



November 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

#### Greentech's Take:

- > While EV sales still make up a small part of total auto sales, legacy OEMs are investing heavily to restructure their portfolios around the electrification revolution

- > **Endesa**, Spain's largest utility, announced a plan to install over 108,000 public and private charging points for EVs in Spain ([New Mobility](#))
- > **FedEx** has acquired 1,000 electric vans from Chanje, a California-based and Chinese-backed EV producer, to electrify its fleet ([TechCrunch](#))
- > **GM** has announced a restructuring plan that will close five plants in the US and cut 14,000 jobs to free capital to invest in EVs ([Electrive](#))
- > GM's **Maven** will open its peer-to-peer car sharing platform to micro-fleet entrepreneurs, allow non-GM vehicles and enter new markets ([TechCrunch](#))
- > GM president, Dan Ammann, has transitioned to CEO of Cruise ([TechCrunch](#))
- > **Lime** will deploy 500 small EVs in Seattle, rather than its usual fleet of scooters and bikes, highlighting their desire to be a general mobility company ([Electrek](#))
- > **Lyft** launched Lyft Rewards, which lets riders earn points for each dollar spent and use them for upgrades or savings on future rides ([TechCrunch](#))
- > **Polestar**, Volvo's performance EV brand, expects up to half of its sales to come from China when it launches its first model there in 2019 ([Bloomberg](#))
- > **Renault-Nissan-Mitsubishi** Chairman Carlos Ghosn was arrested over financial misconduct allegations and ousted from the alliance ([The New York Times](#))
- > **Rivian**, a secretive EV company, has come out of stealth with a \$69,000, 400-mile range electric truck and ~\$500mm in funding ([The Verge](#))
- > **Tesla** has reached 1 billion miles driven in AutoPilot mode ([Electrek](#))
- > Tesla has vertically integrated and acquired a trucking company in an effort to maximize deliveries before the EV subsidy is retired by year-end ([TechCrunch](#))
- > Tesla picked existing board member Robyn Denholm, a long term technology executive, as new Chairman following Musk's removal ([The New York Times](#))
- > **Uber** is launching its own loyalty program, called Uber Rewards, in 9 US cities, offering perks like free upgrades and guaranteed pricing ([TechCrunch](#))
- > Uber is losing \$939mm per quarter as it continues to grow into new segments, such as Uber Eats which has grown 150% over the past year ([TechCrunch](#))
- > **Volvo** sold six autonomous trucks to a Norwegian mining company following a successful pilot, marking its first AV sale ([New Mobility](#))
- > **VW** is embarking on a \$50bn electrification plan over the next five years that will see the development of an all new fleet of 50 EV models ([Bloomberg](#))
- > **Waymo's** long awaited deployment of its paid robotaxi service in Phoenix will launch in early December under a new brand name ([Bloomberg](#))

### Selected Regulatory Developments

#### Greentech's Take:

- > States are taking pollution control into their own hands after the federal government weakened their emission standards

- > **British Columbia** is introducing legislation next year that will require all new light-duty cars and trucks to be zero-emissions by 2040 ([Reuters](#))
- > **China** will install a cap-and-trade system starting in 2019 - mandating that vehicle manufacturers meet zero- and low-emission vehicle quotas ([Bloomberg](#))
- > **Colorado, Pennsylvania and Washington** are adopting California's low emission vehicle standards rather than the federal standards ([Green Car Reports](#))
- > **Israel** is reviewing a bill that will ban ICE vehicles by 2030 ([CleanTechnica](#))
- > **London** is partnering with **Bosch** to share data, expertise and to tap into the local startup ecosystem to find solutions to urban mobility issues ([TechCrunch](#))
- > **Madrid** is establishing a low-emissions zone that covers 1,166 acres of the city center in an effort to cut emissions in the city by 23% by 2020 ([The Guardian](#))
- > **New York** has developed a set of initiatives aimed at boosting the adoption of EVs, including the development of 200 150 kW chargers ([Utility Dive](#))
- > **Switzerland** is mandating that EVs include an Acoustic Vehicle Alerting System (AVAS) which provides noise-based information to pedestrians ([The Local](#))

