

Clearthought

The Connected Car

As the connected car becomes a reality so start-ups are transforming the experience of driving, providing a vast range of new capabilities.

Inside:

- Driver services and safety
- Smart routing, mapping, planning and mobility infrastructure
- Connectivity technology

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Driver services and safety

Driver Monitoring

By studying a driver's eye, face and head movements, interior vehicle algorithms can today draw conclusions about a person's alertness, attention and focus.

This is crucial when it comes to helping to avoid accidents, and is the logic behind the Driver Monitoring System (DMS) built around an eye-tracking camera in the steering column which communicates with dashboards and helps detect dangerous situations.

Recent years have seen increasingly advanced solutions adopted in many car models. A leading supplier of eye-tracking software is Sweden-based Smart Eye which says that a car's ability to recognise emotions can have a major effect on road safety.

It says that along with alcohol and texting, human emotion causes most accidents. "Road rage, sadness, even euphoric happiness, these are all feelings that cloud our judgement and can cause us to lose focus in traffic. A car that can recognize these strong emotions and knows how to calm us down could save lives".

Along with alcohol and texting, human emotion causes most accidents.

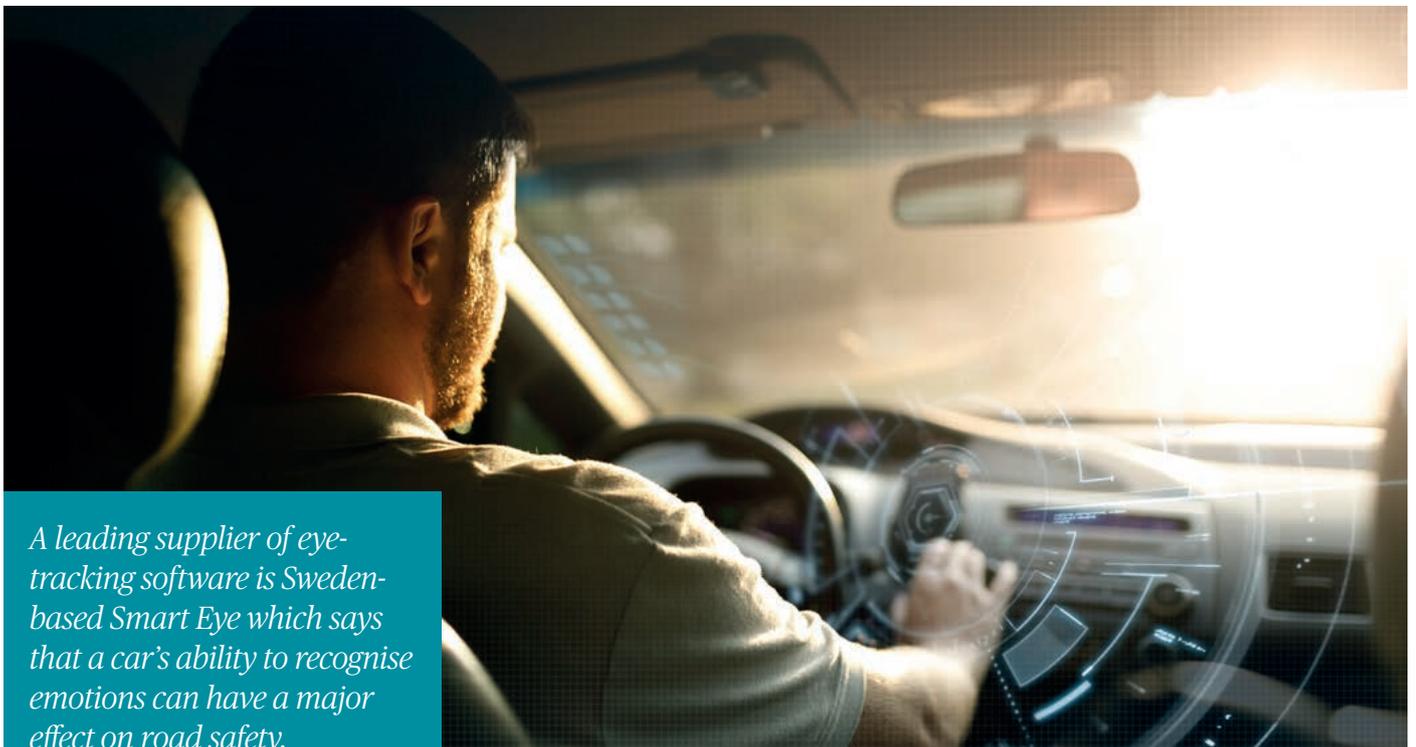
Such thinking is already starting to drive new legislation and safety requirements. For instance, the European New Car Assessment Programme (NCAP), which requires new cars to be equipped with drowsiness and inattention detection, is

accelerating the deployment of cameras and sensors in vehicles via a five-star safety rating system.

M&A activity

Against this backdrop, the sector is seeing major corporate activity. For instance, Israel-based Eyesight Technologies, a leading provider of computer vision AI solutions, and Grupo Antolin, one of the largest manufacturers of vehicle interiors, recently entered into a partnership to provide driver and occupancy monitoring solutions to OEMs.

