



October 2018

Electric  
Vehicles



Ecosystem  
Intelligence



Mobility-as-  
a-Service



Autonomous  
Infrastructure



Data &  
Analytics



## About Greentech Capital Advisors

Our mission is to empower companies and investors who are creating a more efficient and sustainable global infrastructure. We are purpose-built to ensure that our clients achieve success. We have deeply experienced bankers and investment professionals who are sector experts and understand our clients' industries and needs. We reach a vast global network of buyers, growth companies, asset owners and investors, and thereby provide clients with more ways to succeed through a deeper relationship network. We have directly relevant transaction experience which enables us to find creative structures and solutions to close transactions. We are an expert team of 65 professionals working seamlessly on our clients' behalf in New York, Zurich and San Francisco and through a strategic partnership in Japan. Our team of experienced bankers and investment professionals provides conflict-free advice and thoughtful, innovative solutions.

### Selected Business Developments

- > **BMW** invested \$4.1bn and increased their stake from 50% to 75% in their Chinese JV, Brilliance China Automotive, marking the first time a large foreign company acquires majority control of a Chinese automotive venture ([Reuters](#))
- > **Bosch** is launching an electric van sharing service in Germany to help customers transport bulky items from hardware stores ([Automotive World](#))
- > **DiDi**, China's \$56bn ride-hailing startup, is entering the hotel-booking business as it aims to diversify operations before a potential IPO ([TechCrunch](#))
- > **Dyson** committed \$2.6bn to the EV space, choosing Singapore for the location of their first plant, planning to start selling EVs in 2021 ([Bloomberg](#))
- > **Ford** wants to standardize the signals that autonomous vehicles use to communicate their intentions to pedestrians, cyclists and drivers ([CNET](#))
- > Ford's Argo is entering their fourth market, Washington D.C. ([TechCrunch](#))
- > **Lyft** is rolling out a monthly subscription that grants users thirty \$15 rides for \$299 as part of their plan to replace vehicle ownership ([TechCrunch](#))
- > **Mazda** announced they plan to introduce their first EV by 2020, marking a shift away from their heavy focus on internal combustion engines ([Reuters](#))
- > **Mercedes** announced that starting in 2020 all Mercedes S Class vehicles will ship with L3 autonomy capable of eyes-off driving ([Automotive News Europe](#))
- > **Nvidia** released their autonomous technology safety report, becoming the fifth company to do so, highlighting their progress in the space ([Nvidia](#))
- > Elon Musk relinquished his role as Chairman at **Tesla**, agreeing to pay a \$20mm fine following a settlement with the SEC ([TechCrunch](#))
- > **Tesla** has purchased land in Shanghai, advancing on their plan for a second Gigafactory in China with an annual capacity of 500,000 EVs ([TechCrunch](#))
- > **Uber**, eager to add new sources of revenue before an expected IPO next year, is launching a trailer rental business called Powerloop ([WSJ](#))
- > Uber rolled out Ride Pass, a \$15 monthly subscription service that provides access to discounted rides and less exposure to surge pricing ([The Verge](#))
- > **Volvo** announced that their next generation of vehicles would ship with "L2+" autonomous capabilities, similar to Tesla's Autopilot ([The Verge](#))
- > **VW** started construction in China on their first factory designed to produce their new vehicle platform used by their EVs ([Electrek](#))
- > After reaching 8 million miles in July, **Waymo** announced that its AV fleet has driven over 10 million miles on public roads across 25 cities ([TechCrunch](#))
- > **Waze**, a car-pooling app owned by Alphabet, extended their services across the country with a focus on Amazon Fulfillment Center employees ([TechCrunch](#))

#### Greentech's Take:

- > Western OEMs are investing heavily in production in and around China in an effort to supply the country's heavy demand for EVs while avoiding import tariffs

