



AUTOMOTIVE VENTURES

AUTO INTEL REPORT \ DECEMBER 2021

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Highlights of the NAVIcon Conference

Las Vegas November 18, 2021



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WELCOME TO THE

AUTOMOTIVE VENTURES INTEL REPORT

DECEMBER 2021

This will be our last Intel Report in 2021, and it's been a busy year across the Mobility space for M&A and investments.

In this edition we introduce the *Automotive Ventures Mobility Index*, to better help the industry track the performance of the publicly-traded mobility companies.

We also have several notable key transactions to highlight, not the least of which was the IPO of Rivian, the largest IPO of 2021.

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 and have a great month!

Steve Greenfield
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>>> WHITEPAPERS AVAILABLE

AUCTION DISRUPTORS


















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WHOLESALE AUCTIONS

AUCTION CHANNELS AND MARKET SHARE

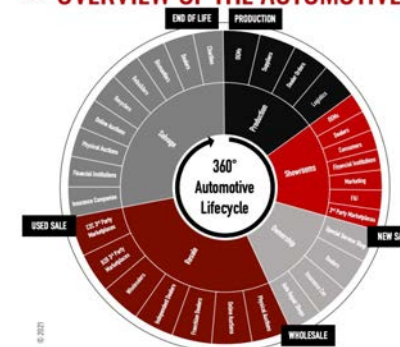
AUCTION CHANNELS AND MARKET SHARE					Market Share by Channel			
					High	Medium	Low	None
					Consignor Type			
Wholesale Channel	Description	Examples	OEM Captive Finance	Financial Institution (Repo)	Fleet	Franchise Dealers	Independent Dealers	
Upstream Online	<ul style="list-style-type: none">Off-lease 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 Estimates

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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

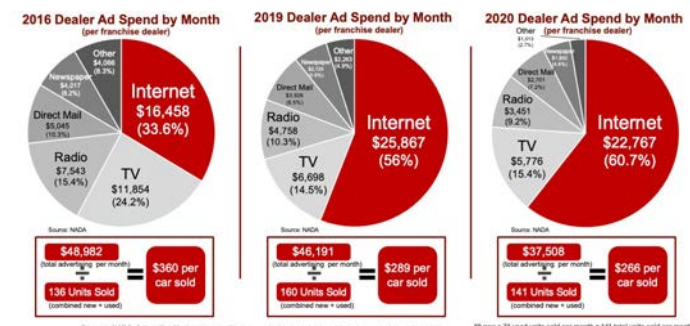
DIGITAL RETAILING: MULTIPLE BUILDING BLOCKS



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AUTOMOTIVE ADVERTISING

>>> WHERE DO DEALERS SPEND AD DOLLARS?



FREE TO DOWNLOAD ↓

INVESTORS IN AUTO TECH

>>> PRIVATE EQUITY PLAYERS FOCUSED ON AUTOMOTIVE



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IN THE NEWS



>> IN THE NEWS

Auto dealer stocks fall on Wall Street after bearish Morgan Stanley report

Nov 18, 2021

Automotive News

Dealerships have already beat 2020's profit record

Nov 15, 2021

Automotive News

Average dealership profit on pace to shatter 2020 record, NADA data shows

Nov 10, 2021

Automotive News

Public auto retailers' Q3 per-vehicle F&I profit grows

Nov 15, 2021

Automotive News

Honda profit falls 30% as chip crunch hits production and sales

Nov 5, 2021

Automotive News

Amazon And Other Big Winners In Rivian's Supercharged IPO

Nov 9, 2021

crunchbase news

Ford's stake in EV truck start-up Rivian is worth more than \$10 billion in first day of trading

Nov 10, 2021

CNBC

Can Ford's build-to-order strategy work in long term?

Nov 15, 2021

Automotive News

Tesla's Musk halfway through his pledge with \$9 bln stake sale

Nov 17, 2021

REUTERS

Apple reportedly aims to debut a fully self-driving car in 2025

Nov 18, 2021

TECHCRUNCH

Under Honda CEO's radical vision, will company be recognizable in 20 years?

Nov 14, 2021

Automotive News

Toyota operating profit up 48% despite chip shortage

Nov 4, 2021

Automotive News

>>>THEY SAID IT



Quotes

“I mean we could have never predicted another \$1,600, \$1,700 used margins and \$7,400 new vehicle margins including F&I and now pushing what 16.5% total margins on new. That's pretty massive when pre-COVID we were flirting with just below 10%.”

- Lithia Motors CEO Bryan DeBoer

»»»THEY SAID IT



Quotes

“Leveraging the same technology and dealer network that powers Instant Max Cash Offer, we are now offering dealers ConsumerLane, a powerful trade-in tool for their own website that enables them to instantly purchase vehicles directly from consumers with the confidence of a standing bid from another CarOffer dealer.”

- CarGurus CEO, Jason Trevisan

AUTOMOTIVE VENTURES MOBILITY INDEX

»» AUTOMOTIVE VENTURES MOBILITY INDEX

To say that the mobility space is hot would be an understatement.

According to Bank of America, a worldwide push toward electrification is causing a three-year wave of initial public offerings in the electric vehicle space that could raise more than \$100 billion by the end of 2023.

According to PitchBook, in the first three quarters of 2021, venture investors poured \$74.5 billion into global mobility tech startups — more than the total amount raised in any prior year.

The largest IPO of 2021 was electric-pickup manufacturer Rivian Automotive, who raised \$13.7 billion in its U.S. listing and has gone on to soar 47% from its offer price.

Tesla is now the sixth largest company in the world, ranked by market cap, at \$1.149 trillion.

It seems that the world has taken a renewed interest in the automotive and mobility sectors.

As a result, we have decided to launch the ***Automotive Ventures Mobility Index***, to

better help the industry track the performance of the publicly-traded mobility companies. We kick off this issue of the Intel Report by introducing this new Index.

I look forward to hearing your feedback and appreciate your continued support.



Steve Greenfield
CEO and Founder
Automotive Ventures



>>> 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.