Many believe the integration of DMS and interior sensing will be the next big thing in driver monitoring.



A leading supplier of eye-tracking software is Sweden-based Smart Eye which says that a car's ability to recognise emotions can have a major effect on road safety.

Eyesight Technologies' DMS tracks the driver's eyes, eyelids, pupils, head pose, and gaze to determine their alertness, wakefulness, and attentiveness. Its occupancy monitoring system can also monitor the car's interior – and passengers – and many believe the integration of DMS and interior sensing (which senses when someone or something is left in the car or out of position) will be the next big thing in driver monitoring.

With many traffic accidents caused by sleeping while driving, the demand for electrocardiogram (ECG) measurement to estimate driver drowsiness is another growing area. A leading player in this field is German company Capical which integrates sensors into vehicle seats which are then capable of monitoring the driver's heart and respiratory rates. The sensors can also help detect other parameters such as cardiac arrhythmias.

Another player is IVEX which specialises in software for self-driving cars and which earlier this year raised €1.2m from a range of investors. With the funding the company plans to roll-out its Safety Co-Pilot, which is used to assess every decision made by the self-driving software against car safety requirements, and its Safety Assessment Tool which is used during the development of autonomous cars to accelerate testing and validation.



Entertainment

The days of radios, cassettes or CD players in vehicles have long gone with in-vehicle entertainment transformed by systems that include steering wheel audio controls and hands-free voice control.

The ability to transfer files into the correct format so that they can be played in a vehicle is another growth area.

A major player is Mobica which works directly with OEMs, Tier 1 suppliers and semiconductor vendors to create infotainment and advanced driving solutions. Another is CloudCar which says that ever more advanced technology is now changing driving behaviour. It says drivers want to interact with their vehicle by talking to their car, have it predict their needs, be more productive, and make their life easier on the road. Working with leading OEMs, it uses cloud-based technology and machine learning to create an intuitive experience for connected on-board infotainment solutions.

The ability to transfer files into the correct format so that they can be played in a vehicle is another growth area. Cinemo has built software for the automotive industry that can decode and stream virtually any file, disc, connected device, streaming format and cloud content.





In-car payments

The in-car payments sector is expected to see huge growth. Just as mobile payments are now standard in retail stores, so they are likely to become commonplace via connected vehicles as our cars become an extension of our wallet.

For an idea of the opportunity, consider a recent report* that found that 135 million US commuters spend more than \$210bn a year on petrol, parking, food, coffee, and groceries as part of their drive to and from work.

It is little surprise that OEMs have been partnering with financial institutions to seize the opportunity. Visa and Honda recently announced a proof-of-concept connected car that allows drivers to pay for fuel and parking from inside their car. Chevrolet has teamed up with Shell to launch a payment feature that allows drivers to pay for fuel from inside the vehicle, while Mastercard has partnered with IBM and General Motors.

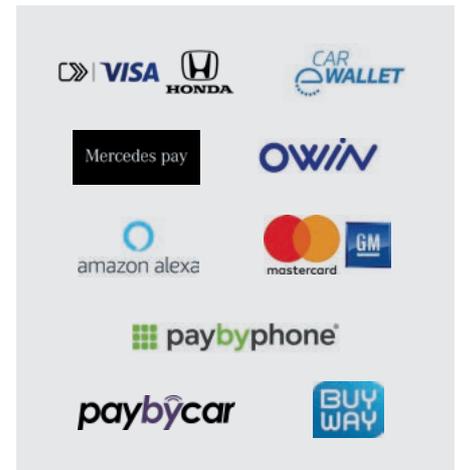
\$210bn⁺

*Spent by Americans per year on petrol, parking, food, coffee & groceries as part of their commute**

*Pymnts.com, Visa - The Digital Drive

The market is also attracting plenty of innovative new entrants. Car eWallet, a subsidiary of German automotive supplier ZF Friedrichshafen, is working on a blockchain-based open transaction network which brings together different

players in the mobility ecosystem with the aim of enabling vehicles to carry out transactions autonomously with as little human intervention as possible.



Digital licence plates

Another part of a vehicle which is playing an increasing role in the connected car is the licence plate, with metallic plates replaced by electronic plates which can communicate with the rest of the vehicle and be used for tracking and digital monitoring. Electronic plates also greatly enhance vehicle security as they are much harder to steal.

A measure of the growth of this market came when Erich Utsch acquired Hills Numberplates to become the world's largest licence plate group. The companies said the deal would unlock new opportunities for technological advancement and give Utsch the ability to extend more new products and bespoke licence plate solutions.

Another player is Reviver whose connected plate platform offers a

A recent major deal in the sector saw US business Sonos acquire French company Snips.



suite of benefits for drivers, commercial fleet managers and government organisations, such as by being able to track mileage and the use of tolls.

Electronic plates also greatly enhance vehicle security as they are much harder to steal.

Tönjes has operated as a technology supplier in recent years but is now emerging as a systems provider, offering a one-stop-shop for all aspects of vehicle registration and identification, from licence plate production and issuance to the creation of central registration systems.



