



# Advanced Transportation Market Update

March 2020

*Electric  
Vehicles*



*Mobility-as-  
a-Service*



*Autonomous  
Infrastructure*



*Data &  
Analytics*



*Trucking &  
Logistics*



## Automotive OEM Demand & Supply Shocks

- Global OEMs are being heavily impacted by COVID-19 as they are suffering from both declining consumer demand and supply chain disruptions as plants have shuttered globally
  - Since March, all major OEMs across North America and Europe were forced to initially reduce production and eventually close down entirely
- In North America, Q1 2020 sales are down significantly YoY, with GM, Toyota, and Volkswagen sales down 7%, 9%, and 13%, respectively, although March was the month which experienced the most economic disruption globally outside of China
- The full extent of the rolling lockdowns will impact OEMs sales volumes at varying magnitudes over time as a result of differing geographic distributions of manufacturing and supply chain footprints
  - Regardless of the timing of the impact, the full extent of the shut down will not be understood by the markets for several quarters
- Supply chain gaps will likely prevail for some time as global trade links will restart in an uncoordinated manner and with some suppliers no longer viable partners
- OEMs / Tier 1s are being forced to conserve cash and protect core manufacturing / business operations, leaving less capital for investment in technology or new mobility services
- Federal government bailouts will be critical in the U.S. and Europe as the global economy continues to remain largely closed and consumers look to push out “big ticket” purchases

## EV Deployment Timeline

- New EV plant construction has been delayed (e.g., Rivian has paused the construction of its manufacturing facilities in Illinois) and delays will ultimately impact timing and quantity of vehicle deployments
- OEMs such as JLR and Daimler have paused production of some EV models due to supply shortages of key battery components (e.g., lithium and cobalt)
- BYD's decision to supply batteries and other EV components to competitors may temporarily bridge certain gaps of the global automotive supply chain, but it may also increase the industry's dependence on a single supplier
- The European Automobile Manufacturers' Association (ACEA) asked the EU to delay implementation of its CO2 emissions targets, despite internal disagreements
  - German OEMs that invested significantly in EV capacity (e.g., VW) oppose the delay while others such as FCA are in favor and vocally supportive
- The total cost of EV ownership may become less competitive compared to ICE following oil price declines, however fuel prices in Europe are less sensitive given the large tax component
- As OEMs and Tier 1s conserve cash in the near-term by cutting back on capex intensive initiatives, such as EV deployment, new policy incentives post-COVID will be key to spur the trajectory of transportation pre-COVID
- Trump has rolled back the auto emissions standards which were seen to be stimulus for acceleration of EVs in the U.S.

## Viability of New Mobility Services

- The global travel shutdown has significantly impacted public transit authorities and mobility services companies, forcing service suspensions and leading to liquidity constraints
  - Mobility as a Service (“MaaS”) operators with centralized and highly discretionary opex structures have responded quickly to reduce cash burn and extend liquidity timeline
  - However, more permanent setbacks in the development of the broader MaaS ecosystem could materialize without access to additional funding
- Micro-mobility providers such as Lime and Bird have shuttered operations across many cities and in some cases laid off significant portions of staff in certain parts of the world
- Investors will need to strategically consider support of portfolio companies most heavily exposed to the crisis and the long term viability of these business models post-COVID
- Longer term, capital intensive mobility services bets, such as air taxis, will see consolidation as investors seek to fund more near term-term revenue potential business

## M&A Activity

- Recently announced large cap mergers (e.g., FCA & PSA, Borg Warner & Delphi) face increased risk as immediate attention is placed on operational and liquidity concerns
- Those companies with solid cash stockpiles, especially if they have been able to manage cash burn, will compete with private equity for fundamentally high-quality assets which have near-term challenges
- Longer term, the recent disruption strengthens the rationale and need for industry consolidation and technology platform sharing, even amongst large incumbents

## Capital Formation Activity

- Start-ups are prioritizing reducing cash burn rates through layoffs, pay cuts, or canceled expansions (e.g., KeepTruckin laid off 18% of employees) with those who raised in the last 3 – 6 months sitting in a highly advantageous position relative to their peer groups
- Valuations will likely face downward pressure given greater uncertainty, particularly for technologies heavily impacted by OEM capital constraints (e.g. autonomy)
- Prevalence of growth capital rounds pivoting to M&A will increase and VCs will likely take a binary approach to their portfolio making tough decisions which to fund ongoing operations

# Advanced Transportation

## March 2020 News

### Selected Business Updates

#### Nomura Greentech's Take:

- While a subset of the logistics and last mile delivery industry is seeing increased activity, the broader transportation sector is suffering from movement restrictions on a significant proportion of the global population as a result of the COVID-19 outbreak