### Selected Regulatory Developments

#### Greentech's Take:

- > The report provides companies guidelines on automation, but uncertainties around precise rules still complicate AV sales in the U.S.
- > **Austria** is allowing EV owners to park for free, use the bus lane and drive at a higher speed limit in an effort to electrify the country's fleet ([New Mobility](#))
- > **California** has granted Waymo the state's first permit to operate fully autonomous vehicles without a safety driver behind the wheel ([The Verge](#))
- > **Denmark** will ban the sale of new fossil-fueled cars in 2030 and aims to have over 1 million electric or hybrid vehicles on their roads by 2030 ([Bloomberg](#))
- > New guidelines from the **National Highway Traffic Safety Administration** will allow cars specifically designed for L4 autonomy to drive on public roads ([IEEE](#))
- > The **U.K.** announced changes to their highly successful Plug-In Car Grant program, ending incentives for plug-in hybrid vehicles and reducing the incentives for EVs after the program issued 160,000 grants ([Electrek](#))

### Selected Capital Raises

#### Greentech's Take:

- > AI software startups focused on analyzing human behavior in and around the car are attracting capital as AVs continue to struggle with perhaps the most unpredictable variable of their environment, humans

- > **Aeva**, a sensor developer for AVs that blends LiDAR and other technologies, raised a \$45mm round from Lux Capital and Canaan Partners ([The Verge](#))
- > **Cognata**, an Israeli designer of driving simulations used to test AV software, raised a \$19mm round led by Scale Venture Partners ([TechCrunch](#))
- > **Eyesight**, a developer of driver-engagement tools, closed a \$15mm round led by Jebsen Capital, Arie Capital and Mizrahi Tefahot ([TechCrunch](#))
- > **Grab**, the Southeast Asian ride-sharing giant, received funding from Microsoft in a deal that includes collaboration on big data and AI projects ([TechCrunch](#)); Grab also raised \$200mm from Booking.com in their ongoing round of funding, which is expected to reach \$3bn by year end ([TechCrunch](#))
- > **Grin**, a Y Combinator-backed electric scooter startup based in Mexico City, raised a \$46mm round from Lukasz Gadowski ([TechCrunch](#))
- > **Innovusion**, a LiDAR startup, has raised a \$30mm round co-led by Nio and Eight Roads Ventures, with participation from F-Prime Capital ([TechCrunch](#))
- > **Perceptive Automata**, a human behavior prediction company, raised \$16mm from Jazz Venture Partners, Hyundai and Toyota AI Ventures ([Newswire](#))
- > **RoboSense**, a Chinese maker of LiDAR sensors used by AVs, raised a \$45mm round from Alibaba, SAIC Motor Corp. and BAIC ([PR Newswire](#))
- > **Silicon Mobility**, a producer of full stack semiconductor technology for AVs, raised a \$10mm round led by Capital-E and Cipio Partners ([New Mobility](#))
- > **WeRide.ai**, a Chinese AV startup, raised an undisclosed sum from Alliance Ventures and plans to deploy a fleet of 500 robotaxis in 2019 ([PR Newswire](#))

### Selected Mergers & Acquisitions

- > **Cubic Corporation** acquired **Trafficware**, a provider of intelligent traffic solutions, for \$236mm ([PR Newswire](#))
- > **Innogy**, a German energy company, acquired **Recargo**, a US-based developer of an electric vehicle charging application called PlugShare ([New Mobility](#))
- > **KKR's Calsonic Kansei** acquired **Magnetti Marelli**, an auto parts manufacturer, from **Fiat Chrysler** in a \$7bn leveraged buyout ([Bloomberg](#))
- > **Lyft** acquired **Blue Vision Labs**, a London startup focused on interactive augmented reality with automotive applications for \$72mm ([TechCrunch](#))
- > **Volvo** acquired **FreeWire**, a developer of stationary and mobile fast charging solutions, to accelerate its stated goal of 50% electric fleet by 2025 ([Electrek](#))

### Selected Partnerships

#### Greentech's Take:

- > Honda's investment in GM Cruise demonstrates their recognition of the need to catch up to competitors in the AV race, after discussions with Waymo failed to materialize