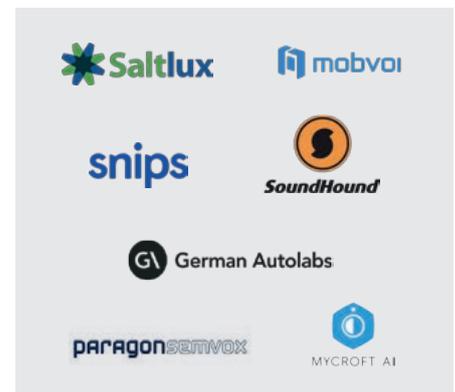
The in-car voice assistant

Just as voice assistants have become commonplace within the home, they are increasingly used in vehicles where they have multiple benefits. As well as allowing drivers to access navigation information they also allow them to play music and send texts – and prevent them from being unnecessarily distracted. A number of major OEMs have invested in language processing start-ups with Daimler, Hyundai, and Volkswagen respectively investing in SoundHound, Saltlux, and Mobvoi in order to develop in-vehicle voice assistants.

Other start-ups are attracting funding too. German business Autolabs, the company behind voice Artificial Intelligence (AI) enabled digital assistant ‘Chris’ – recently secured financing towards further R&D. The company says that with the growing success of voice AI, the need for vertical solutions in the automotive sector will soar and key

differentiators will be data safety, domain knowledge and customer touchpoints.

A recent major deal in the sector saw US business Sonos, one of the world’s leading sound experience brands, acquire French company Snips, an AI voice platform for connected devices. Another deal saw German automotive electronics specialist Paragon acquire Semvox, a spin-off from the German Research Centre for AI which offers solutions for voice control and intelligent assistance systems.



Smart routing and mobility infrastructure



Smart routing, mapping and planning

An area of huge growth is the increasing use of smart technology and Simultaneous Localisation and Mapping (SLAM) by cities and governments to help better connect vehicles and infrastructure.

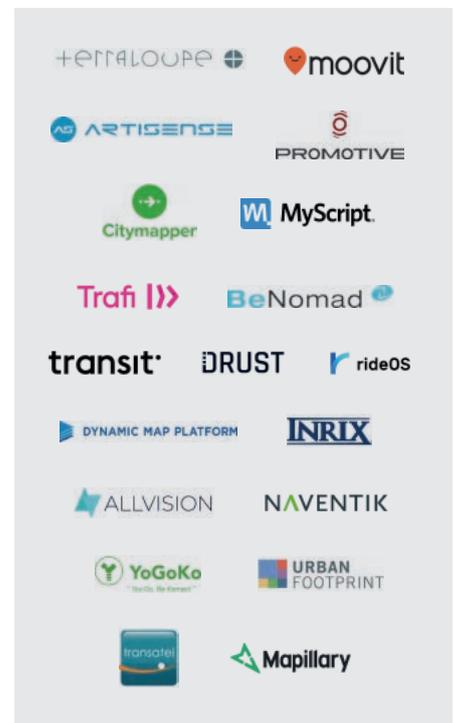
In this regard, the use of increasingly advanced Internet of Things (IoT) sensors and AI technologies has become critical. As such the market for localisation and mapping technologies is rapidly growing, also driven by future opportunities around autonomous cars, drones and AR/VR devices.

A major deal earlier this year involving two leading companies in the field saw Artisense acquired by Kudan. Another deal saw Moovit App Global receive €41m (\$50m) in funding to expand its tech and business development, and it now plans to

expand significantly the number of cities in which its data analytics improve urban mobility.

Three German companies are also at the forefront. TerraLoupe leverages AI to analyse aerial image data, enabling the automated generation of digital maps and related environmental information. Naventik has developed Pathfinder, a high-precision software solution which enables diverse sensor systems within a vehicle to deliver partially autonomous driving at a relevant security level. Promotives hosts services for autonomous vehicles in car parks, logistic hubs and other enclosed environments.

A major UK player is Citymapper, a mapping and transit navigation app, which was rumoured to be attracting interest from Apple, Microsoft and Alphabet after initiating a sale process earlier this year.



Electric Vehicle (EV) charging

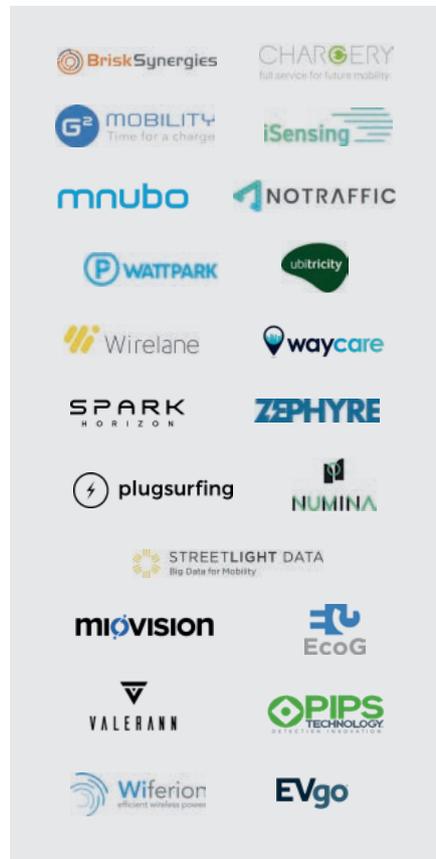
An effective and efficient EV charging network is essential for the wider take-up of electric vehicles.

