

# ALLEN & OVERY



## Connected cars and autonomous vehicles

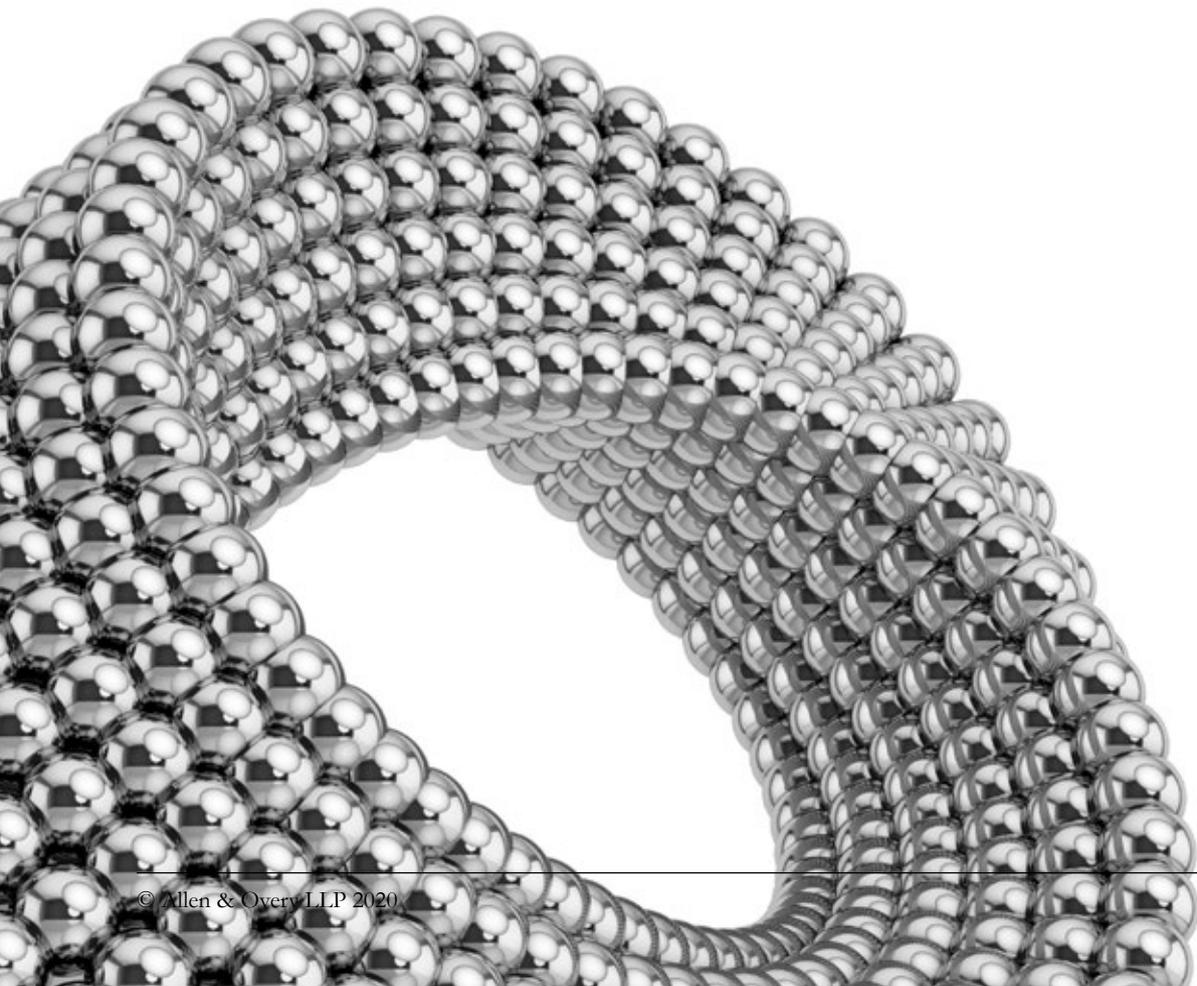
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2020

# Connected cars and autonomous vehicles

According to research by IHS Automotive, the number of cars connected to the internet worldwide will grow more than six fold to 152 million in 2020 from 23m in 2013. IHS also predicts that there will be 21m autonomous vehicles on the world's roads by 2035. PWC suggests that 90% of the innovation and new features in cars are driven by the use of electronics. These predictions forecast the inexorable rise of the phenomenon dubbed the “connected car” and the continued push towards autonomous vehicles.

Connected cars represent the convergence of the automotive industry with a wave of digital developments such as digital mobility, artificial intelligence and the Internet of Things (IoT). As in other industries embracing digitalisation, we can expect to see significant disruption as a consequence of the changes to value chain and business models that connected car opportunities present.



Not since the days of Henry Ford has the automotive industry been at such a point of opportunity and disruption. Market players wanting to take advantage of the opportunities presented by connected cars and autonomous vehicles will, however, need to consider a wide range of legal issues, including regulatory challenges, data protection and

security issues, technology standards and interoperability, IP ownership, antitrust aspects and liability questions. We have identified some of the biggest legal issues facing the connected and self-driving car market.