### Selected Capital Raises

#### Greentech's Take:

- > As the race to commercially deploy robotaxis heats up, developers of essential components for AVs, such as mapping and LiDAR, continue to attract capital in pursuit of lower cost technology

- > **AdaSky**, a developer of thermal technology for AVs, raised a \$20mm round from Korean auto supplier SungWoo Hitech Company ([VentureBeat](#))
- > **AEye**, a LiDAR startup, raised a \$40mm round led by Taiwan Capital with participation from Kleiner Perkins and Intel Capital ([TechCrunch](#))
- > **Allegro.ai**, an Israeli computer vision AI company, partnered and raised funding from Hyundai to help develop their AV technology ([Smart Cities Dive](#))
- > **Apex.ai**, a stealth AV startup, announced a \$16mm round led by Canaan with participation from Lightspeed Venture Partners ([TechCrunch](#))
- > **BlaBlaCar**, a French carpooling service, raised \$118mm from France's national railways company (SNCF) and existing investors ([TechCrunch](#))
- > **ChargePoint**, an EV charger producer, raised a \$240mm round led by Quantum Energy Partners and included Chevron and Daimler ([TechCrunch](#))
- > **DeepMap**, a maker of HD maps for AVs, raised funding from Generation Investment Management in an ongoing \$60mm round ([TechCrunch](#))
- > **Grab** raised \$250mm from Hyundai, bringing its ongoing round, which includes Microsoft and Booking.com, to \$2.7bn ([TechCrunch](#))
- > **Leap Motor**, a Chinese EV startup, added \$290mm to its ongoing round, led by Shanghai Electric Group with participation from Sequoia Capital ([Electrek](#))
- > **MapAnything**, an advanced mapping platform, raised a \$43mm round led by GM Ventures with participation from Greycroft ([FINSMES](#))
- > **Nikola Corp**, a hydrogen-powered truck manufacturer, raised a \$210mm round at a \$1.1 bn valuation from undisclosed investors ([TechCrunch](#))
- > **ParkWhiz**, an online parking reservation startup, raised \$5mm from Amazon and more from others for a total round of \$25mm ([TechCrunch](#))
- > **RideCell**, a fleet management platform, has raised a \$32mm round led by Activate Capital with participation from LG and Sony ([TechCrunch](#))
- > **Transit**, a multi-modal transportation app, raised an \$18mm round led by Alliance Ventures and InMotion Ventures ([TechCrunch](#))
- > **Valens**, an Israeli chip-maker for AVs, raised a \$63mm round led by Linse Capital and joined by Oppenheimer Asset Management ([FINSMES](#))

### Selected Mergers & Acquisitions

- > **BlaBlaCar**, a French carpooling service provider, acquired **Ouibus**, the bus division of France's national railway company (SNCF) ([TechCrunch](#))
- > **Ford** acquired **Spin**, an electric scooter sharing company deployed in eight cities that had raised \$8mm to-date, for \$100mm ([TechCrunch](#))

### Selected Partnerships

#### Greentech's Take:

- > In the beginning, most self-driving cars will be geo-fenced as companies work to refine the software and map new areas

