

Q2 2020 | Pulse

Mobility Business Model

Oil & Gas players' investment & acquisitions in Mobility startups

What's inside ?

We have examined the key investments of major Oil & Gas players in Europe, USA and Asia between Jan'19- Jul'20:

1. Aramco
2. BP,
3. Chevron,
4. Repsol
5. Shell,

THEMES AND KEY TAKEAWAYS IN PULSE

Some of the world's largest oil companies have formally supported the Paris climate agreement and have expressed support for a zero-carbon world target.

With the rise of electrification in the transportation sector, industry majors are showing commitment to innovative technologies for alternative propulsion, electric vehicle charging as well as MaaS to diversify from core business but also prepare for a low-to-zero carbon future.

What's covered in the Pulse?

- Succinct Deep Dive on a specific business models to understand its techno-commercial capabilities (academic, market), players activities
- FutureBridge viewpoint, and what it means for industry participants
- Thematic coverage including market competition, latest research & voice of the industry

Themes covered in this scope

- » **Timeline of Oil & Gas players' investments in mobility startups**
 - Based on developments collected between Jan-2019 to July-2020
- » **In-depth analysis of key players investing in mobility startups**
 - Three regions (Europe, North America and Asia) have been examined with regards to investment in & acquisition of mobility startups by Aramco, BP, Chevron, Repsol, and Shell.
- » **Future outlook**
 - Future outlook with regards to investment & acquisition in carbon neutrality businesses by major Oil & Gas players

Key Takeaways

- The **USA** leads among key geographies (Europe, Asia, North America) with the majority of developments, and especially funding in mobility startups by Oil & Gas players.
- **Mobility as a service, charging technology, and alternative fuels** are some of the areas where Majors are investing in.
- **BP and Shell** have been the most active players in terms of investments in carbon-neutral mobility business models between Jan-2019 to July-2020.
- Investments in **China and India** have increased in the recent past with BP investing \$70 million in GGEF to support zero-carbon solutions in India.
- Almost all major Oil & Gas companies have pledged to invest in carbon-neutral businesses of the future.
 - Saudi **Aramco** Energy Ventures planning a \$500m fund for investment in the renewable sector.
 - **Equinor** plans to spend \$0.5-1bn per annum gross CAPEX in renewables in 2020-21.
 - while **Repsol** is committing to become net-zero by 2050.

01

Timeline of Oil & Gas players' investments in Mobility startups

»» Upcoming Trend

- China and India could be the next hotspots for Oil & Gas players to invest in carbon neutrality start-ups