#### THESE ISSUES ARE:

- New emerging regulations for the testing and deployment of autonomous and connected cars create legal uncertainty;
- Automotive meets tech: M&A, new collaborations and innovative partnerships will continue to increase;
- Big data and data analytics are driving new in-car technology, services and monetisation opportunities;
- Cyber security, the threats to connected car data and services, and cars themselves, evolve;
- IP litigation between OEMs and NPEs is expected to increase as technologies evolve;
- Autonomous vehicles give rise to new liability issues; 2016

*It is unlikely that any one company will have an end-to-end hold on the opportunities in the connected car market and, for that reason, strong skills in commercial partnering will distinguish winners and losers in this space.*

Allen & Overy regularly advises clients in the connected car industry on all aspects of their business, including intellectual property, regulatory, M&A, commercial, privacy and data protection, product liability and dispute resolution. We fully understand the tensions in the industry between what is permissible under data protection legislation, the range of technical solutions and what your customers and partners may expect from you.

We are known for our practical and commercial approach to compliance and have the ideal combination of competencies, experience and global reach to assist you.

# Intellectual Property

Our IP & IT team regularly advises clients in the connected car industry on all aspects of their business, including regulatory, commercial, privacy and data protection, product liability, intellectual property, and dispute resolution. We fully understand the tensions in the industry between what is permissible under data protection legislation, the range of technical solutions and what your customers and partners may expect from you. We are known for our practical and commercial approach to compliance and have the ideal combination of competencies, experience and global reach to assist you.

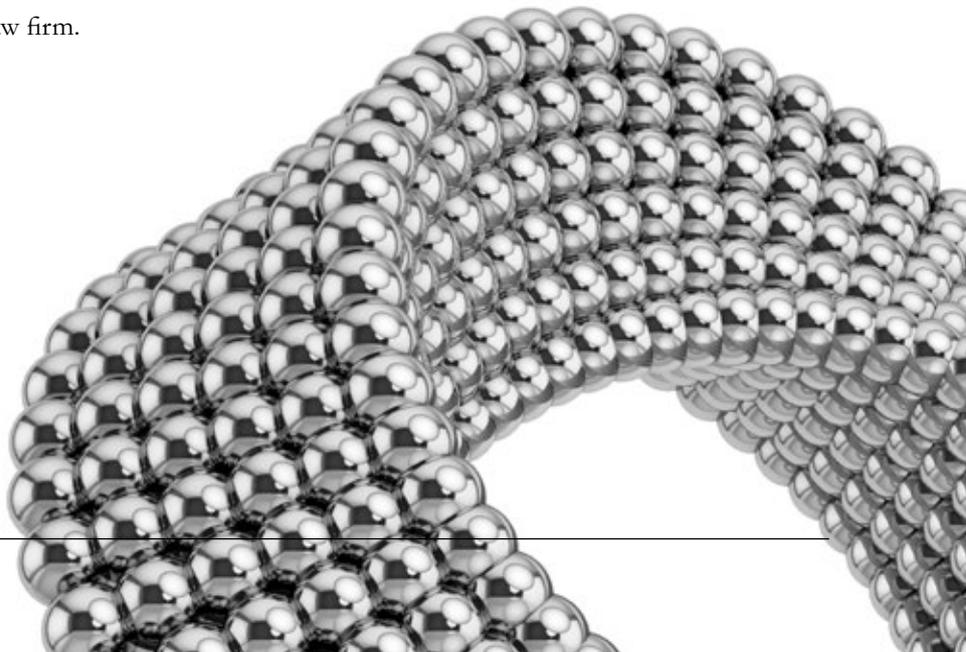
Allen & Overy is one of the few major global law firms with a full-service, cross-border intellectual property capability.

We advise on the full spectrum of IP matters. This includes the contentious and non-contentious aspects of patents, trademarks and brands (including trademark filing and portfolio management), designs, domain names, copyright and trade secrets. We also advise on the acquisition of IP rights, joint ventures, licensing agreements, collaborative research and development arrangements, technology transfer agreements and distribution agreements.

A&O's IP practice numbers over 100 specialist lawyers across Europe, Asia Pacific and the U.S. Many of our IP lawyers come from science, technology or engineering backgrounds and have a deep understanding of the automotive and connected car sectors. This combination of technical knowledge and sector expertise is integrated with leading antitrust, arbitration, employment and regulatory expertise, and backed up by one of the largest international networks of any major law firm.

Our lawyers are supported by a team of specialist legal project managers who ensure the biggest cases and transactions are managed rigorously. We also have an in-house team of scientists who review and analyse technically complex material – nearly all of whom have a PhD in their respective fields and work alongside leading scientific experts.

This puts A&O in the strongest position to manage clients' most complex IP issues and to handle strategic litigation and commercial deals around the world – a position we believe few other law firms can match.



## PATENTS



A&O's patents team acts for the world's leading companies in the most complex disputes and transactions.

We position ourselves clearly on the industry side and work predominantly for manufacturing companies. In addition, our international network enables us to cooperate with colleagues from our antitrust practice who have extensive experience in patent law in connection with antitrust issues.