For instance, Ubitricity has developed low-cost EV charge points that can be integrated into lamp posts and bollards, thereby allowing end-users to benefit from lower charging infrastructure costs and removing the need for dedicated parking bays. Last year it closed a €20m funding round backed by French energy group EDF, the venture capital arm of Siemens, and carmaker Honda.

EDF subsequently announced that it had chosen Ubitricity to be the electricity provider for its UK charging network, thereby helping those without off-street parking in urban areas to access a reliable supply of power to charge their EVs. Around 40% of cars are parked on the street overnight in the UK, meaning an offer such as this is needed if EVs are to be widely adopted.

German start-up Chargery has a particularly interesting business model. Its employees ride an electric bike with a large power bench in the bike trailer which is then hooked up to the location of the electric car. Earlier this year the company received further investment from the Helvetia Venture Fund, along with Vinci BV.

Time wasted trying to park in cities is one of the most notable pain points for car owners and fleet managers.



AI parking

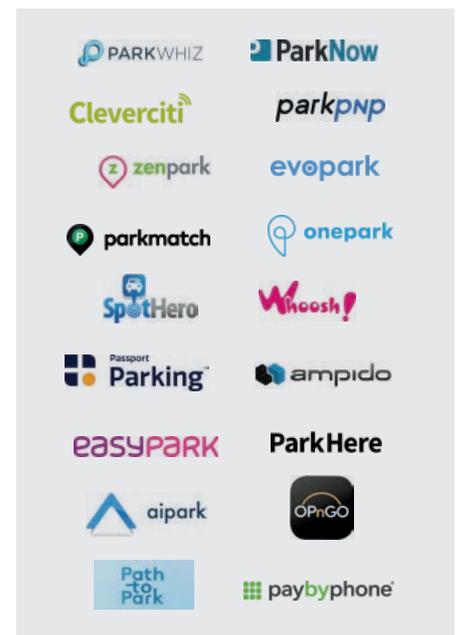
Time wasted trying to park in cities is one of the most notable pain points for car owners and fleet managers.

In response, a growing number of start-ups are developing tech-based solutions to make the parking process easier and more efficient. ParkHere develops self-powered sensors and software for vehicle detection to better control parked vehicles and moving traffic, while Bliq helps drivers find parking with predictive and real-time availability information.

Evopark offers cashless parking in garages across Germany and its core product is the SaaS solution easyCONTRACT which offers many features from the registration to the accounting of long-term parkers.

A growing number of start-ups are developing tech-based solutions to make the parking process easier and more efficient.

Cleverciti's high precision overhead sensors for on-street and outdoor parking provide real-time parking data to cities, parking operators and drivers via apps and visual guidance systems, while French company Zenpark partners with real estate players to convert private car parks into public ones. A recent fundraising will enable the company to accelerate its international expansion.



Connectivity technology



Light detection (LIDAR)

LIDAR (Light Imaging Detection and Ranging) measures the distance to a target by illuminating it with a laser light and then measuring the reflected light with a sensor. This information can then be used to make digital 3D representations of the target.

LIDAR solutions are essential for the technical progression of autonomous vehicles and Advanced Driver Assistance Systems (ADAS). Blickfeld is a German start-up developing LIDAR sensors for a variety of applications, including autonomous vehicles. It recently secured financing to ramp up production, qualify its LiDAR sensors for the automotive market, and strengthen its approach for industrial markets.

Innovusion is another developer of LIDAR sensor systems for autonomous vehicle and ADAS markets, while Xenomatix is a fast-growing Belgian company with an expanding LIDAR portfolio and related software products. It recently opened an office in the US following the establishment of a German operation last year.

One of the largest players is US-based Luminar which is working with most of the major OEMs as part of their global autonomous development programmes. Last year the company raised a further \$100m.



Radar / Ultrasonic

Like LIDAR, radar uses similar principles to scan surroundings, detect objects at a distance, and define their speed but does it through the use of radio waves and antennae, as well as receivers and processors.

One of the advantages of radar is that it can work over a longer distance and operate in more varied conditions and environments, and automakers are increasingly looking for innovative radar that provides longer range, higher resolution, and greater accuracy. Indeed the global automotive radar market is forecast* to reach US\$10.5bn by 2026.

Among the companies at the forefront is Israeli-based Arbe which has developed a high-resolution radar chipset which, it says, is a game-changer for the automotive industry and which it is now pushing to bring it into production.

Another player is Lunewave which manufactures lens antennae and radar sensors that can act as the 'eyes' of self-driving cars. The spherical sensors have a 360-degree field of view and can detect objects surrounding a car with high resolution, even at long range and in poor weather.

