

AUTOMOTIVE VENTURES

AUTO INTEL REPORT \\ MAY 2021



WELCOME TO THE

MAY 2021

AUTURES
NTEL REPORT

In this issue, we look at market valuations in the online vs. physical dealership space, as well as across wholesale marketplaces. It seems like the fast-growing newcomers are playing an entirely different game and are being rewarded by investors.

We look at the CarMax/Edmunds deal as well as Autonomous Vehicle maker Cruise's investment by Walmart.

We do a quick post-mortem on our "March Madness" contest and set the stage for "AutoTech's Got Talent".

And, of course, we have a new slate of "Companies to Watch" for April.

As always, please send me a note if there's anything I've missed, or if there's any content that I can add in future editions that will be helpful.

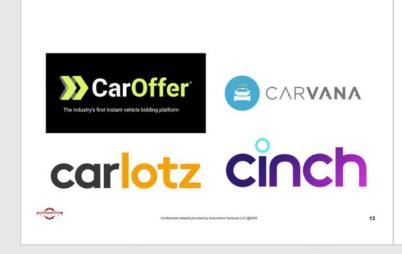
Many thanks and have a great month!

Steve Greenfield steve@automotiveventures.com

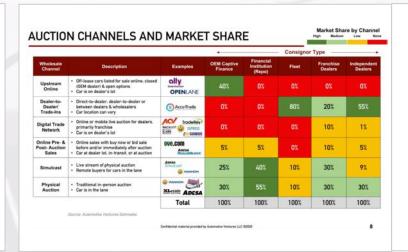
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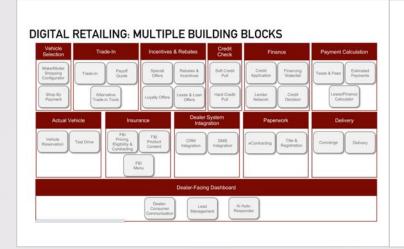
>>> WHITEPAPERS AVAILABLE



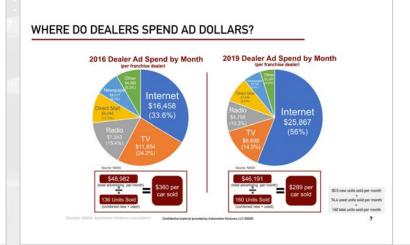
AUCTION DISRUPTORS FREE TO DOWNLOAD







DIGITAL RETAILING FREE TO DOWNLOAD



AUTOMOTIVE ADVERTISING FREE TO DOWNLOAD





>>> INDUSTRY TRENDS



COVID-19

President Biden hit his target of over 200M vaccination doses within his first 100 days in office. More than 101 Americans are now fully vaccinated. Consumer confidence is returning to flying, hotels and car rentals.



SPAC MELTDOWN The wave of SPACs was fueled by low interest rates and stimulus spending. It has also triggered alarm bells and short-selling, with many stressing that a break was needed. If new SPACs stay light, hundreds already in existence should drive \$900b of M&A, with \$129b currently searching for targets.



INVENTORY SHORTAGE Global microchip shortage due to increased demand from computers, gaming consoles and consumer electronics means that vehicle factories are slowing production. Dealers are facing the threat of inventory shortages and consumers will face limited supply and higher prices.



USED VEHICLE PRICES

Shortage of new compounded by shortage of used cars: fewer repossessions, fewer rental cars deflected and fewer lease returns (due to prices often higher than the end-of-term residual value). Wholesale auction prices at all-time-highs; some used cars are selling higher than their MSRP.



RUBBER SHORTAGE Rubber prices are at a four-year high. Rubber's scarcity has many contributing factors, including issues with shipping lines, countries stockpiling supply, and diseases affecting the plants that supply the world with its rubber. Rubber is used in tires as well as auto components like belts and hoses.





> IN THE NEWS,

Carmax to acquire all of Edmunds in S404 Million deal

Automotive News

Cruise raises \$2.75 billion from

Automotive News Walmart, others Apr. 15, 2021

General Motors and Ford halt production at more factories as global semiconductor shortage worsens

The Washington Post

Sonic Q1 Revenue sets record as net income soars

Apr 29, 2021

Automotive News

Ford swings to \$3.3B net profit in Q1, warns of 50% cut in Q2 output

Apr 29, 2021

Automotive News

Used vehicles become a newly appreciating asset

Apr 26, 2021

Automotive News

There's Now a Rental Car Shortage Because Companies Sold Them All Last Year THE DRIVE