We have been involved in most of the significant SEPs cases to date. The developments and changes in the environment of standard essential patents as a result of the ECJ ruling Huawei v. ZTE and the subsequent case law of the courts of instance present SEP holders as well as implementers with numerous new challenges. Having acted for either the plaintiff or defendants in a large range of technology cases, our lawyers understand the variety of issues for each side as well as the way judges react to them. This experience enables us to develop comprehensive and effective enforcement and defence case strategies. In the event of a legal dispute, we will assist you in the infringement and existing rights proceedings as well as in the assertion of objections and claims under antitrust law.

## TRADE MARKS



Our trade marks specialists support brand owners in developing, protecting and exploiting their brands on every level: from initial trade mark clearance and selection, to filing, managing complex international portfolios and any enforcements and disputes that arise.

Unlike many major law firms, we provide the full spectrum of legal support for brands and trade marks in-house, with a team of trade mark administrators and trade mark attorneys working together with our team of IP lawyers.

## DESIGNS



Designs are a practical way to protect creativity and innovation. They are also valuable company assets. A&O's intellectual property team has significant experience in advising clients on the protection of designs, including decorative patterns, graphic symbols and the shape of products and their packaging.

We can file design applications worldwide and take them through to registration, protect against infringement and implement dispute resolution strategies to defend clients' designs around the world.

# M&A, collaborations and partnerships

Autonomous and connected cars necessitate cross-industry alliances, most commonly collaborations between automotive manufacturers/original equipment manufacturers (**OEMs**), telecoms providers/mobile network operators (**MNOs**) and technology companies. For example, Google has teamed up with 28 OEMs and 15 other technology companies to form the Open Automotive Alliance with the aim of bringing the Android platform to cars. In addition, here are some of the recent tech/car manufacturer tie-ups:

- Volvo and GM partnered up with Amazon to roll out in-car deliveries.
- In April 2018 Bosch acquired a 5% stake in mapping company Here. In doing so, it joined other shareholders Audi, BMW, Daimler-Benz, and Intel in their effort to deliver more precise maps for connected vehicles – the automakers having bought the company for USD2.7 billion from Nokia in 2015, with Intel then buying a 15% stake in early 2017.
- LG announced it is working with Qualcomm to jointly research and develop autonomous driving technologies.
- China’s Tencent took a 5% stake in Tesla.
- Verizon launched ‘Verizon Connect’, combining and monetising data from three best-in-class fleet and mobile workforce management software companies.

There are a number of driving forces behind these collaborations, the most obvious being that neither OEMs nor technology companies possess the full know-how to develop an autonomous or connected car and it does not make sense for either to “reinvent the wheel”. For example, although the technology behind weather and navigation data is relatively simple and could be adapted in-house by OEMs, it is easier and more cost efficient to receive this technology from a company that has already developed and maintains this software. There are also economies of scale and scope. The mass volume of production of OEMs will enable the cost of embedded connectivity to be lowered while MNOs can provide customers with shared data plans across all their devices and locations.

We are also likely to see broader collaborations between automotive manufacturers and technology companies, equipment manufacturers, telecoms providers, insurers and others. These alliances between industries with traditionally different operating methods and business models will require a convergence of their differing approaches in order to create a coherent final product. It will be key in these partnerships to think ahead about potential risks.

## For example:

- Allocation between the parties of third party liability.
- Allocation of responsibility for ensuring compliance with applicable laws and standards.
- Ownership of jointly created intellectual property.

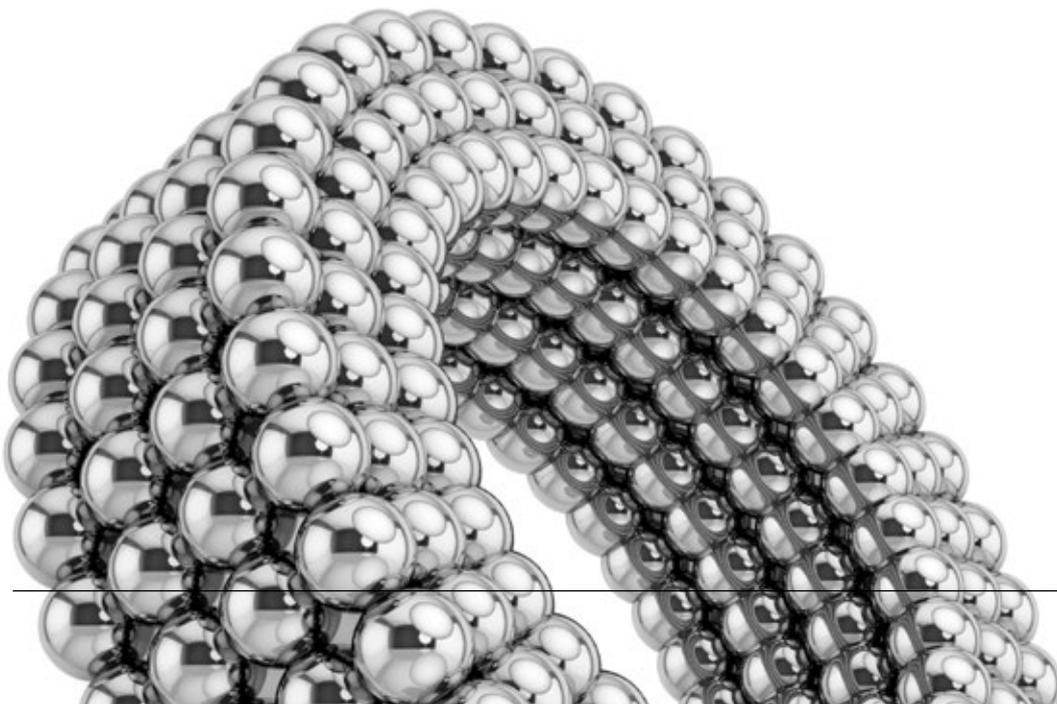
# Big data, data monetisation and analytics