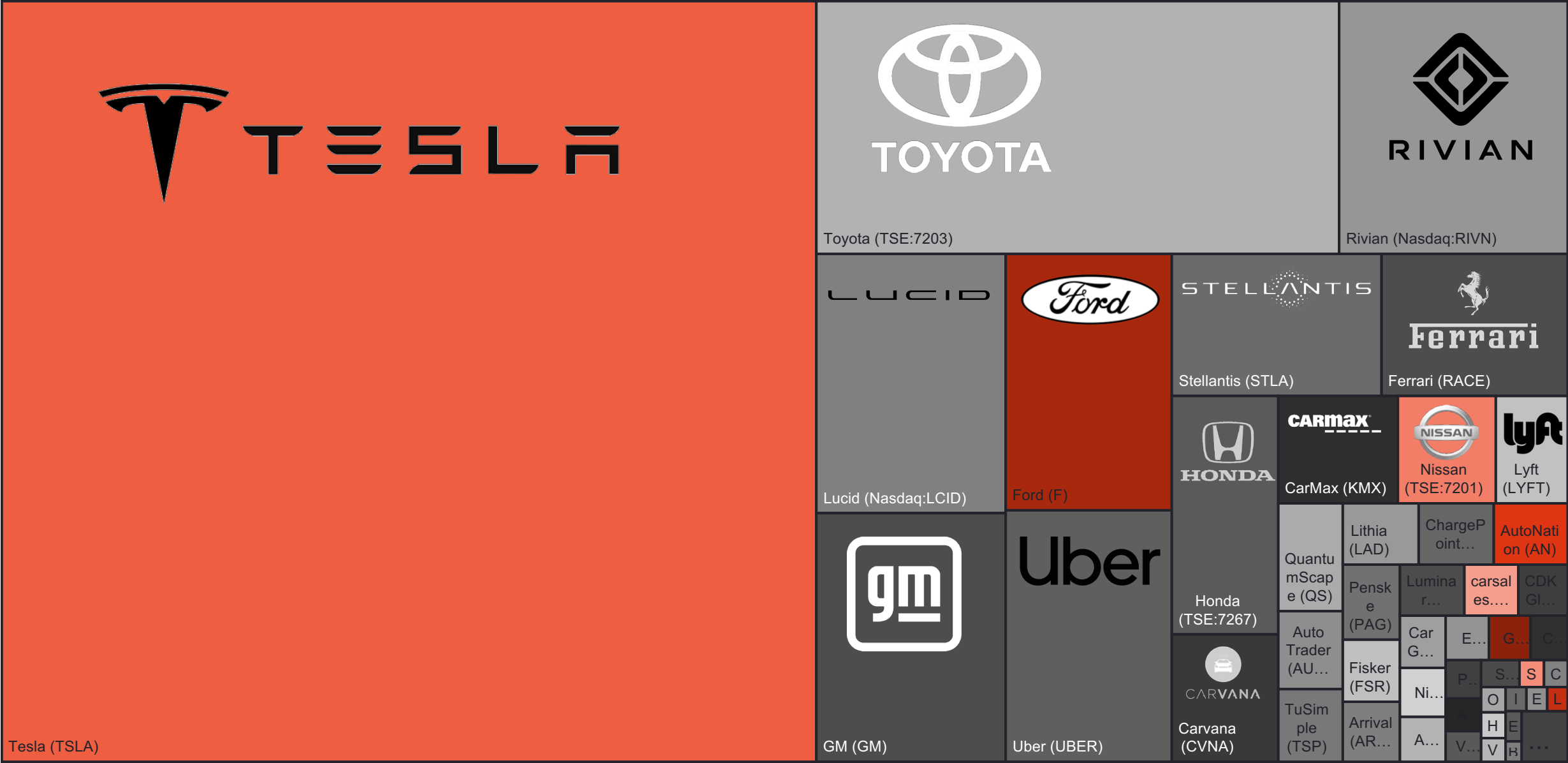
METHODOLOGY

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

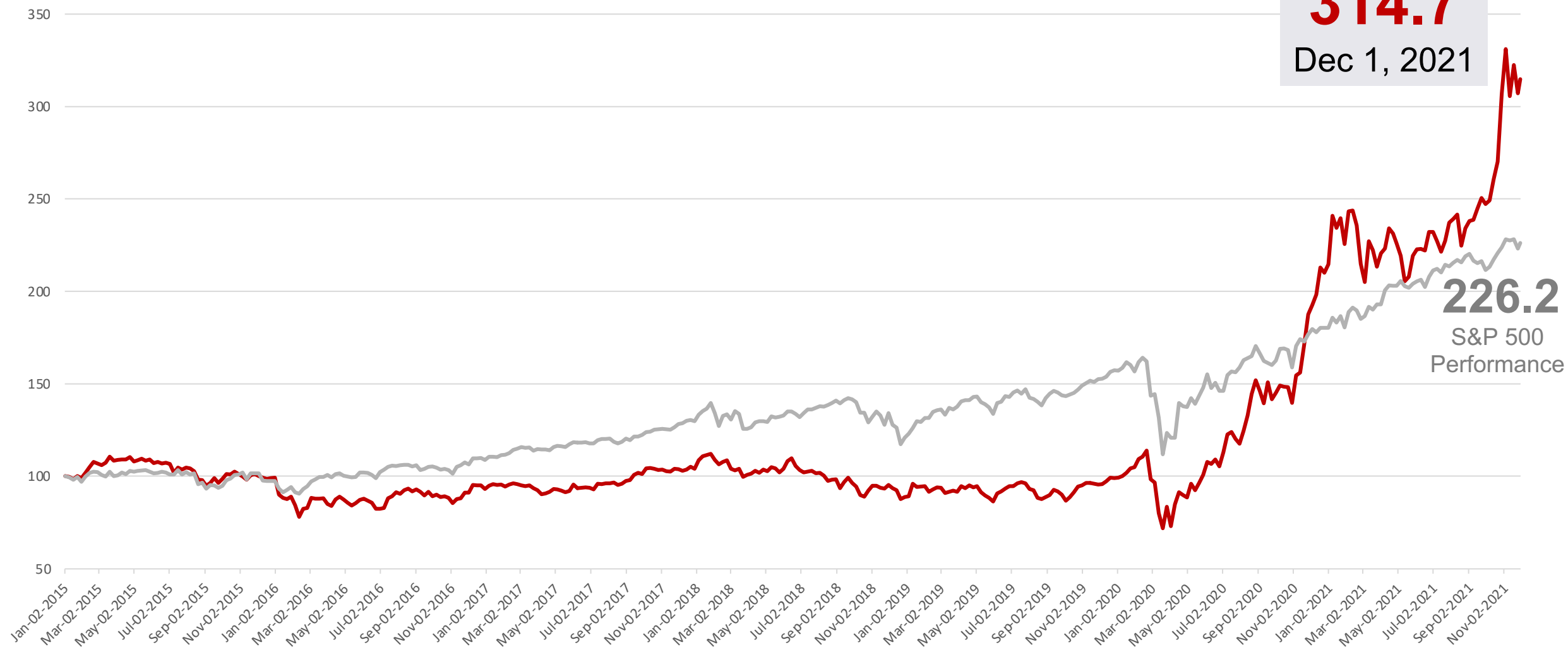
WHICH PUBLIC STOCKS ARE INCLUDED?



>>> AV MOBILITY INDEX: RELATIVE MARKET CAPS



AUTOMOTIVE VENTURES MOBILITY INDEX



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



MOBILITY TECH LANDSCAPE

MOBILITY TECHNOLOGY LANDSCAPE



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PUBLIC MOBILITY SOLUTIONS

Shuttle, Bus & Multimodal Booking
 BUBUP, hip, moovit, Shuttl, SWI, migo, whim, wingz

Transit Infrastructure
 EUROLOOP, NEVOMO, hyperloop, HARDT, HYPERLOOPTT, skyTran, TRANSPOD

Transit System Software
 Routematch by Uber, Citymapper, WhereIsMyTransport, Swiftly

ADVANCED AIR MOBILITY

eVTOL Passenger Aircraft
 JACOBY, VOLCOPTER, AURORA, MAGICAL, PIPISTREL, LAUNCHPOINT, HYPPOINT, OVERAIR

Electric Propulsion & Motors
 MAGICAL, PIPISTREL, LAUNCHPOINT, HYPPOINT, OVERAIR

Drones & eVTOL Air Logistics
 3DR, BETA, DroneDeploy, zipline, Skydio, AIRBOTICS, ELROY AIR, Iris Automation, MATERNET

eCTOL Aircraft
 ZUNUM Aero, AMPAIRE, Wright, AeroSpace, EVIATION

Air Mobility Services
 NETJETS, OPENJET, VICTOR, BLADE, VISTAJET

Autonomous Autopilot & Airspace Mgmt
 SAEDLEAN, AIRMAP, SKYGRID, XWING, RELIABLE ROBOTICS

