.

ACV then acquired **MAX Digital**, a pioneer in automotive data and merchandising products and best known for its flagship inventory management system platform **FirstLook**. That transaction was valued at \$60 million.

In August, **KAR Global** announced they were acquiring **CARWAVE** for \$450 million.

With the back-to-back acquisitions of first **BackLotCars** for \$425 million and then **CARWAVE**, KAR Global signaled to the market that they're "all-in" on online sales, and willing to take on ACV (and all others) in the digital realm.

Finally, in the physical auction space we saw two significant transactions involving **XLerate Group**.

First up, we saw XLerate sell to Private Equity group **Brightstar Capital Partners** for an undisclosed amount. Then, in December, XLerate announced the acquisition of **America's Auto Auction**. Terms of that transaction were not disclosed.

After the combination, XLerate and America's will have a total of 39 auction sites across 19 states, as well as growing digital and mobile auction businesses and related financing.

TOP AUTOMOTIVE TECHNOLOGY DEALS OF 2021

3. Global Interest in Online Used Car Retailers

This year saw multi-billion-dollar IPOs of Europe's **Auto1 Group** (\$2.2 billion) and the UK's **Cazoo** (\$8 billion).

Closer to home, we saw Canada's **Clutch** raise multiple rounds of funding, including a \$100 million CAD Series B from **D1 Capital Partners**.

Last, but not least, we saw Latin America's **Kavak** raise \$485 million at a \$4 billion valuation.

4. Monster Funding for Tekion

Tekion is a cloud-based automotive software provider, taking on big industry players **Reynolds & Reynolds** and **CDK Global** in the Dealer Management System (DMS) category, which generates about \$2.0 billion per year.

The company more than tripled its valuation to \$3.5 billion after raising \$250 million from investors including **Durable Capital Partners** and **Alkeon Capital Management**.

Hyundai and existing investors **Advent International** and **Index Ventures** also participated in the round.

Tekion plans to add larger vehicles such as RVs and boats to its platform. It is set to expand both domestically and internationally, beginning with France by the second quarter of 2022, followed by the U.K. and Germany.

Tekion's approach is to modernize the approach to enterprise software for both OEMs and dealerships, which has caught the attention of big-name investors and propelled them to a very high valuation.

5. Damage Detection Is Hot

At the very beginning of the year, **Cox Automotive** announced they were acquiring **Fyusion** for an undisclosed price.

Just a couple of months later, **KAR Global** led a \$15 million investment into damage detection company **Ravin.ai**.

Later in the year we saw **UVEYE** raise a \$60 million Series C round led by **CarMax**.

And then, **Tractable** raised a \$60 million Series D from **Insight Partners** and **Georgian Partners** at an over \$1 billion valuation.

Accurately representing a vehicle's cosmetic and mechanical condition is key to enabling online B2B vehicle transactions.

In addition, companies like Tractable have made progress integrating their solution into the insurance industry to diagnose the severity of damage after the vehicle is in an accident.

TOP AUTOMOTIVE TECHNOLOGY DEALS OF 2021

6. CCC Intelligent Solutions IPO

CCC Intelligent Solutions, a SaaS platform for the property and casualty (P&C) insurance segment, went public in July by merging with SPAC **Dragoneer Growth Opportunities Corp.**

The IPO received net proceeds of \$605 million, and the total market value of the company was \$7 billion.

CCC has announced plans for important new solutions that will support the P&C economy's ongoing digital transformation and vision to achieve straight through processing.

CCC plans to fully digitize the estimating process for a portion of repairable claims. Their new solution is designed to employ advanced AI, insurer-driven rules and CCC's vast network connections and is expected to help customers realize automated estimating in mere minutes and elevate the customer experience.

They have plans to incorporate advanced AI into their collision repair platform to apply machine learning to pre-populate estimates based on photos of vehicle damage and configurations by repair facilities to accelerate the repair process.

7. AEye IPO

AEye is a lidar startup that developed its technology for use in autonomous vehicles as well as to support advanced driver assistance systems in passenger cars.

The company IPO'd earlier this year through a merger with **CF Finance Acquisition Corp. III** valuing the company at about \$2 billion.

AEye is one of several lidar companies that have expanded its focus beyond autonomous vehicles.

AEye's pitch is that the company's lidar technology, along with its partnerships with Tier 1 and Tier 2 suppliers like Continental, makes it well-positioned to scale and to be adopted by major automakers.

AEye's lidar sensor scans the surroundings and then, with help from its perception software, identifies and focuses on relevant objects.

8. Consumer Vehicle Insurance

First up, **DealerPolicy**, the automotive insurance marketplace, announced its \$110 million Series C investment led by **Goldman Sachs** after raising \$30 million in February of this year. The company's pre-money valuation was \$450 million.

Second, **CDK Global** announced that they would acquire **Salty**. Deal terms were not disclosed.

Historically, many dealerships set up their own in-house insurance agency, with mixed results.

Salty and DealerPolicy have figured out a different way to enable dealers to introduce vehicle insurance into the car buying process.

Finally, **Lemonade** bolstered its nascent auto-insurance business by acquiring pay-per-mile insurer **Metromile** in its first acquisition.

The deal values Metromile, which went public via a merger with a blank-check company earlier this year, at roughly \$500 million, a fraction of its \$1.3 billion equity value when they went public.

TOP AUTOMOTIVE TECHNOLOGY DEALS OF 2021

9. Otonomo IPO

Otonomo is the cloud-based software startup that helps companies capture and monetize connected car data.

The Israeli-based startup agreed to merge with SPAC **Software Acquisition Group II** with a valuation of \$1.4 billion.

Otonomo launched in 2015 with a cloud-based software platform that can capture and anonymize vehicle data, which can then be used to create apps to provide services such as electric vehicle management, mapping, subscription-based services, parking, usage-based insurance, traffic management, media and emergency services.

The company's platform is used by 16 vehicle manufacturers, fleets and more than 100 service providers.

Their platform ingests more than 4 billion data points per day from over 40 million global connected vehicles.

10. CarMax Acquires Edmunds

The acquisition of **Edmunds** increased **CarMax**'s position from the \$50 million minority investment they made early in 2020.

The total enterprise value of the transaction was reported to be \$404 million; Edmunds had revenue of \$140 million in 2020.

CarMax, the largest used-vehicle retailer in the U.S., worked with Edmunds to develop an online instant-offer tool for sellers of used autos.

CarMax will leverage Edmunds' strong traffic (with 16m visits per month) to reduce cost of acquisition; CarMax spends \$191 million per year on marketing vs. Carvana at \$286 million (both are 2020 full-year numbers).

Let the blurring of lines in the automotive space continue, as historically-defined silos are knocked down.

Bonus: 2021 Was The Year of Big Exits in Digital Retail

2021 was the year that the largest strategic players made their Digital Retailing bets.

Examples included **Prodigy** selling to **Upstart** for \$100 million, **Gubagoo** selling to **Reynolds & Reynolds** for an undisclosed amount, **Roadster** selling to **CDK Global** for \$360 million, and **Darwin Automotive** selling to **J.D. Power** for an undisclosed amount.

The Digital Retailing landscape has become very competitive, with many stand-alone solutions; large players like **Cox Automotive** and **Cars.com** made their bets long ago.

The whole segment was buoyed through COVID: every dealer needed a solution to sell vehicles online; and the "**Carvana Effect**" has also provided dealers a sense of urgency to get in the game.

A red classic convertible car, possibly a Chevrolet Camaro, is parked in front of a stone building at night. The car is illuminated by a spotlight, and its license plate reads "VIC R4GTOP". A large red diagonal graphic element is overlaid on the lower left side of the image.

2021 PREDICTIONS

>>> 2021 PREDICTIONS: HOW DID WE DO?

1	America gets back to work	A	America had a rough year in 2021, but, as predicted, we might look back on 2021 as the start of a new, even more resilient, more inclusive and more sustainable boom.
2	M&A and IPOs continue at torrid pace	A+	2021 experienced a record number of IPOs and M&A activity. Why? We had a perfect investing environment including government stimulus, low interest rates, and VC/PE “dry powder”.
3	Reynolds & Reynolds goes public via SPAC	F	It was a bit of a stretch, but a Reynolds transaction may not be in the cards until the Bob Brockman tax evasion case works its way through the courts. Which could take years.
4	Tekion acquired by Salesforce.com	F	This transaction didn't take place, either. But, as Tekion gains traction, there may be more interest in the space by the large tech players like Salesforce.com and others.
5	Amazon acquires Carvana	F	This transaction didn't happen, but Carvana's buoyant share price didn't help. Amazon can't sit on the sidelines forever to launch a play in automotive commerce.
6	Polishing brass won't cut it any longer	C	Record industry profits meant that the clearing out of weaker AutoTech software companies didn't happen in 2021. We might be a year or two early on this call.
7	Storm clouds on the horizon	D	Dealerships didn't feel anything by tailwinds this year. But Autonomy, Electrification, Connected Cars, Vehicle ownership, and margin compression brought on by consumer demand for transparency and better buying experiences are all looming on the horizon.
8	Blurring of lines between wholesale and retail	B	CarGurus continues to aggressively embrace and innovate their CarOffer investment; CarMax acquired Edmunds; we had expected ACV and/or KAR Global to partner up with one or more third-party marketplaces, which didn't happen.
9	Consumer focus	B	While we didn't see new entrants to the market providing true ecommerce automotive shopping experiences with a specific focus on a superior consumer convenience, we did see Roadster, Gubagoo, Prodigy and Darwin all get picked off by strategic buyers.
10	Next wave of AutoTech will automate processes	C	In an environment of record profits for both OEMs and dealerships, the industry hasn't felt the need to automate processes and reduce costs. In many cases this will be by reducing vendor cost and complexity, reducing headcount, or making existing headcount far more efficient. I think this prediction was one year too early.



2022 PREDICTIONS

>>> 2022 PREDICTIONS

1 **Lithia Becomes Largest Dealership in the U.S.; Changes Name to Driveway.com**

Lithia Motors has become the most valued new car retailer as it executes an aggressive growth plan that will propel it past AutoNation to become the country's largest franchised dealership group.

The plan includes hitting adjusted earnings per share of \$50 by 2025 as well as at least \$50 billion in annual revenue.

We also expect Lithia to change its name to Driveway.com, to offer an experience similar to Carvana, but including both new and used cars.

2 **2022: Year of the Connected Car**

2022 will be the year when we see evidence of true value being delivered by the connected car.

The car will become a potent information platform that not only provides better experiences for drivers but also opens new avenues for OEMs, dealers and third-parties to create value.

This year, we will begin to witness friction between OEM-held data and dealerships, especially among large dealer groups with shareholders who understand the potential power (and monetization) of the data.

OEMs (like GM and Stellantis) have started to articulate how they intend on delivering subscription services directly to customers. Time will tell the role of dealerships in these discussions (and revenues).

>> 2022 PREDICTIONS

3

Widespread Commercial Autonomy on the Street

Commercial vehicles and off-road equipment – not passenger vehicles – are the logical starting point for implementing higher levels of autonomy.

Established routes along highways and geofenced areas such as ports and construction sites lend themselves to testing and deploying autonomous technology in a safe, controlled environment.

Currently, 18 states allow testing of automated vehicles without a driver in control. More than a dozen start-ups are taking the opportunity to run autonomous vehicles on America's roads.

A trucking industry driver shortage has raised the level of interest in trucks with autonomous capabilities. Commercial vehicle autonomy will be accelerated by the potential to improve operating efficiencies, safety and productivity.

4

More Scrutiny of China

Concerns will continue to grow about America's dependency on China as its main source for lithium-ion-battery materials.

While China is not the primary producer of cobalt, nickel and lithium, it is the primary processor of them. China currently controls the processing of nearly 60% of the world's lithium, 35% of nickel, 65% of cobalt and more than 85% of rare-earth elements.

The U.S. processes less than 4% of all mineral commodities. Additionally, China produces more than 60% of all battery cathodes and 80% of all anodes.

China owns eight of the 14 largest cobalt mines in the Democratic Republic of the Congo, the world's principal source of cobalt, and is buying up mining capacity in South America.

>>> 2022 PREDICTIONS

5

2022: The Year of EV Charging Infrastructure

2022 will be the year that dealerships embrace EV charging infrastructure at their facilities (both lots and service bays) and explore the best way to help their customers install EV chargers at home and at work.

Automakers will provide initiatives to help. As an example, GM will install up to 40,000 electric vehicle chargers as part of an ambitious plan to pour nearly \$750 million into charging infrastructure that will help attract drivers to its electrified models.

Dealers will look for turnkey solutions and programs that help attract EV buyers, deliver superior customer experience, raise CSI scores, and engender lifetime value with customers.

Enterprising dealers will find opportunities to turn this into a recurring revenue stream.

6

Compliance Coming

2022 will be a year of increased compliance and oversight across the automotive industry.

Industry high profits experienced in both 2020 and 2021 will drive increased scrutiny from regulators.

Auto dealerships and lenders should anticipate greater scrutiny of consumer auto lending due to both leadership changes at the federal level, and a focus on regulatory oversight of the automotive industry.

Greater consumer access to transparent online pricing of trade-in and F&I products means that these profit centers may begin to feel pressure.

>> 2022 PREDICTIONS

7 Dealers Awarded Points for Vertical Take Off and Landing (VTOL)

2021 saw tremendous interest and momentum for EV VTOL vehicles. SPACs fueled IPOs of **Archer Aviation**, **Joby Aviation**, **Lilium** and **Vertical Aerospace**.

Honda, Toyota, Hyundai have all announced their own VTOL initiatives, we saw a \$394 million investment by Toyota into Joby and a strategic partnership between **Stellantis** and Archer. United Airlines announced a \$1 billion order for Archer's aircraft.

On-the-ground infrastructure, like vertiports and chargers, are exploring ways to integrate air mobility into cities' existing transport networks.

Who will sell these vehicles to consumers? My bet is that automakers lean on their existing automotive dealer networks as their distribution channel.

8 2022: The Year of Corporate Divestitures

2022 will be a year of corporate divestitures. The market is ripe for monetizing underperforming assets, selling into an environment of record valuations for both public and private companies.

Watch for more legacy companies to follow Harley-Davidson's LiveWire spin out strategy.

Early this year we will see a huge IPO of South Korean battery giant LG Energy. We may see GM finally pull the trigger on a Cruise IPO. Analysts have speculated that GM could carve out its battery platform, Ultium.

VW Group is exploring a potential Porsche IPO to help fund the parent's EV and AV aspirations. If Porsche's profits were given the same multiple as Ferrari, the unit may be worth \$100 billion, nearly as much as its parent.

>>> 2022 PREDICTIONS

9

Usage-Based Insurance (UBI) Gains Traction

More people are working from home and commuting less but then taking longer trips on the weekend, which presents a change in risks to insurers.

Subscription or short-term insurance may become more popular for the same reasons.

Lemonade accelerated its nascent auto-insurance business by acquiring pay-per-mile insurer **Metromile**.

Recently, both **GM** and **Stellantis** forecasted multi-billion-dollar revenue streams from new UBI business units. Ideally, dealerships will be able to participate in these new revenue streams.