In today's information society, data is everywhere. The ability to store, aggregate and combine data and then use the results to perform deep analyses has become ever more accessible and affordable. The means to extract insight from multiple types of data are also markedly improving as software sophistication improves and is combined with growing computing power. In addition, the ability to generate, share and access data has been revolutionised by the increasing number of people, devices and sensors that are now connected by networks. The addition of the connected car to these networks will create new opportunities to collect data that can be used for analytics purposes.

**Data analytics leverage big data to create value in a variety of different ways, such as to:**

- collect more accurate and detailed vehicle performance data, which could enable the development of more efficient, safer or more advanced vehicles;
- create highly specific segmentations of customers and tailor marketing of new vehicles, new in-vehicle technology (eg traffic routing, autonomous parking), better services (eg maintenance services) to meet customer needs and in-car monetisation opportunities (eg advertising of shops on route/at destination); and
- improve strategic decision making in the business, which should ultimately deliver increased profitability.

*With a track record of providing high-quality and innovative legal advice, Allen & Overy is ideally placed to guide companies through business and legal issues in the rapidly evolving connected car environment. We are able to bring together expertise from all the legal disciplines that these matters require, including regulatory, commercial, privacy and data protection, product liability, intellectual property, and dispute resolution.*



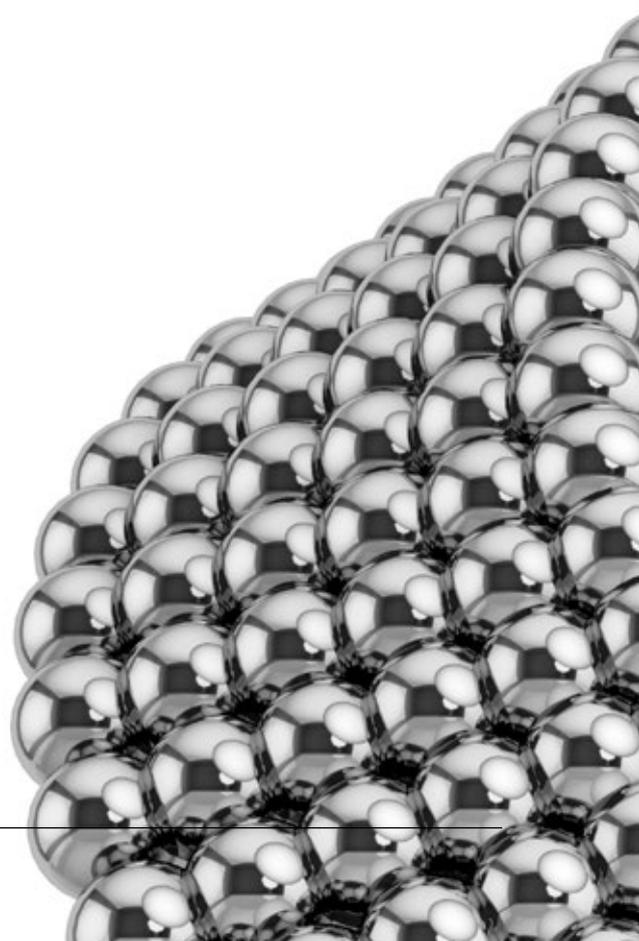
# Liability

The critical technology that allows a vehicle to become fully self-driving is the artificial neural network. Such networks can “learn” from experience (their own or that of other self-driving vehicles) but, as the EU Commission has recently recognised, this makes them essentially a black box: the inputs and the outputs are clearly identifiable, but the mechanism by which decisions are made is not.

That presents real issues for traditional theories of civil liability, such as the tort of negligence or the 1985 EU directive on liability for defective products, which depend on being able to show both that harm was caused and why. The mechanism is as important to the legal outcome as the result.

Both national governments and the EU Commission are starting to analyse these issues with a view to developing new legislative solutions. In the interim, the courts will

need to determine cases as they arise on the basis of the existing statutory and legal frameworks. Until there is more clarity from courts or legislators, parties in this area – including developers, manufacturers and importers of self driving cars or their decision making systems and anyone who lends to, invests in or insures such businesses – will need to think carefully about how they can use existing approaches for managing liability risk so as to take full advantage of the new opportunities that this transformative technology presents.