»» Players in our coverage

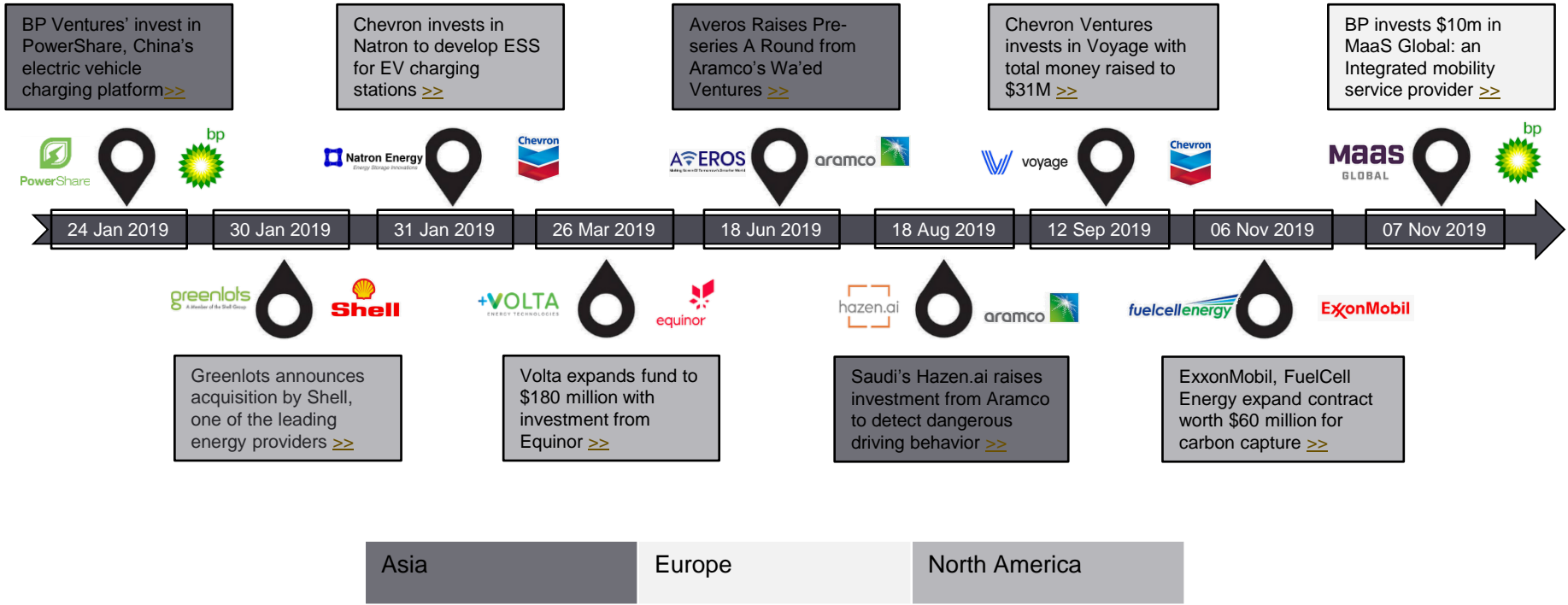


»» What do we see happening

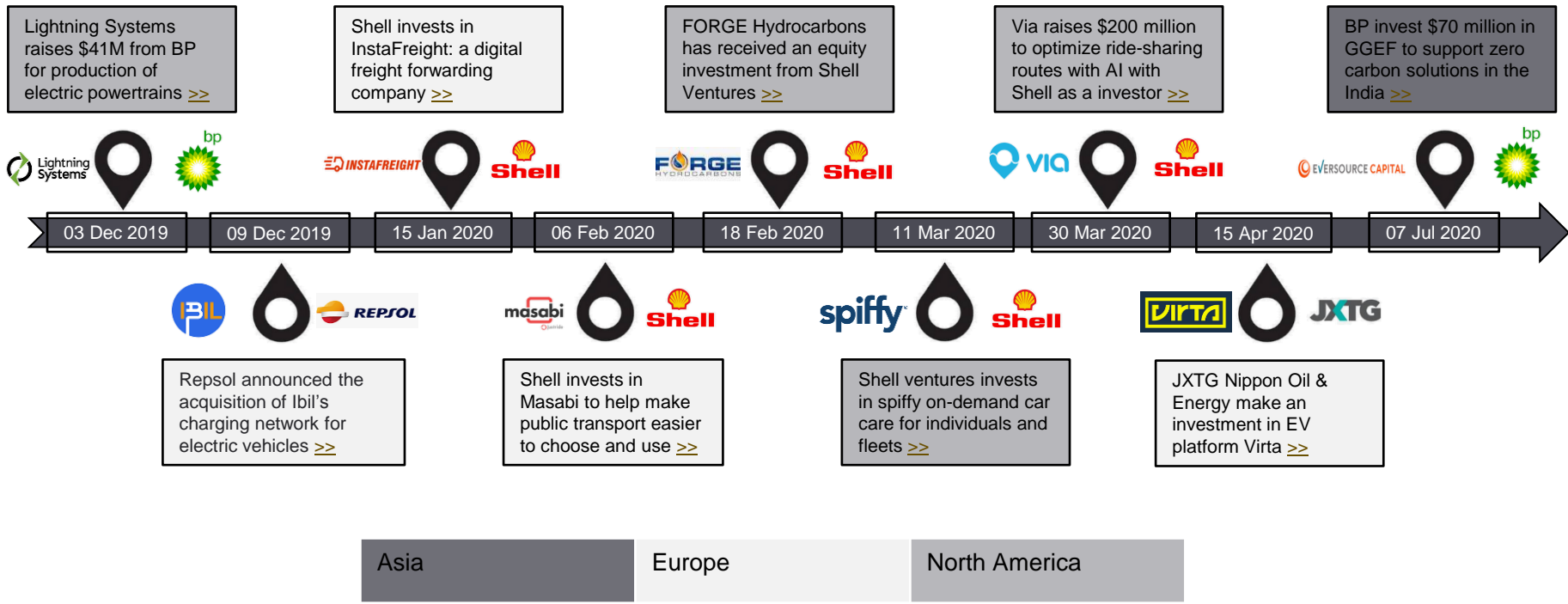
- The COVID pandemic might create favorable opportunities for cash-rich players to acquire cash-restrained startups in electrified business models

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Of the 9 key investments by Oil & Majors between Jan-2019 to Nov-2019, electrified business models dominated developments. Self-driving car development and integrated mobility also attracted funds

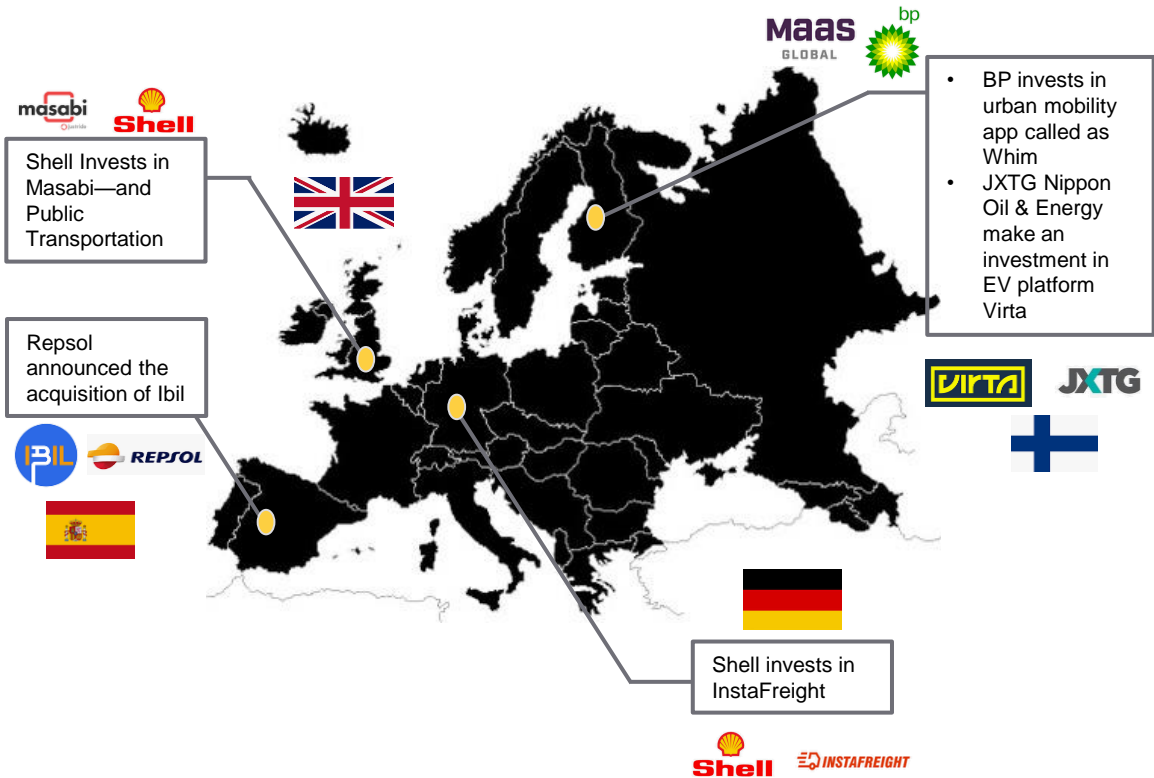


Timeline of investments & acquisitions by Oil & Gas players between Dec-2019 to July-2020 in the mobility sector



02-A

Europe



07 Nov 2019, BP investment in Whim will help it to roll out the app in additional cities across the globe >>





Whim, the all-inclusive MaaS solution, gives its users all city transport services in one step, letting them journey where and when they want with public transport, taxis, bikes, cars, all under a single subscription

Category	Integrated mobility services
HQ location	Helsinki, Finland
Founded	2015
No. of employees	50+
Total funding	61 M(\$) funding received by MaaS global till H1-20', Recent funding by BP ventures = 12 M(\$)
Geographical presence	UK, Austria, Belgium, Finland
Website	https://whimapp.com/
Key executives	Sampo Hietanen - CEO & Founder
Usage of current investment from BP & others	BP's investment will support expansion plans to roll out the app in additional cities across the globe, with immediate plans including Singapore and in the US

Roy Williamson, vice president Advanced Mobility at BP

"Whim is super convenient. It offers users a single-digital key that unlocks the full spectrum of city transport. It takes the hassle out of planning travel, taking on-board users' preferences and connecting and booking their ideal transport choices"

Whim Business model
Whim has one app for all customer transport needs for example Public transport, city bikes, taxis, and affordable rental cars where user can pay for all of their travel with an all-inclusive plan

Whim to Go

- City bikes, e-scooters, taxis, HSL tickets and rental cars on demand without subscription.
- Citybike season 2020 for 24,90€. Each trip is paid separately with no subscription fee.

Whim Urban 30



- €59,7/ 30 days
- 30-day HSL ticket, City bike, 4 x €10 taxis and access to book and pay TIER e-scooters.

Whim Weekend

- Weekend rental car, 30-day HSL ticket, city bike, TIER e-scooters and discounted taxis.