10

Test for Build-To-Order (BTO)

2022 will be a test for automakers' Build-to-Order initiatives. Behavioral changes due to the pandemic and chip-shortage will need to be reconciled with a consumer increasingly conditioned by convenience, immediate gratification and speedy home delivery.

American consumers have historically enjoyed the satisfaction of driving their new vehicle off the lot versus waiting 60 days or more.

Do, however, expect significant reduction in model complexity. J.D. Power reports that 80% of the configurations available for sale represent less than 25% of retail sales.

Automakers have recognized that simplified build combinations drive efficiency gains in their supply chain and production facilities.

AUTOMOTIVE VENTURES MOBILITY INDEX

>>> AUTOMOTIVE VENTURES MOBILITY INDEX

WHAT IS THE INDEX?

The Automotive Ventures Mobility Index is a group of publicly traded mobility stocks that tracks the health of the mobility market.

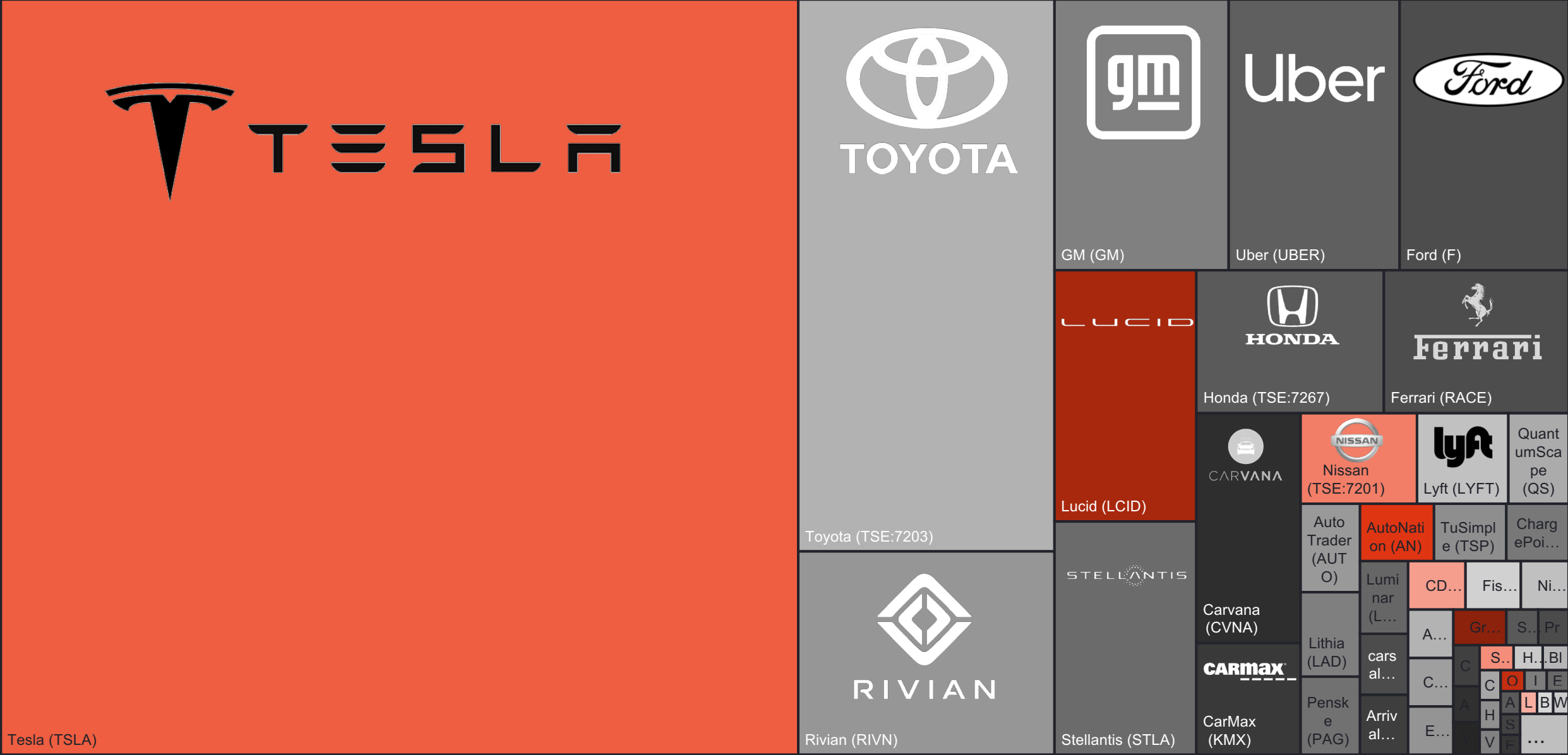
METHODOLOGY

The Automotive Ventures Mobility Index is composed of the global publicly traded mobility companies, weighted by market capitalization of each company and indexed back to 100 as of January 1, 2015

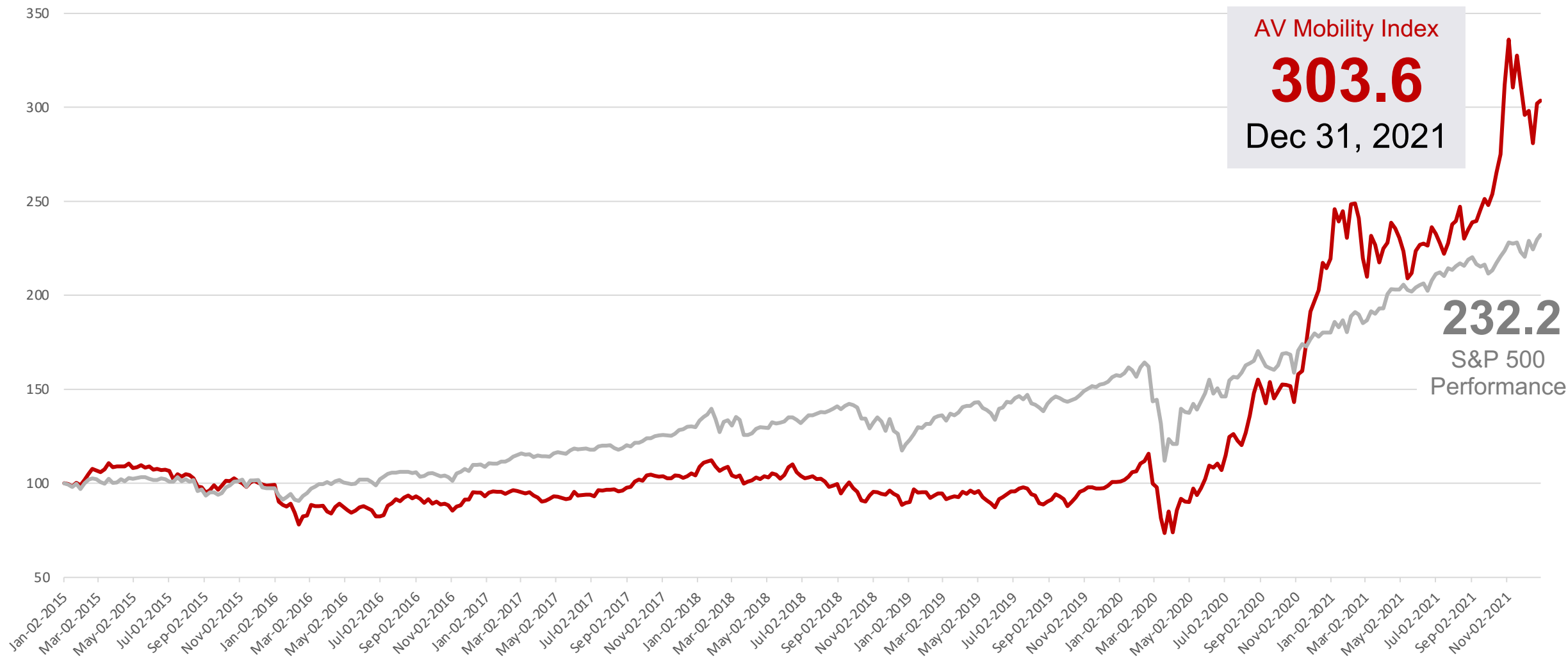
WHICH PUBLIC STOCKS ARE INCLUDED?



>>> AV MOBILITY INDEX: RELATIVE MARKET CAPS



AUTOMOTIVE VENTURES MOBILITY INDEX



Source: Automotive Ventures; Market Cap weighted; Indexed back to Jan 2015

>>> AV MOBILITY INDEX: LARGEST MONTHLY MOVERS

Changes during month of December 2021

LARGEST \$ CHANGE

INCREASE

Tesla (T)	\$55.7b ↑
Uber (UBER)	\$13.2b ↑
Ford (F)	\$5.3b ↑

DECREASE

Lucid (LCID)	\$14.0b ↓
Carvana (CVNA)	\$3.7b ↓
CarMax (KMX)	\$2.4b ↓

LARGEST % CHANGE

INCREASE

Uber (UBER)	19.0% ↑
Luminar (LAZR)	18.9% ↑
Embark (EMBK)	17.5% ↑

DECREASE

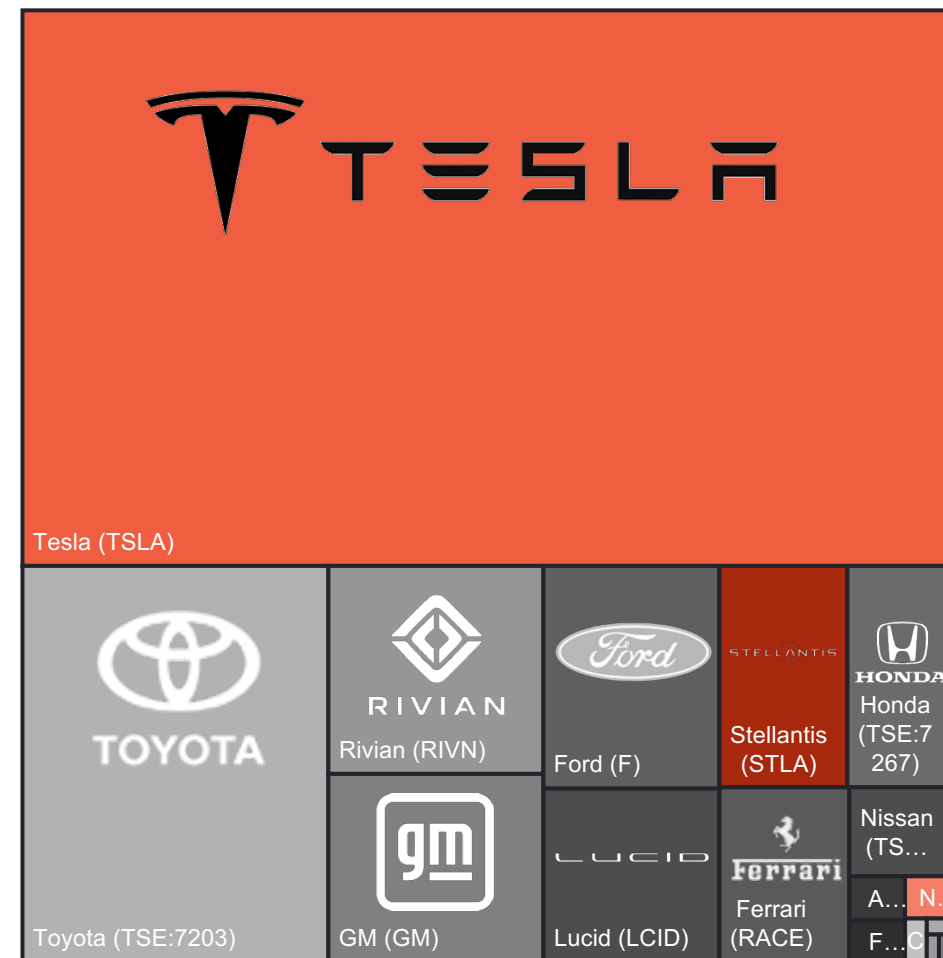
Sono Group (SEV)	31.0% ↓
Canoo (GOEV)	20.5% ↓
Shift Technologies (SFT)	18.9% ↓

»» SUB-INDEX: AUTO MANUFACTURER



Source: Automotive Ventures; Market Cap weighted; Indexed back to Jan 2015

RELATIVE MARKET VALUATIONS



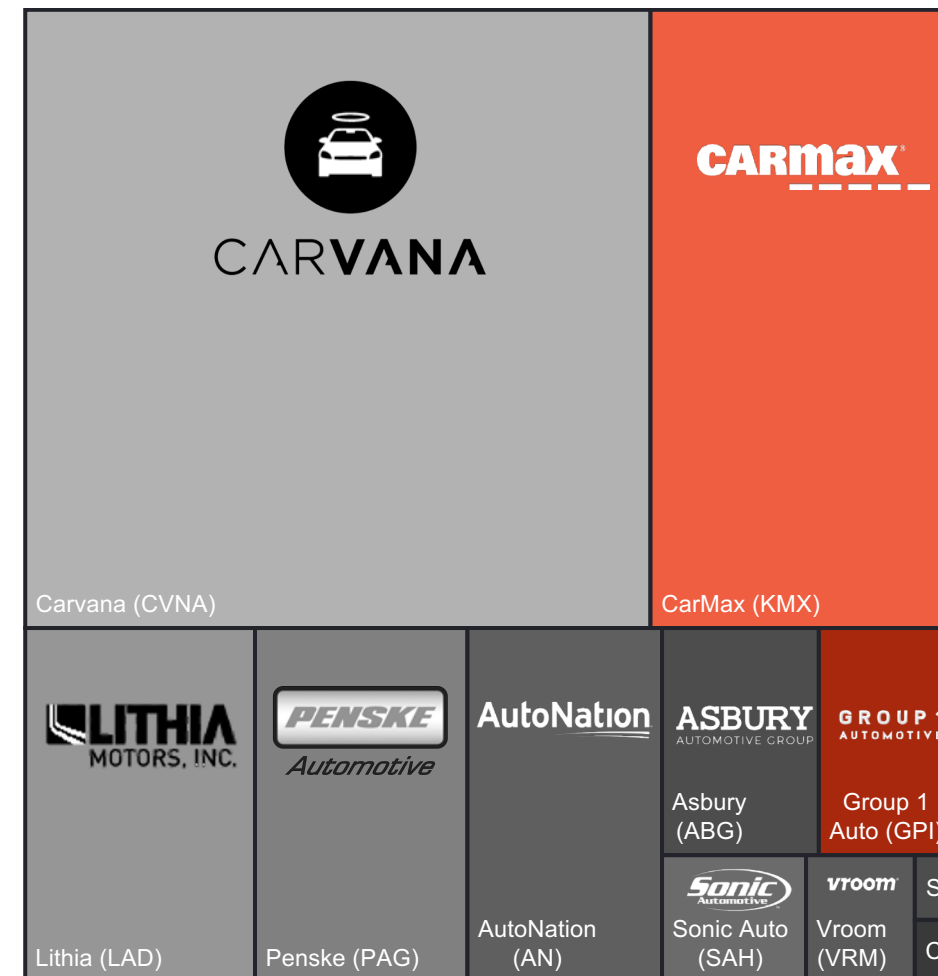
Relative market cap; As of December 31, 2021

