

# MOBILITY BREAKTHROUGHS

Impact of connected, electric  
and shared vehicles on  
automotive service providers

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E-CUBE STRATEGY CONSULTANTS  
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# Foreword

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## Introduction

The automotive sector is undergoing rapid evolutions thanks to technological and digital breakthroughs, to environmental constraints and new consumption models. Revenues from the automotive sector are shifting from the car itself to an ecosystem of services: beyond the development of new “mobility services” (such as ridesharing or carsharing), it is being enriched with services that improve the overall user experience: the sales (with leasing, on-demand, and usage-based products), the traveling experience (extended and personalized onboard contents and services) and the vehicle O&M (predictive maintenance, on-demand roadside assistance, in-home maintenance, etc.).

At the interface between the car and the user, automotive services are offered by an increasing variety of players. While car manufacturers integrate more and more service in their cars, encouraged by the development of leasing, ICT companies leverage their customer knowledge to enter the car market, and traditional insurance or repair & maintenance players look to reinvent their product line. In this fast-changing context, players face many uncertainties regarding which business models shall benefit most from these developments and which may be negatively affected. They focus on winning business models (e.g. B2B2C, B2C, bundles, etc.), on the partnerships they have to form to develop an access to the customer, an access to data (technically and legally), and on the way to make the customer perceive the service’s value in the future.

To apprehend these questions and understand how they are perceived by automotive stakeholders, E-CUBE Strategy Consultants interviewed 50 industry players, in Europe, China and Brazil, among which car manufacturers, equipment suppliers, insurance and assistance companies, auto-clubs, fleet management players, innovative startups, telematics and ICT companies.

Interviews have focused on the impacts of three main large-scale breakthroughs on their activities: connected vehicles, electric vehicles and Mobility as a Service. The study presents key trends and outlooks that emerged during these interviews.

# 1

## The automotive industry is subject to fast-developing breakthroughs: connected vehicles, electric vehicles and Mobility as a Service

Three main breakthroughs will change the automotive landscape in the five years to come:

- The development of connected vehicles combines the multiplication of car sensors with **connectivity to the cloud** (GSM, 4G/LTE, IOT, etc.). It is expected that 420 million cars will be connected worldwide in 2020<sup>1)</sup>. Car manufacturers and OEMs are releasing models with built-in connectivity while telematics companies are connecting cars via aftermarket solutions (e.g. OBD dongles). The development of connectivity is an opportunity to offer new services like location-based services, usage-based insurance or predictive maintenance.
- The deployment of electric vehicles (EV) has become a reality in Western countries and China. Although penetration rates will remain low in the short term (around 1% of global car stock in 2020 and below 5% by 2025<sup>2)</sup>), EV sales are soaring in Western countries and China. Car manufacturers are planning to introduce dozens of new EV models on the market by 2020 while the charging network infrastructure is being developed at fast pace. Those investments are pushed by regulatory pressure in a context of CO2 emission reductions, recent improvements on battery technologies, but also business opportunities. Indeed, the EV is considered as an enabler for autonomous driving and mobility services, it offers more flexibility to car design, changes the balance between OPEX and CAPEX for car owners and creates new charging needs.
- The emergence of Mobility as a Service (MaaS) introduces a shift from personally-owned modes of transportation toward usage of new mobility solutions (peer-to-peer car renting, carpooling, ridesharing, shared fleets, multimodal services...) which are redefining the role and usage of cars in transportation. As the number of urban areas is growing around the world, innovative mobility services are developing fast to answer transportation challenges while limiting the investment in transportation infrastructure: carsharing is expected to grow from 6.5 million users today to 26 million in 2020 worldwide<sup>3)</sup>. In the meantime, individual car owners are changing their purchase behavior, from upfront purchase to leasing and long-term renting: in France, those two purchase options represented 29% of car sales in 2017 compared to 8% in 2010.