Apr 15, 2021

Rubber Scarcity Creates New Headache for Beleaguered Automakers

Apr 13, 2021

Bloomberg

Group 1 profit leaps to Q1 record as market rebounds

Apr 29, 2021

Automotive News

The SPAC boom has 'screeched to a halt.' That may be good thing

Apr 26, 2021

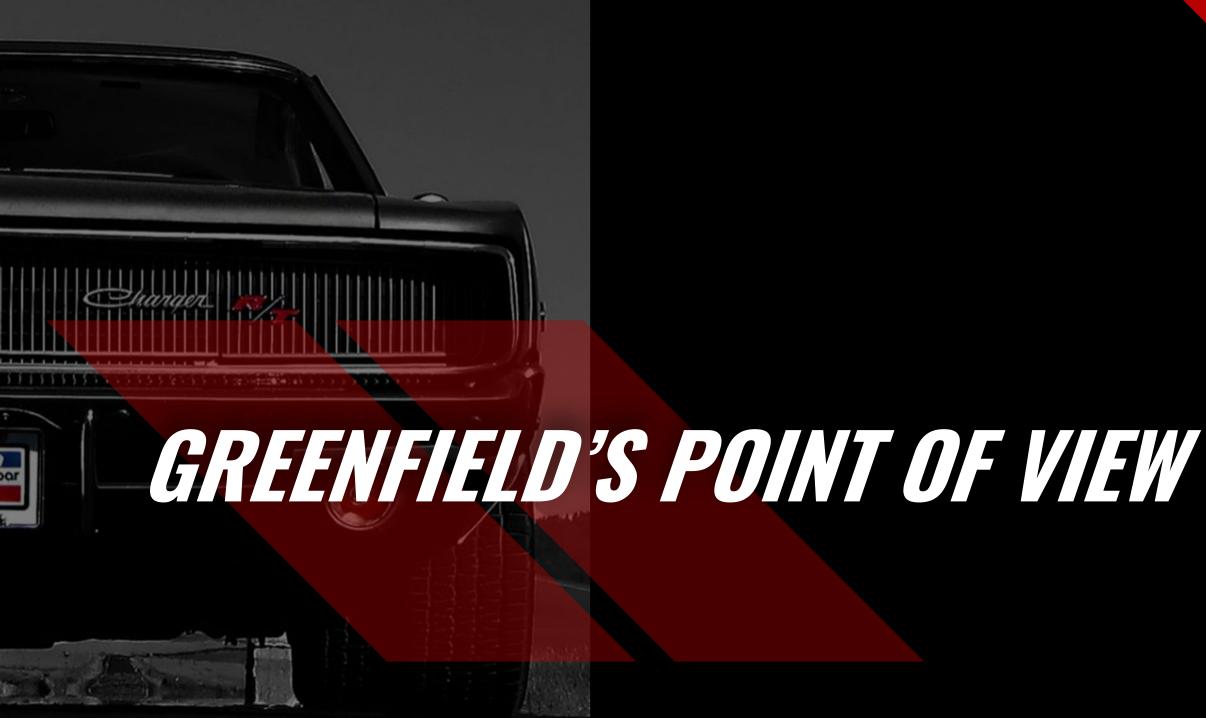
Buyers aplenty, but dealers are running **Automotive News** on empty

Apr 26, 2021

Mexican used-car startup Kavak hits \$4 billion valuation

Apr 6, 2021





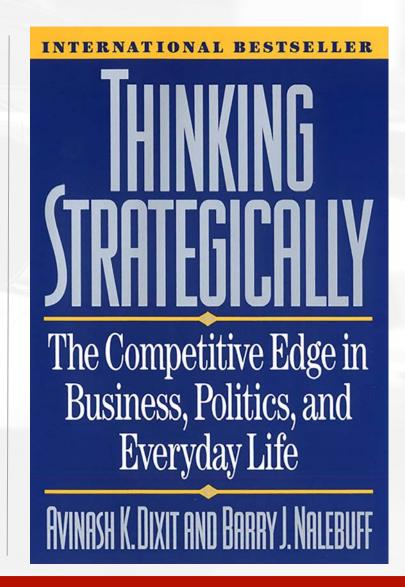
>>> GREENFIELD'S POINT OF VIEW

Automotive is Spawning Unlevel Playing Fields

My most influential professor was Patrick Noonan, who taught Strategic Decision Analysis during my last semester at business school. In addition to instilling ruthless rigor in the classroom and showing very little tolerance for students who were unprepared, he introduced me to a number of concepts and frameworks that I still use today. And for that, I am eternally grateful.