*“They did an excellent job. They were responsive, insightful, creative, thorough and hard working.”*

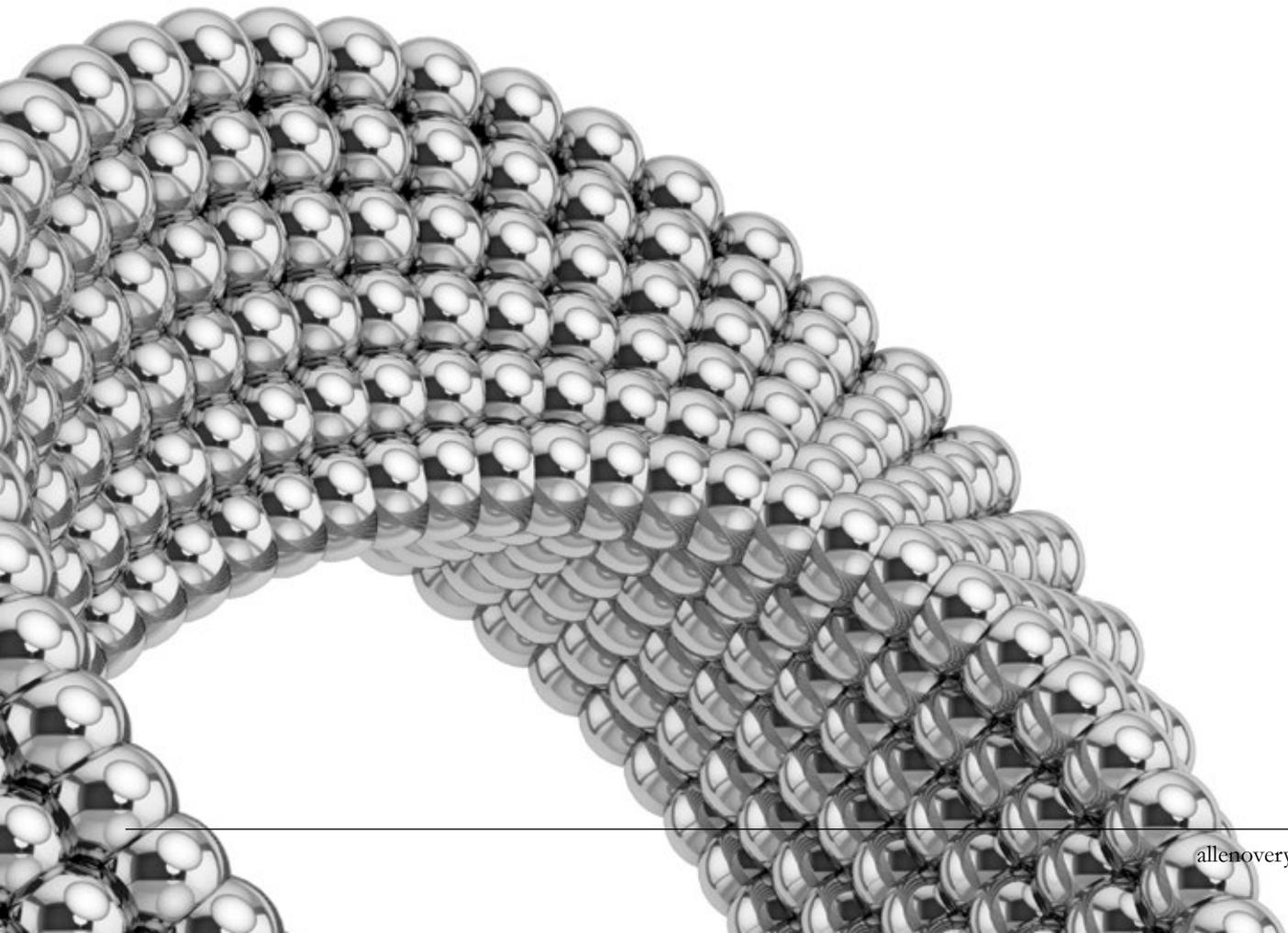
Chambers Global 2017 – TMT (Client Feedback)

*“Marquee names”*

Chambers Global 2019 – TMT

*“Clear focus”*

Chambers Global 2019– TMT



# Credentials

We have deep experience of digital transformation projects in the automotive sector, advising participants from all stages of the industry value chain from car makers to technology providers.

## CONNECTED CAR EXPERIENCE HIGHLIGHTS INCLUDE ADVISING:

**Toyota** on a wide range of matters relating to the regulatory and privacy aspects of a global project to develop and commercialise 'connected cars'. We advised on the integration of telematics technology and the use of the data collected with such technology; the use of AI; the setting-up of a pan-European data management governance model.

**Honda** on a trade mark infringement claim in respect of the parallel import of Honda spare parts from outside the European Union, as part of an on-going campaign in which we are acting to prevent the parallel importation of various Honda products from outside the EU.