»» SUB-INDEX: DEALER GROUP/ONLINE DEALER



Source: Automotive Ventures; Market Cap weighted; Indexed back to Jan 2015

RELATIVE MARKET VALUATIONS



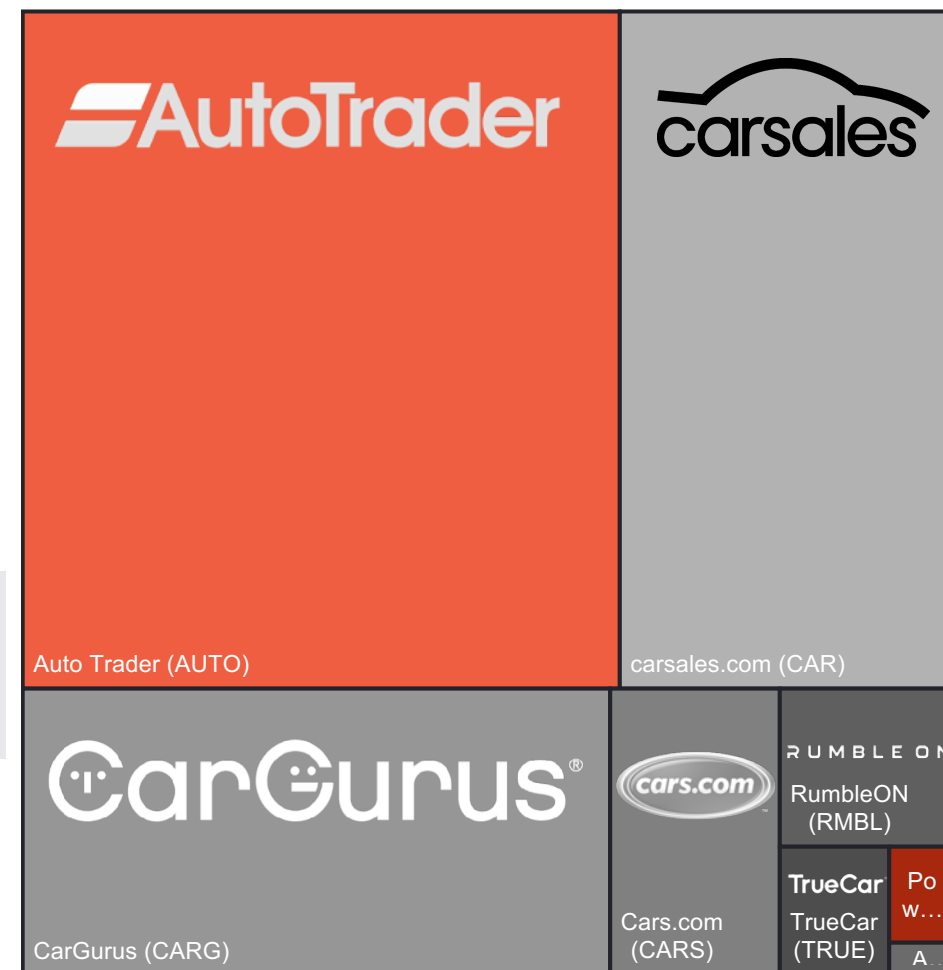
Relative market cap; As of December 31, 2021

»» SUB-INDEX: THIRD PARTY MARKETPLACES



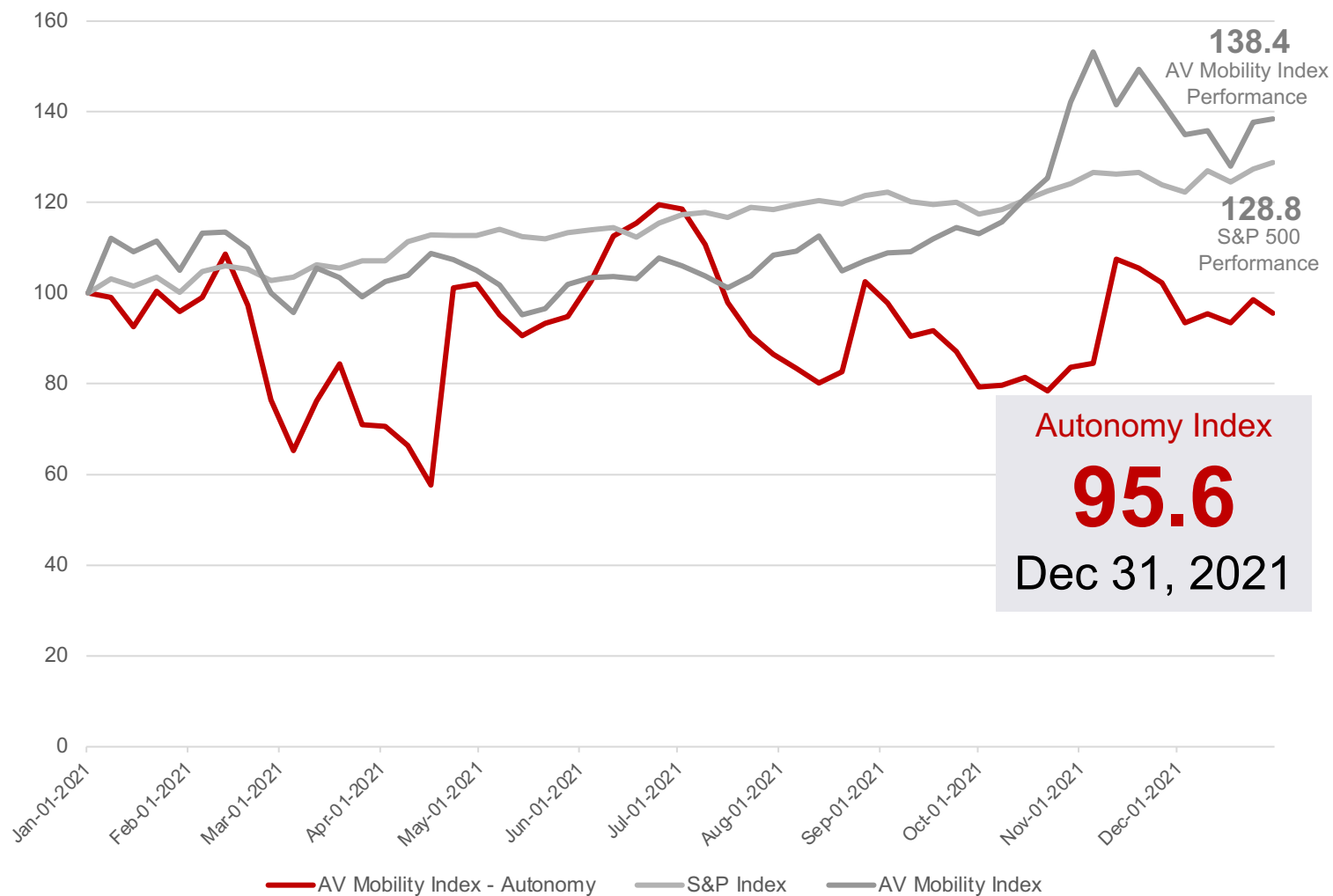
Source: Automotive Ventures; Market Cap weighted; Indexed back to Jan 2015

RELATIVE MARKET VALUATIONS



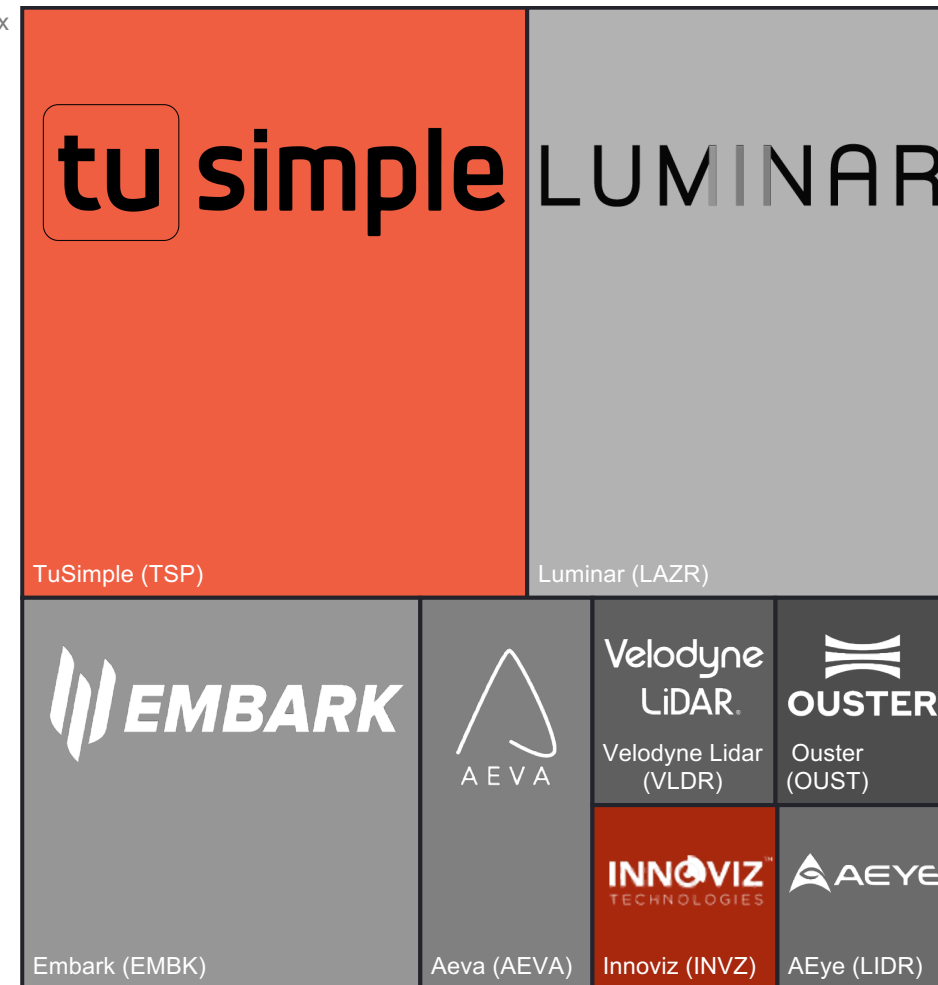
Relative market cap; As of December 31, 2021

»» SUB-INDEX: AUTONOMY



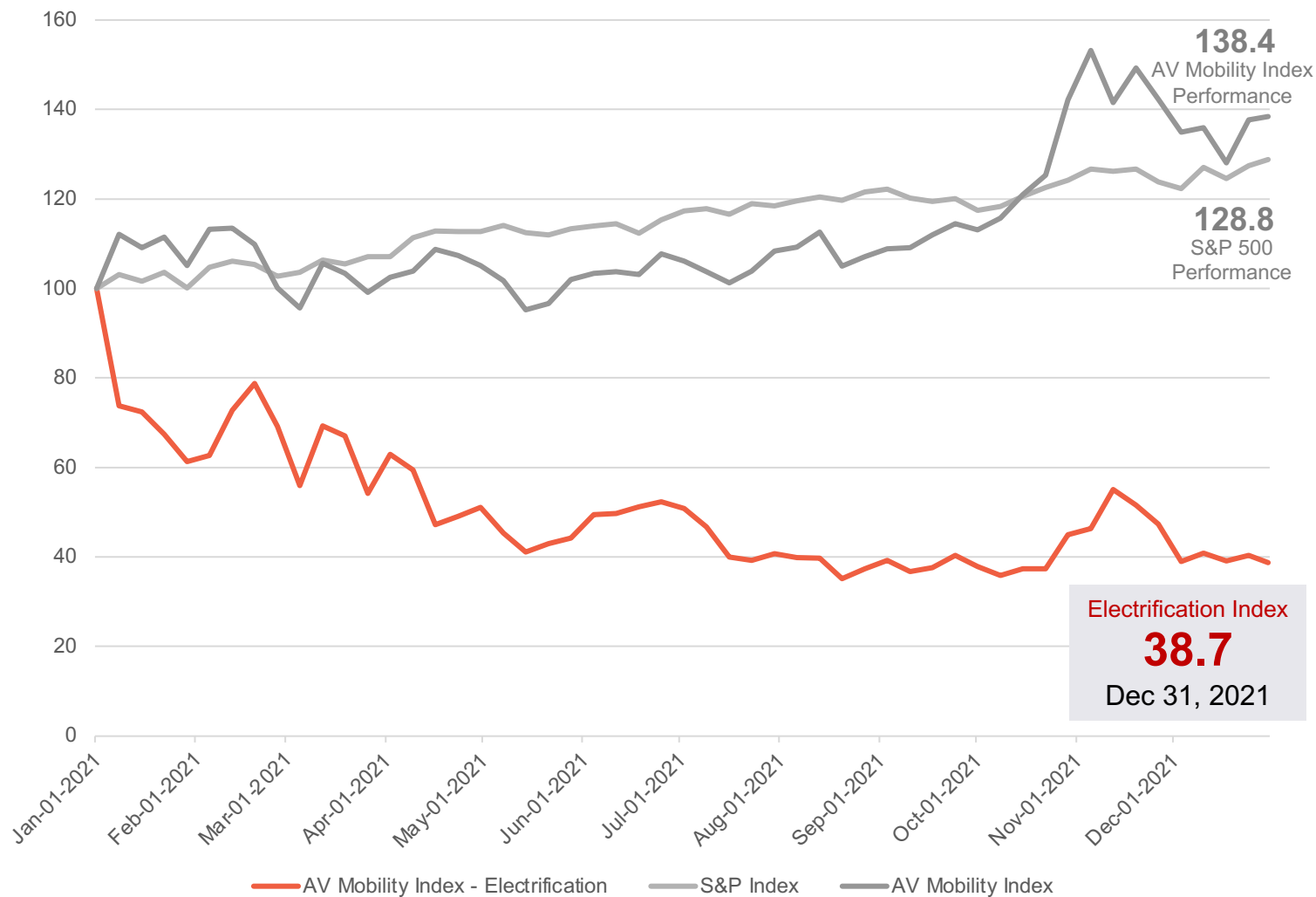
Source: Automotive Ventures; Market Cap weighted; Indexed back to Jan 2021