- ★ **Argo AI, Aurora, Cruise, Pony.ai, Uber** and **Waymo**, suspended driverless vehicle testing programs in response to the COVID-19 outbreak ([VentureBeat](#))
- ★ **BMW** announced plans to increase its R&D spending to \$33bn by 2025, in an effort to accelerate the company's AV and EV technology ([New Mobility](#))
- ★ **Bird** announced plans to lay off about 30% of its work force after the company paused services in multiple markets worldwide in response to COVID-19 ([TechCrunch](#))
- **Bollinger Motors**, a Michigan-based EV developer, revealed a new skateboard chassis model to be used for Class 3 commercial vehicles ([TechCrunch](#))
- **Deutsche Post** announced it is stopping production of StreetScooter, its electric delivery van, after "years of losses" from development and production ([Electrive](#))
- ★ **Ford** released an autonomous vehicle dataset, collected from its Detroit fleet, and made it free to researchers to advance AV deployment ([VentureBeat](#))
- ★ **Getaround**, a San Francisco-based car-sharing company backed by SoftBank, is actively seeking a sale as the company is having liquidity constraints ([Bloomberg](#))
- **Geely**, a Chinese auto manufacturer, announced plans to invest \$326mm in new satellite technology for obtaining highly accurate data for AVs ([Auto News](#))
- ★ **GM, Ford, FCA, Nissan, Tesla** and others halted their U.S. operations due to COVID-19, while GM and Ford are retooling factories to produce medical equipment ([Electrek](#))
- ★ **Instacart** and **Amazon** employees went on temporary strike in response to perceived inadequate safety measures and pay for working through COVID-19 ([NYTimes](#))
- ★ **Lyft** announced plans to expand its on-demand delivery services to include critical medical supplies and meal delivery to students and seniors ([TechCrunch](#))
- ★ **Iberdrola**, a Spanish utility, announced plans to increase its sustainable mobility investment to \$168mm, focusing on expanding EV charging in Europe ([New Mobility](#))
- ★ **Uber** announced that demand for its ride-hailing services are down 60 – 70% in U.S. cities which have been hit hardest by the outbreak of COVID-19 ([The Verge](#))
- ★ **Starsky Robotics**, an autonomous trucking company, closed operations, citing lack of investor interest and a trucking industry recession as principal causes ([Truck News](#))
- ★ **Tata Motors**, Indian owner of Jaguar Land Rover, announced plans to separate its cars business unit from trucks / buses and to seek strategic partners ([Bloomberg](#))
- ★ **VW** announced plans to release its ID.3 electric model on time, beginning in Europe in summer 2020, despite the COVID-19 outbreak and rumored software issues ([Electrek](#))

### Selected Regulatory Developments

#### Nomura Greentech's Take:

- New changes proposed by the U.S. NHTSA mark progress toward federal standards for autonomous vehicles, helping speed up their deployment

- ★ **Colorado** passed a new law which allows EV makers, such as Rivian and Tesla, to sell vehicles direct-to-consumer rather than through a dealership network ([Electrek](#))
- ★ **New York** announced a new \$24mm grant to replace diesel transit buses with electric buses as part of the state's allocation of the VW Settlement ([New Mobility](#))
- **Singapore** enhanced its previously announced climate emissions plan, now aiming to reduce emissions by half by 2050 ([Bloomberg](#))
- ★ Singapore announced an \$83mm relief plan to help taxi and ride-hailing drivers who experience a drop in income due to the COVID-19 outbreak ([Straits Times](#))
- The **Thai Government** announced plans to spend over \$21bn to upgrade the rail network in Bangkok to ease pollution and urban congestion ([The National](#))
- The **U.K. Treasury** added funds to support EVs and carbon capture technology to its budget that also allocated \$35bn to build new roads ([Bloomberg](#))
- ★ The **U.S. Government** passed a \$2tn stimulus package, under which gig workers, such as ride-hailing drivers, will be eligible for unemployment benefits ([TechCrunch](#))
- ★ The **U.S. National Highway Traffic Safety Administration** proposed changes to auto safety standards in order to allow easier certification of AVs ([Wired](#))
- ★ The State of **Washington** passed a new bill supporting EVs, resulting in the entire West Coast requiring at least 5% of auto sales to be EVs ([Electrek](#))

## Advanced Transportation Partnerships & Transactions

### Selected Capital Raises

#### Nomura Greentech's Take:

- Waymo, the perceived front runner in the race to roll out robotaxis, took in external funding for the first time, highlighting the extent of the cash burden required to deploy AVs

- Waymo raised **\$2.25bn** led by Silver Lake, with participation from CPPIB, Mubadala Investments, Magna, Andreessen Horowitz, AutoNation and Alphabet ([CNN](#))
- Gojek, an Indonesian ride-hailing company and major competitor to Grab Holdings in Southeast Asia, raised **\$1.2bn** from undisclosed investors ([Tech in Asia](#))
- Nikola Motors, an electric semi-truck company, announced it would be going public via a SPAC<sup>(2)</sup> at a **\$3.3bn** valuation. In conjunction, the Company raised a **\$525mm PIPE**<sup>(3)</sup> led by Fidelity Research & Management, with participation from ValueAct ([Forbes](#))
- Lilium, a Munich-based developer of electric air taxis, raised **\$240mm** led by Tencent, with participation from Atomico, Freigeist and LGT ([TechCrunch](#))
- Via, a provider of on-demand shuttles, raised **\$200mm** led by Exor, with participation from Macquarie Capital, Mori Building and Shell ([TechCrunch](#))
- Cazoo, a U.K.-based online used car platform, raised **\$116mm** led by DMG Ventures, with participation from General Catalyst and CNP ([TechCrunch](#))
- TVS Supply Chain, an end-to-end supply chain management provider owned by TVS Group, raised **\$100mm** from Gateway Partners ([Financial Express](#))
- Hailo, an Israeli AI chipmaker for AVs, raised **\$60mm** led by OurCrowd and Delek Motors, with participation from Maniv Mobility and NEC Corporation ([TechCrunch](#))
- Spinny, an Indian online platform for selling used cars, raised **\$44mm** led by the Fundamentum Partnership, with participation from General Catalyst ([TechCrunch](#))
- FiveAI, a U.K.-based AV startup, raised **\$41mm** led by Trustbridge Partners, Direct Line Group and Sistema VC, with participation from Lakestar ([VentureBeat](#))
- Neolix Technologies, a Beijing-based autonomous delivery company, raised **\$29mm** led by Leading Ideal, with participation from Addor Capital ([VentureBeat](#))
- Overhaul, a supply chain integrity platform, raised **\$18mm** led by Edison Partners, with participation from Abbey International Finance Group ([VentureBeat](#))
- Helm.ai, an AV software company, raised **\$13mm** from A.Capital Ventures, Amplo, Binnacle Partners, Sound Ventures, Fontinalis Partners and SV Angel ([TechCrunch](#))
- SiLC Technologies, a photonic sensor and 3D imaging platform developer, raised **\$12mm** led by Dell, with participation from Decent Capital ([VentureBeat](#))
- TwaiCe, a Munich-based provider of analytics software for EV batteries, raised **\$12mm** led by Creandum, with participation from Cherry Ventures ([TechCrunch](#))
- Forager, a Chicago-based logistics provider for cross-border freight, raised **\$10mm** led by U.S. Venture Partners, with participation from Chicago Ventures ([Yahoo](#))
- Ride Report, a platform which helps coordinate communication between micro-mobility operators and cities, raised **\$10mm** led by Unusual Ventures ([TechCrunch](#))