1) IDATE European think tank – November 2015

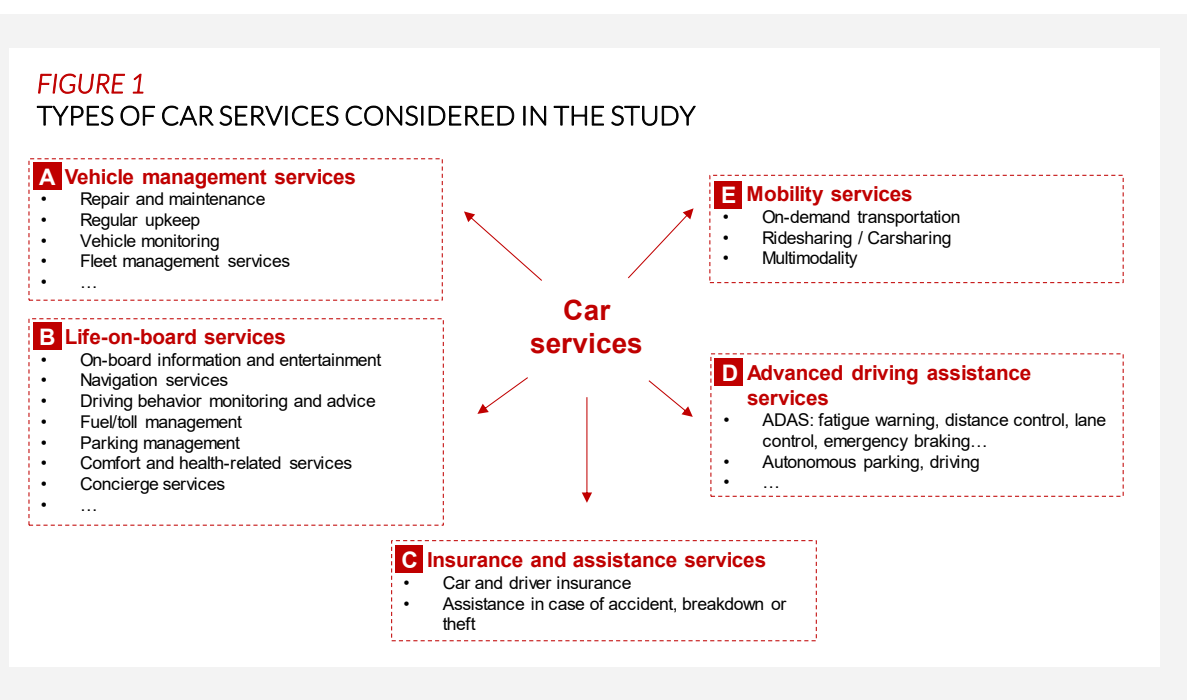
2) International Energy Agency – Global EV outlook 2017: between 9 and 20 million cars will be electric worldwide by 2020 and between 40 and 70 million by 2025

3) Berg insight - The Carsharing Telematics Market – November 2015

Those three breakthroughs are **simultaneous**, reinforcing themselves through synergies and multiplying the impacts on the automotive sector. They have led to the **ACES** acronym, qualifying future mobility as Autonomous, Connected, Electric and Shared. Autonomous vehicles are not included in the scope of the study as we believe they will emerge a few years from now, with a small but significant time gap with the three other breakthroughs.

Those disruptors are **changing the nature of automotive services** (e.g. charging and battery services) and **the way they are used and paid for**: consumption behavior is shifting from ownership toward usage and new business models are emerging (MaaS, leasing, data brokering, telematics insurance...).

The study focuses on the service categories A, B and C listed in Figure 1.. Advanced driving assistance services (D) and mobility services (E) are considered as breakthroughs rather than services themselves.



# 2

## Connected vehicles open wide service opportunities, which are still mostly untapped due to difficulties in accessing data and lack of drivers' willingness to pay

*2.1 Interviewed players identify 4 major service areas where the connected car can bring value to the customer: safety and security, vehicle maintenance, insurance and driving experience. Yet charging the customer for additional services remains challenging*

Connected vehicles can increase **safety and security** for car passengers by allowing quicker response in case of accident (eCall), and by limiting the consequences of robbery (stolen vehicle recovery, remote vehicle control). Customers usually have a high willingness to pay for those services; for instance, *stolen vehicle recovery* and *stolen vehicle slowdown* are perceived as essential services particularly in countries with a high robbery rate. Some telematics players have developed this service in partnership with local law enforcement authorities and market it as a bundle with other add-on services like OBD diagnosis or location-based services. eCall's compulsory deployment in the European Union from April 2018 aimed at improving emergency services in case of accident, but is also perceived by service providers as a direct client access: they look to redirect the flow of incoming calls from consumers toward their own network of business partners: eCalls / bCalls can be operated by car manufacturers (TPS call), roadside assistance companies (which operate private call centers) or local authorities (via Public Safety Answering Points).

**Vehicle maintenance** is perceived by market players as an area with very large value potential in the mid-term. Today, connected maintenance services are limited to basic features (remote monitoring and diagnosis, reminders for regular maintenance, alerts in case of unusual behavior, advice on nearby garages and appointment scheduling...) offered by car dealers and repair specialists to improve quality of service and customer loyalty with a higher frequency of contact points. However, *predictive maintenance* shall have a larger value, and is considered as a disrupting service for most market players: it shall decrease the rate of breakdown, reduce maintenance costs as well as the time spent on vehicle management by the vehicle owner. It shall impact the competitive landscape, reinforcing the struggle between car manufacturers and repair center specialists, and threatening players like roadside assistance companies. Predictive maintenance could be particularly well suited for "full service" car offerings (see part 4): the end customer pays a monthly fee for his car (*as a service*) while the car manufacturer leverages predictive analytics to reduce its maintenance costs.