- > **Chargepoint** and **EVBox**, a combined 100,000 charge points, have agreed to offer free roaming between their EV charging networks ([Electrek](#))
- > **Cruise** and **Honda** are teaming up to develop a purpose-built AV, with Honda devoting \$2bn to the effort and investing \$750mm in Cruise ([The Verge](#))
- > **DiDi** is forming a JV with **SoftBank** and launching their platform in Osaka, Japan, in partnership with a group of local taxi partners ([Bloomberg](#))
- > **Geely** and **Daimler** are forming a JV in China to offer ride-hailing services, their first collaboration since Geely acquired part of Daimler this year ([FT](#))
- > **Groupe Renault** signed individual partnership agreements with **EDF**, **Total** and **Enel** to work on charging infrastructure and energy supply ([New Mobility](#))
- > **Huawei** and **Audi** announced they will develop L4 autonomous technology together for cars that will be sold in China ([The Verge](#))
- > **SoftBank** and **Toyota** are partnering to provide "just in time" services in autonomous vehicles, such as food prepared as it is delivered, hospital shuttles that host medical examinations, or mobile offices ([TechCrunch](#))
- > **VW** and **Intel's Mobileye** are partnering to launch a robotaxi service in Israel in 2019, where VW will supply EVs and Mobileye the AV tech ([The Verge](#))
- > VW is partnering with **Microsoft** to develop in-car cloud services, such as billing for EVs, car sharing, e-commerce applications and telematics ([FT](#))
- > VW and **Siemens** are partnering to develop intelligent transportation systems, such as traffic light to vehicle communication technology ([New Mobility](#))

### Capital Raises

Date	Company	Invested (\$mm) <sup>(1)</sup>	Investors	Company Description
10/1	Aeva	\$45	Lux Capital, Canaan Partners	Developer of sensor technology for AVs that blend LiDAR and other technologies
10/3	Project 44	\$45	Sapphire Ventures	Advanced visibility platform for shippers and third-party logistics firms
10/9	Loadsmart	\$22	Chromo Invest, Connor Capital, Maersk Growth	Developer of an on-demand trucking platform
10/9	Perceptive Automata	\$16	Jazz Venture Partners, Hyundai, Toyota AI Ventures, First Round Capital, Slow Ventures	Provider of human behavior prediction software for machines
10/9	Shipwell	\$10	Aspect Ventures, Base10 Partners, Fifth Wall Ventures, First Round Capital, Global Founders Capital, Village Global	Freight shipping platform for truck-hailing
10/9	YourMechanic	\$10	RBC, SoftBank, Verizon Ventures, American Family Ventures, Data Point Capital	Mobile car repair network
10/10	Grin	\$46	500 Startups, Base10 Partners, DCM Ventures, Liquid 2 Ventures, Monashees Capital, Sinai Ventures, The Pioneer Fund, Xylo Capital	Mexico-based electric scooter sharing startup
10/11	RoboSense	\$45	Alibaba, BAIC, SAIC	Developer of LiDAR sensor technology for AVs
10/11	Silicon Mobility	\$10	Capital-E, Cipio Partners	Producer of full stack semiconductor technology for AVs
10/16	Alto	\$13	Road Ventures	Personalized ride-hailing service provider
10/16	Vayavision	\$8	Viola Ventures, Mizmaa Ventures, OurCrowd, Mitsubishi UFJ Capital, LG	AV technology developer
10/17	Cognata	\$19	Scale Venture Partners, Emerge, Maniv Mobility, Airbus Ventures, Global IoT Technology Ventures	Israeli simulation designer used by AV companies to test software
10/18	Careem	\$200	Daimler, DiDi, Al Tayyar Group, STV, Rakuten	Middle Eastern ride-hailing company
10/21	Momenta	n/a	Tencent	Chinese AV technology developer
10/23	Eyesight	\$15	Jebsen Capital, Arie Capital, Mizrahi Tefahot	Developer of driver-engagement tools
10/25	Innovusion	\$30	Nio, Eight Roads Ventures, F-Prime Capital	Developer of LiDAR sensor technology for AVs
10/28	Grab	\$400	Booking.com, Microsoft	Southeast Asian ride-sharing company
10/31	WeRide.ai	n/a	Alliance Ventures	Chinese AV technology developer