### Selected Mergers & Acquisitions

- Costco, a publicly-traded, multinational wholesaler, acquired **Innovel Solutions**, a middle- and last-mile delivery solutions provider, for \$1.0bn ([PRNewswire](#))
- Last Mile Holdings, a Canadian publicly traded mobility solutions provider, acquired **Gotcha Mobility**, a provider of micro-mobility solutions, for \$12mm ([PRNewswire](#))

### Selected Partnerships

#### Nomura Greentech's Take:

- Energy majors are increasingly shifting their strategies both toward renewables and downstream in order to get closer to the end consumer

- Centrica, a British utility, announced a partnership with **VW** to manufacture and install in-home EV charging points across the U.K. ([Reuters](#))
- Lyft partnered with **Amazon** to create a program to alleviate financial hardships for ride-hailing drivers by referring them to jobs at Amazon warehouses ([The Verge](#))
- Toyota announced a partnership with **NTT Corp.**, a Japanese telecom company, to develop smart cities with plans to invest \$1.8bn into each other ([Reuters](#))
- TuSimple, an autonomous truck company, announced a partnership with **ZF**, a global auto supplier, to produce AV technology such as sensors ([TechCrunch](#))
- UPS announced a partnership with **Wingcopter**, a German eVTOL startup, to develop drones for commercial drone package delivery ([TechCrunch](#))

Source: Nomura Greentech Analysis, Public Disclosures..

(1) SPAC = Special Purpose Acquisition Company.

(2) PIPE = Private Investment in Public Equity.

## Capital Raises

Date	Company	Amount Raised (\$mm)	Disclosed Investors	Company Description
3/1	Sensible 4	\$7	NordicNinja VC, ITOCHU	Finnish AV technology company
3/2	Waymo	\$2,250	Silver Lake, CPPIB, Mubadala Investment Company, Magna, Adreessen Horowitz, AutoNation, Alphabet	Developer of autonomy for passenger vehicles, heavy duty trucks and delivery vehicles
3/2	Spinny	\$44	Fundamentum Partnership, General Catalyst Partners, KB Financial Group, Accel, SAIF Partners, Alteria Capital	Indian online used car platform
3/3	Five	\$41	Trustbridge Partners, Direct Line Group, Sistema VC, Lakestar, Amadeus Capital Partners, Kindred Capital, Notion Capital	U.K.-based AV technology company
3/4	Nikola Motors	\$525	Fidelity Management & Research, ValueAct Spring Fund, P. Schoenfeld Asset Management	Manufacturer of electric and hydrogen-powered semi-trucks
3/4	SILC Technologies	\$12	Dell, Decent Capital, ITIC Ventures	Developer of photonic sensors and LiDAR
3/5	Hailo	\$60	OurCrowd, Delek Motors, Next Gear Solutions, ABB Technology Ventures, NEC Corporation, Latitude Ventures, Glory Ventures, MicroTech Ventures, Maniv Mobility	Israeli AI chipmaker for smart cities, industrial automation and mobility
3/10	Overhaul	\$18	Edison Partners, Abbey International Finance Group	Austin-based supply chain integrity platform
3/11	Neolix	\$29	Leading Ideal, Addor Capital, Yunqi Partners, Glory Ventures	Chinses developer of autonomous delivery robots
3/12	Ride Report	\$10	Unusual Ventures	Platform for coordination between micro-mobility operators and cities
3/13	HIGH MOBILITY	ND	Deutsche Automobil Truehan, IBB Beteiligungsgesellschaft	Berlin-based provider of a connected car API
3/16	Huboo	ND	Maersk	U.K.-based provider of multi-channel fulfillment services for e-commerce
3/17	Gojek	\$1,200	ND	Indonesian ride-hailing company
3/17	TVS Supply Chain	\$100	Gateway Partners	End-to-end supply chain management provider owned by TVSGroup
3/22	Lilium	\$240	Tencent, Atomico, Freigeist, LGT	Munich-based electric air taxi company
3/22	Blickfeld	ND	Continental, Wachstumsfonds Bayern, OSRAM Ventures, High-Tech Gründerfonds, TEV (Tengelmann Ventures), Unternehmertum Venture Capital Partners	Munich-based LiDAR developer
3/23	Cazoo	\$116	DMG Ventures, General Catalyst, CNP, Mubadala Capital, Octopus Ventures, Eight Roads Ventures, Stride VC	U.K.-based online used car platform
3/25	Helm.ai	\$13	A.Capital Ventures, Amplo, Binnacle Partners, Sound Ventures, Fontinalis Partners, SV Angel	AV software provider
3/25	Twaice	\$12	Creandum, Cherry Ventures, UVC Partners, Speedinvest	Munich-based provider of analytics software for EV batteries
3/26	Forager	\$10	U.S. Venture Partners, Chicago Ventures, Soma Capital	Chicago-based logistics company focused on cross-border freight
3/30	Seegrid	\$25	G2VP	Manufacturer autonomous industrial vehicles for material transportation
3/30	Roadsync	\$6	Base10 Partners, Hyde Park Venture Partners, Company on Ventures	Digital payments platform for the transportation industry
3/30	Via	\$200	Exor, Shell, Macquarie Capital, Mori Building	On-demand transit provider

Source: Factset, PitchBook, Public Disclosures.