Whim Unlimited

- Access to car, taxi, public transport, TIER e-scooter and city bike.

Partnerships		
		

Analyst comment

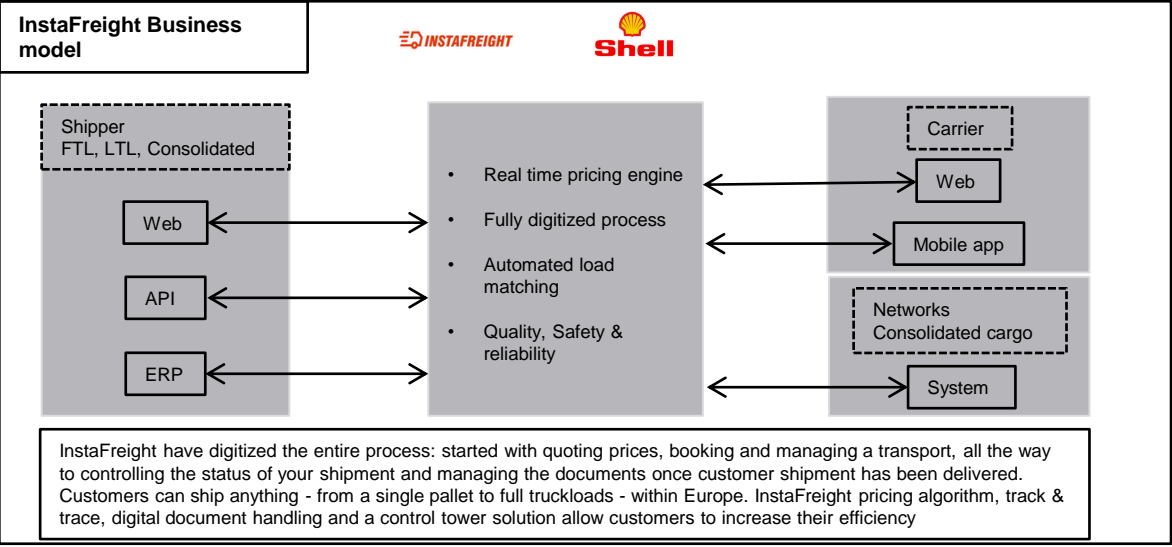
BP Ventures was set up more than 10 years ago to identify and invest in game-changing technology companies in energy sector. Since then, BP has invested over \$500 million in technology companies across more than 50 entities with more than 300 co-investors.

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15 Jan 2020, Shell's investment in InstaFreight will help to accelerate its mission to digitalize the road freight space

InstaFreight is an online B2B forwarding company, that enables a fast and easy processing of freight transports. They target commercial customers and offer them a click & buy experience with instant pricing.

Category	Freight as a service
HQ location	Berlin, Germany
Founded	2016
No. of employees	100+
Total funding	35 M(\$) funding received by InstaFreight till H1-20', Recent funding by Shell was not disclosed
Geographical presence	20+ countries in Europe
Website	https://www.instafreight.de/en
Key executives	Maximilian Schaefer - Co-Founder
Usage of current investment from Shell & others	This investment will help InstaFreight to accelerate its mission to expand their digital services to carrier companies in Europe



Partnerships

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Parminder Kohli, General Manager Business Development Shell Fleet Solutions.

At the same time carriers are operating in a market with tight margins. By partnering with InstaFreight, we can help provide our carriers to optimize their utilization, increase their profitability and give them the real-time transparency their customers expect







Analyst comment

With its global fuel card, Shell gives its carriers instant and ongoing access to a range of fuels, mobility products, and business services across the fuel retail network of shell globally which might help InstaFreight to further expand in Europe.

06 Feb 2020, Shell's investment in Masabi will help support the global expansion of Masabi's Justride platform >>

Masabi's Justride is the fare payments platform for public transport, facilitating over 10m journeys a month. Transit agencies and transport operators can sign up to Mobile Ticketing and deploy contactless emv.

Category	Fare Payments-as-a-Service
HQ location	London, United Kingdom
Founded	2001
No. of employees	11-50
Total funding	41 M(\$) funding received by Masabi till H1-'20', Recent funding by Shell was not disclosed
Geographical presence	13+ countries in Europe, Asia & US
Website	https://www.masabi.com/
Key executives	Tom Godber - Co-Founder & CTO
Usage of current investment from Shell & others	This investment will help support the global expansion of Masabi's Justride platform for public transport operators and authorities

Masabi Business model		Justride is one platform configured in different ways. Agencies and operators can deploy a complete system or select a module.	
Justride Modules	With Account-Based Ticketing passengers simply tap a secure token (like a card or phone) linked to an account in the back-office to travel, without needing to buy a ticket.	Justride Modules	Contactless EMV ticketing systems use contactless bank cards and mobile payments to allow passengers to simply tap and travel.
			
 		Justride Platforms	The secure and scalable cloud-based back office enables staff to manage tariffs, check ticket sales data, access revenue and usage reports, analyze key operational trends, manage customer service requests, monitor validation assets and much more.
Justride Platforms	Validating tickets across all modes of public transit, the Inspect Validation Suite combines optimal user experience with a fast, multi-format and future-proof design. <ul style="list-style-type: none"> Justride Validator Inspect for the Val100 Inspect Handheld App Inspect Gateline Integration Kit Inspect SDK 		
		Justride Platforms	<ul style="list-style-type: none"> White label apps Mobile ticketing SDK Integrations White label web portals Ticketing APIs Contactless bank cards Paper barcode tickets Smartcards

Partnerships		
	Uber	

Roger Hunter, Vice President of E-Mobility at Shell

"While hybrid and zero-emission projects have proven that the potential for reducing costs and cutting emissions is substantial, we also see the need to take vehicles off the road by transitioning drivers to become riders"

Analyst comment

Shell's investment is an extension to Masabi's recent \$20 million growth funding round led by Smedvig Capital with MMC Ventures and other existing investors. With over 70 clients across 13 countries, Masabi's client include Uber, Transit, Jorudan, and Kisio Digital

15 Apr 2020, JXTG investment in EV platform Virta triggers the launch of Virta operations in Asian markets >>

Virta Ltd provide smart charging services for EV drivers and companies alike. Virta vision is a clean, carbon-free future with silent EVs driving emission-free down the street, and their passion, as an industry forerunner, is to fulfill that future.

Category	Vehicle Charging solutions
HQ location	Helsinki, Finland
Founded	2013
No. of employees	100+
Total funding	NA, Current funding, Not disclosed
Geographical presence	28 countries in Europe
Website	https://www.virta.global/company
Key executives	Jussi Palola - CEO
Usage of current investment from JXTG & others	This investment triggers the launch of Virta operations in Asian markets with Japan as a spearhead

Virta Business model



Virta Private is suitable for locations where restricted access to the station is needed, such as residential or office buildings. Virta single private is charge at 2093 € +VAT.