During class, we read a seminal book on game theory called Thinking Strategically by Dixit & Nalebuff. One of the important takeaways from the book was how important it was to know the rules of the game you're playing before you start the first move. Luck particularly favors those who set the rules of the game. Just ask the chumps who play poker in Las Vegas with the pros.

I get a chance to speak with money managers every week who are keen to better understand the



automotive space, whether their thesis is short or long-term in nature. I also get to interact with the owners of many car dealerships. It seems like just about every industry participant is scratching their heads to understand some of the company valuations we're seeing in the market right now. It feels that we're on an uneven playing field, both in retail automotive as well as in the wholesale auction space. Let me explain.

For online retailers vs. physical dealerships, we see a stark difference in valuations. CarMax is trading at a market capitalization of \$21.7 billion, which equates to about 1.0x their 2020 "net sales and operating revenues" of \$20.3 billion. Carvana, on the other hand, is trading at a market capitalization of \$49.2 billion, which represents about 8.8x their total revenue of \$5.6 billion. Compare both to AutoNation, the largest dealership in the USA, which trades at a market capitalization of \$8.3 billion, or 0.4x 2020 total revenue of \$20.4 billion.



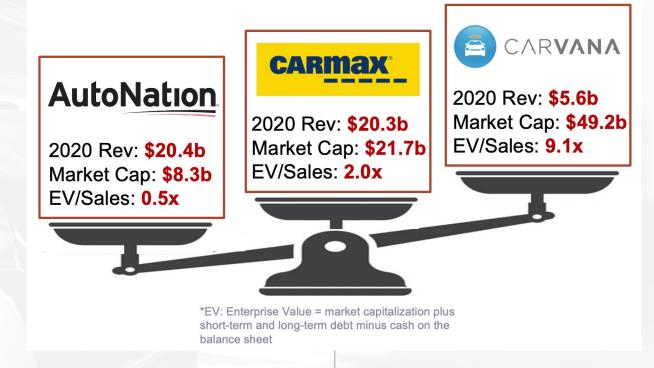
>>> GREENFIELD'S POINT OF VIEW



In the wholesale auction space, KAR Global is trading at a market capitalization of \$1.9 billion, vs. ACV Auctions at \$5.2 billion. KAR trades at 0.9x 2020 revenue of \$2.2 billion, while ACV trades at 25x 2020 revenue of \$208 million.

balance sheet

Now, I'll be the first one to recognize that market values



are based on a number of drivers, including revenue growth rate, gross margins, and most importantly, the future outlook of the company.

But it's got to be awfully frustrating right now to be sitting in the boardrooms of some of the public

companies, trying to figure out how the market is rewarding these relatively new "disruptor" companies who are being held to a different standard of "growth at all costs" and not being held to the same standard of accountability around profitability.



>>> GREENFIELD'S POINT OF VIEW



As I was taught back in business school, the surest way to win a game is to set the rules. The auto industry seems to have a whole new set of rules being established by newer industry entrants, and it's going to be interesting to watch how this plays out over the next 5 to 10 years.

Thank you for your continued support.