## M&A

Date	Target	Acquiror	(\$mm)	EV / Revenue	EV / EBITDA	Target Description
3/4	Gotcha Mobility	Last Mile Holdings (fka Ojo Electric Corp.)	\$12	ND	ND	Micro-mobility solutions provider
3/4	Nikola Motors	VectoIQ	\$3,300	ND	ND	Manufacturer of electric and hydrogen-powered semi-trucks
3/5	CMORE Automotive	Luxoft (DXC Technology)	ND	ND	ND	Independent AV development partner for automakers and suppliers
3/6	Adient	Sage Automotive Interiors	\$175	ND	ND	Automotive fabric company
3/9	Anthym Logistics	BlueGrace Logistics	\$80	ND	ND	Freight brokerage provider
3/10	ESR Labs	Accenture	ND	ND	ND	Munich-based developer of embedded software for OEMs and Tier 1s
3/12	Trelar, Inc.	HaulHub	ND	ND	ND	Provider of advanced logistics solutions for the construction industry
3/17	Innovel Solutions	Costco	\$1,000	ND	ND	Last-mile logistics and warehousing provider
3/18	Vattenfall EV Charging Business	Statkraft	ND	ND	ND	EV Charging Business of Vattenfall, a European renewable energy company
3/20	Transportation Impact	The Jordan Company	ND	ND	ND	Provider of technology and service solutions for small parcel and freight
3/20	HiRide	Facedrive	ND	ND	ND	Ride-sharing and car-pooling platform
3/24	DailyNinja	BigBasket	ND	ND	ND	Hyperlocal, subscription-based delivery platform
3/27	KEAZ	Wunder Mobility	ND	ND	ND	Australia-based car-sharing and rental technology provider

## IPO

Date	Company	Offer Price	Implied EV (\$mm)	EV / Revenue	EV / EBITDA	Target Description
3/4	Nikola Motors	ND	\$3,300	ND	ND	Manufacturer of electric semi-trucks. Note the company merged into VectoIQ in order to be taken public