AUTO COMMERCE

P2P Carsharing
 TURO, getaround, drivezy, iCarsclub, fluidtruck, RVshare, Outdoorsy

Financing & Subscription
 CARRO, FINN, lendbuzz, fair, NXCR, Carvolution, MotoRefi

Digital Marketplaces
 Autotrader, CARSON, cars.com, CARRO, CAZOO, CarTrade, TrueCar, KAVAK, CarGurus

Online Car Rental
 ENVOY, kovi, kyte, electric vehicle network, SILVERCAR by Airt, roadsurfer, Zoomcar, VIRTUO

Repair & Maintenance
 TRACABLE, pitstop, spiffy, openbay, UVEYE, REPAIR PAL, 途虎养车, WRENCH, RAVIN, NUBRAKES, YourMacanic, forevecar, FIXICO

RIDEHAILING

Ridehailing Platforms
 cabify, Gett, BlaBlaCar, BLACKLANE, DiDi, gojek, OLA, Bolt

LAST-MILE DELIVERY

Delivery
 gorillas, zomato, SWIGGY, instacart, FLINK, JOKR, LALAMOVE, gopuff

MICROMOBILITY

Network Operators
 BOUNCE, voi, gogoro, FENIX, superpedestrian, holobike, Lime, VOGO, DiDi

Subscription Services
 BUZZBIKE, Dance, DOCKR, Grover, MUTE, MUVO, Scooteraround

Vehicle Suppliers
 OLAELECTRIC, AATHER, VANMOOF, GINEVAHEEL, UNAGI, unu, RAZOR, EATCOOERS, BOOSTED, ROAD POWER ROKES

Mgmt & Analytics Platforms
 Wunder Mobility, Joyride, luna, Fantasma, Ride Report, LATTIS, POPULUS, ZOPA, evulog, zygg

VEHICLE SYSTEMS & DATA

Security (Cyber, Data, Monitoring)
 escript, otopia, THALES, ARGUS, Green Hills, Olympus Sky, Cymotive, Crypta Labs, REGULUS, ATESKALABS

Connectivity/Network (V2X, IoT, Telematics)
 thingco, CUBIC, swedspot, continual, FACCION, kapsch, AutoPi, REVOS, ULU, Kee, The Flow, SOLUTIONS, COMODULE

Urban/City Management
 door2door, ioxi, ROAD XS, podaris, MOTIONTAG, COORD, VIANOVA, VEOMO, POPULUS, TERALYTICS, TagMaster, PTV, GROUP

Mapping (HD Maps, Route)
 mappyi, Sygic, TAVI, Mapillary, waze, MapQuest, ViaMichelin, TOMTOM

Data Management (Traffic, Location, Parking)
 ampero, cloud, TIBCO, HONK, Cloud Parc, PARK, way, HUMATICS, WEJO, parknav, parklick, Trimble, PARKIO

Equipment (Maintenance, Charging, Sensors)
 blink, cadPOINT, energy, EcoG, RIDY, EVBOX, Hebasto, -chargepoint-, EVgo, Swabbee, perch, AMPLE, pushme

AUTONOMOUS SOFTWARE

Full Stack
 CRUISE, DiDi, in, mobileye, WAYMO, SafeAI, ZOOX, ARGO, nuob, woobi

Perception Software
 scale, RECOGNI, cortica, STRADVISION, ZongMu, PHANTOM AI, PROPHESSEE

Teleoperation
 DriveU.auto, vav, REMNAV, Formant, Phantom Auto, designated driver

Localization/Mapping
 mapbox, Civil Maps, DEEPMAP, MapayIndia, swift, CARMERA, pointOne, waze

Simulation/Dev Tools
 Applied Intuition, EDGE CASE RESEARCH, cognata, Polysync, foretellix, RENOV AUTO, FORESIGHT AI, parallel domain, heex

AUTONOMOUS HARDWARE

Lidar
 LUMOTIVE, BARAJA, LeddarTech, SEUL ROBOTICS, VYANT PHOTONICS, INSIGHT LIDAR, HESAI

Radar
 Autoroad, GPR, vayyar, ZENDAR, UHNDER, ECHODDYNE, LUNEWAVE, METAWAVE, OCULII

Cameras
 nodar, FORESIGHT, SEEVA, GEO Semiconductor, OWL, TRIEVE, Seek Thermal, ADASXY, ITD Lab

V2X
 KYMETA, RoboCV, Autotalks, commsignia, tts, VENIAM, WORLD OF SENSING

Processors
 Valens, TTFech, WAVE COMPUTING, indie, Horizon Robotics, cerebras, MYTHIC, SambaNova, GRAPHCORE, SEMDRIVE

ELECTRIC VEHICLES

Consumer BEVs
 MULLEN, WELTMEISTER, RIVIAN, LIGHTYEAR, ENOVATE, YOUXIA, HOTOIR

Commercial BEVs
 TERRA MOTORS, indigo, VOLTA TRUCKS, change, XOS, BOLLINGER MOTORS

BEV Motors & Powertrains
 RIMAC, YASA, HYLION, PROTEAN, YAGNA, paice

Hydrogen EVs
 BlueWorld, Hydrogen Motion, REFIRE, CellCentric, ULEMCO, 宁德时代, Horizon

Batteries, Battery Tech & Materials
 CUBERG, RECURRENT, PREMIER, northvolt, Stan Power, REDWOOD MATERIALS, ENEVATE, SILA

EV Charging
 AMPLY, SparkCharge, WiTricity, CHARGE LAB, ELECTRIC ERA, -chargepoint-, swiftmle

FLEET MGMT & CONNECTIVITY

Fleet Management
 G7, nauto, SmartDrive, samsara, lytx, CAMBRIDGE MOBILE TELEMATICS, wise systems, GREENROAD

Connectivity & Data Management
 here, 斑马, RIDECELL, JOYNEXT, ecarx, Gigamon, INRIX, STREETLIGHT, cubictelecom

Auto Cybersecurity
 Karamba Security, RazorSecure, GUARD KNOX, Green Hills, excelfore, AUTOCRYPT, MOCANA, Upstream, PureSec

Passenger Safety
 cipia, nexar, ENVISICS, owlcam, SAFETY VISION, WAYRAY

Parking
 ParkMobile, Parkopedia, SPOT HERO, Streetline, PARK+, INRIX ParkMe, arrive, REEF

Maintenance & Inspection
 DISCOUNT TIRE, tankyou, RoboTire, spiffy, BELRON, MONRO, UVEYE, fixter, Firestone, NUBRAKES



COMPANY VALUATIONS



FUNDING LEVELS

(Categories are rough estimates only)