Until next month,

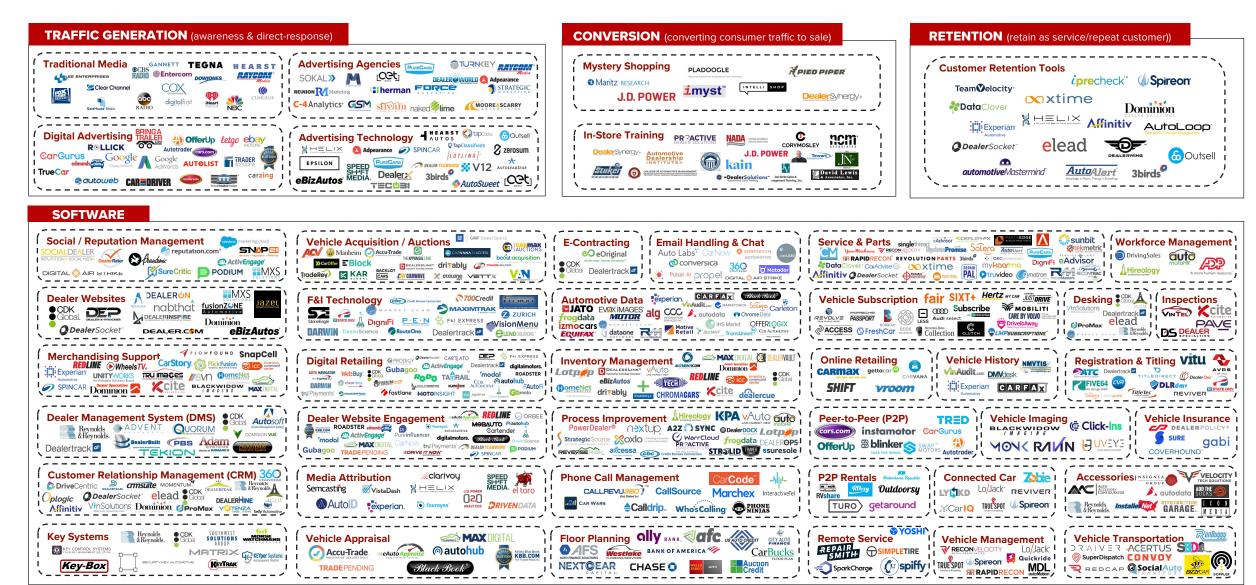
Steve Greenfield
CEO and Founder

Automotive Ventures





>>> AUTOMOTIVE TECHNOLOGY LANDSCAPE





EV Manufacturers



ENVISICS Autonomy AEYE OUSTER **Q**UHNDER tu simple WAYMO

Connectivity

otonomo

Dealership Digitization



Micromobility Joyride ZOBA





Charging Infrastructure





Battery Technology



Commercial Vehicle Innovation



Mobility-as-a-Service





>>> APRIL 2021 TRANSACTIONS



S9m Funding



Additional investors include Maven and IN Venture.



\$115m Funding

UNU GLOBAL Lead by existing investor and ioined by Otiva and FMZ Ventures.



\$139m Investment



Hoping to develop better batteries for electric vehicles.



\$20m Funding

HIGHLAND

Venture Partners

\$550m Funding

oxbolica

\$13.8m Investment

ocado[°]

UK grocer invests in autonomous driving systems.

Cruise

\$2.75b Funding



Startup's total valuation now over \$30 billion.



\$1.35b Public Offering

This initial public offering values the self-driving truck startup at \$8.5b.

polestart

Investors: Chongging Chengxing Equity Investment Fund Partnership, Zibo Financial Holding and Zibo Hightech Industrial Investment

CarCapital

Use funding to

transportation

safety product

development.

continue

S20m Credit Line



Plan to expand the business, fund deals, and get consumers into cars.

nuvo cargo

\$12m Series A



© 2021

Digital logistics platform for cross-border trade.



Partnership with BMW to sell the automaker its 1st generation

of sensors.

COM \$485m Funding

\$4b total valuation. This round investors include: D1 Capital Partners, Founders Fund, Ribbit Capital and Bond Capital.



\$15m Fundraising

RHAPSODY

IMPOSSIBLE VENTURES Focuses on data collected from

ground penetrating radar (GPR).



Acquires **Remaining Stake**



Previous \$50m stake, total value of transaction is \$404m.



SEARCH LIGHT

Builds shuttles for transporting both people and goods. Other investors include McWin and Next Stage



Level 5

\$550m Acquisition

woven planet Sale of Lyft's AV unit Level 5 to Toyota's Woven **Planet Holdings** for \$550 million.



S20m Series B

AJAX STRATEGIES

Same- and nextday experience with new sortation technology.

>>> 2021 TRANSACTIONS





























































































































otonomo

\$1.4b SPAC

SOFTWARE ACQUISITION



S590m Series F

GROUP DAIMLER



































>>> 2020 TRANSACTIONS

ebay classifieds acquired by Adevinta











































































































\$7m Financing































finn.auto

€20 million



AFFIVAL

\$5.4b+ SPAC

(((



















































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>>> DEAL DETAILS: CARMAX ACQUIRES EDMUNDS

OVERVIEW OF TRANSACTION

- CarMax acquired the remainder of Edmunds, up from their previous \$50 million minority stake.
- The total enterprise value of the transaction is \$404 million; Edmunds had revenue of \$140 million in 2020.

SIGNIFICANCE TO INDUSTRY

- CarMax, the largest used-vehicle retailer in the U.S., has worked with Edmunds to develop an online instant-offer tool for sellers of used autos.
- Carvana's market cap of \$49b is much larger than CarMax's \$22b (CarMax sells 833K vehicles to Carvana's 244K (2020 full-year)).
- Lithia aggressively expanding physical footprint: 5-year plan to reach \$50b revenue. Lithia's Driveway.com brand is positioned to take on Carvana and deliver both new and used cars to consumers' homes.
- Used car inventory sourcing has become the limiting factor for growth; in the second half of 2020, Carvana acquired more cars from consumers than they sold to them.
- In addition to sourcing used vehicles, CarMax will leverage Edmunds strong traffic (16m visits per month) to reduce cost of acquisition; CarMax spends \$191m per year on marketing vs. Carvana at \$286m (2020 numbers).