*Connected maintenance is still limited to basic features to improve customer loyalty; predictive maintenance should bring much more value in the mid term*

Telematics allow for **customized insurance products**, which are valuable for specific segments (e.g. young drivers) or uses (e.g. infrequent driving); data and digitalization also allow for an optimized **insurance process** (claim management, fraud detection). *Usage Based Insurance* (UBI) (pay as you drive or how you drive) has not been successful so far (penetration rates remain below 5% in most countries), since (1) most customers are not willing to pay for a device that track their driving behavior and (2) shifting to a usage-based payment model generally reduces insurance premiums and destroys value for insurers. However, UBI could develop with the rise of new mobility services (carsharing, carpooling) changing the traditional car insurance model, and thanks to the sharing of connectivity costs with other features (location-based services, vehicle management services...). Also, crash management features (accident reconstruction, claim management) are considered by insurers and telematics players as high value-added services able to reduce claim management costs for insurers.

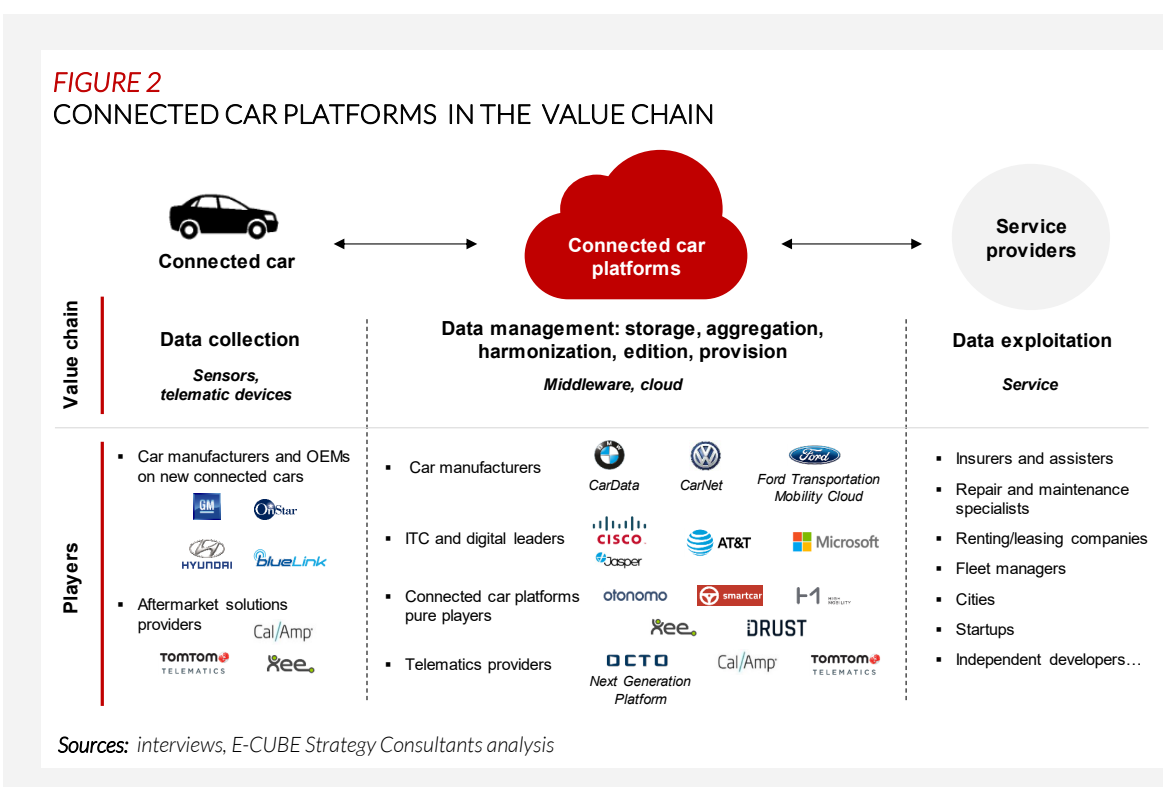
More broadly, connected cars are enabling a full range of services improving the **driver experience**. Connected services like weather and traffic information, infotainment, navigation and location-based services are perceived as mature by most players. However, they are already provided through the smartphone, and consumers may prefer the smartphone over embedded systems perceived as less convenient and less agile; this preference also explains the increasing penetration of Android Auto and Apple CarPlay (mirroring smartphone interfaces) in vehicles' cockpits. According to interviewees, end customers show little willingness to pay for those services, which have become a commodity in the market.