# Advanced Transportation Trading Comparables

Company	Price as of 3/31/20	% 52-Week High	Market Cap (\$mm)	Firm Value (\$mm)	EV/Revenue		EV/EBITDA		P / E	
					2020E	2021E	2020E	2021A	2020E	2021A
<b>Automotive Companies</b>										
Toyota	¥ 6501.00	82.0%	\$167,413	\$311,813	1.1x	1.1x	10.0x	9.9x	8.0x	7.7x
Volkswagen	€ 121.40	66.3%	\$66,776	\$245,889	1.0x	0.9x	7.1x	5.8x	7.2x	4.6x
Daimler	€ 27.52	46.4%	\$32,301	\$175,558	1.0x	0.9x	12.8x	10.1x	9.4x	5.5x
BMW	€ 47.12	60.6%	\$34,061	\$142,321	1.4x	1.3x	12.0x	9.9x	9.5x	6.1x
Ford	\$ 4.83	46.0%	\$19,663	\$138,059	1.0x	1.0x	16.3x	12.2x	20.8x	4.9x
Tesla	\$ 524.00	57.1%	\$97,988	\$107,663	3.3x	2.8x	29.7x	19.1x	NM	45.1x
General Motors	\$ 20.78	50.8%	\$29,695	\$103,276	0.8x	0.7x	7.3x	7.4x	4.6x	4.0x
Honda	¥ 2430.00	75.3%	\$39,487	\$87,454	0.6x	0.6x	8.5x	8.2x	6.8x	6.1x
Nissan	¥ 356.60	37.1%	\$12,926	\$76,706	0.8x	0.8x	14.8x	13.6x	9.9x	6.2x
Hyundai	₩ 88700.00	61.8%	\$19,141	\$55,852	0.6x	0.6x	8.2x	7.3x	5.8x	5.0x
SAIC Motor	¥ 20.50	67.8%	\$33,767	\$51,222	0.4x	0.4x	11.1x	10.0x	8.3x	7.5x
Renault	€ 17.71	27.7%	\$5,658	\$28,115	0.5x	0.5x	5.6x	5.1x	17.5x	3.5x
BYD	HK\$ 40.50	67.8%	\$14,255	\$23,958	1.2x	1.1x	11.1x	9.7x	NM	42.1x
Tata Motors	RS 71.05	30.1%	\$3,265	\$11,725	0.3x	0.3x	2.7x	2.2x	10.1x	4.2x
Suzuki	¥ 2584.50	47.0%	\$11,228	\$11,310	0.3x	0.3x	3.2x	3.0x	7.4x	7.0x
Geely	HK\$ 11.44	60.8%	\$13,623	\$10,729	0.8x	0.7x	6.2x	5.0x	11.0x	8.9x
Subaru	¥ 2073.50	66.1%	\$14,728	\$9,416	0.3x	0.3x	3.1x	2.9x	8.2x	7.8x
Guangzhou Automobile	HK\$ 7.79	74.9%	\$10,468	\$7,894	0.9x	0.8x	29.8x	20.9x	8.1x	6.9x
KIA <sup>(1)</sup>	₩ 26000.00	56.0%	\$8,563	\$6,662	0.1x	0.1x	1.9x	1.7x	5.2x	4.3x
Fiat Chrysler	€ 6.57	44.7%	\$11,334	\$6,228	0.1x	0.1x	0.5x	0.5x	3.8x	2.6x
NIO	\$ 2.78	51.6%	\$2,863	\$4,413	2.7x	1.9x	NM	NM	NM	NM
Mazda	¥ 572.00	42.4%	\$3,338	\$4,378	0.1x	0.1x	3.6x	3.1x	10.2x	7.5x
Peugeot	€ 12.17	46.7%	\$12,590	\$3,953	0.1x	0.0x	0.5x	0.4x	3.9x	3.2x
Mitsubishi	¥ 306.00	47.6%	\$4,219	\$3,234	0.1x	0.1x	3.3x	2.9x	28.3x	14.6x
FAW Car Group	¥ 8.72	68.9%	\$2,001	\$1,420	0.4x	0.4x	24.0x	25.0x	NM	NM
Dongfeng Motor	HK\$ 5.11	59.3%	\$5,680	\$247	0.0x	0.0x	1.6x	1.3x	3.5x	3.0x
<b>Mean</b>		<b>55.5%</b>			<b>0.8x</b>	<b>0.7x</b>	<b>9.4x</b>	<b>7.9x</b>	<b>9.4x</b>	<b>9.1x</b>
<b>Median</b>		<b>56.6%</b>			<b>0.6x</b>	<b>0.6x</b>	<b>7.3x</b>	<b>7.3x</b>	<b>8.2x</b>	<b>6.1x</b>
<b>Truck Companies</b>										
Daimler	€ 27.52	46.4%	\$32,301	\$175,558	1.0x	0.9x	12.8x	10.1x	9.4x	5.5x
Volvo	KR 119.50	68.9%	\$24,521	\$33,223	0.9x	0.9x	7.1x	6.5x	10.8x	9.8x
PACCAR	\$ 61.13	73.7%	\$21,237	\$27,159	1.4x	1.3x	11.0x	10.4x	12.1x	11.8x
Traton SE	€ 12.74	46.7%	\$6,989	\$13,581	0.5x	0.5x	6.5x	5.1x	10.6x	5.2x
MAN SE	€ 39.58	53.7%	\$6,386	\$8,248	0.6x	0.5x	5.2x	5.0x	NM	NM
Isuzu	¥ 715.30	44.8%	\$4,887	\$6,967	0.4x	0.3x	3.6x	3.4x	5.7x	5.2x
Navistar	\$ 16.49	43.8%	\$1,641	\$5,409	0.6x	0.6x	7.6x	7.2x	7.6x	6.0x
<b>Mean</b>		<b>54.0%</b>			<b>0.8x</b>	<b>0.7x</b>	<b>7.7x</b>	<b>6.8x</b>	<b>9.4x</b>	<b>7.3x</b>
<b>Median</b>		<b>46.7%</b>			<b>0.6x</b>	<b>0.6x</b>	<b>7.1x</b>	<b>6.5x</b>	<b>10.0x</b>	<b>5.8x</b>
<b>Tier 1 Suppliers</b>										
Denso	¥ 3491.00	67.4%	\$25,057	\$24,492	0.5x	0.5x	4.3x	3.9x	10.9x	9.3x
Bridgestone	¥ 3323.00	71.6%	\$21,885	\$22,125	0.7x	0.7x	4.2x	3.9x	10.4x	9.3x
Michelin	€ 81.06	68.7%	\$15,993	\$20,962	0.8x	0.8x	4.8x	4.3x	8.6x	7.8x
Continental	€ 65.61	41.9%	\$14,399	\$19,000	0.4x	0.4x	3.7x	3.0x	11.0x	7.0x
Aptiv	\$ 49.24	50.3%	\$12,623	\$16,937	1.2x	1.1x	7.4x	6.4x	11.9x	9.0x
Knorr-Bremse	€ 80.84	78.6%	\$14,299	\$15,543	2.2x	2.1x	12.7x	11.2x	23.7x	19.8x
Magna	C\$ 44.91	59.2%	\$9,664	\$12,459	0.4x	0.3x	3.6x	3.2x	7.0x	4.8x
Valeo	€ 15.25	41.7%	\$4,020	\$7,193	0.3x	0.3x	2.8x	2.3x	14.4x	6.0x
Goodyear	\$ 5.82	28.4%	\$1,362	\$6,850	0.5x	0.5x	4.4x	4.0x	8.4x	4.0x
Faurecia	€ 27.30	53.9%	\$4,118	\$6,624	0.3x	0.3x	2.5x	2.3x	6.6x	4.7x
Lear	\$ 81.25	51.5%	\$4,948	\$6,561	0.3x	0.3x	3.7x	3.4x	6.6x	5.2x
BorgWarner	\$ 24.37	52.6%	\$5,042	\$6,137	0.6x	0.6x	4.1x	3.6x	7.9x	6.0x
Gentex	\$ 22.16	71.1%	\$5,550	\$5,113	2.6x	2.5x	8.5x	8.1x	12.8x	12.0x
American Axle & Manufacturing Holdings	\$ 3.61	22.3%	\$406	\$3,644	0.7x	0.6x	4.6x	4.1x	8.1x	3.1x
Dana	\$ 7.81	37.7%	\$1,135	\$3,234	0.4x	0.4x	3.6x	3.2x	2.9x	2.6x
Adient	\$ 9.07	31.9%	\$850	\$2,995	0.2x	0.2x	3.7x	3.1x	5.1x	3.6x
Delphi	\$ 8.05	30.6%	\$693	\$2,183	0.5x	0.5x	4.4x	4.0x	4.2x	3.5x
Visteon	\$ 47.98	50.0%	\$1,353	\$1,505	0.5x	0.5x	7.9x	5.1x	29.6x	10.7x
Gentherm	\$ 31.40	64.0%	\$1,030	\$1,069	1.1x	1.0x	7.2x	6.4x	12.9x	11.4x
Nexteer	HK\$ 3.89	30.4%	\$1,259	\$1,007	0.3x	0.3x	2.2x	1.8x	7.2x	5.0x
Stoneridge	\$ 16.75	49.3%	\$470	\$540	0.7x	0.7x	7.5x	6.5x	17.6x	13.4x
Veoneer	\$ 7.32	25.0%	\$815	\$263	0.2x	0.1x	NM	NM	NM	NM
<b>Mean</b>		<b>49.0%</b>			<b>0.7x</b>	<b>0.7x</b>	<b>5.1x</b>	<b>4.5x</b>	<b>10.9x</b>	<b>7.5x</b>
<b>Median</b>		<b>50.2%</b>			<b>0.5x</b>	<b>0.5x</b>	<b>4.3x</b>	<b>3.9x</b>	<b>8.6x</b>	<b>6.0x</b>
<b>Mobility-as-a-Service</b>										
Uber	\$ 27.92	60.2%	\$47,464	\$43,377	2.7x	2.1x	NM	NM	NM	NM
Lyft	\$ 26.85	36.1%	\$8,044	\$5,671	1.2x	1.0x	NM	NM	NM	NM
<b>Mean</b>		<b>48.1%</b>			<b>2.0x</b>	<b>1.5x</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>
<b>Median</b>		<b>48.1%</b>			<b>2.0x</b>	<b>1.5x</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>