Virta Public stations are publicly available, meaning that all electric car drivers can charge at your station. Public stations are added to Virta charging station maps, which EV drivers can use to easily locate and reserve chargers, as well as manage their charging events. Virta single public is charge at 2681 € +VAT.

Virta provide EV charging platform solutions through three different categories as follows and also provide charging points called as Virta private and public charging points

Virta Core

- Add, edit, or archive charging stations as per business owner need
- Check stations health -control and correct their configuration remotely
- Set a price for charging and business owner can access the settings
- Extract reports in real-time to manage station activity

Virta Value

- Create a hierarchy of organizations: Your customers can access their own personalized instance
- Manage your customer base in the Virta CRM, including group reporting functionalities for your fleet and business
- Create customer facing pages with your own brand

Virta 360°

- Provide your end customers with class-leading native mobile apps (iOS, Android) with your own brand
- Get more flexibility to manage your own contracts for payment providers and/or roaming operations
- Access to additional options such as our Home charging solutions

Partnerships



Dr. Keisuke Nakayama – Manager, new business promotion group, JXTG

Analyst comment

“Companies lead the transition to increased use of electric vehicles, but the availability of charging infrastructure is crucial. Virta enables the value proposition of electric vehicle charging services in our wide service network”

The capital injection accelerates both companies' growth in the e-mobility sector and strengthens their positions in providing energy for mobility, while accelerating the global integration of the transportation and energy sectors

02-B

North America



FORGE Receives Investment from Shell Ventures in bio-fuel technology



Greenlots :a charging and energy management company acquired by Shell



Chevron invests in Natron to develop ESS for EV charging stations



Volta expands fund to \$180 million with investment from Equinor



Chevron Technology Ventures invests in Voyage: Robo-taxi startup



ExxonMobil, FuelCell Energy expand agreement for carbon capture technology



Lightning Systems raises \$41M from BP in electric powertrain technology



Shell Ventures Invests in Spiffy On-Demand Car Care for Individuals and Fleets



Via raises \$200 million to optimize ride-sharing routes with Shell as an investor

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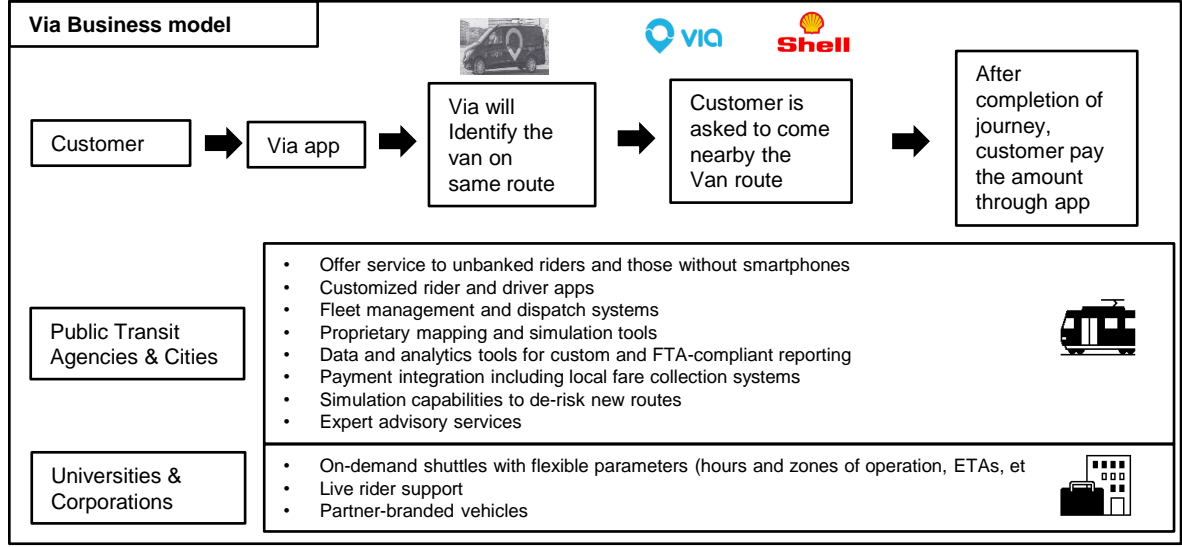
03 Mar 2020, Via raises \$200 million investment from Shell might help it to optimize ride-sharing routes with AI >>

Via is reshaping public transit, from a rigid system of fixed routes and schedules to a fully dynamic network. Via use algorithms to take people where they need to go in the most environment friendly way possible

Category	MaaS
HQ location	New York, United states
Founded	2012
No. of employees	1000+
Total funding	587 M(\$) funding received by Via till H1-20', Recent funding by Shell = 200 M(\$)
Geographical presence	20+ countries in Europe & USA
Website	https://ridewithvia.com/
Key executives	Oren Shoval - CTO & Co-Founder
Usage of current investment from Shell & others	This funding will allow Via to develop its efforts across the novel coronavirus outbreak in the town of Berlin, Ohio, and the nation of Malta

Chris Snyder, ViaVan CEO

"We put customers at the heart of all our solutions and are looking forward to this opportunity to prove the viability of a new solution for electric fleets in urban areas. Partnerships will be critical to a successful energy transition and we are excited to work alongside ViaVan"



Partnerships		
BASF The Chemical Company	DAIMLER	TRANSPORT FOR LONDON

Analyst comment

To date, Via says that it has provided over 70 million rides around the world, up from 50 million as of July 2019. Via works with >100 partners across municipalities, public transit agencies, transportation operators and universities to optimize their transport systems.

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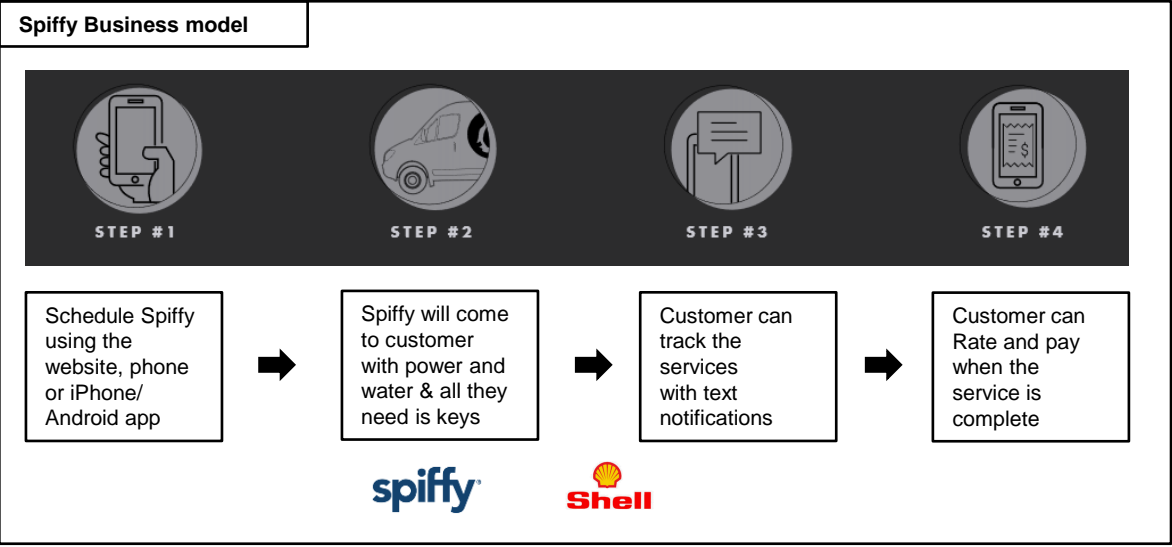
11 Mar 20, Shell funding in spiffy: on-demand car-care service can help co-develop new customer value propositions >>