## *2.2 Access to car data is key for the development of connected car services. While the scope, conditions and regulatory framework to share this access is not completely defined yet, open platforms and data brokers are positioning as an interface between data owners and service providers*

So far, car manufacturers have a natural competitive advantage in regard to **data access**: they ask for customer consent and have then access to the real-time and historic car data – which fuels connected services. Car manufacturers have tried to make this data access exclusive (for example by closing the OBD port to third parties while the vehicle is being driven), creating a legal battle in Brussels with other service providers such as independent repair specialists. For now, the legal framework is in favor of aftermarket players in Europe<sup>1)</sup>, but obligations for car manufacturers to share their vehicle data are still vague, and data access remains a factor of uncertainty for most players interviewed. Interestingly, some car manufacturers anticipate regulatory interventions and concede that the connected car service market will have to be shared with other parties.

1) On December 7<sup>th</sup>, 2017, the European Parliament, the Council and the Commission reached an agreement stating that “Manufacturers shall provide to independent operators unrestricted and standardized access to vehicle OBD information, diagnostic and other equipment, tools including any relevant software and vehicle repair and maintenance information”

**Connected car platform players** are positioning at the interface between data owners and service developers to enhance data sharing and development of connected services: while some car manufacturers are trying to monetize data by developing their own data platform (e.g. BMW CarData), new entrants are developing open platforms in order to rationalize the exchange of data between data owners (car manufacturers, telematics providers) and service developers (connected service providers, independent developers, cities...). They insure data management (standardization, protection) and can act either as a data marketplace (e.g. otonomo) or as an API for service developers (e.g. Smartcar, High Mobility). Most interviewed players agree that only a limited number of platforms shall subsist, similarly to what happened in the smartphone industry – with Android and iOS being the only two remaining operating systems.



### 2.3 Some service providers focus on aftermarket solutions, which allow for connecting the whole existing fleet, whereas others aim at leveraging built-in connectivity of the future car generation

For **B2B customers**, **aftermarket devices** (e.g. black boxes, dongles, etc.) have been the easiest way to connect fleets of heterogeneous on-road or off-road vehicles and provide services to optimize the total cost of ownership (route and fuel optimization features, vehicle management services, usage-based insurance...) and monitor the fleet activity (activity reports, fleet geolocation, driver attention detection, usage...). The European market is expected to grow by ~15% per year to reach more than 10 million connected fleet vehicles in 2020<sup>1)</sup>.

1) Berg Insight

On the contrary, aftermarket solutions have had little market success in **B2C**: customers are not willing to engage additional expenses for their car and are still reluctant to share their data (geolocation, driving behavior...) with third parties without high value-added services. Some telematics startups (e.g. Xee) have consequently shifted to **B2B2C models** where the B2B partner or service provider (e.g. Midas in France) sells the aftermarket dongle for a specific application (e.g. connected maintenance); startup Mojio also uses a B2B2C model by selling its connected solution to end customers through wireless carriers or car manufacturers. Other interviewees hope to mutualize aftermarket connectivity costs between service providers (e.g. insurance companies with repair specialists) to facilitate deployments.

More generally, interviewed players do not agree on the potential of **aftermarket solutions compared to built-in connectivity**: some perceive them as the only way to provide data-based services to the existing non-connected fleet (which will take time to be renewed), with a sufficient data quality at a low cost, whereas others think built-in connectivity will quickly spread out, allowing for higher-quality services without the need for specific device installation. This difference of opinions translates in different forecasts for car connectivity in the short to medium term: some studies expect higher shares of built-in connectivity systems within the global connected car fleet in 2020<sup>1)</sup>, whereas others believe aftermarket connectivity will be predominant at this date<sup>2)</sup>.

*Service providers do not agree on the potential of aftermarket connected devices: a significant market or a short-lived transition to built-in connectivity*

Many interviewed service providers developing aftermarket connected devices do not consider those hardware devices as a core strategic activity:

- **Telematics companies** (either traditional B2B market leaders or young startups) consider themselves as software solutions developers rather than OBD dongle providers: given the uncertainty around access to data and the development of built-in connectivity for the next car generation, they feel that their added value is not in the hardware anymore but in the ability to transform and value data through skills like big data management and artificial intelligence.
- Most **connected car startups** distribute aftermarket dongles in the market as a way to quickly test their software solutions, train their algorithms and build a database. They do not consider it as a sustainable business model: they rather look to provide software solutions only, or to white-label their hardware technology (e.g. advanced vibration sensors) to OEMs and car manufacturers.