RELATIVE MARKET VALUATIONS



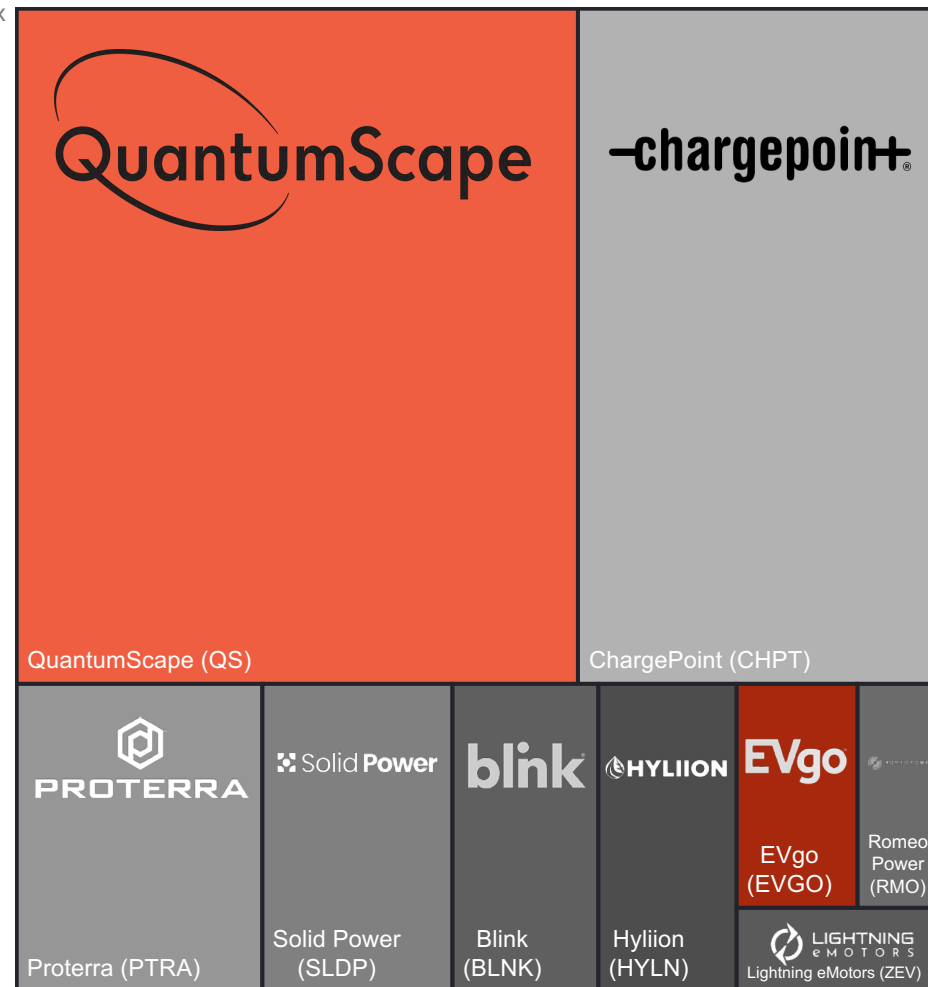
Relative market cap; As of December 31, 2021

»» SUB-INDEX: ELECTRIFICATION



Source: Automotive Ventures; Market Cap weighted; Indexed back to Jan 2021

RELATIVE MARKET VALUATIONS



Relative market cap; As of December 31, 2021



MOBILITY TECH LANDSCAPE



COMPANY VALUATIONS



FUNDING LEVELS

(Categories are rough estimates only)

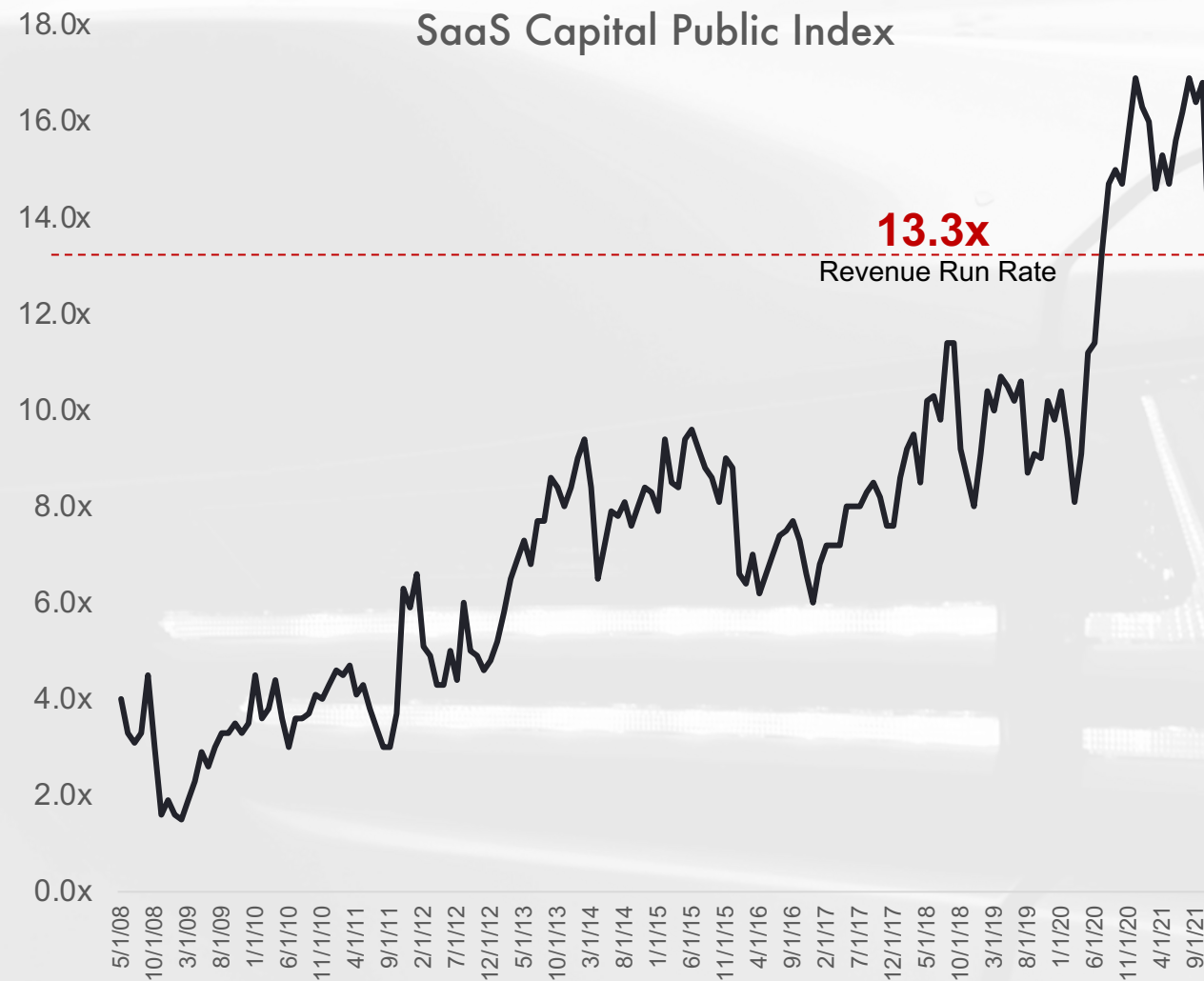


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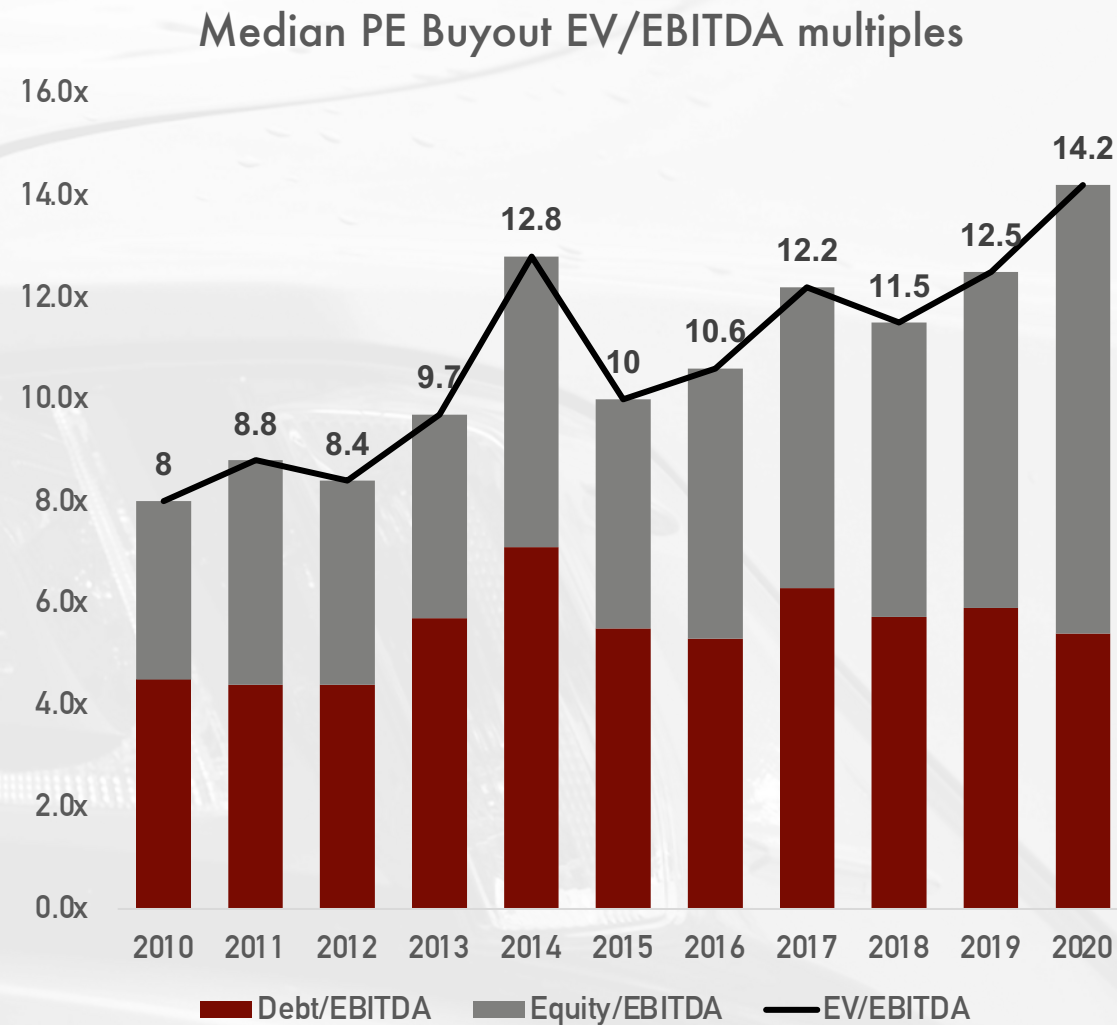
Source: Christoph Janz at Point Nine Capital

	PRE-SEED	SEED	SERIES A	SERIES B	SERIES C
ARR	\$0	\$0 - \$200k	\$1m - \$1.5m	\$3m - \$5m	\$10m+
ARR GROWTH (Y/Y)	NA	300%	300%	250%	200%
VALUATION	\$1m - \$3m	\$4m - \$11m	\$15m - \$40m	\$50m - \$140m	\$100m+
ROUND SIZE	\$200k - \$500k	\$1m - \$4m	\$5m - \$14m	\$15m - \$40m	\$20m+
INVESTORS	Friends, Family, Angels	Angels, Micro VCs	VCs	VCs	VCs, PE
TEAM	Smart, committed team with relevant experience	Strong fit between founders' skills and market need	Proven ability to attract and manage great hires	Experienced leaders in most functions; Proven ability to recruit senior people	Complete senior management team
PRODUCT/MARKET FIT	Market research indicates strong need for the project	Product is loved by early users; strong engagement & stickiness	High usage, low churn; passionate customers; large TAM	Increasing evidence of strong product/market fit in huge market	Clear and increasing evidence of product/market fit
SALES/MARKETING & UNIT ECONOMICS	Understanding best practices; good ideas	Signs of organic traction	Early evidence of a repeatable, scalable, profitable sales model; CAC payback <12 months	Short sales cycle relative to ACV; Net dollar retention>100%; LTV:CAC >3:1	Predictable, profitable, scalable sales/marketing machine
TRACTION	Growing waiting list of first pilot customers	Engaged first users; adding a few \$k in MRR per month	Get from 0 to \$100k MRR within 12 – 18 months; Growing 300%/year	Growing 250% per year	Growing 200% per year; negative net MRR churn
DEFENSIBILITY	None	Speed to market	Brand is emerging; evidence of unique data asset	First signs of a successful brand, platform or data play	Strong signs of a successful brand, platform or data play
MARKET POTENTIAL	Belief in \$10M+ ARR potential	Conviction there's \$100m - \$300m+ ARR potential	Increasing evidence of \$500m+ ARR potential	Increasing confidence in exit potential	Increasing confidence in strategic buyer or IPO potential

»» PUBLIC MARKET SAAS AND PE BUYOUT MULTIPLES



Source: The SaaS Capital Index



Source: PitchBook

>>> AUTOMOTIVE TECHNOLOGY TRANSACTION MULTIPLES

Business Model	Definition	Revenue Multiple
Pure SaaS	Uses software to provide customers with a service. Creates, develops, hosts, and updates the product. Has access to a global market and can scale without increasing product delivery costs.	10.0x+
Tech-Enabled Services	Brings new or innovative user-experiences using existing technologies to the market. Consumes and/or creates technology (physical infrastructure, hardware or software) designed and configured into a solution delivered to an end user customer.	3.0x-5.0x
Pure Services	A business that generates income by providing services instead of selling physical products.	1.0x-2.0x

Multiples higher for companies that have:

1. Predictable, recurring revenue
2. Low churn
3. High gross margins
4. High growth rates
5. High annual revenue growth
6. Strong upsell opportunities



DEALER AUTO TECH LANDSCAPE

DEALERSHIP AUTO TECH LANDSCAPE

TRAFFIC GENERATION (awareness & direct-response)

Traditional Media

Lee Enterprises, CBS RADIO, Entercom, GANNETT, TEGNA, HEARST, Clear Channel, COX, DOW JONES, RAYCOM Media, GateHouse Media, abc, digitalfirst, iHeart, CUMMUS, NBC, RADIO.

Digital Advertising

BRING A TRAILER, OfferUp, Letgo, eBay, R. LICK, Google, Autotrader, cars.com, CarGurus, Google AdWords, AUTOLIST, TRADER INTERACTIVE, TrueCar, autoweb, CAR-DRIVER, carzine, carzine.

Advertising Agencies

SOKAL, M, CACT, TURNKEY, RAYCOM Media, REUNION Marketing, iherman, FORCE, STRATEGIC MARKETING, C-4 Analytics, GSM, stream, naked, lime, MOORE SCARRY.

Advertising Technology

HEARST AUTOS, tapscios, Outsell, HELIX, Appearance, SPINCAR, zerosum, Epsilon, SPEED, PURECAR, DealerX, 3birds, V12, AutoLeadStar, eBizAutos, DIGITAL AIR STRIKE, TECUBI, AutoSweet, CACT.

CONVERSION (converting consumer traffic to sale)

Mystery Shopping

Maritz RESEARCH, J.D. POWER, PLADOOGLE, imyst, INTELLI SHOP, DealerSynergy, PIED PIPER.

In-Store Training

PR2ACTIVE, NADA, CORMOSLEY, ncm, DealerSynergy, Automotive Dealership Institute, J.D. POWER, kain, DealerSolutions, David Lewis & Associates, Inc., Stuker, COLLEGE OF AUTOMOTIVE MANAGEMENT, J. W. W.

RETENTION (retain as service/repeat customer)

Customer Retention Tools

TeamVelocity, iprecheck, Spireon, DataClover, ooxtime, Dominion, Experian, HELIX, Affinitiv, AutoLoop, DealerSocket, elead, automotiveMastermind, DIGITAL AIR STRIKE, AutoAlert, 3birds, Outsell.