### Mergers & Acquisitions

Date	Target	Acquiror	EV (\$mm)	EV		Target Description
				Revenue	EBITDA	
10/8	Veltec	Trimble	n/a	n/a	n/a	Brazil-based provider of fleet management systems
10/9	Recargo	innogy	n/a	n/a	n/a	Developer of an EV charging application
10/11	PayTollo	SiriusXM	n/a	n/a	n/a	Mobile payment platform for toll roads and bridges
10/17	SmartFreight	WiseTech	\$55	n/a	n/a	Sydney-based developer of an on-demand shipping platform
10/19	ASAP (35%)	ZF	n/a	n/a	n/a	German maker of software and testing systems for autonomous driving applications and electric vehicles
10/21	Magnetti Marelli (FCA)	Calsonic Kansei (KKR)	\$7,140	n/a	n/a	Diversified auto parts maker that specialises in lighting, powertrain and electronics
10/23	Blue Vision Labs	Lyft	\$72	n/a	n/a	London-based startup focused on interactive augmented reality with automotive applications
10/24	FreeWire	Volvo	n/a	n/a	n/a	Manufacturer of mobile rapid charging systems for EVs
10/24	Trafficware	Cubic Corporation	\$236	4.7x <sup>(2)</sup>	16.3x <sup>(2)</sup>	Provider of intelligent traffic solutions

Source: Greentech Estimates, FactSet, Public Disclosures.

(1) Investment amounts in \$ millions unless otherwise indicated.

(2) Derived from expected 2019 figures.