Sold to:



\$404 million total valuation (2.9x 2020 revenue)

>>> DEAL DETAILS: CRUISE RAISES \$2.75b FROM WALMART

OVERVIEW OF TRANSACTION

- Walmart is investing in GM's self-driving vehicle company, Cruise, as it works to build out its delivery network.
- Walmart's potion of the investment is less than \$750 million, and is joined by existing investors GM, Honda and Microsoft.
- Cruise said it is valued at more than \$30 billion.

SIGNIFICANCE TO INDUSTRY

- Delivery businesses have grown dramatically since the pandemic as consumers have increasingly spent time at home; Walmart aims to bring orders to customers' doorsteps within two hours.
- Drone delivery has been tested by Walmart, but technology and regulation challenges have slowed its development in the US.
- Amazon bought self-driving car company Zoox last year, and has invested in another self-driving company, Aurora. Amazon has also tested small robots that deliver packages on sidewalks.
- Walmart is exploring how automating transportation can make deliveries faster and cheaper, as it employs thousands of drivers that travel 700 million miles a year.



Raises \$2.75 billion from



\$30 billion valuation

Other investors include:









>>> MARCH MADNESS

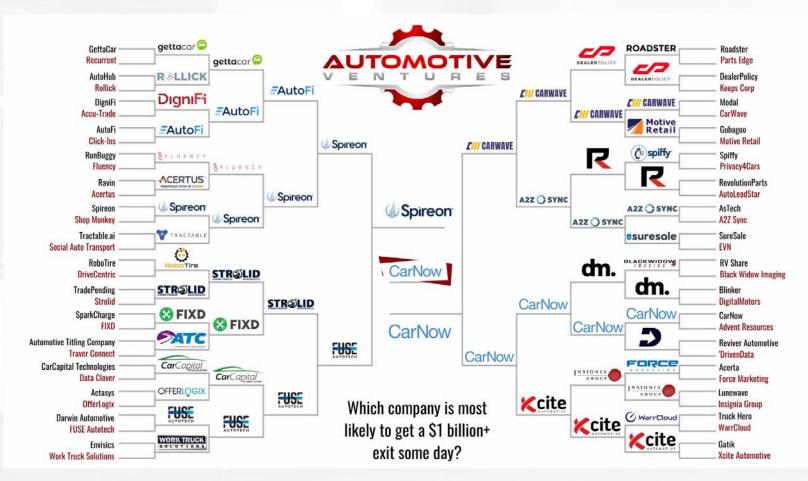
I hope everyone enjoyed the Automotive Ventures
March Madness contest on LinkedIn, where you got to
vote for which automotive technology company is most
likely to achieve a \$1 billion dollar exit some day.

64 companies began, but only one could win. Your votes got them there. We had many very close contests throughout, but the last match took the cake.

This last contest truly was a match of equals. Seven days, and the lead went back and forth numerous times. The winner had trailed until the last 12 hours and then pulled ahead just barely beating their opponent by just 4 VOTES! It literally came down to the wire.

Our winner this year was Digital Retailing provider CarNow, beating out connected Car player Spireon by just four votes in the final seconds of the contest.

CarNow tallied 782 votes to Spireon's 778 votes. It was amazing to see two opponents who were so well matched in this final contest.



CarNow won bragging rights as the company most likely to achieve a \$1 billion exit



>>> AUTOTECH'S GOT TALENT

I want to thank all of you for your incredible engagement throughout the bracket, and I appreciate each and every one of our 64 participating companies, and we look forward to seeing you at next year's contest.

Given the strong interest from the automotive community to be introduced to early-stage auto tech companies, and the challenge from many of you to outdo ourselves for this next contest, stay tuned to the Automotive Ventures LinkedIn page for "AutoTech's Got Talent", which will be launching shortly!

Keep your eyes on our LinkedIn page for details.