German-based Toposens has developed 3D ultrasound sensor vision that uses sound to support precise 3D vision for autonomous driving. Unlike existing sensor technologies that can be negatively impacted by light conditions, reflections and weather, its sensors are able to generate 3D point clouds to guide autonomous systems across a variety of applications.

A notable deal earlier this year saw Hella, a leading automotive supplier for radar, lighting, and electronic systems enter into a strategic partnership with Oculii, a pioneer in advanced software solutions for radar technology.

*Automotive radar market 2019-2026: Acumen Research and Consulting



Cameras & Computer Vision

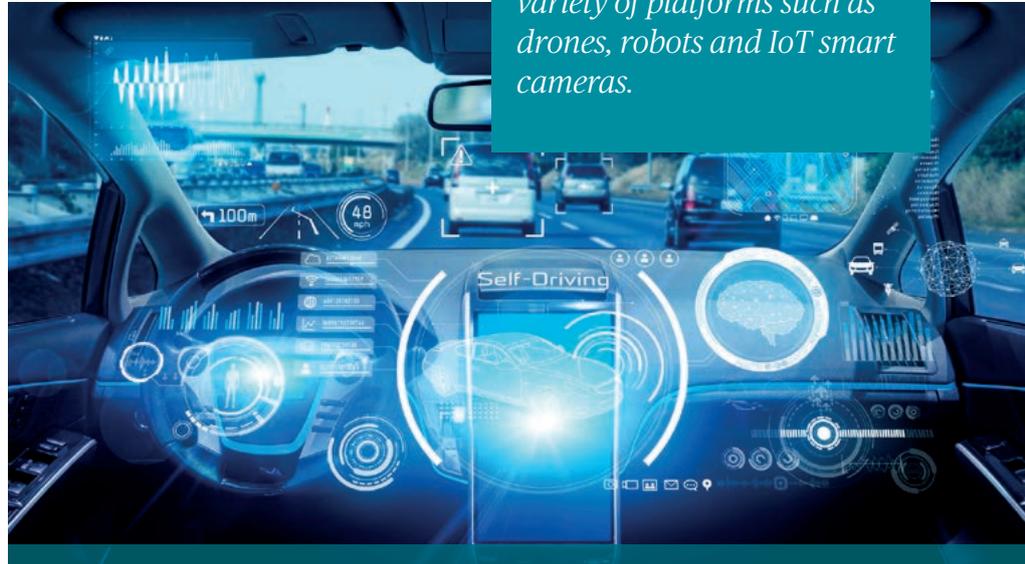
Deep learning techniques are ushering in a revolution in computer vision which is now being deployed across a variety of platforms such as drones, robots and IoT smart cameras.

One company at the forefront is Deep Vision which has specifically developed an ultra-low power processor as well as a stack of complementary software. Likewise, Deepscale, which was acquired by Tesla last year, is a start-up that uses low-wattage processors to power more accurate computer vision. It has developed a way to use neural networks on small, low-cost, automotive-grade sensors and processors to improve the accuracy of 'perception' systems which use sensors, mapping, planning and control systems to interpret and classify data in real-time.

Another player is French company Prophesee which recently received investment from the European Investment Bank. It specialises in the design of neuromorphic vision sensors and AI algorithms, and the funding will go towards international commercial deployment and to complete the development of its fourth-generation sensor. Yado-VR, which creates 3D models, maps and objects based on processing LIDAR data, has also attracted new investment.



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Data & Simulation

Testing new autonomous technologies is paramount for automakers with results constantly feeding back into vehicle development.

Understand.ai is one company pushing the boundaries of technology and AI to advance autonomous driving. It provides training and validation data to enable mobility companies to develop computer vision and machine learning models that can reliably and safely power autonomous vehicles. It says the test space for such functions is huge as 8 to 10 billion miles have to be driven without a fatality to prove that an autonomous vehicle is safer than the average human driver regarding that measure.

It is not feasible for most companies to capture this high complexity and perform this large amount of testing on real roads only, which is why simulation will play such a crucial role in the development cycle.

Last year Continental announced a collaboration with German player Automotive Artificial Intelligence (AAI) to develop virtual simulation tools, and also invested an undisclosed amount in AAI. Another player in this field is French company UTAC which recently unveiled a new innovation centre dedicated to the development and testing of connected and automated vehicles.