Spiffy is on-demand smartphone-powered technology-enabled mobile car wash and detailing service. Spiffy claimed that they recycle 100% of the water and they recycles over 50,000 gallons of oil per month

Category	Fleet Management as a Service™
HQ location	Durham, United states
Founded	2014
No. of employees	11-50
Total funding	28 M(\$) funding received by Spiffy till H1-20', Recent funding by Shell was not disclosed
Geographical presence	United states
Website	https://www.getspiffy.com
Key executives	Ryan Eade - CTO
Usage of current investment from Shell & others	To expand Spiffy service offerings for existing customers and fleets as well as to introduce Spiffy to new markets

Brian Panoff, Investment Director at Shell Ventures

"Their experience in emerging fleet services, such as online and peer-to-peer car sharing, ride-sharing, and e-commerce auto sales aligns well with our focus on the changing nature of vehicle transportation and ownership"



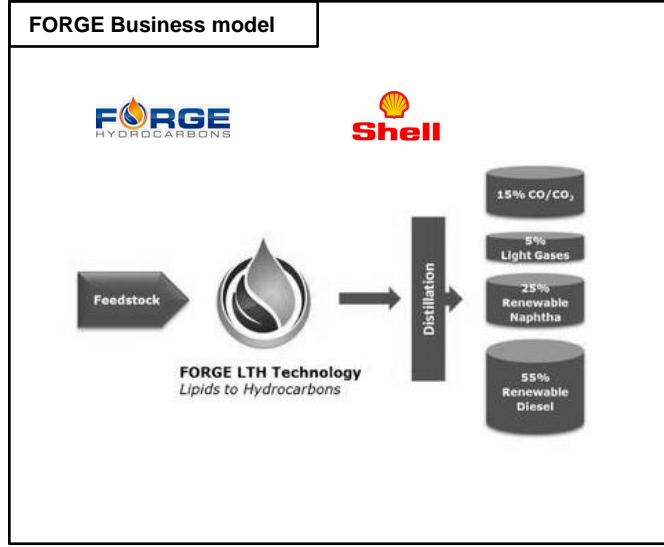
Analyst comment

With their Fleet Management as a Service™ model, Spiffy improves vehicle uptime and asset utilization for fleets nationwide, allowing fleet employees to focus on the core business.

18 Feb 20, Shell Ventures Investment in Forge will be a key to its successful energy transition strategy for future >>

FORGE's corporate goal is to build, own and operate RENEWABLE FUELS facilities in North America either on its own or in strategic partnerships as well as license the technology to industry players in the Rest of the World.

Category	Alternate fuel
HQ location	Ontario, Canada
Founded	2012
No. of employees	11-50
Total funding	22 M(\$) funding received by Forge till H1-20', Recent funding by Shell = 22M(\$)
Geographical presence	USA, Canada
Website	http://www.forgehc.com/
Key executives	TIM Haig - CEO
Usage of current investment from Shell & others	This funding will help to build a first-of-its-kind CAD\$30 million commercial-scale, biofuel production plant in Sombra, Ontario



- FORGE's patented LTH technology is capable of transforming waste fats and other low value organic oils into hydrocarbons that are indistinguishable from petroleum-based hydrocarbons, without any catalyst or hydrogen.
- The LTH technology utilizes a robust integrated bio refining approach to produce true hydrocarbon fuels, solvents, and chemicals.
- The LTH technology uses pressure and temperature, like the geological conditions the Earth uses to create crude oil over millions of years except in hours.
- A FORGE facility can achieve a 4 year pay back
- FORGE's operating costs is the same (or less) on a per-gallon (or litre) scale than biodiesel (total costs est. less than \$0.40/gallon).
- Feedstock is 80% of the cost of goods sold for renewables/biodiesel. With all other variables held even, a 30% saving in feedstock equals a 25% margin improvement. FORGE's technology works best with lower quality, thus cheaper feedstock's that delivers this 30% cost savings compared to Soy and Corn oil.

Partnerships

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Andrew Murfin, General manager, Advanced Biofuels at Shell

"Biofuels are critical in the move to lower-carbon marine, aviation and heavy-duty transport. Collaboration will be key to a successful energy transition and Shell's investment in FORGE to progress this commercial-scale project can help accelerate this technology"




Analyst comment

FORGE is initially targeting the over four-billion-gallon mandated market in North America for renewable diesel and jet-fuels market. FORGE will tap into abundant, low-cost and often untapped lipid feedstock's and the investment might help this cause

18 Feb 20, Lightning Systems raises \$41M from BP to ramp-up production of electric converted Ford trucks >>>

Lightning Systems designs and manufactures zero-emission all-electric powertrains for medium- and heavy-duty vehicles, including delivery trucks, shuttle buses, passenger vans, chassis-cab models, and city transit buses.

Category	Electric powertrains
HQ location	LoveLand, United States
Founded	2008
No. of employees	50+
Total funding	50 M(\$) funding received by Lightning till H1-20', Recent funding by BP = 41M(\$)
Geographical presence	United States
Website	https://lightningsystems.com
Key executives	Tim Reeser - CEO & Co-Founder
Usage of current investment from BP & others	This funding will be used to ramp up production to fulfill new orders for electric powertrains for Ford Transits, Ford E-450s, and Ford F-59 vans

Lightning Systems Business model	Lightning Systems convert IC Engine to electric powertrain for fleets and provide charging solutions as well as data telematics for Freight services
 	
IC Engine to electric powertrain conversion	<ul style="list-style-type: none"> Lightning systems convert IC engine powertrain to electric for passenger vehicles, cargo vans, cargo truck and transit buses
Charging stations	<ul style="list-style-type: none"> Lightning systems offer charging stations on their price list, so customer don't have to find a third-party vendor. Lightning systems can connect customer with a partner company which offers in-depth planning, installation and management services for installing and operating charging systems.
Lightning mobile	Lightning Mobile is a mobile charging station for commercial EVs. Designed to be installed in a cargo van such as our Lightning Electric Transit 350HD, it's the perfect solution for charging electric trucks, vans or buses at remote locations. 
Lightning analytics	Every Lightning Systems vehicle is equipped with a telematics controller which interfaces with the CAN bus and connects to our data servers over an encrypted 4G connection. This allows Lightning Systems to monitor the health of every EV; but it also forms the basis of the valuable Lightning Analytics service for our customers.