# Advanced Mobility Market Update

## Trading Comparables

Company	Price as of 10/31/2018	Market Cap (\$mm)	Firm Value (\$mm)	EV / Revenue		EV / EBITDA		P / E	
				2018E	2019E	2018E	2019E	2018E	2019E
<b>Automotive Companies</b>									
Toyota	¥ 6615.00	\$191,261	\$331,896	1.3x	1.2x	10.1x	9.6x	8.3x	8.2x
Volkswagen	€ 145.80	83,505	249,425	0.9x	0.9x	6.4x	5.9x	5.8x	5.1x
Daimler	€ 52.36	63,470	197,452	1.0x	1.0x	9.8x	9.3x	6.5x	6.1x
BMW	€ 76.23	56,198	157,633	1.4x	1.4x	10.3x	9.5x	7.3x	7.0x
Ford	\$ 9.55	37,990	155,207	1.0x	1.0x	13.1x	12.9x	7.2x	7.2x
General Motors	\$ 36.59	51,624	121,472	0.8x	0.8x	8.8x	8.7x	6.1x	6.2x
Nissan	¥ 1027.50	38,428	99,902	1.0x	0.9x	10.2x	9.6x	6.9x	7.1x
Honda	¥ 3241.00	52,021	99,162	0.7x	0.7x	8.4x	7.9x	7.3x	7.8x
Tesla	\$ 337.32	57,544	67,542	3.2x	2.3x	34.3x	17.6x	NM	58.5x
Hyundai	₩ 106500.00	23,794	66,164	0.8x	0.8x	11.3x	9.7x	9.8x	6.7x
Renault	€ 66.07	22,138	65,209	1.0x	1.0x	8.9x	8.5x	4.5x	4.2x
SAIC Motor	¥ 27.11	45,416	57,900	0.4x	0.4x	10.0x	9.2x	8.4x	7.8x
Fiat Chrysler	€ 13.45	29,863	50,401	0.4x	0.4x	3.4x	3.2x	4.4x	4.1x
BYD	HK\$ 50.80	18,094	30,887	1.7x	1.4x	14.1x	12.0x	36.1x	26.9x
Suzuki	¥ 5650.00	24,584	24,331	0.7x	0.7x	4.9x	4.5x	10.4x	9.8x
Peugeot	€ 21.03	21,560	16,677	0.2x	0.2x	1.9x	1.8x	6.4x	5.6x
Geely	HK\$ 15.00	17,180	15,296	0.9x	0.8x	5.9x	5.0x	8.6x	6.9x
Subaru	¥ 3053.00	20,808	13,031	0.4x	0.4x	3.4x	2.9x	9.6x	8.3x
Tata Motors	RS 178.65	7,646	12,680	0.3x	0.3x	2.6x	2.1x	9.2x	7.1x
NIO	\$ 5.90	6,053	11,220	19.1x	4.3x	NM	NM	NM	NM
Guangzhou Automobile	HK\$ 7.93	14,154	10,545	1.0x	0.8x	9.6x	9.3x	5.8x	5.2x
Dongfeng Motor	HK\$ 7.72	8,485	9,716	0.5x	0.5x	25.1x	24.0x	4.0x	3.9x
Mitsubishi	¥ 711.00	9,389	7,459	0.3x	0.3x	4.7x	3.9x	9.4x	8.6x
KIA	₩ 28400.0	10,103	7,028	0.1x	0.1x	2.5x	2.1x	7.4x	5.7x
Mazda	¥ 1224.00	6,852	6,078	0.2x	0.2x	3.7x	3.2x	9.2x	8.5x
FAW Car Goup	¥ 6.51	1,519	1,432	0.3x	0.3x	9.0x	9.1x	50.1x	43.4x
Navya <sup>(1)</sup>	€ 4.35	134	130	4.1x	1.2x	NM	NM	NM	NM
<b>Mean</b>				<b>1.6x</b>	<b>0.9x</b>	<b>9.3x</b>	<b>8.0x</b>	<b>8.6x</b>	<b>9.7x</b>
<b>Median</b>				<b>0.8x</b>	<b>0.8x</b>	<b>8.8x</b>	<b>8.6x</b>	<b>7.3x</b>	<b>7.0x</b>
<b>Truck Companies</b>									
Daimler	€ 52.36	\$63,470	\$197,452	1.0x	1.0x	9.8x	9.3x	6.5x	6.1x
Volvo	KR 136.80	31,878	42,845	1.0x	1.0x	7.0x	7.1x	9.7x	9.5x
PACCAR	\$ 57.21	20,012	25,099	1.1x	1.1x	8.9x	8.7x	9.3x	9.2x
MAN SE	€ 92.00	15,319	18,671	1.1x	1.0x	15.2x	13.0x	24.3x	30.2x
Isuzu	¥ 1482.00	11,141	11,805	0.6x	0.6x	5.3x	4.9x	9.8x	8.9x
Navistar	\$ 33.49	3,311	7,653	0.8x	0.7x	9.3x	8.4x	10.0x	9.0x
<b>Mean</b>				<b>0.9x</b>	<b>0.9x</b>	<b>9.3x</b>	<b>8.6x</b>	<b>11.6x</b>	<b>12.1x</b>
<b>Median</b>				<b>1.0x</b>	<b>1.0x</b>	<b>9.1x</b>	<b>8.6x</b>	<b>9.8x</b>	<b>9.1x</b>
<b>Tier 1 Suppliers</b>									
Continental	€ 145.95	\$33,075	\$36,865	0.7x	0.7x	5.2x	4.7x	10.2x	9.4x
Denso	¥ 5050.00	35,533	35,864	0.7x	0.7x	5.8x	5.4x	12.5x	11.8x
Bridgestone	¥ 4363.00	29,441	28,620	0.9x	0.8x	5.1x	4.9x	10.8x	10.8x
Aptiv	\$ 76.80	20,332	23,869	1.7x	1.6x	9.8x	9.1x	14.6x	13.3x
Michelin	€ 90.74	18,401	23,381	0.9x	0.9x	5.0x	4.6x	9.3x	8.3x
Magna	C\$ 64.81	16,780	20,582	0.5x	0.5x	4.9x	4.6x	7.4x	6.8x
Valeo	€ 28.55	7,772	11,287	0.5x	0.5x	4.2x	3.8x	9.3x	7.9x
Goodyear	\$ 21.06	4,907	10,665	0.7x	0.7x	5.1x	4.9x	7.7x	6.6x
BorgWarner	\$ 39.41	8,208	10,086	1.0x	0.9x	5.8x	5.5x	9.0x	8.5x
Lear	\$ 132.90	8,529	9,586	0.5x	0.4x	4.3x	4.3x	7.3x	7.0x
Faurecia	€ 42.91	6,711	7,654	0.4x	0.4x	3.3x	3.1x	8.1x	7.3x
Delphi	\$ 21.44	1,904	3,216	0.7x	0.6x	4.3x	4.1x	5.0x	4.9x
Visteon <sup>(1)</sup>	\$ 79.04	2,285	2,338	0.8x	0.8x	7.1x	6.9x	13.9x	12.9x
Veoneer	\$ 33.58	2,925	2,117	0.9x	0.9x	NM	NM	NM	NM
ATS Automation Tooling Systems	C\$ 19.36	1,388	1,385	1.5x	1.4x	11.2x	10.0x	21.8x	18.4x
Stoneridge	\$ 25.41	724	767	0.9x	0.9x	7.2x	6.7x	12.6x	11.9x
<b>Mean</b>				<b>0.8x</b>	<b>0.8x</b>	<b>5.9x</b>	<b>5.5x</b>	<b>10.6x</b>	<b>9.7x</b>
<b>Median</b>				<b>0.8x</b>	<b>0.7x</b>	<b>5.1x</b>	<b>4.9x</b>	<b>9.3x</b>	<b>8.5x</b>