1) IDATE European think tank – November 2015: ~40% of the fleet will be equipped with aftermarket solution while 60% will be equipped with embedded systems

2) Roland Berger – September 2016: ~30% of the global car fleet will be connected through retrofit connectivity solutions by 2020 vs. ~20% through built-in connectivity solutions

# 3

## The electric vehicle is not considered as a major disruptor for car services; nevertheless, EVs will create new service opportunities, transform repair and maintenance, and fuel the MaaS and autonomous driving revolutions

### *3.1 Although the electric vehicle is today's major trend in the automotive space, it is not considered as the #1 game changer for car services*

The rise of EVs is reshaping the automotive industry as a whole and is considered as the major trend until 2025 by automotive executives (be it battery electric vehicles or fuel cell electric vehicles<sup>1)</sup>). Car manufacturers' shift in product portfolio is impacting their manufacturing activities and the entire supply chain consequently.

However, as far as automotive services are concerned, most interviewees perceive EVs as a natural **evolution of their activity**: contrary to connected vehicles and MaaS, which have the potential to entirely reshape their business models, EVs only induce incremental changes. For example, fleet management players will need to adapt their fuel management services from oil to electricity (e.g. partnerships with new players), or roadside assistance companies will need to have their garages certified for EVs, but their activity will not be utterly transformed. The nature and importance of those incremental changes may vary according to service providers but will mostly concern battery/charging services (3.2) and maintenance/insurance services (3.3).

### *3.2 EVs transform fuel management services and open new service opportunities around batteries and smart charging*

On specific services, EVs are nonetheless the main breakthrough: for **fuel card players** (e.g. DKV), which aim at building partnerships with mobility service operators to offer their clients the possibility to charge EVs and PHEVs<sup>1)</sup> in as many places as possible – however, they remain confident that the share of ICEs<sup>2)</sup> within their clients' vehicle fleets will remain high for long. Other services like fuel consumption monitoring or optimization also need to be adapted to electric cars. Beyond the technology that changes (with the use of charging stations), it is the cost structure of energy supply that is evolving, modifying the business model of the fuel supply value chain.

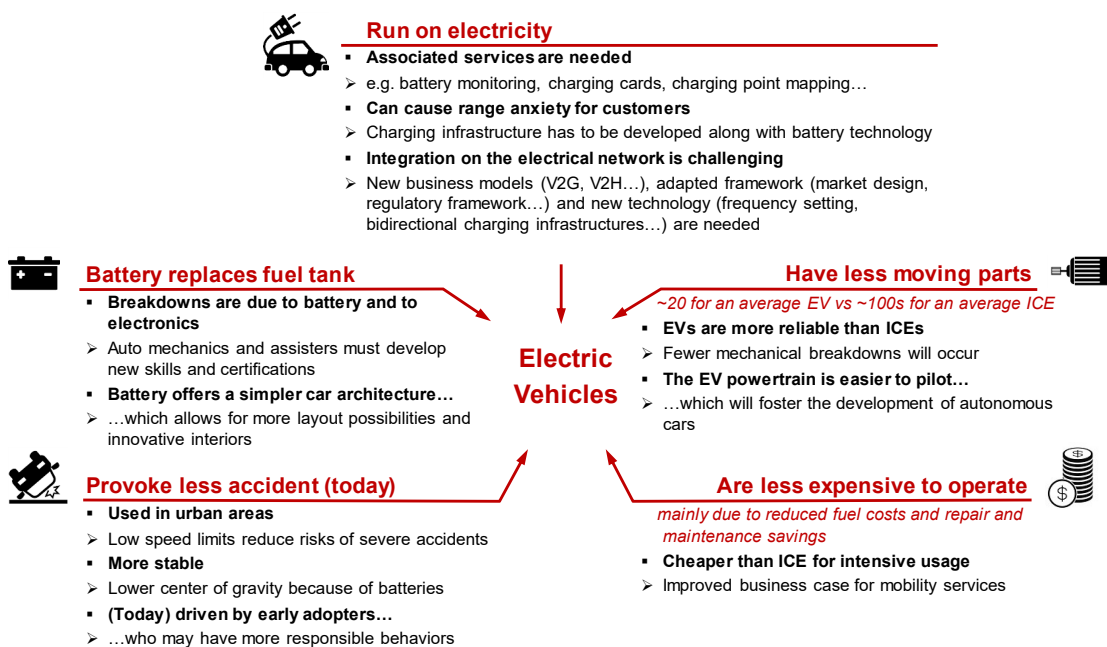
Moreover, EVs generate **new service needs** and opportunities: because of range anxiety, services like optimized navigation (according to state of charge and position of charging points) become critical. Battery health monitoring and check-up (e.g. before resale) services are still controlled by car manufacturers but could be developed by new players in the short term.

1) Plug-in Hybrid Electric Vehicles

2) Internal Combustion Engines

Smart charging services are also reaching commercialization, from simple charging point services (access control, invoicing) to charging control (real-time monitoring, choice of electricity supplier, load balancing, peak shaving, etc.) and even bidirectional control with electrical grid services (vehicle-to-grid or vehicle-to-home). Those services are being offered by EV charging pure players which are extending on the value chain – with growing interest from both car manufacturers and energy utilities. Those services are fueled by car connectivity, but the most advanced ones still face technological, regulatory and standardization challenges.