Partnerships		
		

Tim Reeser, CEO of Lightning Systems

Analyst comment

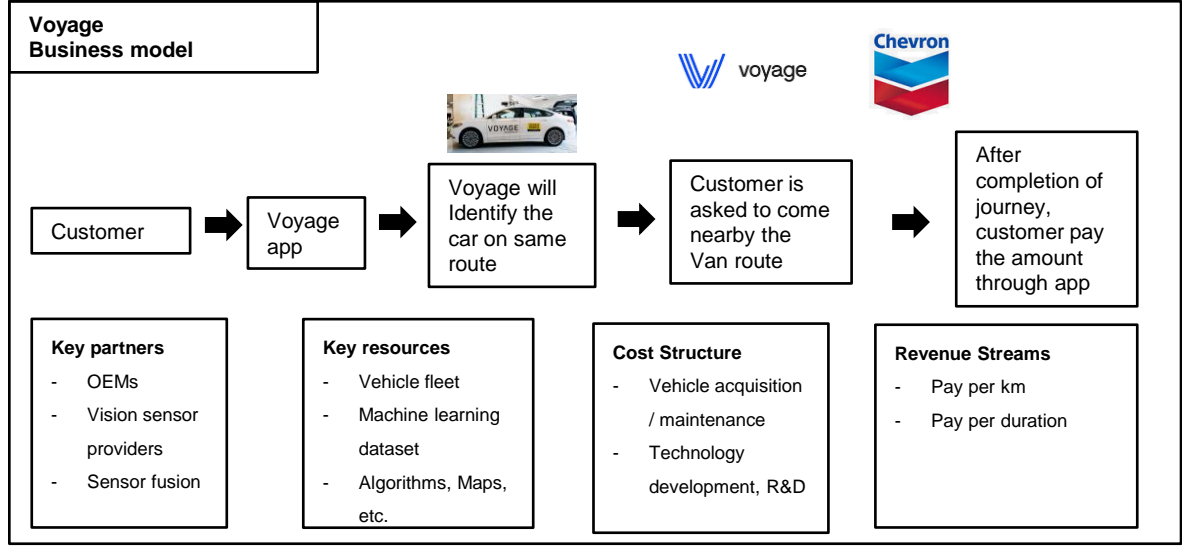
"We are now delivering powertrains for over \$25 million in orders from major fleets, propelling Lightning Systems to the position of the established premium provider of a full range of platforms for commercial vehicle fleets"

In Nov 2019 , California proposed the [nation's first zero-emissions manufacturing standard](#), a policy that, if adopted, would require commercial vehicle manufacturers to sell a certain percentage of electric trucks & lightning system mostly provide its services in California, US

12 Sep 19, Chevron Ventures investment in Voyage might help Voyage to launch Robo-taxis in near future >>

Voyage is building the technology to deliver on the promise of self-driving cars. Voyage first service offers residents safe, autonomous transportation at speeds up to 25 MPH as a pilot project in Palo Alto, USA as claimed by Voyage.

Category	Robo-taxi services
HQ location	California, United states
Founded	2017
No. of employees	100+
Total funding	51 M(\$) funding received by Voyage till H1-20', Recent funding by Chevron = 31M(\$)
Geographical presence	United States
Website	https://voyage.auto/
Key executives	Oliver Cameron - Co-Founder & CEO
Usage of current investment from Chevron & others	Voyage will used this capital to ready self-driving technology for commercialization, grow team of self-driving experts, and introduce G3 self-driving car in future



Oliver Cameron, co-founder and CEO of Voyage

"We will be utilizing this capital to ready our self-driving technology for commercialization, grow our team of self-driving experts, expand our fleet of G2 self-driving cars in California and Florida, and introduce our G3 self-driving car"

Analyst comment

Chevron established the Future Energy Fund in 2018 with an initial commitment of \$100 million to invest in breakthrough technologies that enable the ongoing energy transition. The fund looks for technologies that lower emissions and support low carbon value chains.

26 Mar 19, Volta Expands Fund to \$180 Million With Investment From Equinor and Hanon Systems >>


Volta identifies and invests in battery and energy storage technology, including integration hardware and software, with the support of paralleled global research institutions. Volta connects the energy-storage innovators with investors.

Category	Energy storage systems
HQ location	Chicago, United States
Founded	2017
No. of employees	10+
Total funding	180 M(\$) funding received by Volta till H1-20', Recent funding by Equinor was not disclosed
Geographical presence	United States
Website	https://plusvolta.com/
Key executives	Jeffrey Chamberlain - CEO
Usage of current investment from Equinor & others	Volta will use this fund to speed up the commercialization of energy technologies through collaboration with Argonne National Lab

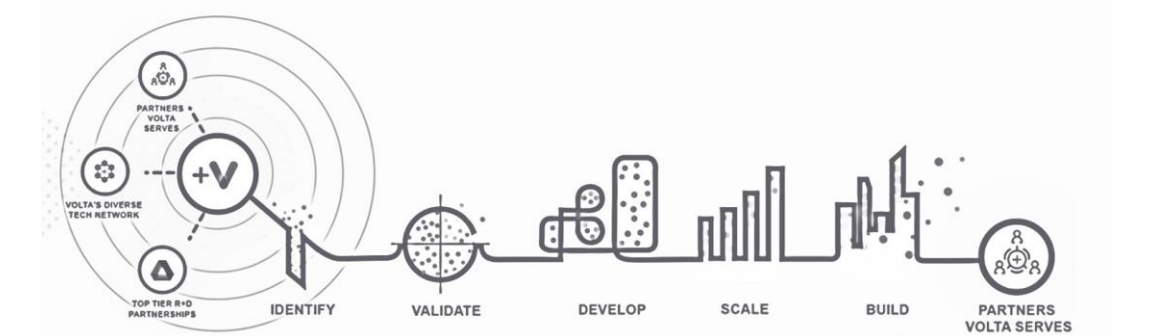
Jeff Chamberlain – CEO at Volta energy

"If you have physical technology to scale, the best thing to do is partner with those who will ultimately buy and use the innovation, because they will drive you to the right endgame in your product's performance and cost"

Volta Business model



Volta identifies and works with entrepreneurs and companies to solve their most important technical challenges while providing its strategic investors the opportunity to invest in and acquire the most promising of these technology companies



Partnerships		
		

Analyst comment

Near-term focus areas include long-duration storage for the grid, battery recycling and battery management systems for Volta and the raise provides yet another example of the cleantech venture space heating up after a long cold spell.