Source: FactSet, SEC Filings and Third Party Providers. Values in U.S. Dollars. Share prices shown in local currencies. Multiples above 50.0x not shown. Note:

Few of the companies in the comparables set have, at the time of publication of this Monthly, updated their 2020E guidance to take into account COVID-19 Impacts. Therefore, the above 2020E multiples should be reviewed in that context.

(1) Firm value excludes investments in unconsolidated subsidiaries.



# Advanced Transportation Trading Comparables (cont.)

Company	Price as of 3/31/20	% 52- Week High	Market Cap (\$mm)	Firm Value (\$mm)	EV/Revenue		EV/EBITDA		P / E	
					2020E	2021E	2020E	2021A	2020E	2021A
<b>Autonomous Driving Chip Makers</b>										
Intel	\$ 54.12	79.0%	\$236,667	\$249,733	3.4x	3.4x	7.6x	7.3x	11.0x	10.8x
Nvidia	\$ 263.60	83.8%	\$163,696	\$155,442	11.9x	10.4x	31.5x	25.2x	35.8x	29.6x
Texas Instrument	\$ 99.93	74.4%	\$94,734	\$95,458	7.0x	6.4x	16.4x	14.4x	20.7x	17.9x
Qualcomm	\$ 67.65	70.5%	\$78,406	\$82,960	3.6x	3.0x	11.2x	8.9x	14.9x	11.1x
Advanced Micro Devices	\$ 45.48	77.2%	\$54,030	\$53,193	6.1x	5.2x	35.2x	25.2x	39.9x	30.3x
Analog	\$ 89.65	71.9%	\$33,373	\$38,513	6.8x	6.3x	17.4x	15.2x	18.9x	16.2x
NXP	\$ 82.93	59.8%	\$23,678	\$30,212	3.3x	3.0x	10.2x	8.7x	11.0x	9.2x
STMicro	€ 19.88	67.7%	\$19,845	\$19,234	1.9x	1.7x	8.4x	6.8x	18.6x	12.8x
Infineon	€ 13.43	58.8%	\$18,361	\$16,262	1.8x	1.7x	6.8x	5.6x	16.5x	13.3x
Renesas	¥ 389.00	47.4%	\$6,163	\$11,982	1.7x	1.6x	6.5x	6.1x	18.0x	11.4x
ON Semi	\$ 12.44	48.6%	\$5,202	\$8,057	1.4x	1.4x	6.9x	5.4x	10.8x	7.2x
<b>Mean</b>		<b>67.2%</b>			<b>4.5x</b>	<b>4.0x</b>	<b>14.4x</b>	<b>11.7x</b>	<b>19.7x</b>	<b>15.5x</b>
<b>Median</b>		<b>70.5%</b>			<b>3.4x</b>	<b>3.0x</b>	<b>10.2x</b>	<b>8.7x</b>	<b>18.0x</b>	<b>12.8x</b>
<b>Intelligent Transport / ITS / Smart Tolling</b>										
Atlanta	€ 11.43	46.3%	\$10,259	\$55,282	4.4x	4.5x	6.9x	6.8x	7.3x	6.0x
Roper Technologies	\$ 311.81	79.4%	\$32,802	\$37,645	6.7x	6.5x	18.7x	17.8x	23.7x	22.8x
FLIR Systems	\$ 31.89	54.2%	\$4,327	\$4,759	2.5x	2.4x	11.0x	9.9x	14.9x	13.4x
Autostrada	€ 15.98	50.6%	\$1,614	\$3,488	1.4x	1.4x	3.9x	3.9x	10.2x	8.4x
LS Corp	₩ 28900.00	52.8%	\$659	\$3,074	0.4x	0.4x	5.6x	5.2x	4.8x	4.2x
Conduent	\$ 2.45	17.3%	\$517	\$1,988	0.5x	0.5x	4.4x	4.5x	4.7x	4.8x
Cubic Corporation	\$ 41.31	55.1%	\$1,292	\$1,743	1.1x	1.0x	9.6x	8.2x	12.1x	NM
Vaisala	€ 27.10	73.4%	\$1,075	\$1,069	2.3x	2.2x	14.3x	13.4x	27.5x	24.7x
Kapsch TrafficCom	€ 17.10	47.5%	\$244	\$327	0.4x	0.4x	4.2x	3.3x	12.3x	7.1x
INIT Innovation in Traffic Systems	€ 20.00	83.3%	\$220	\$237	1.2x	1.1x	8.4x	8.1x	15.2x	14.0x
Iteris	\$ 3.20	48.9%	\$130	\$116	0.9x	0.8x	36.3x	6.9x	NM	11.6x
Q-Free	NOK 4.80	58.5%	\$41	\$65	0.7x	0.6x	8.3x	6.9x	NM	32.0x
<b>Mean</b>		<b>55.6%</b>			<b>1.9x</b>	<b>1.8x</b>	<b>11.0x</b>	<b>7.9x</b>	<b>13.3x</b>	<b>13.5x</b>