**FIGURE 3**  
IMPACTS OF EV CHARACTERISTICS ON CAR SERVICES



Sources: interviews, E-CUBE Strategy Consultants analysis

### *3.3 The increased reliability of EVs induces important changes and challenges for players specialized in repair & maintenance and insurance*

EVs require repair and maintenance players to adapt their skills to the new vehicle components and architecture (despite a simpler powertrain) and get certified for it.

Although there is still little feedback data available on EV reliability, all interviewees agree that EVs lead to **fewer motor breakdowns and reduced maintenance costs** – but they have mixed feelings on the underlying consequences for repair and maintenance businesses in the long run. While some believe that the aftersales repair & maintenance market will remain stable thanks to increasing vehicle usage and lifespan, others think that the business model of independent automotive repair centers must be reconsidered due to EVs but also to connected and shared vehicles. Identified strategies include the diversification on new services with partners (assistance / insurance packages, connected preventive / predictive maintenance), the extension and densification of the distribution network and the improvement of the quality of service.

*Adaptation strategies include diversification on new services with partners and improvement of the quality of service.*

As shown on Figure 3, EVs are less subject to accidents today – which generally does not translate in cheaper insurance because of uncertainty and high price of the battery. Some players have started introducing **car insurance products dedicated to EV drivers** (e.g. startup Inspeer, AXA and Allianz in specific countries...).

### *3.4 EVs enable the development of mobility services, autonomous driving, and life-on-board services thanks to innovative vehicle architectures*

While the electric vehicle is not perceived as a game changer for most car service providers, it **facilitates many innovative services**:

- Thanks to lower operating costs (fuel and maintenance), EVs are more suited than ICE vehicles for intensive usage, thereby improving business cases of some mobility services (carsharing, ridesharing);
- The electric powertrain is easier to control than ICEs, which is a significant advantage in the development of autonomous cars;
- EVs offer more flexibility in the vehicle architecture: the electric powertrain takes less space and offers a flat floor, which allows for more layout possibilities, turning and removable seats... This flexibility can be leveraged to improve life-on-board through innovative services like driver health monitoring (through the seat), easier interior washing, entertainment services...

## Lessons from China

Given China's advance on mobility breakthroughs (e.g. EVs) and innovative models (e.g. mobile and data-based services), we have interviewed 6 Chinese companies to anticipate the incoming transformations of car services in Western countries.

### On electric vehicles

China is the **world leader in electric vehicles**: it represents ~40% of the total EV world stock and it doubled its EV stock in 2017, growing faster than other geographies. According to interviewees, EVs are bringing **incremental changes** rather than massive disruptions:

- Parking and charging services are becoming important differentiators, in particular in central districts of large cities where parking space is limited;
- Roadside assistance is managed in the same way as with ICEs, and in case of flat battery, EVs are towed to the nearest charging point (battery swapping and mobile chargers are considered complicated and expensive).

However, **EV startup NIO** (which raised \$1 billion in US IPO this September) is planning disrupting service offerings with the launch of its first production car, the ES8 electric SUV:

- Possibility to subscribe to a **global service package** including battery upgrading services, quality assurance, roadside assistance, car connectivity and nationwide charging services
- **"Power-swap" stations**: NIO plans to build more than 1,100 power-swap stations in China by 2020 where drivers can change their batteries in 3 minutes
- **"Power Mobile" charging service**: by 2020 NIO plans to deploy 1,200 vehicles which would travel to motorists and allow for fast charging (100 kilometers in ten minutes of charging)

### On the digitalization of services

- **Data-based automotive services**: the online-only insurance provider Zhong An (joint venture between insurance group Ping An and Tencent and Alibaba) launched the DataCube platform and alliance in February 2018 to leverage data from 3 million vehicles / drivers with artificial intelligence within an inclusive ecosystem of partners (insurers, car manufacturers, online car retailers, ride-hailing companies), to create new products and services: accurate product pricing, anti-fraud applications, identification of frequent car accident roads...
- **Aftersales digital platforms**: the aftersales market is currently booming in China, with decrease in the growth of new vehicle sales; more and more cars are exceeding the standard 3-year warranty period, creating huge demand for repair, maintenance and spare parts. In this context, various service providers are building digital platforms offering a wide range of aftersales car services in a single place, with the aim to increase direct B2C access and build customer loyalty: car manufacturers (e.g. GAC with Dasheng Car Service), insurance companies (e.g. Ping An with Autohome) or startup Lechebang (with online inventories of available spare parts in 4S shops, the franchised car makers' garages).