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30 Jan 19, Chevron investment in Natron will assist it to develop ESS for EV charging stations >>

Natron has developed a new cell technology based on Prussian Blue analogue electrodes and a sodium-ion electrolyte. This eliminates the conversion reactions and electrolyte decomposition that limit the lifetime of cells.


Category	Energy storage systems
HQ location	Santa Clara , United States
Founded	2012
No. of employees	50+
Total funding	50 M(\$) funding received by Natron till H1-20', Recent funding by Chevron was not disclosed
Geographical presence	United States
Website	https://natron.energy/
Key executives	Colin Wessells - Co-Founder & CEO
Usage of current investment from Chevron & others	This investment provides a boost to develop and demonstrate energy storage products that will make fast charging stations a reality in future

Natron Business model




Higher Power Density

Low cost breakthrough materials provide low \$/kW pricing and a footprint reduction





Faster Recharge

Disruptive technology capable of accepting full recharge from 0 to 100% SOC in just minutes



Longer Cycle Life

Service life with tens of thousands of 100% DOD cycles even under high charge and discharge rates

Natron Energy is developing radical new battery products for mission critical stationary applications including data-center UPS, electric forklifts, smart grids/microgrids, EVs and renewables support

- Natron Energy (formerly Alveo Energy) is an energy storage company that is developing a new battery technology for applications including UPS, lift trucks, renewables smoothing, DCM, and regulatory services. Natron's batteries offer higher power density, faster recharge, and longer cycle life than incumbent technologies.
- To achieve these properties, Natron has developed a new cell chemistry based on Prussian blue electrodes and a sodium-ion electrolyte.
- Natron's batteries can be economically produced from commodity materials on existing Li-ion cell manufacturing lines.

Partnerships



CalCharge



Molecular Foundry



arpa-e
CHANGING WHAT'S POSSIBLE

Jesse Teichman – VC Investment Manager - Chevron Technology Ventures,

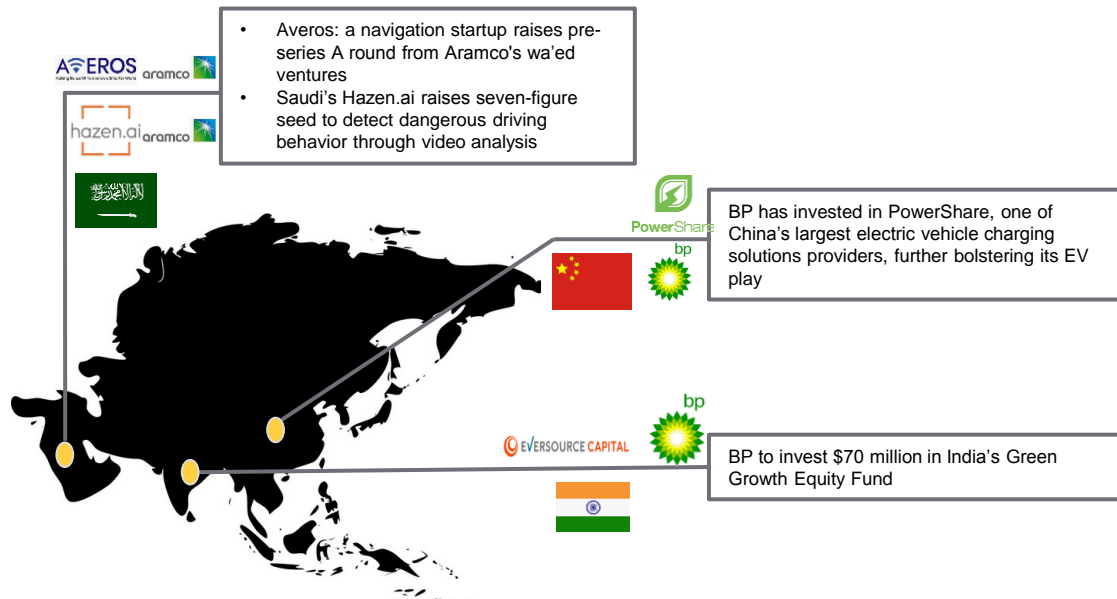
“Chevron Technology Ventures is excited about the opportunity to support Natron Energy’s development of high-performance energy storage systems. The high-power density and fast charging time of Natron’s unique battery technology make it an attractive storage solution for the EV station of the future”

Analyst comment

Unlike the electrode materials found in most lithium-ion batteries, Prussian Blue enjoys a widespread availability and low cost that make batteries based on Prussian Blue electrodes an economically attractive, environmentally friendly technology

02-C

Asia

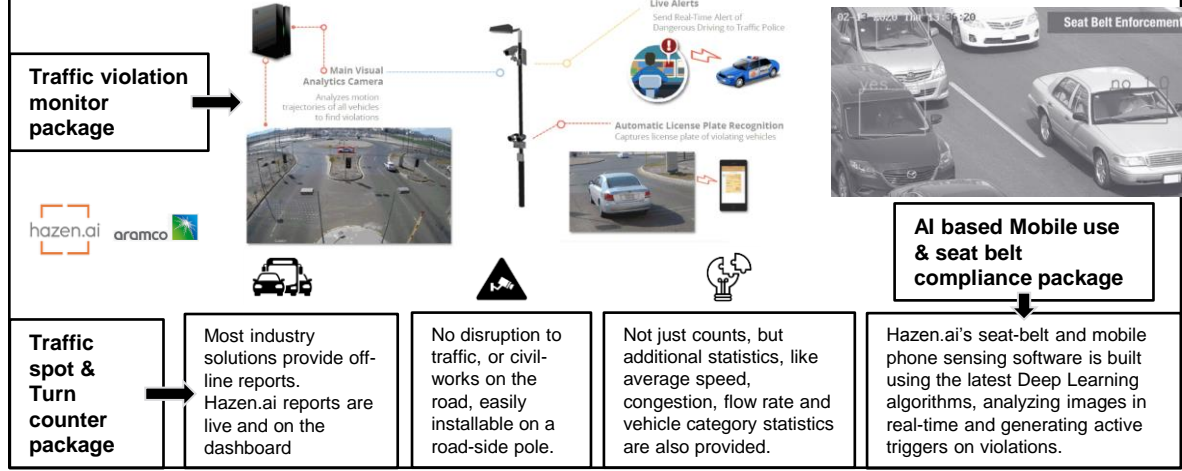


18 Aug 19, Saudi's Hazen.ai raises seed funding from Aramco to help it detect risky driving behavior by using AI >>>

Hazen.ai is building advanced traffic cameras to detect risky driving behavior through video analysis. It is also using computer vision and deep learning, intelligent traffic analytics software to 'understand' the motion of every vehicle in traffic

Category	AI based traffic analytics
HQ location	Makkah Al Mukarramah, SA
Founded	2017
No. of employees	10-15
Total funding	NA, Current funding, Not disclosed
Geographical presence	Saudi Arabia
Website	http://hazen.ai/
Key executives	Sohaib Khan - CEO
Usage of current investment from Aramco & others	The startup plans to use this first external funding round to further develop proprietary computer vision platform for traffic analytics, and to reach global markets.