SOFTWARE

Social / Reputation Management

SOCIALDEALER, reputation.com, SNAP, DealerRate, SureCritic, ActivEngage, PODIUM, MXS, DIGITAL AIR STRIKE.

Dealer Websites

DEALERON, MXS, DEPEND, DEALEXINSPIRE, nabthat, fusionZINE, jazel, DealerSocket, 321ignition, sincro, Dealer.com, eBizAutos.

Vehicle Acquisition / Auctions

ACV, Manheim, Accu-Trade, AUCTION EDGE, CARFAX, boost acquisition, TradeRev, Black, BACKLOT CASE, CARWAY, otolone, VETTX, CMF DealerSource.

F&I Technology

700Credit, F&I, ST, Dignifi, P-E-N, MAXIMTRAK, ZURICH, DARWIN, DealerScience, RouteOne, Dealertrack, VisionMenu, eLEND SOLUTIONS.

E-Contracting

eOriginal, CDK Global, Dealertrack.

Email Handling & Chat

Auto Labs, CarNow, LIVESPERSON, conversica, 360, Matador, Digital AIR STRIKE, Pulsar AI, propel.

Service & Parts

singlethread, ADVISOR, DERLIER-FX, Sologer, Sunbit, RAPIDRECON, REVOLUTION PARTS, 3birds, mykoarma, Dignifi, eAdvisor, Affinitiv, DealerSocket, PAL, truvideo, Synatron, RECONTRACT, RECONTRACT.

Workforce Management

DrivingSales, auto, ADP, Hireology.

Vehicle Subscription fair

SIXT+, Hertz, REVOLVE, PASSPORT, LESS, Audi select, Subscribe, CARE BY VOLVO, DriveAway, ACCESS, FreshCar, Collection, LMP SUBSCRIPTIONS.

Desking

CDK, VinSolutions, Dealertrack, elead, ProMax, DS DEALER SPECIALTIES.

Inspections

VINTEK, Kcite, PAVE, DS DEALER SPECIALTIES.

Merchandising Support

REDLINE, WheelsTV, CarStory, SnapCell, SPINCAR, UNIFYWORKS, TRU IMAGES, EVN, HomeNet, BLACKWIDOW, MAX DIGITAL.

Digital Retailing

PRODIGY, CAR2ATO, DEP, PAL EXPRESS, Gubagoo, ActivEngage, Dealertrack, digitalmotors, ROADSTER, WebBuy, CDK, Gubagoo, model, autohub, trd Payments, fastlane, CarSaver, MOTOINSIGHT, Gubagoo, TRADEPENDING, DRIVE IT NOW, SPINCAR.

Inventory Management

Lotz, DEALERSLINK, vAuto, MAX DIGITAL, DealerVault, eBizAutos, TECH, REDLINE, Kcite, dealercue, dritably, CHROMAGARS, CDK Global.

Online Retailing

CARIMAX, gettacar, CARVANA, SHIFT, vroom.

Vehicle History

VinAudit, DMVdesk, CARFAX, NNMVTS.

Registration & Titling

ATC, Dealertrack, TITLEDIRECT, DLRdmy, FIVE64, CVR, TitleTec, REVIVER, ATC, Dealertrack, TITLEDIRECT, DLRdmy, FIVE64, CVR, TitleTec, REVIVER.

Dealer Management System (DMS)

Reynolds & Reynolds, ADVENT, QUORUM, Dealertrack, DealerBuilt, PBS Adam, TEKION, Dealertrack, Reynolds & Reynolds, ADVENT, QUORUM, Dealertrack, DealerBuilt, PBS Adam, TEKION.

Dealer Website Engagement

ROADSTER, Gubagoo, model, MAX DIGITAL, CarNow, trd Payments, DEALER TEAMWORK, PODIUM, Gubagoo, TRADEPENDING, DRIVE IT NOW, SPINCAR.

Process Improvement

Hireology, KPA, vAuto, auto, PowerDealer, nextup, TRUE SPOT, A2Z SYNC, DealerDOCX, Lotz, Strategic Source, mykoarma, xoxio, PR2ACTIVE, frogdata, DEALEROPS, REVERSE, accessa, CDC, Credit Bureau Connection, STROLID, TRAVEL, esuresale.

Peer-to-Peer (P2P)

cars.com, CarGurus, TRED, OfferUp, blinker, Autotrader.

Vehicle Imaging

BLACKWIDOW, Click-Ins, MONK, TRACTABLE, RAIN, UVEYE.

Outsourced BDC

STROLID, TRAVEL, Paramount.

Vehicle Insurance

DEALER POLICY, SURE, gabi, COVERHOUND.

Customer Relationship Management (CRM)

DriveCentric, crmsuite, MOMENTUM, CDK Global, DealerPeak, DealerMINE, Affinitiv, VinSolutions, Dominion, ProMax, VOTENZA, Safety Automation.

Media Attribution

Semcasting, VistaDash, HELIX, 020, el toro, AutoID, experian, fouryes, DRIVEN DATA.

Phone Call Management

Car Wars, CALLREVV, CallSource, Marchex, Interactivevel, Calldrip, Who's Calling, PHONE NINJAS.

P2P Rentals

RVshare, Rthxy, Outdoorsy, TURO, getaround.

Connected Car

LYNKD, LoJack, REVIVER, CarIQ, TRUE SPOT, Spireon.

Accessories

NSIONIA GROUP, VELOCITY TECH SOLUTIONS, AC, AUTO AUDIO CONFIGURATOR, autodata, ADD THE SOCKS, REYNOLDS & REYNOLDS, INTERACTIVE GARAGE, MEDIA.

Key Systems

KEY CONTROL SYSTEMS, SECURITY VEHICLE AUTOMATION, MATRIX, KEYTRAK, TRUE SPOT, KEY-BOX, SHAREBOX, PINPOINT LOCAL SERVICES, KEYTRAK, TRUE SPOT.

Vehicle Appraisal

CLAVIN GENIUS, MAX DIGITAL, Accu-Trade, eAuto Appraise, autohub, KBB, Black Book, TRADEPENDING, Black Book.

Floor Planning

ally, AFC, US AUTO CREDIT, CITY AUTO FINANCE, AFS, Westlake, BANK OF AMERICA, CarBucks, NEXTGEAR, CHASE, AFS, AUTO, Auction Credit.

Remote Service

REPAIR SMITH, SIMPLIFIRE, YOSHI, SparkCharge, spiffy.

Vehicle Management

RECON, Velocity, LoJack, TRUE SPOT, Spireon, Quickride, AR RAPIDRECON, MDL.

Vehicle Transportation

DRIVER, ACERTUS, RunBuggy, SuperDispatch, CONVOY, REDCAP, hopdrive, AUTO DUBO, BEZCAR.

2021 TRANSACTIONS

>>> DECEMBER 2021 TRANSACTIONS

<div><div></div><div>SPREE</div><div>MOBILITY SPAC</div><div>\$200m IPO</div></div>	<div><div></div><div>Acquisition by</div><div>DISCOUNT TIRE</div></div>	<div><div></div><div>Valuinsight</div><div>a 360Converge company</div><div>Acquired by</div><div>360 CONVERGE</div></div>	<div><div></div><div>Acquired by</div><div>XLerate GROUP AUCTIONS</div></div>	<div><div></div><div>EVe Mobility Acquisition Corp</div><div>\$250m SPAC IPO</div></div>	<div><div></div><div>\$50m Series B</div><div>Lachy Groom</div><div>Sam Altman</div></div>	<div><div></div><div>\$21m Series A</div><div>OBVIOUS VENTURES</div></div>	<div><div></div><div>\$7.5m Seed</div><div>OBVIOUS VENTURES</div></div>	<div><div></div><div>Investment This Month</div><div></div><div>\$9m Series A</div><div></div><div>Canvas VENTURES</div></div>
<div><div></div><div>WM MOTOR</div><div>威马·出行</div><div>\$152m D2 Round</div><div>AGILE 雅居樂</div></div>	<div><div></div><div>CANDELA</div><div>\$24m Financing</div><div>IEQT VENTURES</div></div>	<div><div></div><div>serve</div><div>\$13m Seed</div><div>Uber</div></div>	<div><div></div><div>\$55m Venture Debt</div><div>Hercules CAPITAL</div></div>	<div><div></div><div>\$260m Series B</div><div>GGVCAPITAL</div></div>	<div><div></div><div>The Future of Electric Propulsion</div><div>\$15m Series A</div></div>	<div><div></div><div>\$20m Series C</div><div>Forestay</div></div>	<div><div></div><div>\$2.3m Financing</div><div>TRUCKS</div></div>	
<div><div></div><div>\$130m Financing</div><div>Janus Henderson INVESTORS</div></div>	<div><div></div><div>Planned IPO</div></div>	<div><div></div><div>\$18m Series A</div><div>inovia CAPITAL</div></div>	<div><div></div><div>\$3.0b IPO</div><div>ALDEL FINANCIAL</div></div>	<div><div></div><div>\$10m Series A</div><div>ALPHA JWC VENTURES</div></div>	<div><div></div><div>LG Energy Solution</div><div>Planned \$10.8b IPO</div></div>	<div><div></div><div>\$56.5m Series B</div><div>ORILLION</div></div>	<div><div></div><div>Delivering a Tradition of Excellence & Trust</div><div>Acquired by</div><div>NATIONAL AUTO CARE</div></div>	<div><div></div><div>\$125m Series A</div><div>GENERAL CATALYST</div></div>
<div><div></div><div>\$115m Series B</div><div>TIGERGLOBAL</div></div>	<div><div></div><div>\$20.5m Financing</div><div>TIGERGLOBAL</div></div>	<div><div></div><div>\$20m Seed</div><div>TIGERGLOBAL</div></div>	<div><div></div><div>\$60m Series B</div><div>TIGERGLOBAL</div></div>	<div><div></div><div>\$52.7m Financing</div><div>TEMASEK</div></div>	<div><div></div><div>Planned SPAC IPO</div><div>AEA Bridges Impact Corp</div></div>	<div><div></div><div>\$4.5m Financing</div><div>DYNAMO</div></div>	<div><div></div><div>\$25m Financing</div><div>LITEON</div></div>	<div><div></div><div>\$115m Series D</div><div>RAINE</div></div>
<div><div></div><div>CAD \$21m Series A</div><div>bdc</div></div>	<div><div></div><div>Minority Investment</div><div>PORSCHE VENTURES</div></div>	<div><div></div><div>Minority Investment</div><div>PORSCHE VENTURES</div></div>	<div><div></div><div>An Intel Company</div><div>Planned IPO by</div><div>intel.</div></div>	<div><div></div><div>\$11m Series A</div><div>10X CAPITAL</div></div>	<div><div></div><div>\$1.2b SPAC IPO</div><div>DCRB+</div></div>	<div><div></div><div>\$12m Series A</div><div>AUTOTECH VENTURES</div></div>	<div><div></div><div>\$95m Series B</div><div>KINNEVIK</div></div>	<div><div></div><div>\$30m Financing</div><div>iSun</div></div>
<div><div></div><div>Strategic Investment</div><div>TDK TDK VENTURES</div></div>	<div><div></div><div>\$10m Series B Extension</div><div>VINFAST</div></div>	<div><div></div><div>Planned IPO</div></div>	<div><div></div><div>Seed Round</div><div>BMW VENTURES</div></div>	<div><div></div><div>Acquired by</div><div>DispatchTrack</div></div>	<div><div></div><div>FLEET CHARGING SIMPLIFIED</div><div>Acquisition by</div><div>bp</div></div>	<div><div></div><div>Majority Acquired by</div><div>JOHN DEERE</div></div>	<div><div></div><div>SPAC IPO</div><div>BROADSTONE ACQUISITION CORP</div></div>	<div><div></div><div>\$31m Series B</div><div>lightrock</div></div>
<div><div></div><div>\$300m Series G</div><div>ALPHA WAVE</div></div>	<div><div></div><div>\$157m Financing</div><div>Hillhouse Capital</div></div>							

>>> 2021 TRANSACTIONS: JAN - MAR

Jan 2021

Feb 2021

Mar 2021

CRESTA Investment by PORSCHE VENTURES	Faraday Future \$3.4b SPAC	autozen \$4.2m Financing	AUTO 1 GROUP \$1.2b IPO	DIESEL MINNESOTA Acquired by DICKINSON FLEET SERVICES	pony.ai \$100m Series C Extension	microvast \$3b SPAC	otonomo \$1.4b SPAC SOFTWARE ACQUISITION GROUP	BATON \$10.5m Series A 8VC MAERSK Growth	PRODIGY THE FUTURE OF AUTOMOTIVE RETAIL acquired by Upstart	CAZOO \$7b SPAC	Lightyear ∞ \$A48m Financing
FREEWIRE \$50m Series C RIVER STONE	carlotz SPAC Acamar Partners	EVgo FAST CHARGING \$2.6b SPAC CLIMATE REAL IMPACT SOLUTIONS	PROTERRA \$1.6b SPAC ARCLIGHT CLEAN TRANSITION	LUCID \$12b SPAC CHURCHILL CAPITAL IV	volta \$2b SPAC Tortoise Acquisition Corp. II	getta car \$25m Financing 3L LUXOR CAPITAL	metropolis \$41m Financing 3L	CH! ChargerHelp! \$2.75m financing TRUCKS	SERVICE MY CAR \$10m Seed Bahwan IT	ACV \$414m IPO	ParkMobile acquired by easypark
UV EYE Investment by HYUNDAI	FUSE AUTOTECH Financing PICO / partners	CRUISE \$2.0b Investment Microsoft	R3E \$3b-\$4b SPAC	nextmv \$8.0m Series A FIRSTMARK CAPITAL	HYZON \$2.7b SPAC DCRB+	Hyundai Acquisition by Sonic Automotive	LOT VANTAGE Acquisition DIGITAL AIR STRIKE	CARPAY \$9.9m Series A AUTOTECH VENTURES	digitalmotors. \$10m Series A DN Capital	ZEGO \$150m Series C DST GLOBAL	BARAJA \$31m Series B
CameraMatics Investment by €4.0m Financing	TACTILE MOBILITY Investment by nexteer AUTOMOTIVE	loop \$3.25m Seed freestyle.vc	RIVIAN \$2.65b Financing T.Rowe Price	RECOGNI \$48.9m Funding WRVI CAPITAL	AKASOL acquired by BorgWarner	carbiz Acquisition by Sonic Automotive	BestRide Acquisition DIGITAL AIR STRIKE	REFRACTION AI \$4.2m Seed	Lo/Jack acquired by Spireon	remix Acquisition by VIA	optibus \$107m Series C
BlueDriver Acquired by asTech	BAYIQ Acquired by AutoVitals	oxbotica \$47m Series B bp ventures	KEEPS Investment by SSM PARTNERS	AEYE \$2b SPAC CANTOR <i>Pittenger</i>	swift NAVIGATION \$50m Series C NEA	DEALERPOLICY \$30m Series B 3L A11	momenta \$500m Funding SAC TOYOTA BOSCH	CUBERG acquired by northvolt	flexclub Drive your way \$5m Financing Kindred VENTURES	CLUTCH \$60m Financing Canaan	
DrivenBrands IPO	DISCOUNT Acquired by COX AUTOMOTIVE	FYUSION Acquired by COX AUTOMOTIVE	TRADEPENDING Recapitalization by CAPSTREET	PlusAi \$200m Series B	CCC \$6.5b SPAC DRAGONEER	MIDWEST FACILITIES, INC. acquired by AKG	CarCapital TECHNOLOGIES \$8.8m Series A FM CAPITAL	DEALER-FX \$200m acquisition Snap-on	RED Diagnostics Acquired by asTech		
VERUSEN Series A BMW i Ventures	kyte. \$9.0m Investment DN Capital	SocialAuto \$1.5m Seed Overline	SBD SWEETIE BOY DELIVERS Investment by CIT GAP FUNDS CENTER FOR INNOVATIVE TECHNOLOGY	XOS \$2.0b SPAC NextGer Acquisition Corporation	adasThink Acquisition by asTech	voyage acquired by CRUISE	RVIN \$15m Series A KAR GLOBAL	PERRONE ROBOTICS \$10m funding CAPSTONE holdings			
SILA NANOTECHNOLOGIES \$590m Series F BMW GROUP DAIMLER	AEVA \$200m Financing	MotoRefi \$10m Financing MODERNE VENTURES	ENEVATE \$81m Series E Fidelity	SmartHop \$12m Series A USV	SQUARE ROOT \$25m Acquisition CDK Global	Combines with RUMBLE ON RIPENOW	DONLEN \$891m Acquisition ATHENE HOLDING				