Ride-hailing leader **Didi** (with 30 million drivers) also announced in August that it would invest \$1 billion in its car services business and develop a leading **one-stop platform** including car sales, leasing, repair & maintenance and gas station services. This move shows the diversification of mobility service companies on other traditional car services.

## Lessons from Brazil

*The three evolutions are not as advanced in Brazil as in Europe, the US or China:*

- **Electric vehicles** are a niche market (only a thousand cars as of January 2017) and remain a distant reality because of the importance of ethanol fuel in the country: most passenger cars have flexible-fuel engines which run on gasoline blended with at least 25% of ethanol.
- Similarly, **connectivity** is still limited to luxury cars (e.g. General Motors' OnStar), which represent a small part of the local market. However, Brazil's high robbery rates have encouraged the mass development of safety and security connected features. Besides, service providers – insurance companies in particular – have embraced digitalization and are working with startups (e.g. Porto Seguro with startup incubator Oxigênio) to develop innovative data-based services like remote diagnosis. Digital products and sales channels are also seen as an opportunity for service providers to extend their customer base (e.g. only 30% of vehicles are insured).
- The **Mobility as a Service** trend is also weaker in Brazil, although car leasing is becoming increasingly popular: on this segment, automotive service providers (e.g. Arval) mainly focus on large corporations' fleets, with services ranging from car leasing to complete fleet outsourcing with "full service" offerings.
- The importance of road freight in Brazil has created **a market for professional vehicle management services** (mainly for trucks), which has recently been through a consolidation phase. The few remaining players (mainly Michelin, Edenred, FleetCor) offer advanced connected services based on telematics solutions: theft prevention, vehicle / freight recovery, accident prevention, driving assistance, driving behavior monitoring, logistics optimization, payment management for fuels and tolls... Those services are often bundled in packaged service solutions.

## 4

## The development of the usage economy (MaaS and car leasing) encourages car services to be sold “per use” and is an opportunity to bundle aftermarket services into packaged mobility solutions

### *4.1 Emerging MaaS models are transferring car ownership or management to fleet operators, hence impacting sales of aftermarket car services*

Although interviewed car manufacturers believe MaaS will not reduce global car sales before 2030, they anticipate that they will sell more and more cars to **fleet managers in B2B** (e.g. car rental or mobility service companies) at the expense of private owners in B2C. Some consider customizing their product line to match new mobility usage specificities (e.g. by conceiving special vehicles for private hire companies like Uber). Consequently, aftermarket services like insurance or repair & maintenance will be increasingly sold to fleets in B2B (or B2B2C).

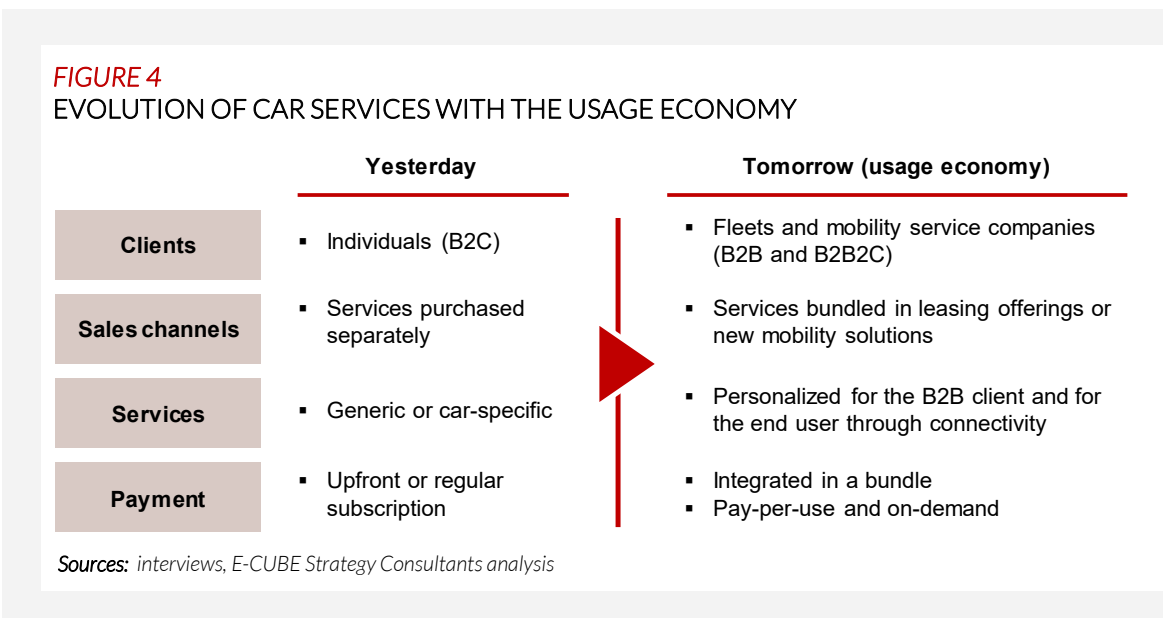
Some **aftermarket players** think that MaaS could have a **positive impact** on their activity as it changes the way vehicles are used: while a privately-owned car is idle ~90% of the time, utilization rate increases dramatically when it is operated by mobility service operators. For example, this could result in higher repair & maintenance revenues per car because of a higher number of breakdowns over the car lifespan and the need for quick and reliable repair to ensure continuity of service. This could also foster the development of connected and predictive maintenance as well as over-the-air updates.