**One of the largest Asian internet companies** on a development cooperation with German university and industry partners in the field of autonomous vehicles.

**Toyota Research Institute**, as co-investor with SPARX Group (as general partner of the Mirai Creation Investment Limited Partnership), in a seed round investment of just under GBP1m in March 2017 for a combined 17% stake in SLAMcore Limited. SLAMcore is a London-based start-up by a team of academics and researchers from Imperial College London and is set to be a leader in the development of simultaneous localisation and mapping algorithms (SLAM) for augmented reality (AR)/virtual reality (VR) systems, mobile robotics and autonomous vehicles (including drones).

**Ionity** – a joint venture between Daimler, Ford, BMW and the Volkswagen Group with Audi and Porsche – on the framework agreement to install high power-chargers for electric cars at Eni service stations

**Mitsubishi** on various matters including connected car questions and on its dealer agreements.

**Baidu**, on the data and IP aspects of its open source platform for self-driving cars and corporate partnerships. We also assisted the client on a technology collaboration with leading car makers.

**Ford Motor Company** on a joint venture with other industry partners in the field of developing fuel cells technology for automobile appliances.

**BMW** on its EUR3bn transaction to acquire control of its JV with Brilliance China Automotive.

- **ŠKODA AUTO DigiLab** in relation to its connected cars projects.
- **Japanese telecoms operator KDDI** on the telecommunication regulatory framework applicable to connected cars in the context of a multijurisdictional survey in Europe (all EU countries and non-EU countries) and in 30 countries worldwide.
- **TASS International**, an autonomous (self-) driving software developer for the automotive industry, and its shareholders on its acquisition by Siemens.
- **Beijer Automotive** on agreements for developing and delivering OBUs for connected car systems with various parties, as well as rendering data services. Beijer owns one of the largest databases of multibrand car data required for the aftermarket.
- **Harman** on compliance with the EU GDPR.
- **The financial services branch of a leading car manufacturer** on the establishment and further development of an app-based parking services solution.
- On the litigation with the Spanish Government regarding the use of our client's trade mark "**Saab**" in an advertisement. We stopped the use of that sign within four days.
- **Nissan** on intellectual property issues relating to Nissan's revolutionary "ZEOD" hybrid racing car and "Bladeglider" concept car.
- **Honda** on the enforcement of its intellectual property rights against an importer and seller of products infringing Honda's design rights.
- **Renault** on the on-board digital system for its vehicles called R-Link.
- **A leading automotive manufacturer** on its innovation and digital issues, including on an outsourcing contract and on the use of encryption technology.
- **Fleetlogic** (now part of TomTom Telematics) on several matters including privacy and data protection aspects of in-car mobility systems, including on the negotiations of agreements for the development of an App for connected car systems with PON, the importer of VW, Audi and Porsche in the Netherlands; and on various technical agreements and projects related to their connected car systems, including agreements for connected fleet management with car lease companies.
- **A global car company** on the negotiation of the various IT agreements and on the regulatory aspects of its on-board multimedia platform; and on database rights issues.
- **Fastned**, a nationwide network of fast charging stations for electric cars regarding the rights to offer fast charging for electric vehicles along the Dutch Highway.
- **Alfen**, a producer of transformer substations, energy storage systems and charging stations for electric vehicles, on its EUR85m IPO on Euronext Amsterdam.
- **Schaeffler** on a master agreement for the formation of a joint venture company with Roland Arnold and Paravan GmbH to further the development of Paravan's SPACE DRIVE drive-by-wire technology.
- **Amazon** on the data protection aspects of Alexa services in cars (collection of user consent, etc.), including negotiation of contracts with car manufacturers.