>>> 2021 TRANSACTIONS: APR - JUN

Apr 2021

ottopia \$9m Funding HYUNDAI	SES \$139m Investment GM
CRUISE \$2.75b Funding Walmart	KAVAK.COM \$485m Funding
nuvo cargo \$12m Series A QED INVESTORS	lyft Level 5 \$550m Acquisition by woven planet
BlaBlaCar \$115m Financing UNU GLOBAL	polestar \$550m Funding
INNOVIZ TECHNOLOGIES IPO	IDELIC \$20m Funding HIGHLAND AXA CAPITAL PARTNERS Venture Partners
EASY MILE \$66m Series B SEARCHLIGHT	WaveSense \$15m Fundraising RHAPSODY IMPOSSIBLE VENTURES
edmunds \$404m Acquisition CARMAX	AxleHire \$20m Series B AJAX STRATEGIES
tu simple \$1.35b IPO	oxbotica \$13.8m Investment ocado GROUP
CarCapital \$20m Credit Line NP	

May 2021

Jerry \$28B Series B GOODWATER CAPITAL	TRITIUM \$1.2b SPAC DCRC+	irp systems \$31m Series C
Pulsar AI Acquired By SPINCAR	PDM AUTOMOTIVE \$4m Fundraising FUSE	wejo \$1b SPAC VIRTUOSO
E/NRIDE \$110m Series B	OCULII \$55m Series B CATAPULT CONDUCTIVE	InnoVusion \$64m Series B TEMASEK
WeaveGrid \$15m Series A	Auction Frontier Acquisition by KAR GLOBAL	Solid Power \$130m Series B
ROCSYS \$6.3m Fundraising FORWARDone	Affectiva Acquired by smart eye	TWAICE \$26m Series B ENERGIZE
WeRide Series C Funding 文远知行	MotoRefi \$45m financing Goldman Sachs	VIRTUO \$96m Funding AXA Venture Partners
AUTOPAY Merger rategenius	DealerSocket Acquisition by Solera	Omnitracs Acquisition by Solera
Passport \$90m Funding SIXTH STREET GROWTH	monoDrive Acquisition By nl	cinch £1bn Fundraising CONSTELLATION
CarTrade.com Filed for IPO	carsales Acquiring 49% of TRADER INTERACTIVE	mileauto \$10.3m Seed Round

Jun 2021

Lender Compliance Technologies \$4.15M Series A AUTOMOTIVE	WeRide \$310M Fundraising YUTONG	TRACTABLE \$60M Series D INSIGHT PARTNERS GeorgianPartners	CARRO \$360M Series C SoftBank Vision Fund	Mister CAR WASH Filed To Go Public	buser \$138M Fundraise
Wabi \$83.5M Series A khosla ventures	locoNav \$37M Series B QUIET CAPITAL	CABANA \$10M Series A CRAFT GOLDREEST CAPITAL	kodiak Investment by BRIDGESTONE	northvolt \$2.75B Fundraising FORSTA AP-FONDEN OMERS	Auto Exchange Acquisition by AA
DEEPMAP Acquisition By NVIDIA	Zong Mu \$190M Series D xiaomi	QUANERGY SPAC Merger CITIC CAPITAL 中信資本	IoTecha \$13.2M Financing bp ventures	GoMechanic \$35M Series C TIGERGLOBAL	ELECTRA \$3.6M Seed Round LIFT
CRUISE \$5B Line of Credit gm FINANCIAL	ELECTRIC ERA \$3M Seed Round REMUS CAPITAL	LOCUS \$50M Series C Qualcomm ventures	DRIVEN DATA \$4.5M Series Seed B	noblr Acquisition by USAA	wallbox SPAC KENSINGTON
EMBARK SPAC Merger Northern Genesis	KEEP TRUCKIN \$190M Series E G2 VENTURE PARTNERS	Where Is My Transport \$14.5 Series A Ext. NASPERS Cathay Atrinvest Innovation Fund	A3 Aramis auto IPO	lendbuzz \$60M Series C WELLINGTON MANAGEMENT	DriveltAway Investment From Knightsgate
PocketExpert Acquisition By mykaarma	brumbrum €65M Fundraising DIP	TRED \$3M Fundraising	满帮 Full Truck Alliance \$20B IPO	ROADSTER \$336M Acquisition by CDKGlobal	
Solid Power Potential Merger DCRC+	Justos Raised \$2.8M Kaszek VENTURES	Joyride \$3.7M Financing	mobiletechrX Acquisition by asTech	edriving Acquisition by Solera	
HESAI \$300M Series D ventures	sender \$80M Series D BAILLIE GIFFORD	Exeter Acquisition by WARBURG PINCUS	CREDR \$6.5M Financing YAMAHA	WAYMO \$2.5B Funding	
electriphi Acquisition by Ford	motorway \$67.7M Series B Index Ventures	FLixmobility \$650M Series G	Gubagoo Acquisition by Reynolds & Reynolds	trustworthy ai Acquisition by WAYMO	

>>> 2021 TRANSACTIONS: JUL - AUG

Jul 2021

Aug 2021

 DARWIN AUTOMOTIVE Acquired by J.D. POWER	 NAVMATIC Acquired By superpedestrian	 SONATUS \$35m Series A Translink CAPITAL	 Aurora SPAC IPO Reinvent TECHNOLOGY PARTNERS	 RECARGO \$25m Acquired by EVgo	 FleetMaster Acquired by COX AUTOMOTIVE™	 DEALERPOLICY \$110m Financing Goldman Sachs	 iLendingDIRECT \$35m Financing FIRST EAGLE INVESTMENT MANAGEMENT	 TURO Filed for IPO	 DEAR FLAG \$250m acquisition JOHN DEERE	 YAA \$4.2m Seed FLYBRIDGE CAPITAL PARTNERS	 CARWAVE \$450m Acquisition KAR GLOBAL
 Acquired by KAVAK	 MOONX Acquired by WeRide	 olive SPAC IPO M-D-H MOTOR ACQUISITION CORP.	 CAMERA Acquired by woven planet	 netradyne \$150m Series C SoftBank Vision Fund	 SES \$3.6b SPAC IPO IVANHOE CAPITAL ACQUISITION CORP.	 LOOP \$2.5m Seed UBIQUITY VENTURES	 \$3m Investment GEWEKE	 RIVIAN Filed for IPO	 THIRD WAVE \$40m Series B NORWEST VENTURE PARTNERS	 CARZEUS \$400k Acquisition autoweb	 QCRAFT \$100m Series A+ Q Capital
 FIXCRAFT \$1m Equity/Debt ubiQUITY	 LUCID SPAC IPO CHURCHILL CAPITAL IV	 TRANSPLACE \$2.25b Acquisition Uber Freight	 Lightico \$27m Series B CAPITAL ONE VENTURES	 NOTRAFFIC \$17.5m Series A Nilsen Ventures	 SPINNY \$100m Series D TIGERGLOBAL	 HDVI \$32.5m Series B WEATHERFORD SERVICES	 waycare \$61m acquisition REKOR AI DRIVEN DECISIONS	 carputty \$7.2m Seed KICK START	 veoneer \$4.6b acquisition Qualcomm	 Bolt €600m financing SEQUOIA	 DigiSure \$13.1m pre-Series A morado venture partners
 FLOCK \$17m Series A SOCIALCAPITAL	 Venti Technologies \$8m Financing LOV RESEARCH PARTNERS	 bipi €100m Acquisition RCI BANK AND SERVICES	 LULA \$18m Series A FOUNDERS FUND khosla ventures	 Employ/Us/ Acquired by Hireology	 MAX DIGITAL \$60m Acquired by ACV	 shotl Acquired by SWL	 HopSkipDrive \$25m Series C e-ENERGY IMPACT PARTNERS	 voi. \$45m financing RAINE	 INCEPTIO TECHNOLOGY \$270m Series B 京东物流 JD Logistics	 MotoRefi \$5m financing Cred	 DeepMotion \$77m Acquisition mi xiaomi
 REDWOOD MATERIALS \$700m Series C T.RowePrice INVEST WITH CONFIDENCE	 R3E SPAC IPO 10X CAPITAL	 has-to-be eMobility €250m Acquired by -chargepoint+	 algolux \$23m CAD Series B FORTE VENTURES Drive Capital	 widewail your partner in online engagement™ \$1.5m Seed Funding	 tru Payments Acquired by PURECARS	 ample \$160m funding Shell REPOL	 InnoFusion \$66m Series B+ 國泰君安國際 GUOTAI JUNAN INTERNATIONAL	 BLACKBUCK \$67m Series E TRIBE CAPITAL	 ELROY AIR \$40m Series A LOCKHEED MARTIN	 InstaCarg \$23m Series B EJ-VENTURES SPONSOR TOGETHER	 Upstream \$62m Series C Mital Santhosha Insurance
 allego \$3.14b SPAC Merger Spartan Acquisition Corp. III	 RIVIAN \$2.5b Funding THE CLIMATE PLEDGE	 UVEYE VEHICLE INSPECTION SYSTEMS \$60m Series C CARMAX	 caura \$4.2m Financing TWINFOCUS	 ABN "AUTOMOTIVE" BROADCASTING NETWORK Acquisition by spectrio	 REPAIR SMITH \$42m funding CAPITAL	 CHAMptitles \$8.5m Series A Eos Venture Partners	 FUSE AUTOTECH \$10m Series A TARGET GLOBAL	 Niron Magnetics \$21.3 Financing SPACE CAPITAL	 ClearRoad \$2.35m Seed SPACE CAPITAL	 Ideanomics \$450m Acquisition Ideanomics	
 ONTO \$175m Series B Alfvén & Didrikson	 Faraday Future SPAC IPO	 iCar Asia \$200m Acquisition CARSOME	 freetech \$100m Series A CLIF 中國互聯網投資基金 CHINA INTERNET INVESTMENT FUND	 LACUNA TECHNOLOGIES \$16m Series A XPLORER CAPITAL	 canadadrives \$100m CDN funding HONOR VENTURES	 HAGERTY \$3.13b SPAC ALDEL FINANCIAL	 VIRICITI €75m Acquisition -chargepoint+	 freightify \$2.5m pre-Series A NORDIC E&E VENTURE CAPITAL	 Udrive anywhere, everywhere \$5m financing	 TRADE X \$10m Financing cuhoVC	
 TRADE X \$44m CAD Financing AIMIA	 COBLI \$35m Series B SoftBank	 shopmonkey \$75m Series C BESSEMER VENTURE PARTNERS Index Ventures	 MotorDocs Acquisition by keyloop	 Griip Minority Investment PORSCHE VENTURES	 canadadrives \$100m CDN funding HONOR VENTURES	 FIX CAPITAL \$7.2m financing TACTICO	 CarIQ \$25m Series B FORTE VENTURES	 CEPTON SPAC IPO GROWTH CAPITAL ACQUISITION CORP.	 OCTANE \$52m Series D PROGRESSIVE	 Gatik \$85m Series B KOCH DISRUPTIVE TECHNOLOGIES	
 RODO \$18m Series B Holman STRATEGIC VENTURES	 RELAY \$60m Series C	 imove €16M Series A Auto Scout24	 LIQUIDMOTORS POWERED BY AUTOPARTS GROUP BY SUEZ Acquisition by erate GROUP	 GHOST \$100m Series D SUTTER HILL VENTURES	 kovi \$104m Series B VALOR CAPITAL PARTNERS	 NE Nanotech Energy \$64m Financing Fubon Financial	 Jerry \$75m Series C GOODWATER CAPITAL	 azuga Acquired by BRIDGESTONE	 fetch \$50m Series C CELOT CAPITAL MANAGEMENT	 HAAS ALERT \$5m Seed Round Blu Venture INVESTORS	

>>> 2021 TRANSACTIONS: SEP - OCT

Sep 2021

REDWOOD MATERIALS \$50m Investment 	Salty. Acquired by CDK Global	AUCTO \$3.7m funding NfX	NT SPIERS NEW TECHNOLOGIES Acquired by COX AUTOMOTIVE	SLerate Acquired by BRIGHTSTAR
ASSET TRACK Acquired by Advantage	foretellix \$32m Series B MoreTech Ventures	KAVAK \$700m Series E GENERAL CATALYST	SLerate Acquired by SLerate GROUP	ACCURE Battery Intelligence \$8M Series A BLUE BEAR CAPITAL
C/O CYBELLUM \$240m Acquisition LG Electronics	TRANSFIX Series A G SQUARED ASCEND F INC.	CLARK COUNTY Acquired by SLerate GROUP	PIT CREW Acquired by spiffy	TRADEHELPER Acquired by Block
BLACK SESAME Investment by 長地產集團	LIGHTYEAR \$110m Financing DELA	WRENCH 10% acquired by BRIDGESTONE Bridgestone Americas, Inc.	OCULII Investment gm	SD STRATEGIC DIVERSIFIED Acquired by APCO HOLDINGS
haydenAI \$20m Series A TYH Ventures	DEEPROUTE AI \$300m Investment Alibaba Group	CarDoor \$3m CAD Seed framework venture partners	AIM EXPERTS Acquired by AUTOVERIFY	CallSource Acquired by CALLREVV
Just \$8m Funding CROSS AUT VENTURES	EDGE CASE RESEARCH \$12m Series A yabeo	gogoro \$2.3b SPAC PRINCEVILLE CAPITAL	CARS 24 \$259m Financing DST GLOBAL	CARSOME \$170m Funding MEDIATEK
BATTERY RESOURCES \$70m funding HITACHI Inspire the Next	BridgeLinx \$10m Financing 20VC	TRITIUM \$40m AUS Cigna	TECHLANTIC Acquired by TRADE X	kevala+ \$21m Series A CAPITAL
Cargamos \$7m funding nazca	VOLTA TRUCKS €37m Financing LUXOR CAPITAL	marshmallow \$85m Series B mission capital	VisionFlow Robotics Series C Funding ByteDance	ryd €10m Financing bp ventures
momento \$300m Investment gm	AVIVA \$26.5m Financing MARVELL	tricolor \$90m Investment BlackRock	caocao \$589m Series B	RENOVO AUTO Acquired by woven planet
CarNow \$30m Financing Battery	cazana Acquired by CAZOO			