M&A activity



Date	Company	Type	Founders & Management	Deal / Financing Rounds	Investor
May-2020	Moovit App Global Ltd	Public transport mobile application	Nir Erez Roy Bick Yaron Evron	Acquisition (100% of shares) for EUR 820m	Intel Corporation
Jan-2020	Chargery GmbH	EV Charging & connected infrastructure	Christian Lang Paul Stuke Philipp Anders	Series B (undisclosed)	Helvetia Venture Fund Vinci BV
Jan-2020	Artisense Corporation	Smart routing, mapping & planning	Andrej Kulikov	Acquisition (100% of shares)	Kudan Inc
Dec-2019	Outsight	Cameras & Computer Vision	Cédric Hutchings	Financing Round (EUR 20m)	Demeter Partners SPDG BNP Paribas
Nov-2019	Snips	AI voice platform	Rand Hindi, PhD Michael Fester, PhD Maël Primet, PhD	Acquisition (USD 37.5m)	Sonos
Oct-2019	Prophesee	Cameras & Computer Vision	Luca Verre	Financing Round (EUR 25m)	European Investment Bank 360 Capital Management Robert Bosch Venture Capital Supernova Invest Ibionext
Sep-2019	Wiferion GmbH	EV Charging & connected infrastructure	Benriah Goeldi Florian Reiners Johannes Mayer Johannes Tritschler	Series A (undisclosed)	HTGF, Nordic Alpha Partners
Aug-2019	SpotHero Inc.	AI parking	Jeremy Smith Lawrence Kiss Mark Lawrence	Series D (EUR 45m)	Macquarie Group, Insight Partners, OCA Venture Partners, Autotech Ventures
Jun-2019	Drust	Vehicle-to-everything (V2X) tech	Michaël Fernandez	Acquisition	Continental AG
Apr-2019	OWIN	Device & software platform provider	Sungchul Shin Dr. Dokuen Jung	Series A (EUR 4.1m)	Blue Otus
Apr-2019	Affectiva	Emotion artificial intelligence	Dr. Rana el Kaliouby Dr. Rosalind Picard	Series B (USD 26m)	Aptiv (Lead investor) CAC Trend Forward Capital Motley Fool Ventures
Mar-2019	Ubitricity Gesellschaft fuer verteilte Energiesysteme GmbH	EV Charging & connected infrastructure	Frank Pawlitschek Knut Hechtfischer Lex Hartman	Series C (EUR 20m)	EDF, Next47, Honda Motor Company
Mar-2019	Transatel	Vehicle-to-everything (V2X) tech	Jacques Bonifay Bertrand Salomon	Acquisition	NTT Communications

Date	Company	Type	Founders & Management	Deal / Financing Rounds	Investor
Feb-2019	German Autolabs	Voice assistance platform	Holger G. Weiss	Seed (USD 7m)	nbr technology ventures (Lead investor) Target partners coparion VC Fonds Technologie Berlin
Jan-2019	Zenpark SA	AI parking	Fabrice Marguerie Frederic Sebban William ES Rosenfeld	Series A (EUR 10.0m)	Electricite de France S.A., Regie Autonome des Transports Parisiens SA, Demeter Partners, Nestadio Capital
Jan-2019	Onepark	AI parking	David Vanden Born	Series B (EUR 15.0m)	Accor ADP Keolis
Jan-2019	Parknp	AI parking	Daniel Paul Daniel Ramamoorthy Garret Flower	Seed (EUR 1.5m)	Colm Menton, Powerscourt Capital Partners, Enterprise Ireland
Jan-2019	Mycroft	Voice platform & speakers	Michael Lewis Kris Adair	Equity Crowdfunding (USD 11m)	undisclosed
Dec-2018	Mycroft	Voice platform & speakers	Michael Lewis Kris Adair	Debt Financing (USD 900k)	undisclosed
Nov-2018	Wirelane GmbH	EV Charging & connected infrastructure	Edouard Lamy	Series A (EUR 4.0m)	HTGF, Vito Ventures, Coparion
Nov-2018	Chargery GmbH	EV Charging & connected infrastructure	Christian Lang Paul Stuke Philipp Anders	Series A (undisclosed)	Sixt SE
Nov-2018	ParkHere GmbH	AI parking	Clemens Techmer Felix Harteneck Jakob Sturm	Series A (EUR 2.4m)	undisclosed
Oct-2018	Eyesight Technologies	In-cabin sensing solutions (AI)	David Tolub	Venture Round (USD 15m)	Arie Capital (Lead investor) Mizrahi Tefahot Bank (Lead investor) Jebsen Capital
Oct-2018	Carfit	Data & Simulation	Nicolas Olivier Peter Hauser	Seed (USD 2.5m)	BGV Plug and Play Tech Center Car Studio Groupe Bernard
Sep-2018	SemVox	Voice control	Dr.-Ing. Norbert Pfleger Dr.-Ing. Matthias Schöllmann	Acquisition of 82% stake	paragon GmbH & Co. KG
Sep-2018	G2mobility	EV Charging & connected infrastructure	Pierre Clasquin	Acquisition (100% of shares)	Total SA
Sep-2018	Smart Eye AB	Eye tracking system	Martin Krantz	Venture Round (SEK 114m)	Fouriertransform
Sep-2018	WayRay	Holographic AR technology	Vitaly Ponomarev	Series C (USD 80m)	Porsche (Lead investor) China Merchants Capital (Lead investor) JVCKenwood Corp. Alibaba Group Hyundai Motor Company
Sep-2018	AIPARK GmbH	AI parking	Johannes Riedel Julian Glaab Marcel Kessler Matthias Rudnik Matthias Natho Torgen Hauschild	Seed Round (kEUR 850)	Atalntic Labs, Angel Invest
May-2018	German Autolabs	Voice assistance platform	Holger G. Weiss	Seed (undisclosed)	GoBeyond
May-2018	SoundHound	Voice-enabled AI	Keyvan Mohajer Majid Emami James Hom	Corporate Round (USD 100m)	Tencent Holdings (Lead investor) Daimler Hyundai Motor Company Midea Group France Telecom
May-2018	Cleverciti Systems GmbH	AI parking	Thomas Hohenacker	Series A (EUR 12.4m)	EnBW New Ventures, SPDG and The Westly Group
Mar-2018	PlugSurfing GmbH	EV Charging & connected infrastructure	Adam Woolway	Acquisition (100% of shares)	Fortum Charge & Drive
Feb-2018	TerraLoupe GmbH	Smart routing, mapping & planning	Christian Schaub Josef Schindler Manuela Rasthofer Sebastian Gerke	Series A (EUR 1.3m)	Bayern Kapital Prof. Dr Christoph Einem Prof. Dr Michael Mirow
Feb-2018	NAVENTIK GmbH	Smart routing, mapping & planning	Michael Juttner Peter Kalinowski Robin Streiter Sven Bauer	Seed (EUR 2.0m)	TGFS GPS Ventures
Feb-2018	Moovit App Global Ltd	Smart routing, mapping & planning	Nir Erez Roy Bick Yaron Evron	Series D (EUR 41.0m)	Intel Capital, Sequoia Capital, NGP Capital, BMW Ventures