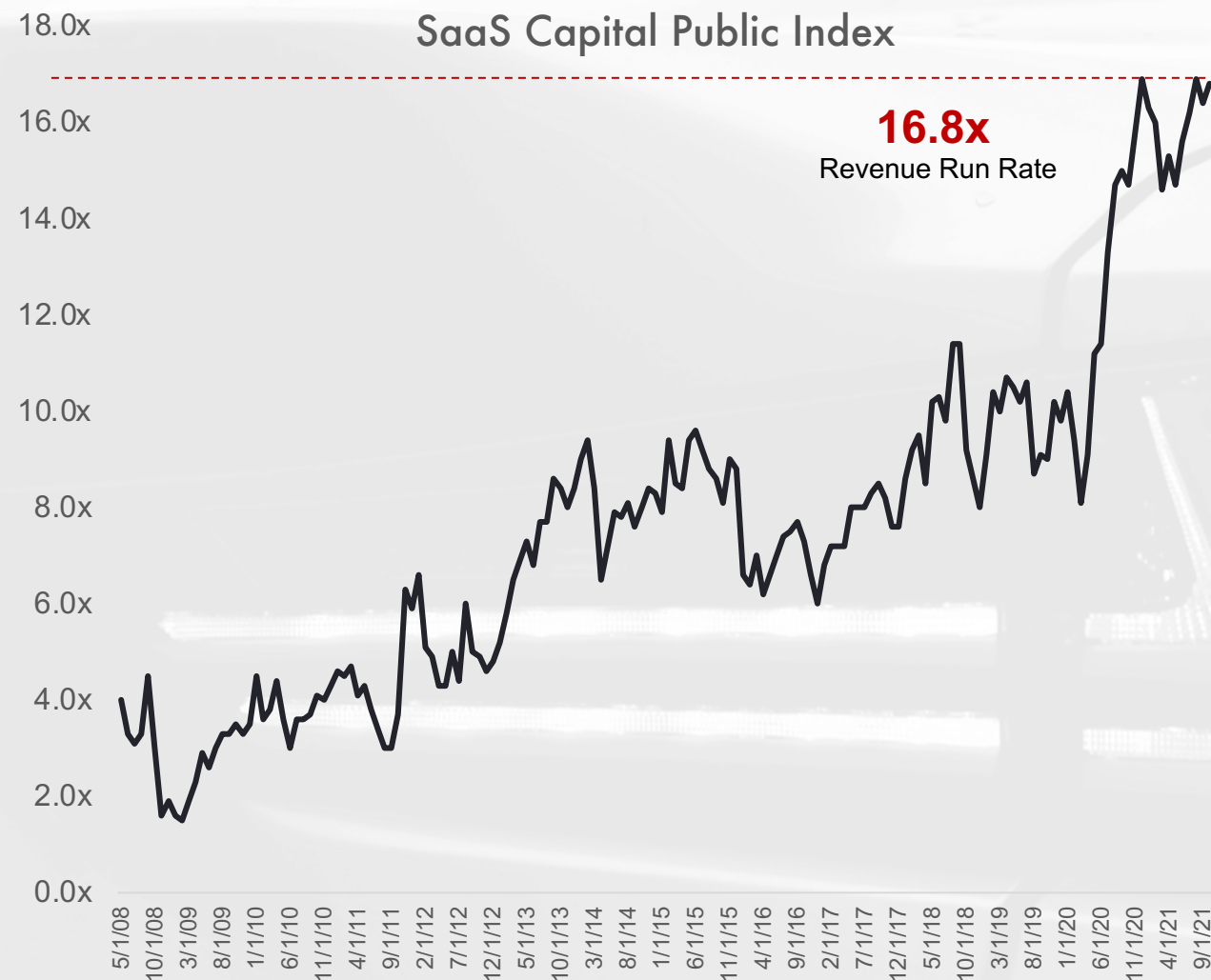


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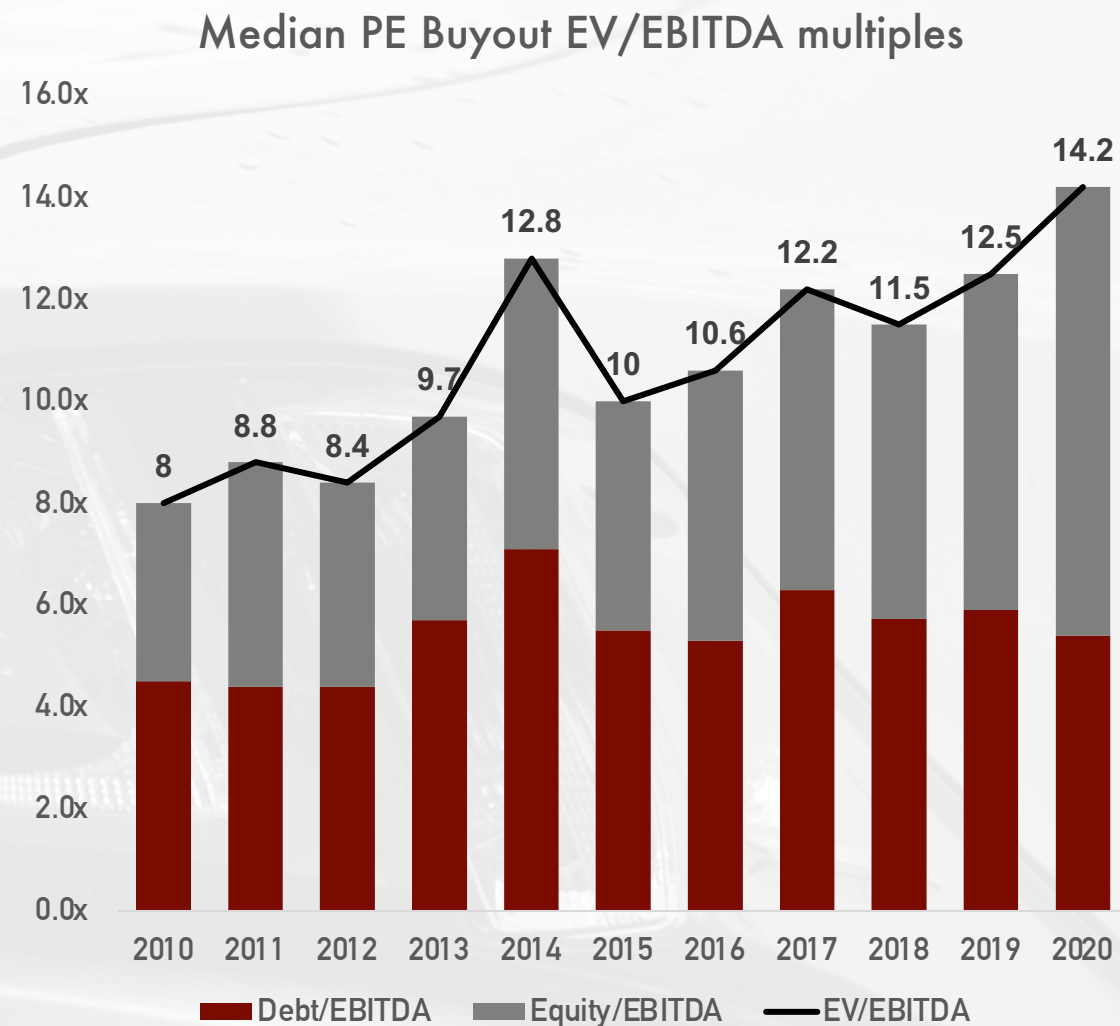
Source: Christoph Janz at Point Nine Capital