<b>Median</b>		<b>53.5%</b>			<b>1.1x</b>	<b>1.1x</b>	<b>8.4x</b>	<b>6.9x</b>	<b>12.2x</b>	<b>11.6x</b>
<b>Telematics</b>										
Descartes Systems	\$ 34.39	73.2%	\$2,939	\$2,908	8.2x	7.4x	21.3x	18.8x	NM	48.6x
Inseego	\$ 6.23	64.9%	\$501	\$640	2.4x	1.9x	47.9x	14.2x	NM	36.6x
TomTom	€ 7.12	48.6%	\$1,028	\$581	0.9x	0.8x	32.1x	10.2x	NM	44.5x
Orbcomm	\$ 2.44	30.1%	\$191	\$405	1.4x	1.3x	6.0x	5.3x	NM	NM
Ituran	\$ 14.21	38.5%	\$297	\$328	1.2x	1.1x	5.1x	4.5x	9.6x	7.7x
CalAmp	\$ 4.50	30.8%	\$152	\$290	0.8x	0.8x	7.9x	6.2x	9.5x	10.1x
MIX Telematics	R 6.08	58.5%	\$191	\$184	1.5x	1.4x	5.2x	4.7x	17.8x	14.7x
Quartix	£ 2.29	51.9%	\$137	\$129	4.0x	3.9x	15.6x	15.2x	20.3x	19.7x
TeleNav (1)	\$ 4.32	37.3%	\$211	\$90	0.3x	0.3x	7.3x	9.2x	NM	NM
Quarterhill (fka Wi-LAN)	C\$ 1.69	82.8%	\$141	\$75	0.7x	0.6x	4.0x	3.0x	15.8x	7.4x
<b>Mean</b>		<b>51.7%</b>			<b>2.1x</b>	<b>2.0x</b>	<b>15.2x</b>	<b>9.1x</b>	<b>14.6x</b>	<b>23.7x</b>
<b>Median</b>		<b>50.2%</b>			<b>1.3x</b>	<b>1.2x</b>	<b>7.6x</b>	<b>7.7x</b>	<b>15.8x</b>	<b>17.2x</b>
<b>Logistics</b>										
UPS	\$ 93.42	75.2%	\$80,621	\$103,063	1.3x	1.3x	9.7x	9.0x	11.9x	11.1x
FedEX	\$ 121.26	61.2%	\$31,770	\$63,446	0.9x	0.9x	8.7x	7.9x	11.5x	10.0x
Deutsche Post	€ 24.78	71.0%	\$34,346	\$48,780	0.7x	0.7x	5.4x	5.1x	11.0x	9.6x
AP Moeller Maersk	DKK 6092.00	59.1%	\$18,000	\$28,581	0.7x	0.7x	5.6x	5.0x	NM	21.3x
Hapag Lloyd	€ 71.20	89.2%	\$13,731	\$19,838	1.4x	1.4x	10.6x	9.4x	NM	31.1x
XPO Logistics	\$ 48.75	49.2%	\$5,021	\$12,348	0.7x	0.7x	6.9x	6.4x	10.2x	8.7x
J.B. Hunt	\$ 92.23	76.4%	\$9,917	\$11,303	1.2x	1.1x	8.3x	7.6x	16.7x	14.5x
C.H. Robinson	\$ 66.20	72.4%	\$9,044	\$10,153	0.7x	0.6x	13.1x	11.7x	18.6x	16.1x
Knight-Swift Trucking	\$ 32.80	82.5%	\$5,621	\$6,273	1.3x	1.3x	6.8x	6.1x	16.4x	14.0x
Schneider Trucking	\$ 19.34	80.6%	\$3,431	\$3,275	0.7x	0.7x	5.5x	5.1x	15.3x	13.1x
Werner	\$ 36.26	91.6%	\$2,528	\$2,806	1.1x	1.1x	6.1x	5.7x	17.7x	15.1x
<b>Mean</b>		<b>73.5%</b>			<b>1.0x</b>	<b>0.9x</b>	<b>7.9x</b>	<b>7.2x</b>	<b>14.4x</b>	<b>15.0x</b>
<b>Median</b>		<b>75.2%</b>			<b>0.9x</b>	<b>0.9x</b>	<b>6.9x</b>	<b>6.4x</b>	<b>15.3x</b>	<b>14.0x</b>
<b>Communications / Infrastructure</b>										
AT&T	\$ 29.15	73.6%	\$213,990	\$404,157	2.2x	2.2x	6.8x	6.7x	8.1x	7.6x
Verizon	\$ 53.73	86.6%	\$222,496	\$352,706	2.6x	2.6x	7.4x	7.2x	10.9x	10.6x
Cisco Systems	\$ 39.31	67.7%	\$167,461	\$156,233	3.1x	3.0x	8.3x	8.1x	12.1x	11.6x
T-Mobile	\$ 83.90	83.5%	\$72,503	\$113,309	2.4x	2.3x	8.1x	7.7x	18.7x	15.7x
Sprint	\$ 8.62	85.8%	\$35,420	\$76,849	2.4x	2.5x	7.3x	7.4x	NM	NM
Hitachi	¥ 3143.00	67.2%	\$28,116	\$46,650	0.6x	0.5x	4.7x	4.3x	5.6x	5.2x
Toshiba	¥ 2380.00	59.8%	\$10,114	\$10,948	0.3x	0.3x	4.9x	4.3x	22.8x	8.9x
<b>Mean</b>		<b>74.9%</b>			<b>1.9x</b>	<b>1.9x</b>	<b>6.8x</b>	<b>6.5x</b>	<b>13.0x</b>	<b>9.9x</b>
<b>Median</b>		<b>73.6%</b>			<b>2.4x</b>	<b>2.3x</b>	<b>7.3x</b>	<b>7.2x</b>	<b>11.5x</b>	<b>9.7x</b>