Source: FactSet, SEC filings and third party providers. Values in U.S. Dollars. Share prices shown in local currencies.

(1) Denotes limited equity research coverage.

# Advanced Mobility Market Update

## Trading Comparables (cont.)

Company	Price as of 10/31/2018	Market Cap (\$mm)	Firm Value (\$mm)	EV / Revenue		EV / EBITDA		P / E	
				2018E	2019E	2018E	2019E	2018E	2019E
<b>Autonomous Driving Chip Makers</b>									
Intel	\$ 46.88	\$213,960	\$229,163	3.2x	3.1x	7.1x	7.1x	10.4x	10.3x
Nvidia	\$ 210.83	128,185	122,243	9.4x	8.3x	23.2x	20.6x	29.7x	26.4x
Qualcomm	\$ 62.89	57,274	43,845	2.0x	1.9x	7.1x	5.7x	16.5x	13.4x
Advanced Micro Devices	\$ 18.21	17,752	17,999	2.8x	2.6x	26.0x	19.0x	39.5x	28.6x
<b>Mean</b>				<b>4.3x</b>	<b>4.0x</b>	<b>15.9x</b>	<b>13.1x</b>	<b>24.0x</b>	<b>19.7x</b>
<b>Median</b>				<b>3.0x</b>	<b>2.8x</b>	<b>15.2x</b>	<b>13.1x</b>	<b>23.1x</b>	<b>19.9x</b>
<b>Intelligent Transport</b>									
Roper Technologies	\$ 282.90	29,236	34,089	6.6x	6.4x	19.0x	18.3x	24.2x	23.7x
FLIR Systems	\$ 46.31	6,407	6,235	3.5x	3.3x	14.8x	12.7x	20.9x	19.3x
Conduent	\$ 19.10	4,033	5,216	0.9x	1.0x	NM	7.3x	17.4x	14.7x
LS Corp	W 50500.00	1,427	4,423	0.5x	0.5x	NM	6.0x	3.3x	5.7x
Cubic Corporation	\$ 65.61	1,788	1,892	1.6x	1.5x	18.3x	13.0x	71.2x	24.2x
Vaisala	€ 17.30	714	643	1.6x	1.5x	12.9x	9.6x	23.4x	17.5x
Kapsch TrafficCom	€ 31.50	464	472	0.6x	0.6x	NM	5.8x	14.2x	11.7x
INIT Innovation in Traffic Systems	€ 16.35	186	211	1.3x	1.2x	NM	9.2x	23.2x	17.3x
Iteris, Inc	\$ 4.32	144	130	1.2x	1.1x	NM	46.3x	NM	NM
Q-Free	NOK 7.60	81	98	0.9x	0.8x	NM	6.6x	39.0x	13.5x
Image Sensing Systems <sup>(1)</sup>	\$ 5.58	29	26	NM	NM	NM	NM	NM	NM
<b>Mean</b>				<b>1.9x</b>	<b>1.8x</b>	<b>16.3x</b>	<b>13.5x</b>	<b>26.3x</b>	<b>16.4x</b>
<b>Median</b>				<b>1.3x</b>	<b>1.2x</b>	<b>16.5x</b>	<b>9.4x</b>	<b>23.2x</b>	<b>17.3x</b>
<b>ITS / Smart Tolling</b>									
Atlantia	€ 17.76	16,617	33,807	4.9x	4.7x	7.6x	7.4x	13.1x	11.3x
Ferrovial	€ 17.70	14,827	19,841	1.4x	1.4x	27.9x	19.9x	70.7x	33.5x
Autostrada	€ 17.52	1,965	5,210	2.6x	2.5x	6.0x	5.7x	7.9x	7.3x
<b>Mean</b>				<b>3.0x</b>	<b>2.9x</b>	<b>13.8x</b>	<b>11.0x</b>	<b>30.6x</b>	<b>17.4x</b>
<b>Median</b>				<b>2.6x</b>	<b>2.5x</b>	<b>7.6x</b>	<b>7.4x</b>	<b>13.1x</b>	<b>11.3x</b>
<b>Telematics</b>									