	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



2021 TRANSACTIONS

NOVEMBER 2021 TRANSACTIONS

<p>Streetlogic</p> <p>\$2.1m Pre-Seed</p>	<p>Gabi</p> <p>\$320m Acquisition</p> <p>experian</p>	<p>\$10m Series A</p> <p>bdc</p>	<p>samsara</p> <p>S-1 Filed for IPO</p>	<p>IMOTIONS</p> <p>\$46.6m Acquisition</p> <p>smart eye</p>	<p>TEVVA</p> <p>\$57m Financing</p>	<p>motorway</p> <p>\$190m Series C</p> <p>Index Ventures</p>	<p>METOAK 元樑</p> <p>\$15m Series A</p> <p>CTC Capital 和利资本</p>	<p>YASSIR</p> <p>430m Series A</p> <p>WndrCo</p>	<p>IONITY</p> <p>€700m Investment</p> <p>BlackRock</p>	<p>treepZZ</p> <p>\$2.8m Seed Round</p> <p>UNCOVERED FUND</p>
<p>VIANOVA</p> <p>\$3.0m Seed Round</p> <p>ponooc</p>	<p>coros</p> <p>\$6.1m Seed Round</p> <p>DYNAMO</p>	<p>nexar</p> <p>\$33m Series D</p> <p>QUMRA CAPITAL</p>	<p>MONARCH ASTANOR</p> <p>\$61m Series B</p> <p>ASTANOR VENTURES</p>	<p>OCULII</p> <p>Acquisition by</p> <p>Ambarella</p>	<p>clutch</p> <p>\$100m CAD Series B</p> <p>D1 CAPITAL PARTNERS</p>	<p>Inspiration</p> <p>\$200m Financing</p> <p>ARCLIGHT CAPITAL PARTNERS, LLC</p>	<p>goto</p> <p>\$1.3b Pre-IPO Funding</p> <p>ADIA 阿布扎比投资局 Abu Dhabi Investment Authority</p>	<p>SPARTAN</p> <p>\$15m Series A</p> <p>Prime Movers Lab</p>	<p>TIER</p> <p>\$200m Series D</p> <p>NOVATOR</p>	<p>Skyryse</p> <p>\$200m Series B</p> <p>Fidelity INVESTMENTS</p>
<p>Spinny</p> <p>\$280m Series E</p> <p>TIGERGLOBAL</p>	<p>PUREWATERCRAFT</p> <p>\$150m Investment</p> <p>gm</p>	<p>PreAct</p> <p>\$13m Series A</p> <p>State Farm VENTURES</p>	<p>SWIPCAR</p> <p>€30m Acquisition</p> <p>CAZOO</p>	<p>AUTOBRAINS</p> <p>\$101m Series C</p> <p>TEMASEK</p>	<p>zoomo</p> <p>\$60m Series B</p> <p>GROK VENTURES</p>	<p>point one</p> <p>\$10m Series A</p> <p>UP.PARTNERS</p>	<p>ample</p> <p>\$50m Financing</p> <p>Blackstone</p>	<p>momenta</p> <p>\$500m Series C</p> <p>gm</p>	<p>coinspace</p> <p>\$25m Series A</p> <p>Aurora</p>	<p>xeal</p> <p>\$11m Series A</p> <p>ARCTERN VENTURES</p>
<p>cipia</p> <p>\$22m IPO</p>	<p>greyp</p> <p>Majority Acquired</p> <p>PORSCHE</p>	<p>SONO MOTORS</p> <p>\$1.1b IPO</p>	<p>Carketa</p> <p>\$6m Seed Round</p> <p>origin ventures</p>	<p>DRONE BASE</p> <p>\$20m Series C</p> <p>EUCLIDEAN CAPITAL</p>	<p>MITRA CHEM</p> <p>\$20m Series A</p> <p>SOCIALCAPITAL</p>	<p>TRIEYE</p> <p>\$74m Series B</p> <p>M&G Investments</p>	<p>RIVIAN</p> <p>\$78b IPO</p>	<p>CreditIQ</p> <p>\$30 Acquisition</p> <p>CARS</p>	<p>ClearFlame</p> <p>\$17m Series A</p> <p>Breakthrough Energy</p>	<p>VERTICAL</p> <p>\$200m Financing</p> <p>MUDRICK CAPITAL</p>
<p>PARK+</p> <p>\$25m Series B</p> <p>SEQUOIA</p>	<p>sfara</p> <p>\$11.5m Series B</p>	<p>viapool</p> <p>Acquisition by</p> <p>SWI</p>	<p>FIRST ELEMENT FUEL</p> <p>\$105m Series D</p> <p>AIR WATER INC.</p>	<p>CTOgram</p> <p>\$700k Seed</p> <p>Quest VENTURES</p>	<p>Applied Intuition</p> <p>\$175m Series D</p> <p>ADDITION CAPITAL</p>	<p>mobilityS4</p> <p>\$3.4m Financing</p> <p>Toyota Shubai Group</p>	<p>TRED</p> <p>\$25m Series B</p> <p>Westlake Financial</p>	<p>ASSURED PERFORMANCE NETWORK</p> <p>Acquisition by</p> <p>OECConnection</p>	<p>GRINGO</p> <p>\$8m Financing</p> <p>Kaszek VENTURES</p>	<p>carzam</p> <p>£112m Financing</p>
<p>ARC</p> <p>\$30m Series B</p> <p>ECLIPSE</p>	<p>seatron</p> <p>\$11m Series A</p> <p>MMC</p>	<p>FLYTREX</p> <p>\$40m Series C</p> <p>BRM GROUP</p>	<p>42dot</p> <p>\$88.5m Series A</p> <p>Shinhan Financial Group</p>	<p>siasearch</p> <p>Acquisition by</p> <p>scale</p>	<p>blackshark.ai</p> <p>\$20m Series A</p> <p>M12 MICROSOFT'S VENTURE FUND</p>	<p>kodiak</p> <p>\$125m Series B</p> <p>SIP Global Partners</p>	<p>metromile</p> <p>\$500m Acquisition</p> <p>Lemonade</p>	<p>DATA DRIVEN SAFETY</p> <p>Acquired by</p> <p>Verisk</p>	<p>Factorial</p> <p>Undisclosed Financing</p> <p>HYUNDAI</p>	<p>UgaBus</p> <p>Acquired by</p> <p>treepZZ</p>
<p>Deliverr</p> <p>\$250 Financing</p> <p>TIGERGLOBAL</p>	<p>helm.ai</p> <p>\$26m Series B</p> <p>AMPLO</p>	<p>BASIGO</p> <p>\$1m Pre-Seed</p> <p>climate capital</p>	<p>BEANS AI</p> <p>\$17m Series A-1</p> <p>Saama Capital</p>	<p>optibus</p> <p>\$7.5m Pre-A Round</p> <p>AT ONE VENTURES</p>	<p>Gett</p> <p>\$1.1b SPAC IPO</p> <p>ROSECLIFF</p>	<p>EMBARK</p> <p>\$5b SPAC IPO</p> <p>NORTHERN GENESIS II</p>	<p>Zoomcar</p> <p>Never Stop Living</p> <p>\$92m Series E</p> <p>STERNAEGIS VENTURES</p>	<p>nuro</p> <p>\$600m Series D</p> <p>TIGERGLOBAL</p>	<p>NHR</p> <p>NH Research</p> <p>Acquisition by</p> <p>NI</p>	<p>actnano</p> <p>\$21.75m Series B</p>

>>> 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	BATON \$10.5m Series A 8VC	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	gettaCar \$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 €4.0m Financing	TACTILE MOBILITY Investment by nexteer AUTOMOTIVE	loop \$3.25m Seed freestyle.vc	RIVIAN \$2.65b Financing T.RowePrice	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 Pittenger	swift NAVIGATION \$50m Series C NEA	DEALERPOLICY \$30m Series B 3L A1	momenta \$500m Funding SAC TOYOTA BOSCH	CUBERG acquired by northvolt	flexclub Drive your way \$5m Financing Kindred VENTURES	CLUTCH \$60m Financing Canaan	
DrivenBrands IPO	DICKINSON 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	RVN \$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	S2m Funding	RUMBLE ON Combines with RIDE NOW	DONLEN \$891m Acquisition ATHENE HOLDING	Confidential materials provided by Automotive		