Source: FactSet, SEC Filings and Third Party Providers. Values in U.S. Dollars. Share prices shown in local currencies. Multiples above 50.0x not shown. Note: Few of the companies in the comparables set have, at the time of publication of this Monthly, updated their 2020E guidance to take into account COVID-19 Impacts. Therefore, the above 2020E multiples should be reviewed in that context.

(1) Denotes limited equity research coverage.

## Nomura Greentech Offices



## Nomura Greentech Transactions

### Mergers & Acquisitions

- Corporate sales
- Acquisitions
- Minority investments
- Joint ventures
- Fairness opinions

**\$33bn**

### Asset Transactions

- Acquisitions
- Divestitures
- Passive equity
- Development capital formation

Operating **27GW** | Development **50GW**

### Capital Raising

- Equity private placements
- Debt private placements
- Project finance advisory
- Co-managed public offerings

**\$4bn**

### Strategic Advisory

- Strategic consulting
- IPO preparation
- Financial restructuring
- Specialized opinions
- Independent capital markets advice

**>25 assignments**

Note: As of March 31<sup>st</sup>, 2020.

## Highly Experienced Senior Leadership Supported by 65 Professionals

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<p><b>Steve Megyery</b></p> <p>Managing Director New York</p> <p><a href="mailto:steve.megyery@nomura.com">steve.megyery@nomura.com</a> <a href="http://nomura.com">nomura.com</a></p> <ul style="list-style-type: none"> <li>■ 15+ years of experience</li> <li>■ &gt;30 completed transactions</li> <li>■ Head of Private Placements</li> <li>■ Cleantech</li> <li>■ Power infrastructure</li> </ul>	<p><b>Frank Nicklaus</b></p> <p>Managing Director New York</p> <p><a href="mailto:frank.nicklaus@nomura.com">frank.nicklaus@nomura.com</a> <a href="http://nomura.com">nomura.com</a></p> <ul style="list-style-type: none"> <li>■ 15+ years of experience</li> <li>■ &gt;25 completed transactions</li> <li>■ Renewable energy assets</li> <li>■ Power infrastructure services</li> <li>■ Renewable energy value chain</li> </ul>	<p><b>Diego Pignatelli</b></p> <p>Managing Director Zürich</p> <p><a href="mailto:diego.pignatelli@nomura.com">diego.pignatelli@nomura.com</a> <a href="http://nomura.com">nomura.com</a></p> <ul style="list-style-type: none"> <li>■ 30+ years of experience</li> <li>■ &gt;60 completed transactions</li> <li>■ European coverage</li> <li>■ Industrials and energy companies</li> <li>■ Utilities</li> </ul>	<p><b>Damien Sauer</b></p> <p>Managing Director Zürich</p> <p><a href="mailto:damien.sauer@nomura.com">damien.sauer@nomura.com</a> <a href="http://nomura.com">nomura.com</a></p> <ul style="list-style-type: none"> <li>■ 20+ years of experience</li> <li>■ &gt;50 completed transactions</li> <li>■ Energy efficiency</li> <li>■ Power infrastructure</li> <li>■ Renewable energy value chain</li> <li>■ Smart grid</li> </ul>	<p><b>Alex Stein</b></p> <p>Managing Director Zürich</p> <p><a href="mailto:alex.stein@nomura.com">alex.stein@nomura.com</a> <a href="http://nomura.com">nomura.com</a></p> <ul style="list-style-type: none"> <li>■ 10+ years of experience</li> <li>■ &gt;20 completed transactions</li> <li>■ Energy transition</li> <li>■ Industry 4.0</li> <li>■ Environmental technology and services</li> </ul>	<p><b>Duncan Williams</b></p> <p>Managing Director San Francisco</p> <p><a href="mailto:duncan.williams@nomura.com">duncan.williams@nomura.com</a> <a href="http://nomura.com">nomura.com</a></p> <ul style="list-style-type: none"> <li>■ 25+ years of experience</li> <li>■ &gt;40 completed transactions</li> <li>■ Sustainable Food &amp; AgTech</li> <li>■ Advanced transportation</li> <li>■ Industrial IoT &amp; software</li> <li>■ Environmental services</li> <li>■ Water</li> </ul>	

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