10 Companies. 10 Weeks. Only One Winner. You Help Decide.





>>> MAY'S COMPANIES TO WATCH



www.friendemic.com

Specializes in online reputation tools for many of the world's largest automotive brands, retail-level dealer groups, individual dealerships, and retail businesses nationwide. Friendemic offers an online reviews management service with a dedicated team monitoring and responding 365 days a year.



http://dealertrades.net

The Dealer Trade Network is the largest and most trusted name in dealer trades. Their dealer partners need assistance with their inventory and rely on our professional staff to accomplish the mission. Helps dealers place excess inventory or purchase new car inventory through business-to-business wholesale transactions.



www.crispify.io

Al-powered air monitoring and analyzing platform harvesting data from inside and outside the vehicle to deliver unmatched in-cabin air quality while keeping fleet managers informed.



https://ampup.io

AmpUp is an electric vehicle (EV) software company and network provider that enables drivers, hosts, and fleets to charge stress-free. Gives businesses and property owners the ability to manage multiple charge stations and locations in one platform. AmpUp is also home to the world's fastest growing shared charging network, helping increase station access for EV drivers.



www.gocariq.com

Car IQ is the first payment solution developed for fleet vehicles, enabling vehicles to autonomously initiate and complete payments for services such as fuel, tolls, parking and more. Creates a secure payment experience, simplifies accounting and eliminates disputes over questionable transactions.



Uses an innovative approach to perception and prediction that captures the full motion (6 Degrees of Freedom) of any object. Their technology enables verifiable safety, high performance, and scalable deployment of any autonomous driving system that exists today.



https://calproadassolutions.com

CalPro's ADAS IdentiScan uses a unique set of tools, software, analytics & application-based technology to ensure that customers are able to quickly identify a vehicle's ADAS features, allowing them to re-calibrate the vehicle back to OEM standards and include all related costs in their initial estimate.



https://getcarbly.com

Carbly is a modern vehicle appraisal and pricing VIN Scanner tool that combines multiple data sources to give you all the wholesale, retail, local market, and vehicle history information you need to make more money buying and selling cars.



>>> 2021 COMPANIES TO WATCH

ZUZI UUMI MIILU IU MMIUII											
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
DEALERWING https://dealerwing.com/	https://aetautomotive.com	FIXED OPS DIGITAL www.fixedopsdigital.com.	CARPAY www.camav.com	Prieudemic www.friendemic.com	?	?	?	?	?	?	?
NEMODATA www.nemodata.aj	https://www.zipdeal.com	AUTOAD RECALL CHICKED WWW. AUTOAD. COM	autoAPR*	DEALERTRADE network.	?	?	?	?	?	?	?
PARKMYFLEET.COM	RoboTire http://robotire.com	https://five64.com	installe Net	CRISPIFY www.crispity.io	?	?	?	?	?	?	?
TRAVER CONNECT	SparkCharge www.sparkcharge.io.	Pipereinfluencer https://oureinfluencer.com	Dealer X https://dealerx.com/.	mampUp https://ampup.io	?	?	?	?	?	?	?
www.tecobi.com	CarCapital CORPORATION http://carcapitalcorp.com.	https://govintel.com	RAPID RECON www.rapidrecon.com	CALPRO (ADAS SOLUTIONS) caloroadassolutions.com	?	?	?	?	?	?	?
STROLO PROCESS. STRONG PROCESS. WWW.strolid.com	AUTOTECH https://fuseautotech.com	RecalRabbit https://recallrabbit.com	© TapClassifieds www.tapclassifieds.com/.	carbly https://getcarbly.com	?	?	?	?	?	?	?
ptruvideo https://truvideo.com/	kcite AUTOMOTIVE https://xciteaulo.com.			BLUESPACE www.bluespace.ai	?	?	?	?	?	?	?
MONC https://monkvision.ai/	Cick-Ins			CarlQ www.gocarig.com.	?	?	?	?	?	?	?