# Contacts – Connected cars group

## Key contacts

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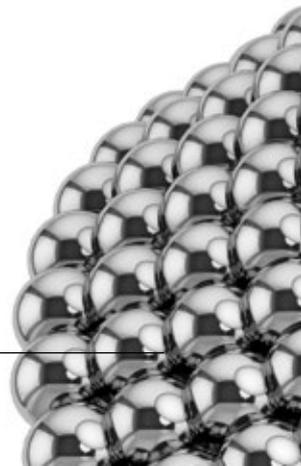
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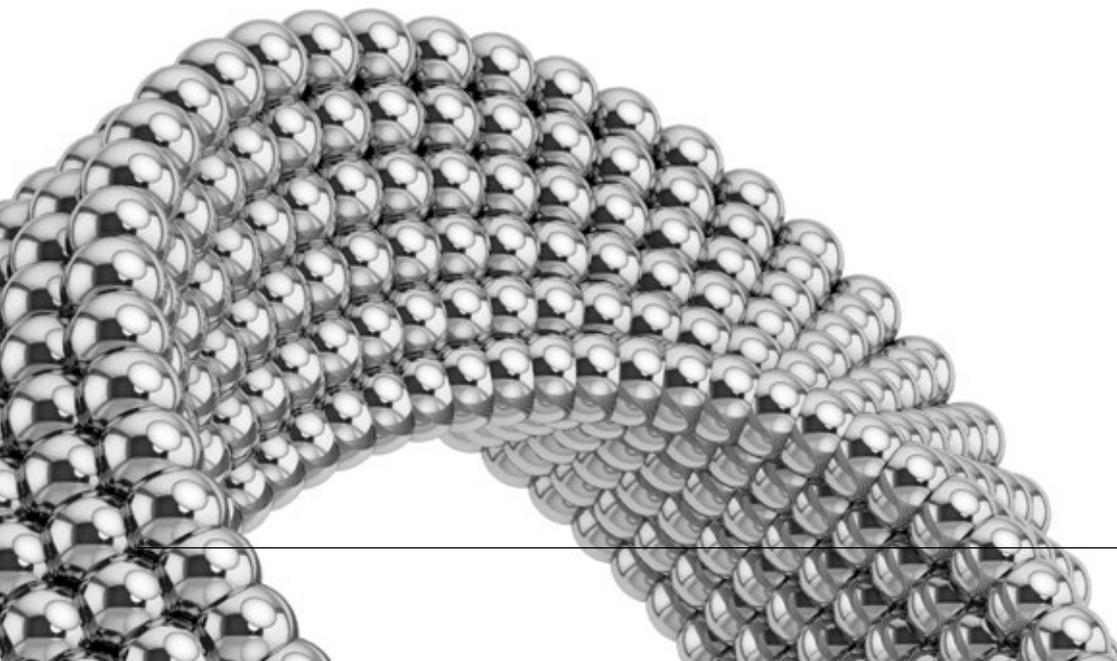
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# Our global presence

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Johannesburg

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Hanoi  
Ho Chi Minh City  
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Perth  
Seoul  
Shanghai  
Singapore  
Sydney  
Tokyo  
Yangon

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São Paulo

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Milan  
Moscow  
Munich  
Paris  
Prague  
Rome  
Warsaw