- > **Baidu's** autonomous driving platform, Apollo, has partnered with **Volvo** to develop L4 AVs and, alongside **Ford**, test AV tech in China ([TechCrunch](#))
- > **Continental** and **EasyMile**, a French AV startup, have formed a new autonomous driving R&D team in Singapore ([New Mobility](#))
- > **Mercedes** and **Bosch** will start piloting fully autonomous Mercedes-Benz S Class vehicles in late 2019 in a geo-fenced area of San Jose ([TechCrunch](#))
- > **Scoop**, which offers pre-scheduled carpooling services for commuters, is partnering with **Lyft** to offer backup transportation ([TechCrunch](#))
- > **Tesla**, **GM** and **Nissan** are setting up the EV Drive Coalition, which will push Congress to extend the \$7,500 federal EV subsidy ([Wired](#))
- > **Tesla's** partnership with **Panasonic** is paying off as they are now able to produce EV batteries at \$111 per kWh, compared to LG's \$148 ([Electrek](#))
- > **Uber** and **Hitachi** are deploying 3,000 EVs in London for a three year study to analyze driving habits to optimize an EV charging network ([Japan Times](#))
- > **VW's** Electrify America is partnering with **Envoy Technologies**, a provider of on-demand vehicles, to provide on-demand EVs in Sacramento ([Electrek](#))
- > **VW** is strengthening its relationship with **Apple**, allowing iOS users to use Siri to lock and unlock their car or check fuel or charge levels ([The Verge](#))

### Capital Raises

Date	Company	(\$mm) <sup>(1)</sup>	Investors	Company Description
11/3	DeepMap	n/a	Generation Investment Management	HD mapping platform for AVs
11/5	Allegro.ai	n/a	Hyundai CRADLE	Israeli computer vision AI startup
11/5	Transit	\$18	Accel, Alliance Ventures, InMotion Ventures, Real Ventures	Developer of real-time urban travel application
11/6	Valens	\$63	F+ Ventures, Linse Capital, Oppenheimer & Company	Israeli developer of chips for AVs
11/8	ParkWhiz	\$5	Amazon Alexa Fund	Online parking platform
11/8	Turvo	\$80	Activant Capital, Fecilis Ventures, Future Shape, G2VP, Mubadala Development Company, Next 47, Upside Partnership	Advanced logistics platform for shippers, carriers and brokers
11/9	Grab	\$250	Hyundai	Southeast Asian ride hailing company
11/12	BlaBlaCar	\$118	Societe Nationale des Chemins de fer Francais	French carpooling service
11/14	Nikola Corp	\$210	NEL, Undisclosed Investors	Developer of electric trucks
11/15	AdaSky	\$20	SungWoo Hitech Company	Developer of thermal sensing technology for AVs
11/16	Apex.ai	\$16	Canaan Partners, Lightspeed Venture Partners	AV technology startup
11/16	RideCell	\$32	Activate Capital, Munich Re, LG Technology Ventures, BNP Paribas, Sony Innovation Fund, Ally Ventures, Khosla Ventures	Fleet management platform
11/16	MapAnything	\$43	GM Ventures, Greycroft, Harbert Growth Partners, Salesforce Ventures	Advanced mapping startup
11/19	AEye	\$40	Airbus Ventures, Hella Ventures, Intel Capital, Kleiner Perkins, Taiwania Capital Management, Tyche Partners	LiDAR startup
11/23	Leap Motor	\$290	Shanghai Electric Group	Chinese developer of EVs
11/28	ChargePoint	\$240	American Electric Power Company, BMW I Ventures, Braemar Energy Ventures, CPPIB, Chevron Technology Ventures, Clearvision Ventures, Daimler Mobility Services, Linse Capital, Quantum Energy Partners, Siemens	Developer of EV chargers

### Mergers & Acquisitions

Date	Target	Acquiror	EV			Target Description
			(\$mm)	Revenue	EBITDA	
11/12	Ouibus	BlaBlaCar	n/a	n/a	n/a	Bus division of France's national railway company
11/8	Spin	Ford	\$100	n/a	n/a	Electric scooter sharing startup

Source: Greentech Estimates, FactSet, Public Disclosures.