>>> 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 \$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	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	BEAR FLAG \$250m acquisition JOHN DEERE	YAA \$4.2m Seed FLYBRIDGE CAPITAL PARTNERS	CARWAVE \$450m Acquisition KAR GLOBAL
garagepet Acquired by KAVAK	MOONX Acquired by WeRide	olive SPAC IPO MDH MOTIVATION GROUP	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	underpeak \$3m Investment GEWEKE	RIVIAN Filed for IPO	THIRD WAVE \$40m Series B NORWEST VENTURE PARTNERS	CARZEUS \$400k Acquisition autoweb	OCRAFT \$100m Series A+ 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 \$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 REPSOL	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 SPAC CAPITAL	ClearRoad \$2.35m Seed SPACE CAPITAL	VIA \$450m Acquisition Ideanomics	
ONTO \$175m Series B Alfvén & Didrikson	Faraday Future SPAC IPO	iCarAsia \$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 \$5m financing anywhere, everywhere	TRADE \$10m Financing cuhoVC	
TRADE \$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 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	AIMEXPERTS 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








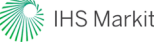
























































wheels DONLEN Combination ATHENE	TEKION \$250m Financing Durable CAPITAL PARTNERS	Acquired by CONSTELLATION AUTOMOTIVE GROUP	CLAIM GENIUS \$6m Series A3	roserocket \$25m Series A ADDITION CAPITAL	VAVACARS \$50m Series B DUQUESNE	PHIAR \$12m Series A StateFarm VENTURES
1.2b investment FAW	Shuttl Acquired 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 CAPSTREET	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	HALO \$136m Series C POALIMEQUITY	one \$25m Series A Breakthrough Energy VENTURES	AUTOMOTIVE 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 PROVIDENCEEQUITY	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	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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>>> 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 Built by MIT
 \$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	 BY  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	 BY  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  \$275m Acquisition PRICE PAID: \$275M (51% stake) REVENUE MULTIPLE: N/A	 BY  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	 BY  IPO VALUATION: PENDING 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: PENDING 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: RIVIAN HAS LARGEST IPO OF 2021

OVERVIEW OF TRANSACTION

Rivian's highly anticipated IPO didn't disappoint. Shares popped 37% higher than the listed price on the first day of trading. Rivian shares were listed at \$78 and its opening trade was \$106.75. Rivian's market valuation rose past \$110 billion.

Amazon currently owns about 22% of Rivian, while Ford owns about 12% of the company. Ford initially made about \$820 million in equity and bond investments in Rivian. Those shares, about 102 million according to filings, are now worth \$13.15 billion.

SIGNIFICANCE TO INDUSTRY

Rivian's strong IPO performance (one of the largest IPOs in U.S. history) is likely to draw additional investor attention to the EV automaker space and may provide a tail-wind for other EV OEMs looking to go public.

Rivian now has a market cap larger than either GM or Ford, two legacy automakers that produce and sell millions of vehicles each year. Rivian aims to deliver its first 1,000 vehicles before the end of 2021.

Rivian is supposed to deliver the first 10 vans (out of an order of 100,000) to Amazon in December. So, investors will be keenly paying attention to how those first deliveries go.



11.9b IPO offering

DEAL DETAILS: AV TRUCK COMPANY EMBARK IPOs

DEAL COMMENTARY

Autonomous trucking firm Embark Trucks began trading on the Nasdaq exchange after completing its merger with a special-purpose acquisition company Northern Genesis Acquisition Corp II.

The company, which trades under the ticker symbol “EMBK,” IPO’d at a \$5 billion valuation, raising more than \$600 million from the sale.

SIGNIFICANCE TO INDUSTRY

Embark takes a different approach to autonomous trucking: As opposed to manufacturing and operating a fleet of trucks, Embark offers its AV software as a service. Carriers and fleets can pay a per-mile subscription fee to access it.

Carriers purchase trucks with compatible hardware directly from OEMs, so Embark has designed its system to be “platform agnostic” across multiple components and manufacturers.

The company’s software can simulate up to 1,200, 60-second scenarios per second, and make adaptive predictions using those scenarios for the behavior of other vehicles on the road.



\$5b SPAC IPO

**NORTHERN
GENESIS II**

>>> DEAL DETAILS: TWO INVESTMENTS IN EV BOATS

PURE WATERCRAFT TRANSACTION

GM has taken a 25% stake in electric boating company Pure Watercraft, as part of the automaker's commitment to invest \$35 billion in electric and autonomous technology through 2025.

Pure Watercraft makes all-electric outboard motor systems that can be used as a drop-in replacement for boats that would use a 25 to 50 horsepower gas-powered motor.

Pure Watercraft's current setup uses modular batteries with a rapid charger left at the dock. It says its boats can charge from half to full in 90 minutes.



ARC TRANSACTION

Arc, a startup that launched 10 months ago with the goal to eventually electrify all mobility on the water, is starting with a limited-edition \$300,000 boat.

To date, Arc has raised \$37 million, including earlier investment from Andreessen Horowitz, the funds of Will Smith's Dreamers VC, Kevin Durant and Rich Kleiman's Thirty Five Ventures and Sean "Diddy" Combs' Combs Enterprises.

Arc has plans that expand beyond building and selling a couple of dozen high-priced boats. But at least in the near term, Arc is focused on delivering the Arc One.



>>> DEAL DETAILS: CLUTCH RAISES \$100m CAD FROM D1

OVERVIEW OF TRANSACTION

Clutch Canada has raised \$100 million CAD in Series B financing round led by D1 Capital Partners with participation from Flight Deck Capital, Canaan Partners, Upper90, Real Ventures, GFC, Brand Project, and FJ Labs.

SIGNIFICANCE TO INDUSTRY

Founded in 2016, Clutch Canada is a vertically-integrated online car retailer for pre-owned vehicles in Canada, similar to Carvana in the U.S.

Clutch aims to provide a consumer-centric car buying experience for its customers by bringing a best-in-class ecommerce experience to the Canadian pre-owned car industry.

With this funding and support from D1's Scott Baxter, who will join the company's board of directors, Clutch aims to strengthen operations in the existing markets it serves, which includes Alberta, British Columbia, New Brunswick, Nova Scotia, Ontario and Prince Edward Island, as well as expand to new markets in the coming months.

Early this year, Clutch Canada raised \$20 million in Series A funding led by Canaan and \$40 million in debt financing from Upper90.

The Clutch logo features the word "clutch" in a lowercase, rounded, red sans-serif font. The letter 'c' is stylized with a small white car wheel icon integrated into its lower loop.

\$100m CAD Series B



**D1 CAPITAL
PARTNERS**

>>> DEAL DETAILS: AMPLE RAISES \$50m FROM BLACKSTONE

OVERVIEW OF TRANSACTION

Ample, a startup developing battery swapping technology for electric vehicles, has raised \$50m, with \$25m coming from The Blackstone Group and the remainder from Spanish multinational financial services company Banco Santander.

The San Francisco-based company should be at or near \$1 billion, considering its valuation back in August was \$890 million.

SIGNIFICANCE TO INDUSTRY

Ample's concept is relatively straightforward: instead of an EV pulling up to a charging station to get more power, the company proposes outfitting vehicles with Ample's modular battery packs, which can be swapped out at dedicated stations.