Descartes Systems	\$ 30.59	\$2,358	\$2,382	8.6x	7.8x	25.4x	22.2x	72.3x	56.2x
TomTom	€ 7.40	1,972	1,816	1.9x	2.0x	7.9x	8.3x	19.6x	19.9x
Orbcomm	\$ 9.53	752	954	3.3x	3.0x	16.6x	12.1x	NM	NM
Ituran	\$ 34.12	728	698	3.0x	2.6x	9.9x	8.1x	16.4x	13.6x
CalAmp	\$ 19.94	693	657	1.7x	1.6x	12.0x	10.2x	16.3x	14.4x
MiX Telematics	R 9.49	387	373	2.9x	2.7x	10.3x	9.0x	36.3x	27.8x
Inseego	\$ 3.53	256	373	1.8x	1.7x	21.8x	13.8x	NM	58.8x
Quartix	£ 2.35	144	137	4.4x	4.5x	14.3x	16.3x	18.7x	21.2x
TeleNav	\$ 4.26	193	105	1.0x	0.5x	NM	NM	NM	NM
Quarterhill (fka Wi-LAN)	C\$ 1.64	148	82	1.0x	0.8x	NM	4.9x	NM	9.6x
<b>Mean</b>				<b>3.0x</b>	<b>2.7x</b>	<b>14.8x</b>	<b>11.6x</b>	<b>29.9x</b>	<b>27.7x</b>
<b>Median</b>				<b>2.4x</b>	<b>2.3x</b>	<b>13.2x</b>	<b>10.2x</b>	<b>19.1x</b>	<b>20.6x</b>
<b>Logistics</b>									
UPS	\$ 106.54	\$91,860	\$110,348	1.5x	1.4x	11.4x	10.3x	14.7x	13.6x
FedEx	\$ 220.34	58,063	72,638	1.0x	1.0x	7.7x	6.9x	13.3x	11.6x
Deutsche Post	€ 27.95	39,159	54,910	0.8x	0.8x	7.5x	6.4x	15.6x	12.1x
Fortive	\$ 74.25	24,797	28,673	4.0x	3.7x	17.4x	15.3x	23.2x	20.5x
J.B. Hunt	\$ 110.61	12,076	13,138	1.5x	1.4x	10.5x	9.1x	20.5x	17.2x
Penske	\$ 44.38	3,766	9,372	0.4x	0.4x	11.6x	11.7x	8.3x	8.0x
<b>Mean</b>				<b>1.5x</b>	<b>1.4x</b>	<b>11.0x</b>	<b>9.9x</b>	<b>15.9x</b>	<b>13.8x</b>
<b>Median</b>				<b>1.3x</b>	<b>1.2x</b>	<b>11.0x</b>	<b>9.7x</b>	<b>15.2x</b>	<b>12.9x</b>
<b>Communications / Infrastructure</b>									
AT&T	\$ 30.68	\$223,044	\$398,928	2.3x	2.2x	7.1x	6.6x	8.8x	8.6x
Verizon	\$ 57.09	235,897	346,978	2.7x	2.6x	7.3x	7.2x	12.2x	12.1x
Cisco Systems	\$ 45.75	209,139	188,160	3.8x	3.7x	10.7x	10.4x	16.5x	14.7x
T-Mobile	\$ 68.55	58,157	87,750	2.0x	1.9x	7.2x	6.8x	20.9x	17.4x
Sprint	\$ 6.12	24,899	56,725	1.7x	1.7x	4.6x	4.3x	13.2x	NM
Hitachi	¥ 3462.00	29,655	43,622	0.5x	0.5x	4.3x	4.1x	8.2x	7.7x
Xerox	\$ 27.87	6,833	11,149	1.1x	1.2x	7.4x	7.6x	8.3x	7.9x
Toshiba	¥ 3380.00	19,530	9,017	0.3x	0.3x	6.7x	6.0x	1.9x	5.3x
<b>Mean</b>				<b>1.8x</b>	<b>1.8x</b>	<b>6.9x</b>	<b>6.6x</b>	<b>11.3x</b>	<b>10.5x</b>
<b>Median</b>				<b>1.9x</b>	<b>1.8x</b>	<b>7.1x</b>	<b>6.7x</b>	<b>10.5x</b>	<b>8.6x</b>
<b>Aggregate Mean</b>				<b>1.8x</b>	<b>1.5x</b>	<b>10.0x</b>	<b>9.0x</b>	<b>15.2x</b>	<b>13.5x</b>
<b>Aggregate Median</b>				<b>1.0x</b>	<b>1.0x</b>	<b>8.1x</b>	<b>7.6x</b>	<b>9.9x</b>	<b>9.5x</b>