>>> 2020 COMPANIES TO WATCH



www.autohub.io/



















































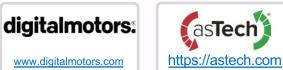












































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www.insigniagroup.com

INSIGNIA











SocialAuto

www.socialautotransport.com

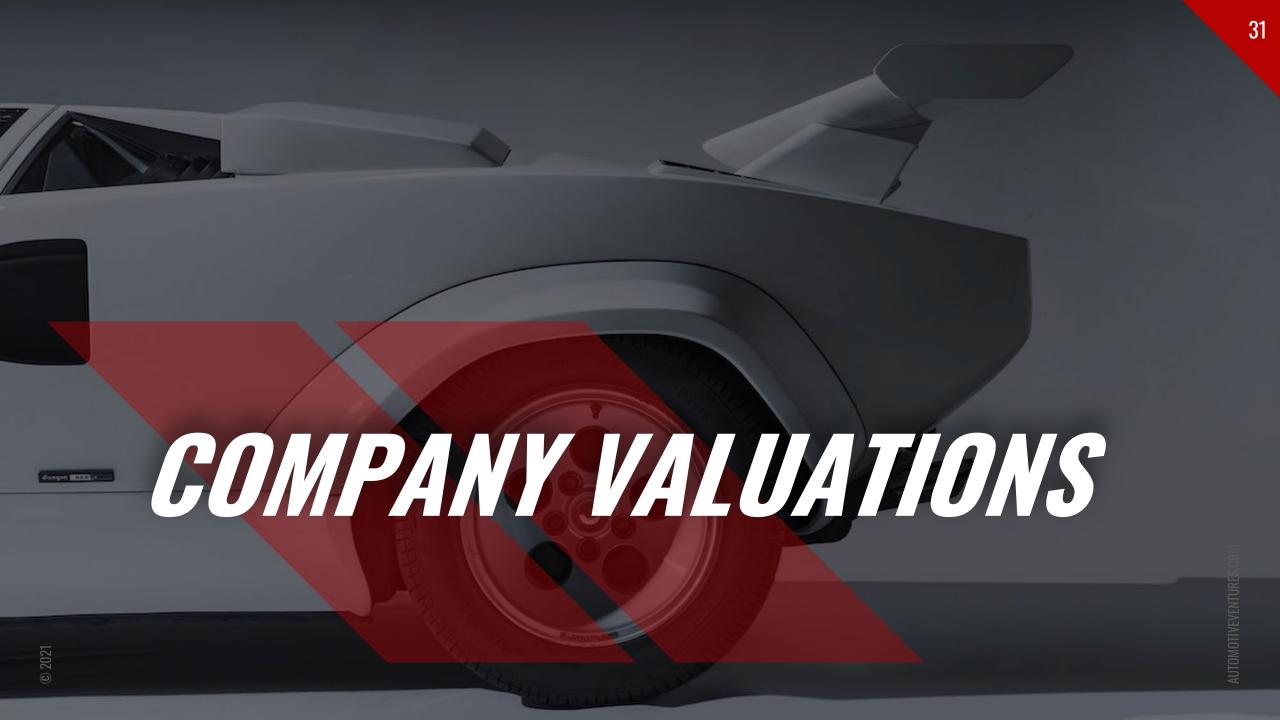




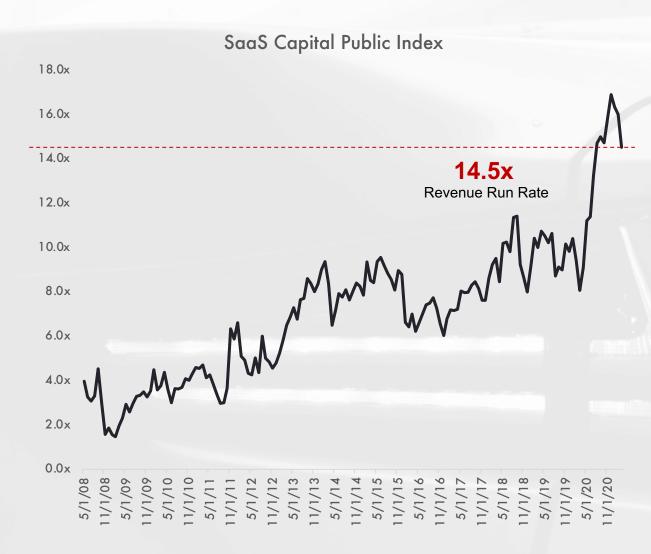




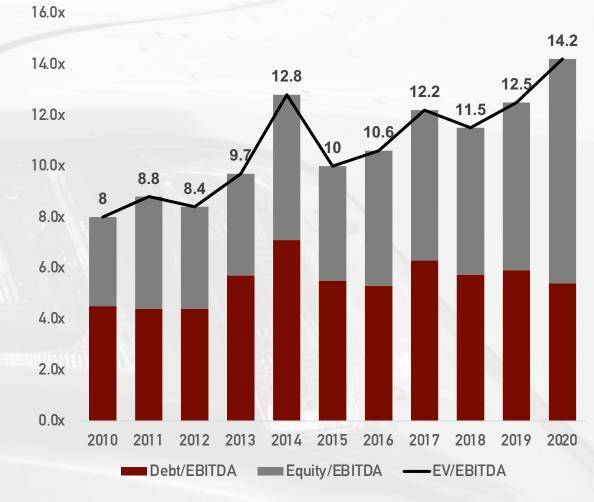




>>> PUBLIC MARKET SAAS AND PE BUYOUT MULTIPLES



Median PE Buyout EV/EBITDA multiples



Source: PitchBook



Source: The SaaS Capital Index

>>> AUTOMOTIVE TECHNOLOGY TRANSACTION MULTIPLES

Business Model	Revenue Multiple
Pure SaaS	10.0x+
Tech-Enabled Services	3.0x-5.0x
Pure Services	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