Earlier this year, Ample landed a partnership with Uber to use the company's battery swapping stations at a few locations in the Bay Area. Both companies have agreed to extend their partnership to Europe, where Uber aims to electrify half the rides that are booked across seven European capitals — London, Amsterdam, Brussels, Berlin, Paris, Madrid and Lisbon — by 2025.



\$50m Financing from

Blackstone



>>> DEAL DETAILS: LEMONADE ACQUIRES METROMILE

OVERVIEW OF TRANSACTION

Lemonade Inc. is bolstering 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.

SIGNIFICANCE TO INDUSTRY

SoftBank Group Corp.-backed Lemonade, which went public last year, recently debuted an auto-insurance product called Lemonade Car, currently being sold in Illinois with plans to roll out the offering in other states. Buying Metromile helps Lemonade build up that business while giving it auto-claims data and a team that's worked in the business for a decade.

Investors haven't fared well in recent quarters with Metromile. Metromile is being sold for a fraction of its \$1.3 billion equity value in an earlier merger with a special purpose acquisition company.

Metromile's shares have declined 79% this year, and Lemonade has fallen 49%.

metromile

\$500m Acquisition by

Lemonade

>>> DEAL DETAILS: IONITY RAISES €700m FROM BLACKROCK

OVERVIEW OF TRANSACTION

Ionity, an electric vehicle fast-charging network provider whose owners include Daimler and Volkswagen, has raised a €700 million (\$783 million) investment from BlackRock Global.

Founded in 2017, Ionity was launched as a joint venture between a coalition of major automakers that includes Hyundai, Ford and BMW.

SIGNIFICANCE TO INDUSTRY

The investment will allow Ionity to increase the number of charging points to 7,000 by 2025 — a more than four-fold increase from the 1,500 that are installed today.

The new charging stations will be situated on highways and other major roads as well as near major cities. Six to 12 charging points will be at each location. The firm is also planning on adding more charging points to existing sites with high demand.

Ionity's planned expansion includes owning and operating full-service stations for drivers to "recharge" while charging their vehicles. These stations, a concept it's calling "Oasis," are similar to roadside rest stops today.

BlackRock's participation in this round is a sign that institutional investors are increasingly interested in decarbonization technologies.



€700m Investment from

BlackRock®

» ***GUEST OP-ED***

Digital Retailing Data: The Blind Spot of Better Business Decisions

PETE BATTEN

>>> GUEST OP-ED: PETE BATTEN

**“If you can’t measure it,
you can’t improve it.”**

– Peter Drucker

Throughout my career, Peter Drucker’s philosophy has always resonated with me. Today, it has taken on greater importance, especially in my new role at Automotive Ventures and most specifically when I reflect on the hundreds (if not thousands) of digital retailers that have launched in our industry in recent decades.

Put simply, a fundamental lack of Digital Retailing data is a major industry blind spot.

First and foremost, this long-standing lack of

data has made it impossible for dealers, OEMs, vendors, investors, and acquirers to make well-informed decisions about the numerous digital retailers that exist. What’s more, if you believe in Peter Drucker’s philosophy like I do, a lack of data makes it extremely challenging for our industry to improve Digital Retailing as a whole.

After 20+ years of building software and data products at well-known automotive companies, I joined Automotive Ventures this year to offer my expertise about where people should commit their resources for growth.

Every single client I’ve had the pleasure of advising has requested “better market data.” My work to fulfill these requests reaffirms the monumental challenge that comes with navigating the complex automotive landscape,

as well as the overall importance of Digital Retailing data.

**Hyper-accelerated DR adoption
requires the best data possible**

Seemingly overnight, the pandemic caused millions of consumers to turn to a fully digital car buying process and thousands of dealers to lean more heavily on companies that offer these services. In actuality, Digital Retailing has been an industry focus for some time, running the gamut from solutions built by dealer groups, to those developed and/or sponsored by OEMs, to those offered by dozens of third-party providers.

Even still, the holy grail of a complete online and

>>> GUEST OP-ED: PETE BATTEN

omnichannel sales process remains aspirational for 99%+ of U.S. consumer car purchases.

So, how do we navigate these complex waters, how do we make better DR decisions, and most importantly, how do we improve the car buying and selling process for both consumers AND dealers?

The Auto Intel Report you're reading right now has provided tons of insight into the market and brands in each category, but there's plenty more information our industry needs in order to build new products and make wise investment choices.

This is precisely why I joined forces with automotive veterans Andrew Gordon, Steve Greenfield, and Brian Reed to launch

[Automotive Market Data](#). Our goal is to provide the industry with better data to empower smarter decisions and better investment returns. In answer, we've developed the *Digital Retailing Market Share Database*.

Solving the Digital Retailing Puzzle

The Digital Retailing Market Share Database evaluates more than 35 digital retailers, each day, across approximately 18,000 U.S. automobile dealer websites to identify the top digital retailers among car dealers, predominant digital retailers by brand, and leading technology providers in the automotive space – as well as unique digital retailing trends and emerging technologies.

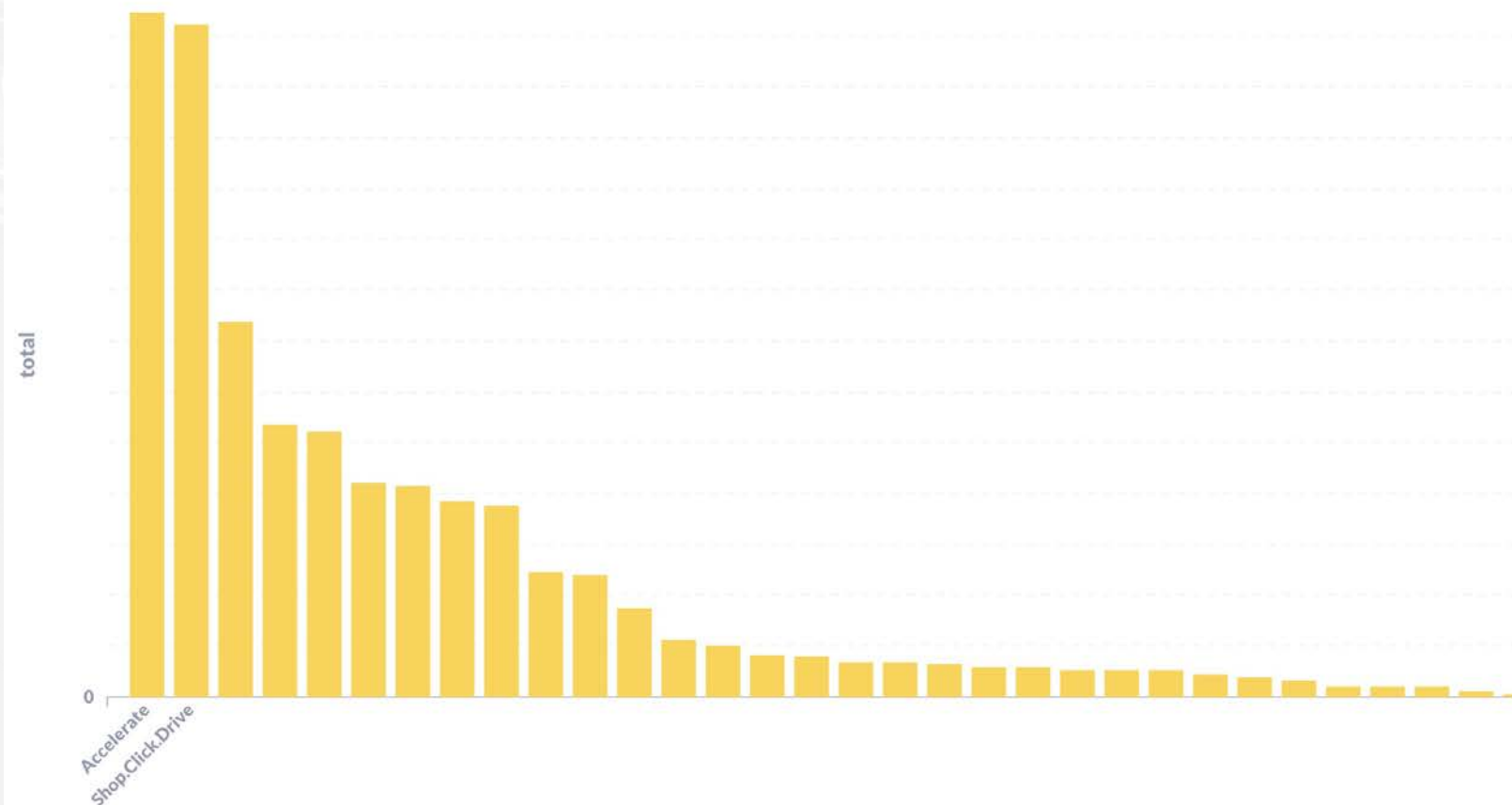
Just some of the information we provide includes:

- Digital Retailer growth rate, churn rate, and market penetration
- The Digital Retailing tool(s) that are currently being used, or have just been added, to particular dealership websites
- Digital Retailer dealer count changes over specified periods of time and within specific geographic regions
- Digital Retailer market share by automotive manufacturer
- Dealer and/or manufacturer customer longevity among Digital Retailers
- Fully customizable reporting

We're vetting our beta version findings with dealers and vendors, right now. Our primary

>>> GUEST OP-ED: PETE BATTEN

DR Overview - Dealers Per Vendor Report



goal is to help the industry with more transparency and better data. We're excited to share more details about brands, hard numbers, percentages, and overall trends.

We are particularly eager for your feedback and direction on the data you would appreciate most. What would you like to know?

Please share your thoughts at info@automotivemarketdata.com.



Pete Batten

Advisor at AVStrategy, an Automotive Ventures Enterprise



COMPANIES TO WATCH

>>> DECEMBER COMPANIES TO WATCH



tailhand.com

Transforms your tailgate into a reliable and highly versatile mobile workstation, so you can do more with confidence and precision. TailHand provides pickup truck users a stable and reliable way to work directly from their tailgate while improving their productivity and safety. Awarded 2021 Best New Truck Product of the Year by the SEMA Truck & Off-Road Alliance.



autofleet.io

Operator of a vehicle as a service platform created to provide an elastic supply of vehicles serving any source of demand. The company's platform helps car rentals maximize their revenues and margins, increasing fleet utilization through aggregating demand, controlling supply and optimizing rides, enabling fleet managers to supply their underutilized vehicles as an on-demand service to any source of demand including ride-hailing companies.



upstream.auto

Developer of a cloud-based automotive cybersecurity platform intended to protect the technologies and applications of connected and autonomous vehicles. The company's platform provides big data and machine learning which utilizes several layers of security gateway and analytics engine, enabling customers to get real-time visibility on security, privacy, and fraud alerts.



rhombusenergysolutions.com

Developer of power electronic products designed to help solve the world's energy challenges. The company's power electronic products are focused on power management, power conversion, energy storage control systems and provides engineering services, enabling businesses to access a range of products that suit their requirements.



evpassport.com

EVPassport provides their customers with the most seamless payment experience to charge any electric vehicle without requiring a separate app, account or a top-up balance. EVPassport is the only platform that enhances customer engagement by providing custom branded hardware with API-powered software that easily integrates with existing applications and services.



weavegrid.com

Using machine learning, optimization, and predictive analytics, their software solution solves several EV-grid integration challenges for utilities in a systems-oriented manner; helps integrate renewable energy resources on the grid; and saves utility customers money on their bills. Their vision is to drive the rapid decarbonization of the transportation and electric networks by intelligently connecting EVs to the grid.



smartcar.com

Empowers developers to build the future of mobility. Their API allows web and mobile apps to locate and unlock cars using simple HTTP requests. The Smartcar platform is compatible across car brands. It works without aftermarket hardware like OBD dongles. Their customers have built apps for peer-to-peer car sharing, mobile car wash, and fleet management.



motionintelligence.com

A technology platform capable of precisely locating and identifying mobile devices inside any vehicle using equipment that already exists in cars.. The Motion Intelligence service can prevent distracted driving while simultaneously allowing targeted interactions with passengers, based on their location within the vehicle, for entertainment, climate control, and navigation.

>>> 2021 COMPANIES TO WATCH

JAN

FEB

MAR

APR

MAY

JUN

JUL

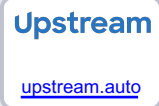
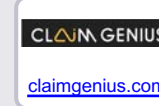
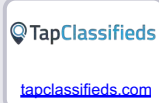
AUG

SEP

OCT

NOV

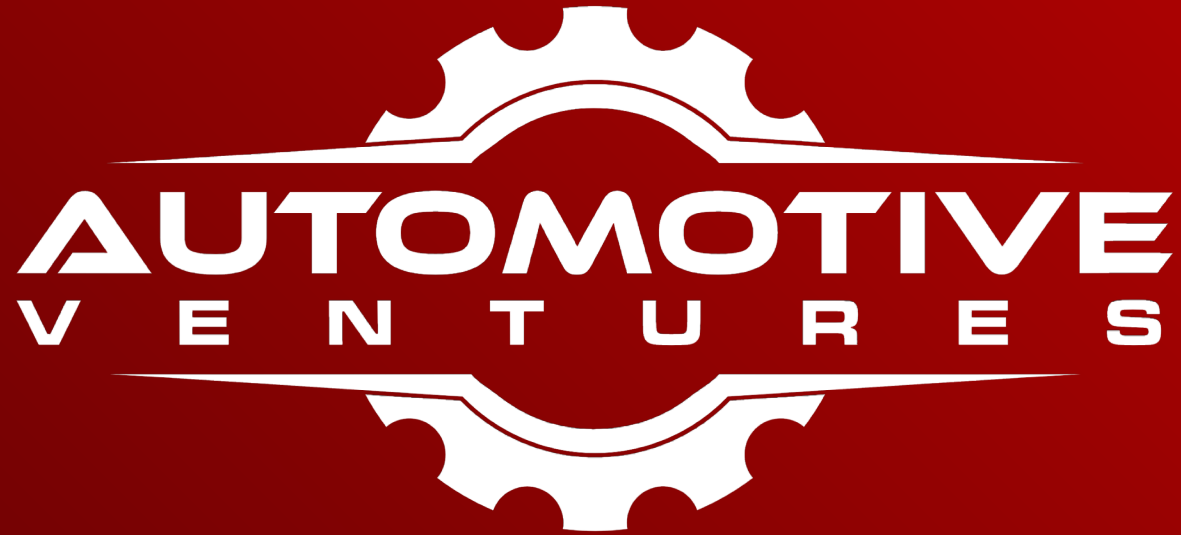
DEC



>>> 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	 www.socialautotransport.com	

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

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