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

# Advanced Mobility Market Update

## Trading Comparables

Company	Price as of 11/30/2018	Market Cap (\$mm)	Firm Value (\$mm)	EV / Revenue		EV / EBITDA		P / E	
				2018E	2019E	2018E	2019E	2018E	2019E
<b>Automotive Companies</b>									
Toyota	¥ 6803.00	\$195,492	\$338,278	1.3x	1.3x	10.2x	9.6x	8.4x	8.2x
Volkswagen	€ 145.90	83,512	249,315	0.9x	0.9x	6.5x	5.9x	5.7x	5.0x
Daimler	€ 49.70	60,197	194,084	1.0x	1.0x	9.8x	9.3x	6.3x	5.9x
BMW	€ 72.21	53,255	154,716	1.4x	1.4x	10.1x	9.4x	6.9x	6.7x
Ford	\$ 9.41	37,433	154,650	1.0x	1.0x	12.8x	12.5x	7.1x	7.2x
General Motors	\$ 37.95	53,563	132,516	0.9x	0.9x	9.5x	9.4x	6.1x	6.4x
Nissan	¥ 994.30	36,959	100,221	1.0x	0.9x	10.6x	9.9x	6.7x	7.0x
Honda	¥ 3202.00	51,081	97,933	0.7x	0.7x	8.3x	7.9x	7.1x	7.7x
Tesla	\$ 350.48	60,189	71,972	3.4x	2.5x	36.5x	18.5x	NM	54.4x
Hyundai	₩ 107000.00	24,231	69,548	0.8x	0.8x	11.8x	10.0x	10.0x	6.7x
Renault	€ 62.05	20,776	63,817	1.0x	0.9x	8.8x	8.3x	4.3x	4.0x
SAIC Motor	¥ 24.85	41,812	54,351	0.4x	0.4x	9.4x	8.7x	7.8x	7.2x
Fiat Chrysler	€ 14.57	32,331	35,917	0.3x	0.3x	2.5x	2.3x	4.9x	4.5x
BYD	HK\$ 58.65	21,741	34,557	1.9x	1.6x	15.7x	13.2x	44.0x	32.3x
Suzuki	¥ 5655.00	24,455	23,892	0.7x	0.7x	4.9x	4.6x	10.6x	10.2x
Tata Motors	₹ 171.95	7,809	16,579	0.4x	0.3x	3.5x	2.7x	12.4x	8.5x
Geely	HK\$ 15.420	17,693	15,806	1.0x	0.8x	6.1x	5.3x	9.1x	7.5x
Peugeot	€ 19.40	19,875	14,995	0.2x	0.2x	1.7x	1.6x	5.9x	5.0x
NIO	\$ 7.71	7,911	12,436	19.7x	4.9x	NM	NM	NM	NM
Guangzhou Automobile	HK\$ 8.14	13,955	10,686	1.0x	0.9x	9.4x	9.2x	6.0x	5.4x
Dongfeng Motor	HK\$ 7.55	8,313	9,545	0.5x	0.5x	26.8x	26.5x	4.0x	3.9x
Subaru	¥ 2523.00	17,091	9,392	0.3x	0.3x	3.1x	2.3x	9.8x	7.8x
KIA	₩ 30500.00	11,030	7,897	0.2x	0.2x	2.8x	2.3x	8.1x	6.1x
Mitsubishi	¥ 696.00	9,135	7,042	0.3x	0.3x	4.5x	3.8x	9.2x	8.5x
Mazda	¥ 1210.00	6,733	5,963	0.2x	0.2x	3.8x	3.2x	9.9x	8.9x
FAW Car Goup	¥ 7.27	1,704	1,617	0.4x	0.4x	10.2x	10.2x	55.9x	48.5x
Navya <sup>(1)</sup>	€ 2.87	88	84	2.7x	0.8x	NM	NM	NM	NM
<b>Mean</b>				<b>1.6x</b>	<b>0.9x</b>	<b>9.5x</b>	<b>8.2x</b>	<b>9.1x</b>	<b>9.8x</b>
<b>Median</b>				<b>0.9x</b>	<b>0.8x</b>	<b>9.1x</b>	<b>8.5x</b>	<b>7.1x</b>	<b>7.1x</b>
<b>Truck Companies</b>									
Daimler	€ 49.70	\$60,197	\$194,084	1.0x	1.0x	9.8x	9.3x	6.3x	5.9x