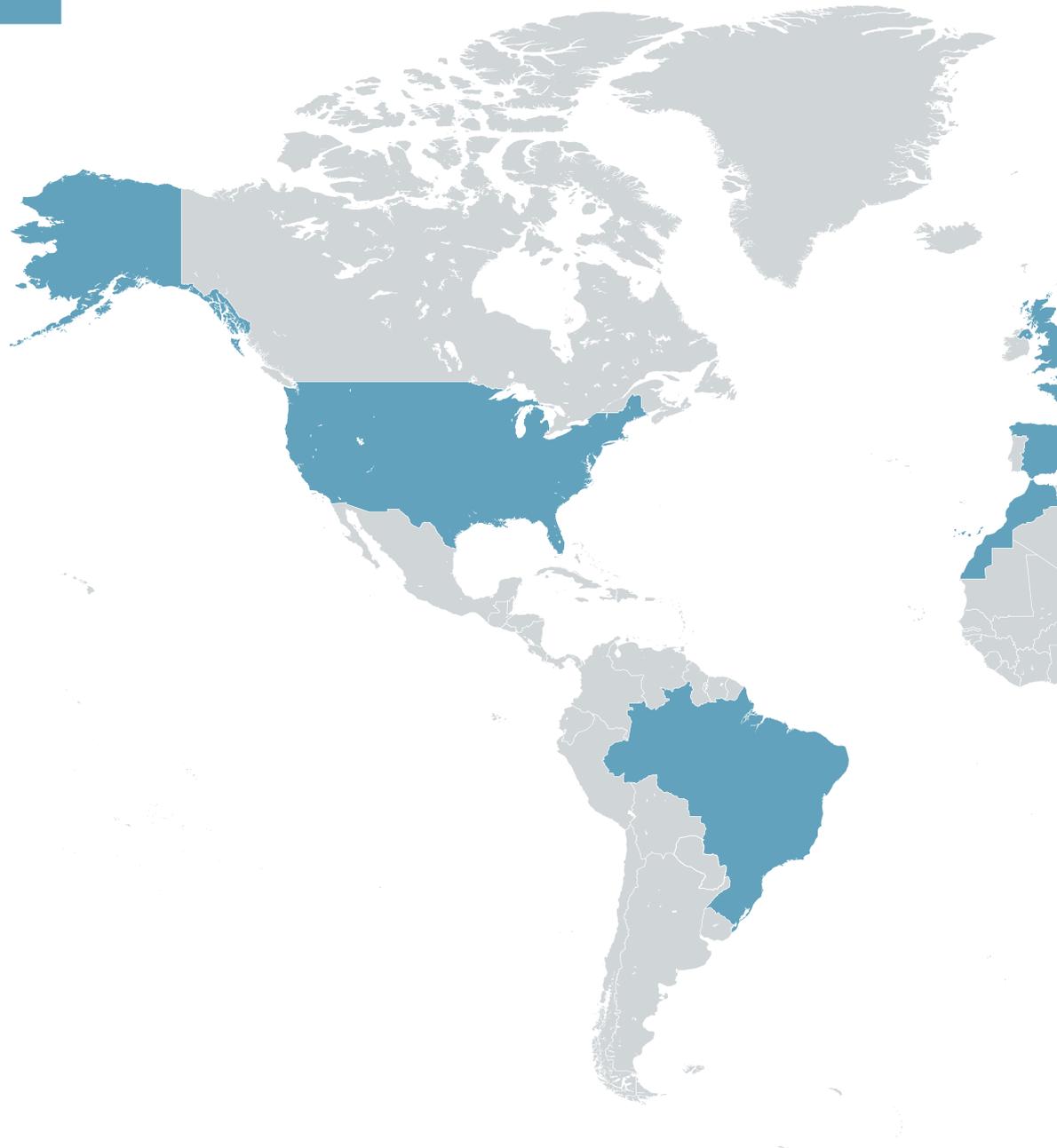
### MIDDLE EAST

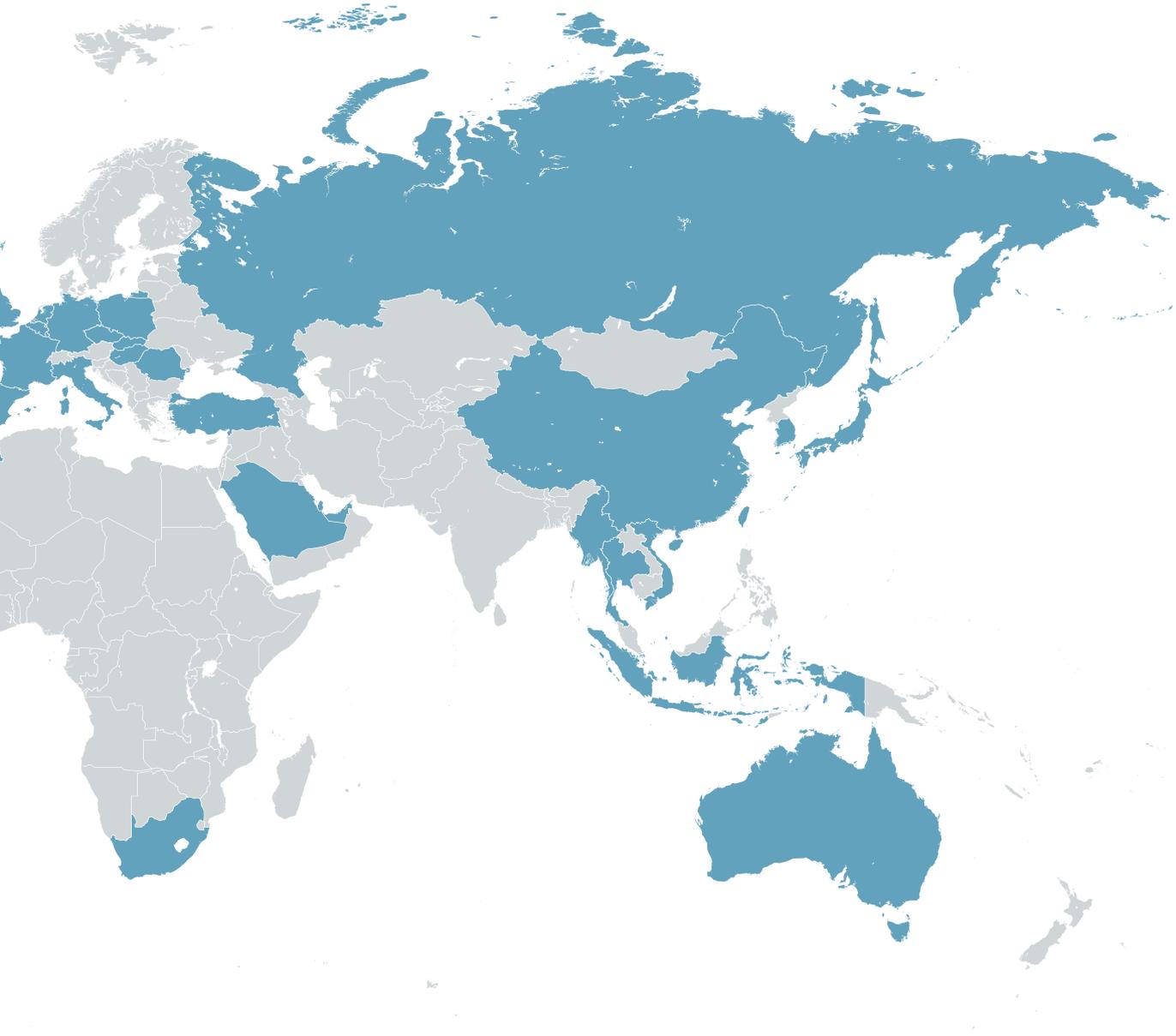
Abu Dhabi  
Doha  
Dubai  
Riyadh\*\*

### NORTH AMERICA

New York  
Washington, D.C.

\* Associated office  
\*\* Cooperation office





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## GLOBAL PRESENCE

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Allen & Overy is an international legal practice with approximately 5,400 people, including some 550 partners, working in over 40 offices worldwide. Allen & Overy LLP or an affiliated undertaking has an office in each of:

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