Source: FactSet, SEC filings and third party providers. Values in U.S. Dollars. Share prices shown in local currencies.

(1) Denotes limited equity research coverage.

# Global Experts in Sustainable Technology and Infrastructure

San Francisco

New York

Zürich

Tokyo

Partnership with Sangyo Sosei Advisory Inc.

## INVESTMENT BANKING<sup>(1)</sup>

### Mergers & Acquisitions

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

\$18bn

### 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

>20 assignments

## ASSET MANAGEMENT

### Public Equity

- GCA Sustainable Growth Fund
- GCA Emerging Markets Sustainable Growth Fund

(1) As of October 31, 2018

## Highly Experienced Partners Supported by 55 Professionals

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- > >150 completed transactions
- > Founder and head of advisory business
- > Large industrials and energy companies
- > Broad coverage of senior leaders

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- > Renewable energy assets
- > Distributed generation Water

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- > Distributed energy production
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- > Power infrastructure services
- > Renewable energy value chain
- > Environmental services

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- > >30 completed transactions
- > Energy software and services
- > Energy efficiency
- > Renewable energy
- > Smart grid
- > Blockchain

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- > >30 completed transactions
- > Head of Private Placements
- > Cleantech
- > Power infrastructure

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- > >60 completed transactions
- > European coverage
- > Industrials and energy companies
- > Utilities

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- > Power infrastructure
- > Renewable energy value chain
- > Smart grid

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- > 25+ years of experience
- > Chief Legal Officer and Chief Compliance Officer of Greentech Capital Advisors
- > Chief Operating Officer of GCA Investment Management

**David Smith**



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- > Portfolio Manager of GCA Sustainable Growth Long-Only Fund

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- > 20+ years of experience
- > >40 completed transactions
- > Advanced transportation
- > Industrial IoT & software
- > Environmental services
- > Advanced building products
- > Water

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