Volvo	KR 126.60	29,586	40,599	1.0x	0.9x	6.6x	6.7x	8.9x	8.8x
PACCAR	\$ 62.22	21,742	27,414	1.2x	1.2x	9.7x	9.5x	10.2x	10.0x
MAN SE	€ 90.25	15,029	18,378	1.1x	1.0x	NM	NM	22.5x	33.2x
Isuzu	¥ 1616.00	12,074	13,278	0.7x	0.7x	6.0x	5.6x	10.6x	9.6x
Navistar	\$ 32.04	3,168	7,510	0.7x	0.7x	9.1x	8.3x	9.6x	8.6x
<b>Mean</b>				<b>1.0x</b>	<b>0.9x</b>	<b>8.3x</b>	<b>7.9x</b>	<b>11.3x</b>	<b>12.7x</b>
<b>Median</b>				<b>1.0x</b>	<b>1.0x</b>	<b>9.1x</b>	<b>8.3x</b>	<b>9.9x</b>	<b>9.2x</b>
<b>Tier 1 Suppliers</b>									
Denso	¥ 5247.00	\$36,410	\$36,739	0.8x	0.7x	6.0x	5.6x	13.1x	12.4x
Continental	€ 132.25	29,949	33,910	0.7x	0.6x	4.8x	4.4x	9.3x	8.8x
Bridgestone	¥ 4600.00	30,850	30,415	0.9x	0.9x	5.5x	5.3x	11.3x	11.4x
Michelin	€ 92.42	18,810	23,786	1.0x	0.9x	5.2x	4.7x	9.5x	8.6x
Aptiv	\$ 71.90	18,944	22,464	1.6x	1.5x	9.4x	8.8x	13.9x	12.9x
Magna	C\$ 66.31	16,664	20,377	0.5x	0.5x	4.6x	4.7x	7.5x	7.0x
Goodyear	\$ 23.16	5,397	11,155	0.7x	0.7x	5.7x	5.4x	8.9x	7.6x
Valeo	€ 25.20	6,855	10,367	0.5x	0.5x	4.1x	3.7x	9.0x	7.6x
BorgWarner	\$ 39.58	8,243	10,122	1.0x	0.9x	5.8x	5.5x	9.1x	8.5x
Lear	\$ 136.25	8,744	9,801	0.5x	0.4x	4.4x	4.4x	7.5x	7.2x
Faurecia	€ 34.42	5,380	6,322	0.3x	0.3x	2.7x	2.5x	6.5x	6.0x
Delphi	\$ 17.09	1,512	2,869	0.6x	0.6x	3.9x	4.3x	4.0x	5.0x
Visteon <sup>(1)</sup>	\$ 73.82	2,134	2,187	0.7x	0.7x	6.7x	6.6x	13.1x	12.4x
Veoneer	\$ 32.25	2,809	2,001	0.9x	0.9x	NM	NM	NM	NM
ATS Automation Tooling Systems	C\$ 17.02	1,206	1,174	1.3x	1.2x	10.2x	8.6x	20.0x	16.9x
Stoneridge	\$ 26.75	762	805	0.9x	0.9x	7.6x	7.1x	13.2x	12.5x
<b>Mean</b>				<b>0.8x</b>	<b>0.8x</b>	<b>5.8x</b>	<b>5.4x</b>	<b>10.4x</b>	<b>9.7x</b>
<b>Median</b>				<b>0.8x</b>	<b>0.7x</b>	<b>5.5x</b>	<b>5.3x</b>	<b>9.3x</b>	<b>8.6x</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 11/30/2018	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	\$ 49.31	\$225,051	\$240,254	3.4x	3.3x	7.4x	7.4x	10.9x	10.9x
Nvidia	\$ 163.43	99,692	94,091	7.7x	7.2x	19.8x	19.3x	24.3x	24.3x
Qualcomm	\$ 58.26	53,057	57,339	2.5x	2.7x	8.5x	8.5x	15.3x	13.3x
Advanced Micro Devices	\$ 21.30	21,287	21,529	3.3x	3.1x	33.3x	23.4x	46.6x	33.7x
<b>Mean</b>				<b>4.2x</b>	<b>4.1x</b>	<b>17.2x</b>	<b>14.7x</b>	<b>24.3x</b>	<b>20.6x</b>