Oct 2021

wheels DONLEN Combination ATHENE	TEKION \$250m Financing Durable CAPITAL PARTNERS	Acquired by CONSTELLATION AUTOMOTIVE GROUP	CLAIM GENIUS \$6m Series A3	roserocket \$25m Series A ADDITION CAPITAL	VAVACARS \$50m Series B DUQUESNE	PHIAR \$12m Series A StateFarm VENTURES
1.2b investment FAW	Shuttl Acquired by CHALO	CHALO \$40m Series C lightrock	dellfer \$8m Series A DENSO	SWFT \$10m Seed	Neusoft \$101m Financing SDIC	kyte. \$30m Series A PARK WEST
\$1.5m funding INFLECTION	autochek \$13.1m Seed TLCOMCAPITAL	SYNETIQ £225m Acquisition AA	goto \$400m Investment ADIA	crabi \$4m Seed KasZek VENTURES	Aerotech \$500m Series A IDG Capital	Cover Whale \$15.5m Financing Ambac
ProLogium \$326m funding dGee Capital	Justos \$35.8m Series A Ribbit Capital	cbc Acquisition CAPSTARS	THE BEEKMAN GROUP Majority Investment auto manager	wise systems \$50m Series C6 TIGERGLOBAL	SURE \$100m Series C DECLARATION PARTNERS	VOOM \$15m Financing JAL VENTURES
autofleet \$20m Series B Keyframe	spiffy \$22m Series B TVIP	AirGarage \$12.5m Series A andresen horowitz	GO \$41m Financing SYNERRCAPITAL	HAIRD \$136m Series C POALIMEQUITY	one \$25m Series A Breakthrough Energy VENTURES	AUTOMOTIVE VENTURES Investments This Month
TACTILE MOBILITY \$27m Series C BILUX MOTORS	Infinitum \$40m Series C Energy Innovation Capital	Grayhound \$46m Acquisition FLIXmobility	oxbotica 5% Investment ZE	Flock Freight \$215m Financing SoftBank Vision Fund	RELIABLE ROBOTICS \$100m Series C cootue	WarrCloud Seed Financing FM CAPITAL
TRXNOW Acquired by Allied Solutions	UNITED AUTO CREDIT \$300m Acquisition vroom	tenstreet Majority Investment PROVIDENCE EQUITY	LOOP \$21m Series A FOUNDRY GROUP	ocado \$13.6m Financing WAVE	geopipe \$2.4m Seed VILLAGE GLOBAL	RoboTire \$7.5m Series A DISCOUNT TIRE
AutoLeap \$18m Series A BainCapital VENTURES	Acquisition by GO TO	trucklabs \$15m Series A CALIBRATE VENTURES	OUSTER \$69m Acquisition SENSE PHOTONICS	SUN MOBILITY \$50m Financing Vitol	BLU \$25m Series A bp ventures	AlgoDriven \$2.0m Series A global ventures
CarDekho \$200m Series E LEAPFROG	tembici \$80m Financing crescera CAPITAL	Otto \$4.5m Seed Uncommon Capital	seez \$5m Financing	River \$2m Financing MANIV MOBILITY	MoLo Acquired by ArcBest	
Mobile Fleetcare Acquired by DISCHORDIN FLEET SERVICES CO. AUTOMOTIVE MOBILITY	RENDERED.AI \$6m Seed SPACE CAPITAL	Zūm \$130m Series D SoftBank Vision Fund	NEURA Acquired by otonomo	\$500m Series D PCCW	MILLENNIAL LITHIUM \$297m Acquisition CATL	

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>>> 2021 TRANSACTIONS: NOV - DEC

Nov 2021

Dec 2021

Investment
This Month

NUBRAKES
\$9m Series A

Canvas
VENTURES





















































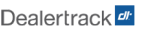












Streetlogic \$2.1m Pre-Seed	PUREWATERCRAFT \$150m Investment	helm.ai \$26m Series B AMPLO	OCULII Acquisition by Ambarella	BlackRock \$20m Series A M12	goto \$1.3b Pre-IPO ADIA	momenta \$500m Series C gm	UgaBus Acquired by treepZ
VIANOVA \$3.0m Seed Round ponooc	group Majority Acquired PORSCHE	samsara S-1 Filed for IPO	TEMASEK \$101m Series C	Gett. \$1.1b SPAC IPO ROSECLIFF	ample \$50m Financing Blackstone	SPARTAN \$15m Series A Prime Movers Lab	treepZ \$2.8m Seed UNCOVERED FUND
Spinny \$280m Series E TIGERGLOBAL	sfara \$11.5m Series B	MONARCH \$61m Series B ASTANOR VENTURES	DRONE BASE \$20m Series C EUCLIDEAN CAPITAL	motorway \$190m Series C Index Ventures	RIVIAN \$78b IPO	YASSIR \$430m Series A WndrCo	Skyryse \$200m Series B Fidelity
cipia \$22m IPO	eatron \$11m Series A MMC	SWIPCAR €30m Acquisition CAZOO	CTOgram \$700k Seed Quest VENTURES	METOAK \$15m Series A CTC Capital 和利资本	TRED \$25m Series B Westlake Financial	IONITY €700m Investment BlackRock	xeal \$11m Series A ARCTERN
PARK+ \$25m Series B SEQUOIA	M \$10m Series A bdc*	Carketa \$6m Seed Round origin ventures	siasearch Acquisition by scale	Inspiration \$200m Financing ARCLIGHT CAPITAL PARTNERS, LLC	metromile \$500m Acquisition Lemonade	TIER \$200m Series D NOVATOR	VERTICAL \$200m Financing MUDRICK CAPITAL
ARC \$30m Series B ECLIPSE	nexar \$33m Series D QUMRA CAPITAL	FIRST ELEMENT FUEL \$105m Series D AIR WATER INC.	optibus \$7.5m Pre-A AT ONE VENTURES	point one \$10m Series A UP.PARTNERS	Zoomcar Never Stop Living \$92m Series E STERNAEGIS VENTURES	coinspace \$25m Series A Aurora	actnano \$21.75m Series B BMW VENTURES
Deliverr \$250 Financing TIGERGLOBAL	PreAct \$13m Series A State Farm VENTURES	42dot \$88.5m Series A Shinhan Financial Group	TEVVA \$57m Financing	TRIEYE \$74m Series B M&G Investments	CreditIQ \$30 Acquisition CARS	ClearFlame \$17m Series A Breakthrough Energy	carzam £112m Financing
Gabi \$320m Acquisition experian.	SONO \$1.1b IPO MOTORS	BEANS \$17m Series A-1 Source Capital	clutch \$100m Series B D1 CAPITAL PARTNERS	mobility4 \$3.4m Financing	ASSURED PERFORMANCE NETWORK Acquisition by OECConnection	GRINGO \$8m Financing Kaszek	upway €5 million Seed SEQUOIA
COROS \$6.1m Seed Round DYNAMO	viapool Acquisition by SWI	IMOTIONS \$46.6m Acquisition smart eye	MITRA CHEM \$20m Series A SOCIAL CAPITAL	kodiak \$125m Series B SIP Global Partners	DATA DRIVEN SAFETY Acquired by Verisk	Factorial Undisclosed HYUNDAI	nowports \$60m Series B TIGERGLOBAL
FLYTREX \$40m Series C BRM	BASIGO \$1m Pre-Seed climate capital	zoomo \$60m Series B ORRILLION	Applied Intuition \$175m Series D ADDITION CAPITAL	EMBARK \$5b SPAC IPO NORTHERN GENESIS II	nuro \$600m Series D TIGERGLOBAL	NHR NH Research Acquisition by NI	va4 \$95m Series B KINNEVIK

SPREE MOBILITY SPAC \$200m IPO	TIRE RACK Acquisition by DISCOUNT TIRE	Valuinsight Acquired by 360 CONVERGE	AMERICA'S Acquired by XLerate GROUP AUCTIONS
WM MOTOR \$152m D2 Round AGILE 雅居樂	TrueNorth \$50m Series B Lachy Groom Sam Altman	FORUM \$7.5m Seed OBVIOUS VENTURES	Eve Mobility Acquisition Corp \$250m SPAC IPO
VIA \$130m Financing Janus Henderson	VIA Planned IPO	aifleet \$21m Series A OBVIOUS VENTURES	max.ng \$31m Series B lightrock
INTAMISYS Minority PORSCHE VENTURES	1KOMMA5° Minority PORSCHE VENTURES	Karamba Security \$10m Series B Ext VINFAST	VINFAST Planned IPO
CloudTrucks \$115m Series B TIGERGLOBAL	nuvo cargo \$20.5m Financing TIGERGLOBAL	Carma \$20m Seed TIGERGLOBAL	spare \$18m Series A inovia CAPITAL
beelrack Acquired by DispatchTrack	serve \$13m Seed Uber	CANDELA \$24m Financing IQT VENTURES	OLA \$52.7m Financing TEMASEK
AUTOLAB \$11m Series A 10X CAPITAL	HAGERTY \$3.0b IPO	carwow \$55m Venture Debt Hercules CAPITAL	BUMPER \$12m Series A AUTOTECH VENTURES
nowports \$60m Series B TIGERGLOBAL	JOKR \$260m Series B GGVCAPITAL	Solid Power \$1.2b SPAC IPO DCRB+	LiveWire Planned SPAC IPO AEA Bridges Impact Corp
otoklix \$10m Series A ALPHA JWC VENTURES	AMPLIFY FLEET CHARGING SIMPLIFIED Acquisition by bp	Apex.AI \$56.5m Series B ORILLION	stratio \$20m Series C Forestay
ADS MANAGEMENT GROUP Acquired by NATIONAL AUTOCAR	VERTICAL SPAC IPO BROADSTONE	cling \$2.3m Financing TRUCKS	HIVE \$30m Financing iSun
































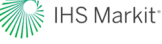







































>>> 2020 TRANSACTIONS

 acquired by Adevinta	 acquired by J.D. POWER	 \$300m Financing	 \$3.0b Financing	 \$14m Financing	 \$20m Financing	 \$827m SPAC Acamar Partners	 acquired by KAR GLOBAL	 \$23m Financing	 \$1.45b sale to EP	 \$260m sale to DealerSocket
 Invests in Circular	 acquired by J.D. POWER	 acquired by HEARST AUTOS	 \$25m Financing	 \$100m Financing	 Public Offering (SPAC)	 Acquisition CATTERTON	 Public Offering (SPAC)	 service simplified. acquired by Protective	 \$44.0b sale to S&P Global	 \$45m Series C FORTROSS VENTURES
 \$2.5b Financing	 Financing	 \$50m Financing	 acquired by MAG McCONKEY AUCTION GROUP	 acquired by CarGurus	 \$1.5m Financing	 \$724.4m IPO	 acquired by NATIONAL AUTO CARE	 \$150m Financing Advent International GLOBAL PRIVATE EQUITY	 \$875m sale to ATHENE	 POWERING OUT OF STATE TITLE & REGISTRATION Investment PCF polarispartners
 acquired by ASBURY AUTOMOTIVE GROUP	 Public Offering (SPAC)	 Public Offering (SPAC)	 Acquired by MAG McCONKEY AUCTION GROUP	 acquired by CAZOO	 \$311m Financing	 \$100m+ Financing KKR Tritium	 acquired by NATIONAL AUTO CARE	 \$55m Financing Durable	 \$1.3b SPAC C & CO INSU II	 \$5m Seed Round NEXTGEAR VENTURES
 \$50m Financing GM SAIC	 Public Offering (SPAC)	 Public Offering (SPAC)	 Offers 13.3m Class A stock	 Taken Private by Tencent 腾讯	 \$7.0m Financing	 \$1.33b SPAC RMG	 acquired by auto experience	 \$140m Financing	 \$7m Financing FM CAPITAL	 \$823m SPAC GigCapital
 IPO	 €231m Acquisition Wolters Kluwer	 \$7m Financing	 Offers 5.0m Class A stock	 \$1.375m Financing	 \$20m Financing	 acquired by LMP AUTOMOTIVE	 Financing PORSCHE VENTURES	 acquired by Reynolds & Reynolds	 \$7m Financing OurCrowd	 \$5m Financing THE ENGINE
 \$2.1b SPAC INTERPRIVATE	 \$267m Financing ONTARIO TEACHERS' PENSION PLAN	 \$6.2m Financing	 \$15m Series A HONDA	 Public via SPAC	 Acquired by CUNA MUTUAL GROUP	 acquired by Uber	 \$1b+ SPAC FORUM MERGER III CORPORATION	 \$25m Financing WITTINGTON VENTURES	 \$6m Financing	 \$45m Financing
 \$5m Financing POWERBAND SOLUTIONS	 \$24.5m Acquisition KINGWAY FINANCIAL	 \$50m Financing T.RowePrice INVEST WITH CONFIDENCE	 StoneEagleF&I Majority Investment BV Battery Ventures	 \$20m Financing Kayne Anderson Capital Advisors, L.P.	 \$13m Financing OX	 €20 million Series A	 \$5.4b+ SPAC CIG MERGES CORP	 \$275m Acquisition CarGurus	 \$15m Series A INSIGHT PARTNERS	 \$3.5m Financing Wireframe VENTURES
 \$120m Acquisition vroom	 \$5.0m Financing redfortcapital	 \$23m Financing VENTURES	 \$1.9b SPAC COLONNADE	 \$20.5m Series A CAFFEINATED CAPITAL	 \$1.0b+ SPAC	 \$350m Financing VectoIQ	 \$700k Financing avis budget group	 Investment JMI EQUITY	 Plug into your future \$1.4b SPAC TPG FROM REVENUE FINANCE	 \$8m CAD Seed Round Threshold