M&A activity continued

Date	Company	Type	Founders & Management	Deal / Financing Rounds	Investor
Feb-2018	Mycroft	Voice platform & speakers	Michael Lewis Kris Adair	Product Crowdfunding (USD 1.395m)	undisclosed
Jan-2018	Mycroft	Voice platform & speakers	Michael Lewis Kris Adair	Seed (USD 1.8m)	28 investors
Dec-2017	Reviver Auto	Connected car platform	Neville Boston Robert Wood	Series A (USD 12.5m)	Walden Riverwood Ventures (Lead investor) ACK Group (Lead investor) Beirose Care
Dec-2017	evopark GmbH	AI parking	Maximilian Messing Mark Hermann Tobias Welper Sven Lackinger	Sell (75% of shares)	Scheidt & Bachmann GmbH
Dec-2017	Onepark	AI parking	David Vanden Born	Series A (EUR 12.0m)	Keolis
Nov-2017	German Autolabs	Voice assistance platform	Holger G. Weiss	Seed (undisclosed)	Atlantic Labs
Nov-2017	Ubitrlicity Gesellschaft fuer verteilte Energiesysteme GmbH	EV Charging & connected infrastructure	Frank Pawlitschek Knut Hechtfisher Lex Hartman	Series B (undisclosed)	Next47
Oct-2017	Mycroft	Voice platform & speakers	Michael Lewis Kris Adair	Grant (USD 15k)	Hello Tomorrow
Sep-2017	PayByCar	In-vehicle payment provider	Anand Rama Kevin Condon Nick Chandler	Pre Seed (USD 830k)	James McCann Matthew Farrell David McCue Azoic Ventures Martech Ventures
Sep-2017	Parkpocket GmbH	AI parking	Benedikt Bergander Karoline Bader Marius Schneider Stefan Bader	Acquisition (100% of shares)	Continental AG
Jul-2017	OWIN	Device & software platform provider	Sungchul Shin Dr. Dokuen Jung	Seed (EUR 1.5m)	GS Caltex
Jul-2017	EcoG GmbH	EV Charging & connected infrastructure	Johannes Hund Jörg Heuer Manuel Heckmann	Seed (undisclosed)	Next47, Techstars
Jun-2017	Oocar	Data & Simulation	Philippe Chassany	Venture Round (undisclosed)	Autodistribution
Jun-2017	Snips	AI voice platform	Rand Hindi, PhD Michael Fester, PhD Maël Primet, PhD	Series A (USD 13m)	Korelya Capital (Lead investor) MAIF Avenir (Lead investor) Bpifrance Eniac Ventures
Apr-2017	Elocity	Data & Simulation	Stéphane Derville	Venture Round (undisclosed)	Bridgestone Total
Apr-2017	Mobvoi	Chinese language speech recognition	Zhifei Li, PhD Yuanyuan Li	Series D (USD 180m)	Volkswagen Group
Mar-2017	TerraLoupe GmbH	Smart routing, mapping & planning	Christian Schaub Josef Schindler Manuela Rasthofer Sebastian Gerke	Series A (EUR 1.2m)	Bayern Kapital Prof. Dr Christoph Einem Prof. Dr Michael Mirow
Mar-2017	WayRay	Holographic AR technology	Vitaly Ponomarev	Series B (USD 18m)	Alibaba Group
Mar-2017	Mycroft	Voice platform & speakers	Michael Lewis Kris Adair	Grant (USD 50k)	Techweek
Feb-2017	Mycroft	Voice platform & speakers	Michael Lewis Kris Adair	Seed (USD 110k)	Jaguar Land Rover
Feb-2017	Mycroft	Voice platform & speakers	Michael Lewis Kris Adair	Seed (USD 150k)	500 Startups
Jan-2017	CloudCar	Cloud-based solutions	Philipp Popov	Venture Round (USD 15 m)	Jaguar Land Rover
Jan-2017	SoundHound	Voice-enabled AI	Keyvan Mohajer Majid Emami James Horn	Series C (USD 75m)	Nvidia GPU Ventures (Lead investor) +11 others
Jan-2017	Reviver Auto	Connected car platform	Neville Boston Robert Wood	Seed (USD 7.5m)	Walden Riverwood Ventures
Nov-2016	Reviver Auto	Connected car platform	Neville Boston Robert Wood	Pre Seed (USD 5.5m)	undisclosed
Nov-2016	German Autolabs	Voice assistance platform	Holger G. Weiss	Seed (EUR 2m)	Target Partners
Sep-2016	Mycroft	Voice platform & speakers	Michael Lewis Kris Adair	Grant (USD 50k)	Launch KC
Aug-2016	Erich Utsch	Security license plates	Emmi Utsch Erich Utsch Dr. Tilman Schwinn Dominic Höffgen	Acquisition (undisclosed, majority of shares)	Scandector AB