>>> AUTOMOTIVE PUBLIC COMPANY DATA

Company	Ticker	Stock Price	Market Cap (\$ M)	Net Debt (\$ M)	Enterprise Value	Enterprise Val to Revenue	Enterprise Val to EBITDA
utomotive Marketplaces							
autoWeb Inc.	AUTO	2.64	36.57	4.1	40.66	0.53	-
CarGurus Inc.	CARG	25.45	2,998.24	-220.4	2,777.84	5.04	21.57
Cars.com Inc.	CARS	13.31	911.67	561.56	1,473.23	2.69	9.97
tumbleON Inc.	RMBL	38.05	127.76	57.64	185.4	0.45	-
rueCar Inc.	TRUE	4.27	426.16	-236.57	189.59	0.68	18.78
arsales.com Ltd	CAR	20.06	3,834.27	318.08	4,162.26	14.08	26.76
auto Trader Group plc	AUTO	5.75	8,134.04	350.61	8,223.52	18.62	27.79
utomotive SAAS							
DK Global Inc.	CDK	54.30	6,621.1	2,521.2	9,225.4	4.75	15.09
owerBand Solutions Inc.	PBX	0.93	143.35	7.98	149.68	92.54	-
nline Dealerships							
Carvana Co.	CVNA	278.01	51,773.43	1,457.22	53,230.65	4.42	**************************************
room Inc.	VRM	45.49	6,458.04	-708.84	5,749.2	4.23	-
raditional Dealerships							
autoNation Inc.	AN	102.01	8,705.57	4,617	12,731.07	0.59	9.44
CarMax Inc.	KMX	131.08	21,726.12	15,524.27	37,250.39	1.85	22.11
Group 1 Automotive Inc.	GPI	162.57	2,942.74	2,631.2	5,573.94	0.51	8.74
ithia Motors Inc.	LAD	390.70	10,636.68	4,053.8	14,412.58	0.98	15.21
enske Automotive Group Inc.	PAG	88.60	7,425.25	7,228.7	14,677.55	0.72	12.09
onic Automotive Inc.	SAH	50.68	2,152.92	2,205.51	4,358.42		9.65
uto Manufacturers			·				
iat Chrysler Automobiles N.V.	FCAU	15.79	26,788.43	-2,690	26,538.47	0.22	2.59
errari N.V.	RACE	178.00	36,868.68	, -	38,779.9		35.49
ord Motor Company	F	12.22	49,916.19	132,246	182,283.19		
General Motors Company	GM	57.53	84,168.56	87,134	175,949.56		
londa Motor Co. Ltd.	НМС	30.43	52,061.85	39,577.46	91,639.31		
likola Corporation	NKLA	11.54	4,438.51	-821.79	3,616.73		-
lissan Motor Co. Ltd.	NSANY	10.30	20,387.86	54,360.83	74,748.69		66.64
esla Inc.	TSLA	729.40	709,563.07	-6,047	704,970.07		
oyota Motor Corporation	TM	154.99	214,774.47	149,384.03	364,158.5		

Progress Partners: **Investment Banking Services** PROGRESS PARTNERS Marketing Media Sell-Side M&A Connect Events Banking (TEN \$20M-\$750M) Insight ling Value Capital Raise or the tal Future Network

A Full Suite of Services

Sell-Side M&A

Buy-Side M&A

Capital Raise

SPAC Advisory

Reach and Footprint to 6 Sectors:

Adtech

MarTech

FinTech

HealthTech

SMB

Automotive



Steve Greenfield | Managing Director

- 15+ years in the automotive technology space
- **CEO/Founder at Automotive Ventures**
- Fmr. SVP Strategy & Business Development at TrueCar
- Fmr. VP of Business Development at AutoTrader.com





AIM GROUP DIGITAL RETAILING REPORT

FREE TO DOWNLOAD

WE LOOK AT:

- How the pandemic accelerated adoption
- Its impact on dealers, OEMs, marketplaces and vendors
- How big it will grow, how fast, and who's doing it now
- The report includes nearly 100 charts and graphics, with:
- Five case studies of auto dealers offering ecommerce
- Profiles of five vendors providing the back-end tools
- A directory of more than 50 vendors globally
- A look at international e-commerce efforts in automotive
- Details about Amazon, the potential "wild card" in car sales





Digital retailing in automotive sales

October 2020





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

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