<b>Median</b>				<b>3.3x</b>	<b>3.2x</b>	<b>14.1x</b>	<b>13.9x</b>	<b>19.8x</b>	<b>18.8x</b>
<b>Intelligent Transport</b>									
Roper Technologies	\$ 297.59	30,780	35,633	6.9x	6.7x	19.9x	19.1x	25.4x	24.5x
FLIR Systems	\$ 45.86	6,345	6,173	3.4x	3.3x	14.8x	13.0x	20.8x	19.3x
LS Corp	W 53000.00	1,522	5,038	0.6x	0.5x	NM	6.6x	3.7x	6.6x
Conduent	\$ 12.82	2,709	3,832	0.7x	0.8x	NM	6.0x	12.1x	11.4x
Cubic Corporation	\$ 61.19	1,870	1,963	1.6x	1.4x	18.8x	13.3x	NM	26.0x
Vaisala	€ 16.70	689	618	1.6x	1.5x	12.4x	9.2x	22.6x	16.9x
Kapsch TrafficCom	€ 31.00	456	497	0.6x	0.6x	NM	6.0x	14.5x	11.6x
INIT Innovation in Traffic Systems	€ 15.85	180	208	1.3x	1.2x	NM	8.7x	19.3x	14.4x
Iteris, Inc	\$ 4.57	152	142	1.4x	1.2x	NM	59.7x	NM	NM
Q-Free	NOK 7.60	79	96	0.9x	0.8x	NM	6.6x	39.0x	13.5x
Image Sensing Systems <sup>(1)</sup>	\$ 5.86	31	27	NM	NM	NM	NM	NM	NM
<b>Mean</b>				<b>1.9x</b>	<b>1.8x</b>	<b>16.5x</b>	<b>14.8x</b>	<b>19.7x</b>	<b>16.0x</b>
<b>Median</b>				<b>1.3x</b>	<b>1.2x</b>	<b>16.8x</b>	<b>9.0x</b>	<b>20.1x</b>	<b>14.4x</b>
<b>ITS / Smart Tolling</b>									
Atlantia	€ 18.11	16,933	34,110	4.9x	4.8x	7.7x	5.7x	14.2x	11.3x
Ferrovial	€ 18.17	15,210	20,220	1.5x	1.5x	28.5x	20.2x	74.5x	33.9x
Autostrada	€ 16.76	1,879	5,121	2.2x	2.1x	5.8x	5.4x	7.6x	7.0x
<b>Mean</b>				<b>2.9x</b>	<b>2.8x</b>	<b>14.0x</b>	<b>10.5x</b>	<b>32.1x</b>	<b>17.4x</b>
<b>Median</b>				<b>2.2x</b>	<b>2.1x</b>	<b>7.7x</b>	<b>5.7x</b>	<b>14.2x</b>	<b>11.3x</b>
<b>Telematics</b>									
Descartes Systems	\$ 29.42	\$2,263	\$2,281	8.3x	7.5x	24.3x	21.3x	71.9x	54.9x
TomTom	€ 8.00	2,132	1,975	2.1x	2.2x	8.5x	8.8x	21.3x	21.3x
Orbcomm	\$ 9.48	748	950	3.3x	3.0x	16.4x	12.1x	NM	NM
Ituran	\$ 33.11	707	747	2.8x	2.0x	9.5x	7.0x	13.8x	11.0x
CalAmp	\$ 17.70	615	579	1.5x	1.4x	10.6x	9.1x	14.4x	12.8x
MiX Telematics	R 10.00	434	412	2.9x	2.8x	10.2x	9.1x	32.4x	25.7x
Inseego	\$ 3.72	273	379	1.9x	1.7x	21.6x	14.0x	NM	67.6x
Quartix	£ 2.40	146	140	4.5x	4.5x	14.5x	16.5x	18.3x	20.5x
TeleNav	\$ 4.18	189	105	1.0x	0.5x	NM	NM	NM	NM
Quarterhill (fka Wi-LAN)	C\$ 1.39	124	70	0.9x	0.7x	NM	7.0x	NM	34.9x
<b>Mean</b>				<b>2.9x</b>	<b>2.6x</b>	<b>14.4x</b>	<b>11.6x</b>	<b>28.7x</b>	<b>31.1x</b>
<b>Median</b>				<b>2.4x</b>	<b>2.1x</b>	<b>12.6x</b>	<b>9.1x</b>	<b>19.8x</b>	<b>23.5x</b>