Date	Company	Type	Founders & Management	Deal / Financing Rounds	Investor
Jul-2016	Mobvoi	Chinese language speech recognition	Zhifei Li, PhD Yuanyuan Li	Product Crowdfunding (USD 1.1m)	Undisclosed
Jul-2016	Cardio-id	Applications around cardiac signals	André Lourenço	Seed (EUR 150k)	undisclosed
Jun-2016	WayRay	Holographic AR technology	Vitaly Ponomarev	Series A (USD 10m)	undisclosed
May-2016	Affectiva	Emotion artificial intelligence	Dr. Rana el Kaliouby Dr. Rosalind Picard	Series A (USD 14m)	Pegasus Tech Ventures (Lead investor) B&Y Venture Partners FINC
May-2016	Eyesight Technologies	In-cabin sensing solutions (AI)	David Tolub	Series C (USD 20m)	Kuang-Chi Science
Feb-2016	Mycroft	Voice platform & speakers	Michael Lewis Kris Adair	Angel Round (USD 350k)	Star Power Partners (Lead investor) (+11 others)
Jan-2016	Cardio-id	Applications around cardiac signals	André Lourenço	Seed (EUR 75k)	Startup Braga
Oct-2015	Mobvoi	Chinese language speech recognition	Zhifei Li, PhD Yuanyuan Li	Series B (USD 10m)	Google (Lead investor) ZhenFund
Oct-2015	Mobica	Edge software engineering	Simon Wilkinson	Private Equity Round (undisclosed)	Inflexion Private Equity
Jun-2015	Snips	AI voice platform	Rand Hindi, PhD Michael Fester, PhD Maël Primet, PhD	Seed (USD 3.3m)	The Hive (Lead investor) 500 Startups Eniac Ventures Xavier Niel Brent Hoberman
Jul-2014	CloudCar	Cloud-based solutions	Philipp Popov	Series A (undisclosed)	Nimble Ventures
Apr-2014	BuyWay	Consumer credit services	Christophe Hamal	Acquisition (undisclosed)	Chenavari Investment Managers
Feb-2014	Mobvoi	Chinese language speech recognition	Zhifei Li, PhD Yuanyuan Li	Series B (USD 10m)	SIG China (Lead investor) Sequoia Capital China
Jan-2014	Cardio-id	Applications around cardiac signals	André Lourenço	Funding Round (undisclosed)	IMPACT Accelerator



Our recent automotive transactions

Working for many years with leading suppliers and OEMs, and more recently with new digital players, we have built up an extensive network and knowledge of the sector, becoming a trusted adviser for many of the world's leading automotive players. With more than 270 successfully completed automotive deals, our unique automotive transaction experience covers virtually every system and component of a vehicle, all relevant materials and process technologies.

HeidelbergCapital
sold to
MOBILE CITY
to
easypark

Sell-side
Undisclosed

GLORY
Acquired a majority
stake in
Cash Payment
Solutions

Buy-side
Undisclosed

SYNOVA CAPITAL
sold
mandata
Software that delivers.
to
LDC
Private Equity Less Ordinary

Sell-side
€23m

BorgWarner
sold
BERU
to
Huf

Sell-side
Undisclosed

均胜电子
JOYSON ELECTRONICS
acquired
KSS
KEY SAFETY SYSTEMS

Buy-side
€815m

beegy
sold to
MVD

Sell-side
Undisclosed

DELPHI
sold
Its global Reception
Systems business
to
NORINCO GROUP
NORTHEAST INDUSTRIES GROUP CO.,LTD.

Sell-side
Undisclosed

BOSCH
sold
RTI Technologies
to
MAHLE

Sell-side
Undisclosed

faurecia
acquired
Coagent
好帮手电子

Buy-side
Undisclosed

Our international automotive team

With offices in Europe, the US and Asia, our automotive team can deliver seamless, integrated global advice to SME/owner-managed, corporate and private equity clients. Our team is supported by a number of high-profile senior advisers who are all former top tier executives with relevant product knowledge and a far-reaching network of contacts.



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