Hazen.ai Business model Hazen.ai sell traffic violation monitor, Traffic spot & Turn counter and AI based Mobile use & seat belt compliance software and hardware



Partnerships

NVIDIA

Muhammad Zeeshan, Investment Director, Waed Ventures

Hazen.ai has an amazing team, products with communal benefits and a big market. It's not only about financial returns but the huge wealth of data that the company can earn and leverage.

Analyst comment

Hazen.ai has built a video analysis engine based on deep learning algorithms detects vehicles in a video feed and extracts their trajectories for understanding road behavior. It can currently be used for identifying traffic violations and counting traffic in real-time.

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24 Jan 19, BP investment in PowerShare will help PowerShare explore new business models in the eMobility business >>>

PowerShare provides an online platform that connects EV drivers, charge point operators and power suppliers, streamlining the charging experience from locating a charge point through to paying for the power supply

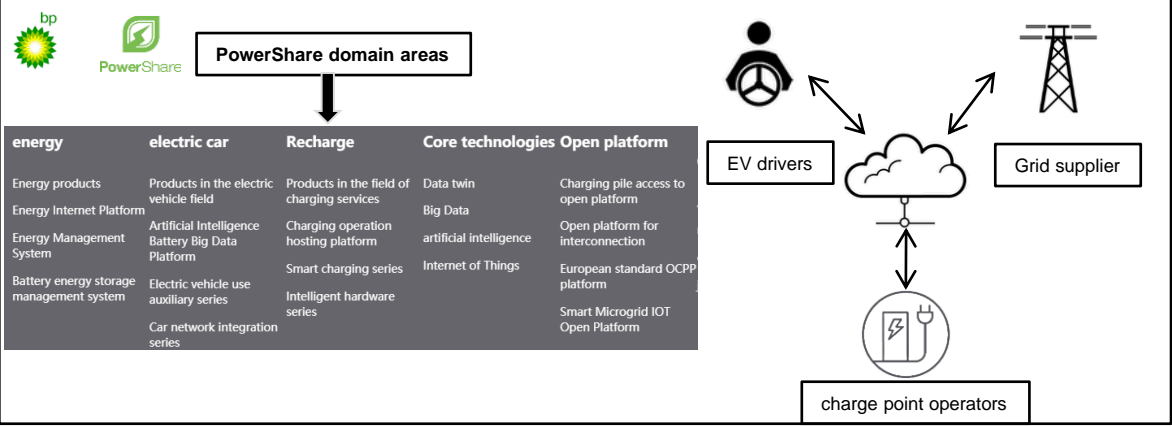
Category	Energy storage systems
HQ location	Shanghai, China
Founded	2015
No. of employees	100+
Total funding	NA, Current funding, Not disclosed
Geographical presence	China
Website	https://www.powershare.com.cn/
Key executives	Ethan Zhu - CEO
Usage of current investment from BP & others	PowerShare will use this funding to develop core technologies, and explore new business models in the global eMobility business

Lamar McKay - BP Deputy Chief Executive

"China is the world's largest EV market and a key market for BP as we seek to expand our advanced mobility offer. Our investment into PowerShare, BP Ventures' first direct investment in China, demonstrates our continued intent to provide charging solutions and advanced mobility offers to Chinese consumers both on and off our forecourts"

PowerShare Business model

Based on in-depth understanding of batteries and Internet of Vehicles, Powershare uses data twinning, artificial intelligence and Internet of Things technologies to provide a series of customized development of APPs, applets, etc. for new energy vehicle companies, travel service providers and battery manufacturers.



Partnerships		

Analyst comment

BP continues expansion in the electric vehicle business through investments and acquisitions. After three deals: acquisition of Chargemaster, investments in fast-charging battery technology firm StoreDot and in mobile-charging company Freewire Technologies

03

Future Outlook

- European oil companies such as BP, Royal Dutch Shell Plc., Equinor, Repsol and Total SA, have announced some of the most aggressive emission reductions targets.
- U.S. majors such as ExxonMobil Corp. and Chevron Corp. have set no firm targets across all their emissions



Most of the oil & gas major players have established their own venture arms to invest in carbon neutrality businesses



- [Royal Dutch Shell](#) plans to become a net zero-carbon company by 2050 or sooner by selling more green energy to help reduce the carbon intensity of its business
- Shell would toughen its existing target to shrink the carbon intensity of its products by 50% within 30 years, to reach 65% by 2050



- [Repsol](#) will be a net zero emissions company by 2050 as per announcement
- Repsol is setting new goals for the reduction of its carbon intensity indicator from a 2016 baseline: 10% by 2025, 20% by 2030, 40% by 2040, and net zero CO2 emissions by 2050



- BP sets ambition for [net zero by 2050](#)
- 50% cut in the carbon intensity of products BP sells by 2050 or sooner
- Increase the proportion of investment into non-oil and gas businesses over time
- Install methane measurement at all BP's major oil and gas processing sites by 2023 and reduce methane intensity of operations by 50%.
- BP also Planning to Invest [\\$500 Million](#) a Year on Low-Carbon Energy



- [Total](#) pledges to be carbon neutral by 2050
- Total wants to cut the average carbon intensity of energy products used worldwide by its customers by at least 60% by 2050, with intermediate steps of 15% by 2030 and 35% by 2040
- Total has dedicated its \$400 million global venture fund to Carbon Neutrality



- [Equinor](#) sets ambition to reduce net carbon intensity by at least 50% by 2050
- Grow renewable energy capacity tenfold by 2026, developing as a global offshore wind major
- Strengthen its industry leading position on carbon efficient production, aiming to reach carbon neutral global operations by 2030



- [Saudi Aramco Energy Ventures \(SAEV\)](#), the corporate venture capital arm of Saudi Aramco, is planning to set up a new \$500m fund to promote energy efficiency and renewable energy solutions
- The Aramco venture fund launched in 2012 with a \$500 million budget to invest in startups across the globe

North America

55 Madison Ave, Suite 400
Morristown, NJ 07960
USA
T: +1 212 835 1590

Europe

328-334 Graadt van Roggenweg
4th Floor, Utrecht, 3531 AH
Netherlands
T: +31 30 298 2108

United Kingdom

5 Chancery Lane
London EC4A 1BL
United Kingdom
T: +44 207 406 7548

Asia Pacific

Millennium Business Park
Sector 3, Building # 4, Mahape
Navi Mumbai 400 710
India
T: +91 22 6772 5700