<b>Logistics</b>									
UPS	\$ 115.29	\$99,404	\$117,892	1.6x	1.5x	12.2x	11.0x	15.9x	14.7x
FedEx	\$ 229.00	60,345	74,920	1.1x	1.0x	8.0x	7.1x	13.8x	12.0x
Deutsche Post	€ 28.12	39,369	55,199	0.8x	0.8x	7.5x	6.5x	15.8x	12.4x
Fortive	\$ 76.07	25,405	29,281	4.5x	4.0x	18.2x	15.8x	24.8x	21.1x
J.B. Hunt	\$ 106.36	11,612	12,674	1.5x	1.3x	10.1x	8.8x	19.7x	16.6x
Penske	\$ 43.60	3,700	9,306	0.4x	0.4x	11.5x	11.5x	8.1x	7.8x
<b>Mean</b>				<b>1.6x</b>	<b>1.5x</b>	<b>11.3x</b>	<b>10.1x</b>	<b>16.4x</b>	<b>14.1x</b>
<b>Median</b>				<b>1.3x</b>	<b>1.2x</b>	<b>10.8x</b>	<b>9.9x</b>	<b>15.9x</b>	<b>13.6x</b>
<b>Communications / Infrastructure</b>									
AT&T	\$ 31.24	\$227,365	\$403,149	2.4x	2.2x	7.1x	6.6x	8.9x	8.8x
Verizon	\$ 60.30	249,161	360,242	2.8x	2.7x	7.6x	7.4x	12.9x	12.8x
Cisco Systems	\$ 47.87	215,222	198,193	4.0x	3.8x	11.4x	10.9x	17.2x	15.2x
T-Mobile	\$ 68.45	58,073	87,666	2.0x	1.9x	7.1x	6.7x	20.6x	17.1x
Sprint	\$ 6.28	25,607	57,432	1.7x	1.7x	4.6x	4.4x	12.9x	NM
Hitachi	¥ 3288.00	27,992	42,026	0.5x	0.5x	4.2x	4.0x	7.8x	7.3x
Xerox	\$ 26.92	6,415	10,731	1.1x	1.1x	7.2x	7.3x	8.0x	7.6x
Toshiba	¥ 3520.00	20,215	9,623	0.3x	0.3x	7.4x	6.0x	2.1x	5.8x
<b>Mean</b>				<b>1.8x</b>	<b>1.8x</b>	<b>7.1x</b>	<b>6.7x</b>	<b>11.3x</b>	<b>10.6x</b>
<b>Median</b>				<b>1.9x</b>	<b>1.8x</b>	<b>7.1x</b>	<b>6.7x</b>	<b>10.9x</b>	<b>8.8x</b>
<b>Aggregate Mean</b>				<b>1.8x</b>	<b>1.5x</b>	<b>10.0x</b>	<b>9.2x</b>	<b>14.5x</b>	<b>13.9x</b>
<b>Aggregate Median</b>				<b>1.0x</b>	<b>0.9x</b>	<b>8.5x</b>	<b>7.4x</b>	<b>10.2x</b>	<b>9.8x</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

\$19bn

### 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 November 30, 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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- > 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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- > Utilities

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

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- > Chief Operating Officer of GCA Investment Management

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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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