>>> MOST IMPORTANT AUTO TECH DEALS BY YEAR: 2012-2016

2012	2013	2014	2015	2016
 BY  PRICE PAID: \$1.1B EBITDA MULTIPLE: 9.9x	 BY  PRICE PAID: \$25M REVENUE MULTIPLE: 0.8x	 BY  PRICE PAID: \$1.1B REVENUE MULTIPLE: 12.0x	 BY  PRICE PAID: \$460M REVENUE MULTIPLE: 6.5x	 BY  PRICE PAID: \$15M REVENUE MULTIPLE: N/A
 BY  PRICE PAID: \$10.0M REVENUE MULTIPLE: NA	 BY  PRICE PAID: \$1.4B EBITDA MULTIPLE: 14.0x	 BY  IPO Valuation: \$1.3B REVENUE MULTIPLE: NA	 BY  PRICE PAID: \$165M EBITDA MULTIPLE: 5.9x	 BY  PRICE PAID: \$5.9B REVENUE MULTIPLE: N/A
 BY  PRICE PAID: \$351M EBITDA MULTIPLE: 10.0x	 BY  PRICE PAID: \$1.1B EBITDA MULTIPLE: 11.5x	 BY  PRICE PAID: \$377.5M REVENUE MULTIPLE: 7.6x	 BY  PRICE PAID: \$4.6B REVENUE MULTIPLE: 4.4x	 BY  PRICE PAID: \$1.2B EBITDA MULTIPLE: 15.0x
 BY  PRICE PAID: NA REVENUE MULTIPLE: NA	 BY  PRICE PAID: \$974M REVENUE MULTIPLE: 4.2x	 BY  PRICE PAID: \$2.5B EBITDA MULTIPLE: 15.9x	 BY  PRICE PAID: \$6.5B EBITDA MULTIPLE: 14.2x	 BY  PRICE PAID: \$1.1B EBITDA MULTIPLE: 12.9x
 BY  PRICE PAID: NA REVENUE MULTIPLE: NA	 BY  PRICE PAID: \$550M REVENUE MULTIPLE: 15.0x	 BY  PRICE PAID: \$325M REVENUE MULTIPLE: 6.0x	 BY  PRICE PAID: \$142.5M EBITDA MULTIPLE: 11.9x	 BY  PRICE PAID: \$156M EBITDA MULTIPLE: 4.3x
 BY  PRICE PAID: \$49M REVENUE MULTIPLE: N/A	 BY  PRICE PAID: \$53M REVENUE MULTIPLE: N/A	 BY  PRICE PAID: \$193M EBITDA MULTIPLE: 17.5x	 BY  PRICE PAID: \$125M REVENUE MULTIPLE: 1.8x	 BY  PRICE PAID: N/A REVENUE MULTIPLE: N/A
	 BY  PRICE PAID: \$30M REVENUE MULTIPLE: 10.0x	 BY  PRICE PAID: \$65M REVENUE MULTIPLE: 3.6x	 BY  PRICE PAID: \$55M REVENUE MULTIPLE: 1.6x	 BY  PRICE PAID: \$35M REVENUE MULTIPLE: N/A

>>> MOST IMPORTANT AUTO TECH DEALS BY YEAR: 2017-2021

2017	2018	2019	2020	2021
 BY  PRICE PAID: \$125M REVENUE MULTIPLE: N/A	 BY  INVESTED: \$180M (minority investment) REVENUE MULTIPLE: N/A	 BY  INVESTED: \$500M REVENUE MULTIPLE: N/A	 BY  PRICE PAID: \$50M (14% Stake) EBITDA MULTIPLE: 10.0x	  IPO VALUATION: \$4.8B REVENUE MULTIPLE: 23.1x
 BY  PRICE PAID: \$43.0M REVENUE MULTIPLE: N/A	 BY  PRICE PAID: \$22M REVENUE MULTIPLE: 10.0x	 BY  PRICE PAID: \$720M REVENUE MULTIPLE: N/A	 BY  PRICE PAID: \$263M REVENUE MULTIPLE: 7.4x	  IPO VALUATION: \$827M REVENUE MULTIPLE: 7.5x
  IPO VALUATION: \$2.0B REVENUE MULTIPLE: 2.9x	 BY  PRICE PAID: \$525M REVENUE MULTIPLE: 3.5x	 BY  PRICE PAID: \$2.2B REVENUE MULTIPLE: N/A	 BY  PRICE PAID: \$155M REVENUE MULTIPLE: 7.8x	 BY  PRICE PAID: \$336M REVENUE MULTIPLE: 12x
 BY  PRICE PAID: \$435M* REVENUE MULTIPLE: 8.7x	 BY  PRICE PAID: N/A REVENUE MULTIPLE: N/A	 BY  PRICE PAID: \$1.9B EBITDA MULTIPLE: 16.5x	 BY  PRICE PAID: \$275M (51% stake) REVENUE MULTIPLE: N/A	  IPO VALUATION: \$7.0B REVENUE MULTIPLE: 11.7x
 BY   PRICE PAID: \$680M REVENUE MULTIPLE: 5.0x	 BY  INVESTED: \$385M EBITDA MULTIPLE: N/A	 BY  PRICE PAID: \$4.4B EBITDA MULTIPLE: N/A	  IPO VALUATION: \$730M REVENUE MULTIPLE: 3.8x	  IPO VALUATION: \$1.1B EBITDA MULTIPLE: N/A
  IPO VALUATION: \$1.95B EBITDA MULTIPLE: 8.8x	 BY  PRICE PAID: \$50M (7% Stake) REVENUE MULTIPLE: N/A	 BY  PRICE PAID: €2.9B REVENUE MULTIPLE: N/A	  IPO VALUATION: \$2.5B REVENUE MULTIPLE: 2.1x	  IPO VALUATION: \$8.0B REVENUE MULTIPLE: 30.4x
  IPO VALUATION: \$3.0B REVENUE MULTIPLE: 15.2x	 BY  PRICE PAID: \$205M REVENUE MULTIPLE: 10.0x	 BY  PRICE PAID: \$1.2B EBITDA MULTIPLE: 16.5x	 BY  \$120m Acquisition PRICE PAID: \$120M REVENUE MULTIPLE: 6.0x	 BY  PRICE PAID: \$404M EBITDA MULTIPLE: 11.5x



KEY TRANSACTION OVERVIEW

>>> DEAL DETAILS: AMERICA'S AUTO AUCTION ACQUIRED

OVERVIEW OF TRANSACTION

This year we saw two significant transactions involving XLerate Group. First, Xlerate sold to Private Equity group Brightstar Capital Partners for an undisclosed amount. Then, in December, Xlerate announced the acquisition of America's Auto Auction group. Terms of the transaction were not disclosed.

After the combination, XLerate and America's will have a total of 39 auction sites across 19 states, as well as growing digital and mobile auction businesses and related financing.

SIGNIFICANCE TO INDUSTRY

Over 2021, we experienced a lot of action in the B2B auction category, including ACV Auctions' \$4.8 billion IPO and their subsequent acquisition of MAX Digital for \$60 million; KAR Global's acquisition of CARWAVE for \$450 million (only a few months after acquiring BackLotCars for \$425 million).

The B2B auction market is evolving quickly, and the scale/footprint of a combined America's and XLerate makes sense and should allow them to better compete against the big players (Manheim and ADESA).



Acquired by

XLerate
GROUP AUCTIONS

Undisclosed Amount

>>> DEAL DETAILS: HAGERTY GOES PUBLIC VIA SPAC

OVERVIEW OF TRANSACTION

Hagerty, Inc. (NYSE: HGTY), the leading specialty insurance provider focused on the global automotive enthusiast market finalized their IPO offering last month, through the business combination with SPAC Aldel Financial Inc.

The transaction valued Hagerty at a pro forma enterprise value of approximately \$3.1 billion and provided net proceeds of approximately \$265 million to the company.

SIGNIFICANCE TO INDUSTRY

Hagerty targets the growing automotive enthusiast market with a scalable, innovative membership ecosystem including collector car insurance, exciting media offerings and a robust lineup of car events, experiences and services.

Hagerty has approximately 2 million cars insured globally, an industry-leading 84 Net Promoter Score (NPS) and partnerships with nine of the top 10 U.S. automotive insurers.

Hagerty's highly differentiated membership model helps to drive loyalty and retention by engaging, entertaining and connecting with members at every stop of their journey --- digitally, on the track, in the garage, at an event or on the road.

HAGERTY®

SPAC IPO

Net proceeds of \$265m
Total enterprise value of \$3.0b



>>> DEAL DETAILS: SPAC SPREE ACQUISITION CORP | IPO

OVERVIEW OF TRANSACTION

SPAC Spree Acquisition Corp. 1 Limited closed its initial public offering last month. The aggregate offering size, including exercise of the over-allotment option, was \$200 million.

SIGNIFICANCE TO INDUSTRY

Spree is a blank check company, with the intention to acquire a company in the mobility-sector with specific focus on EV and Automotive.

Founded by Mobility industry insiders, Spree is backed by a highly experienced team of operators with a broad-based network of industry relationships and a world-class group of independent non-executive directors.

Spree is well positioned to embark on the journey for identifying target companies for merger and catapult them into hyper growth using our network in the industry.

Spree is currently seeking partnership with key stakeholders in the domain - OEMs, Tier 1s and others, for joining forces and cultivating success stories.

SPREE
MOBILITY SPAC

\$200m IPO



COMPANIES TO WATCH

>>> JANUARY COMPANIES TO WATCH

AWAKE Mobility

awakemobility.de

AWAKE Mobility provides vehicle insights for buses and analyzes the health status of your fleet. They eliminate information asymmetry between departments and reveal the current as well as future vehicle status to enable data-driven maintenance decisions. Their dashboard and mobile app are used by the workshop, control center, drivers and management, who all receive tailored insights to optimize their daily operations.



EYEGAGE™

eyegage.com

Revolutionizing access to drug screening technology via intelligent mobile eye scans. Substance abuse costs the US \$600B annually, and 70% of substance abusers are employed full time. EyeGage allows companies to stay ahead of accidents, which saves time, money, and lives, while reducing the negative impacts of substance abuse on families and communities.



cerebrum-sensor.com

Cerebrum is the world's first intelligent tire solution utilizing revolutionary, patented sensor technology mounted directly to the tire. Cerebrum sensors provide advanced tire pressure & temperature data to the vehicle as well as tread depth, alignment and performance data to the operator through the convenient mobile application.



vinai.io

Focused on transforming AI research into impactful products and services that solve real-world problems. Brings together 200 research scientists and AI engineers to focus on Machine Learning, Computer Vision, and Natural Language Processing. Their research addresses fundamental problems in these areas and enables impactful applications.



CarDana brings a technology-driven solution to charities and causes supported by charitable vehicle donations. CarDana democratizes the charitable vehicle donation industry and brings higher net returns by reducing inefficiencies, saving costs, and bringing needed transparency to the entire donation experience.



chargelab.co

ChargeLab is the operating system for EV chargers. They connect charging infrastructure everywhere you find electric vehicles. They give building managers, installers, and EV charger manufacturers all the tools they need to deploy smart EV infrastructure. Whether you're installing 1 charger or 1,000 — ChargeLab is the best platform to connect and control your EV chargers.



kindredmotorworks.com

Provider of motor work services intended to modernize vintage cars. The company's services provide new features such as disc brakes and bluetooth sound systems, without impacting the car's classic designs, enabling customers to experience new modern cars made out of vintage vehicles.



bcomp.ch

Unique approach to apply the latest composites knowledge to natural fibers – the proprietary reinforcement solution powerRibs™ and the ampliTex™ technical fabrics have ongoing development projects with global automotive OEMs as well as within commercial aerospace. Their solutions enable exceptional weight- and plastic reduction while improving crash behavior and enabling novel design opportunities.

>>> 2021 COMPANIES TO WATCH

JAN

FEB

MAR

APR

MAY

JUN

JUL

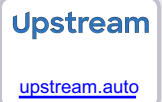
AUG

SEP

OCT

NOV

DEC



>>> 2020 COMPANIES TO WATCH



www.autohub.io



www.adventresources.com



www.goquickride.com



www.dealerpolicy.com



www.gettacar.com



<https://360converge.com>



www.suresale.com



www.fluency.inc



<https://square-root.com>



<https://autotitling.com>



www.truespot.com



www.reviver.com



www.tscpo.com



www.worktrucksolutions.com



<https://matador.ai>



www.integratedauctionsolutions.com



<https://get.fixdapp.com>



www.autofi.com



www.driven-data.com



www.partsedge.com



www.vinaudit.com



www.spireon.com



www.dealerdocx.com



www.warrcloud.com



www.dignifi.com



www.darwinautomotive.com



www.a2zsync.com



www.insearchx.com



www.lotpop.com



<http://wheelstvnetwork.com>



<https://zerosum.ai>



<https://dataclover.com>



www.privacy4cars.com



www.digitalmotors.com



<https://astech.com>



www.cbautogroupinc.com



www.boostacquisition.com



www.oneauctionview.com



<https://runbuggy.com>



www.revolutionparts.com



www.generationsdigital.com



<https://getprodigy.com>



www.getspiffy.com



www.blackwidowimaging.com



<https://acertusdelivers.com>



www.winfooz.com



www.caroffer.com



<https://drivecentric.com>



www.carletoninc.com



www.edealerdirect.com



<https://pave.bot>



www.insigniagroup.com



<https://curbside.ai>



www.ravin.ai



<https://understoryweather.com>



www.autoleadstar.com



www.carwave.com



<https://offerlogix.com>



www.motiveretail.com



www.blinker.com

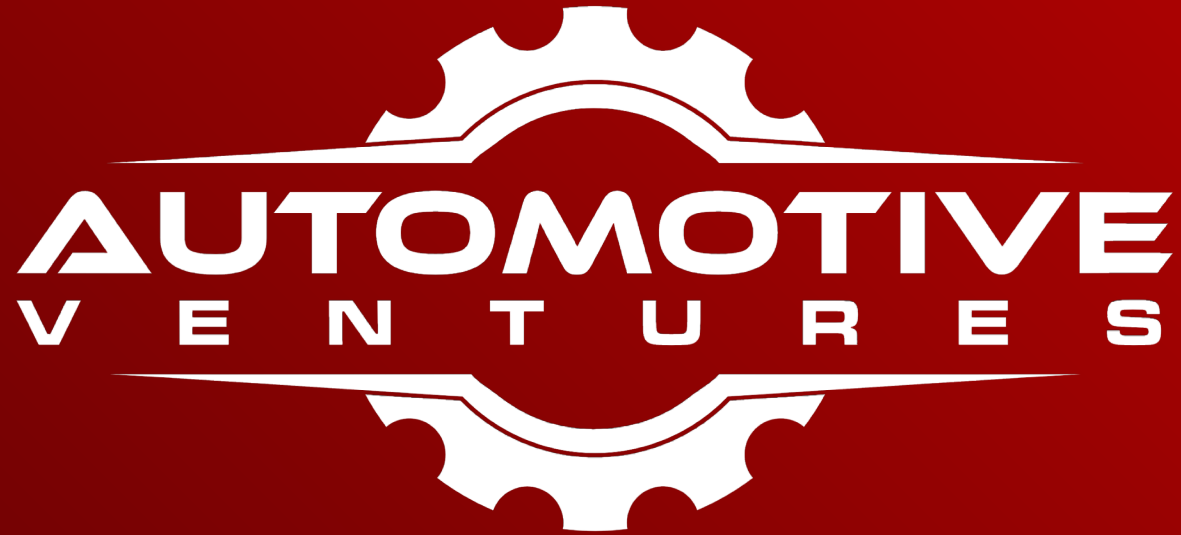


<https://evnusa.com>



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PROVIDING EXPERT ADVICE AND COMPREHENSIVE SERVICES TO PLAYERS IN THE AUTOMOTIVE TECHNOLOGY ECOSYSTEM

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