### *4.2 The development of MaaS and leasing require car services to adapt and be offered “per use”, which is allowed by enhanced car connectivity*

MaaS and leasing do not only impact the sales channels of car services, but also the way they are sold, i.e. through **monthly payments or usage-based models**. For example, renting a free-floating car (e.g. Zipcar) comes with a tailored insurance product which can be based on the number of rental days, the number of kilometers driven, or even more precisely, the driving behavior of the renter. Interviewed players are adapting their products and services to address this new mobility usage (be it new mobility services or car leasing): monthly maintenance contracts, UBI, on-demand roadside assistance, daily or on-demand connectivity packages...

Those new mobility models and associated services are **enabled by car connectivity**: possibility to track the number of kilometers driven, the driving behavior, the vehicle health... For example, development of keyless solutions (car opening via smartphone) by startups, OEMs and car manufacturers is a strong enabler of new MaaS offerings like carsharing, on-demand rental or fleet management. Some players even consider that enabling **usage-based mobility payments** is the biggest advantage of car connectivity.

Finally, as part of a larger evolution of consumption models where clients ask for services customized to their specific needs, MaaS and car connectivity foster the **personalization** of automotive services: this is perceived as a key trend by several interviewees in the insurance, repair & maintenance and life-on-board services.



### 4.3 MaaS and leasing models are perceived as an opportunity to integrate aftersales services thanks to a stronger willingness to pay; those services will likely be bundled into all-in-one mobility offers in the future

All interviewees agree that **leasing** will keep on gaining importance in new or second-hand vehicle sales, and that this new payment model will become the **predominant way to market add-on services** such as connected packages, maintenance contracts or concierge services. Indeed, for those services, companies notice a higher willingness to pay on a monthly basis (i.e. a customer is more willing to pay 1€/month over 10 years for a service than 120€ upfront) and a higher willingness to pay when subscribing to a leasing offer than when buying the car upfront.

This trend eventually leads to a convergence of service offerings into **all-in-one mobility solutions** including the car and all associated services: the end customer subscribes to the mobility solution to a single player which provides the associated services through various partners. Car manufacturers have developed “**full service**” **leasing offerings** (including insurance, warranty and car replacement, connected options...) – which they believe will gain market share. Furthermore, they are investing heavily in new mobility services (either internally or through partnerships and acquisitions) to offer solutions going beyond the individual car and struggle against other transportation companies (e.g. Uber, Google) for control over the whole mobility ecosystem.

## Conclusion

The simultaneous and fast development of connected vehicles, electric vehicles and new mobility consumptions models is raising uncertainties and opportunities for market players, in particular automotive service providers. While they agree to the same main trends and “sense of history”, they show mixed feelings on the speed of the changes and the strategy to adopt. For instance, is it necessary to invest in aftermarket connected devices or better focus on the incoming generation of native connected cars? Companies that are well established in their businesses rely on their competitive advantages (access to data, to the customer, to the car), when start-ups compensate by their agility.

As connectivity and MaaS blur the frontiers between players’ traditional core activities, and open the automotive market to new entrants, service providers should “choose their battles” while remaining flexible: in this unsettled environment, capacity to adapt quickly and build strong and relevant partnerships will be key success factors.

### APPENDIX – CONDUCTED INTERVIEWS

We have interviewed 50 market players. Key messages from the study arise from the personal vision of the interviewees and do not intend to exhibit the strategy of their respective companies.

- 11 car manufacturers and OEMs – *Examples: director of innovation; strategy vice-president; customer experience director*
- 11 insurance and assistance companies – *Examples: marketing director of a major European roadside assistance company; head of telematics of a major European car insurance company*
- 14 startups and digital players – *Examples: automotive managers of major digital players. Startups interviewed (executive level) include Otonomo, Smartcar, Mojio, Drust, Xee, Oocar, ULU, High Mobility, German Autolabs, ClickMechanic, Carfit, Reezocar*
- 7 telematics and ITC companies – *Examples: head of connected car department of a major European mobile operator, head of market intelligence of a leading telematics company*
- 7 fleet management players – *Examples: chief of mobility solutions of a leading long-term rental company, head of customer services of a fuel card leader*

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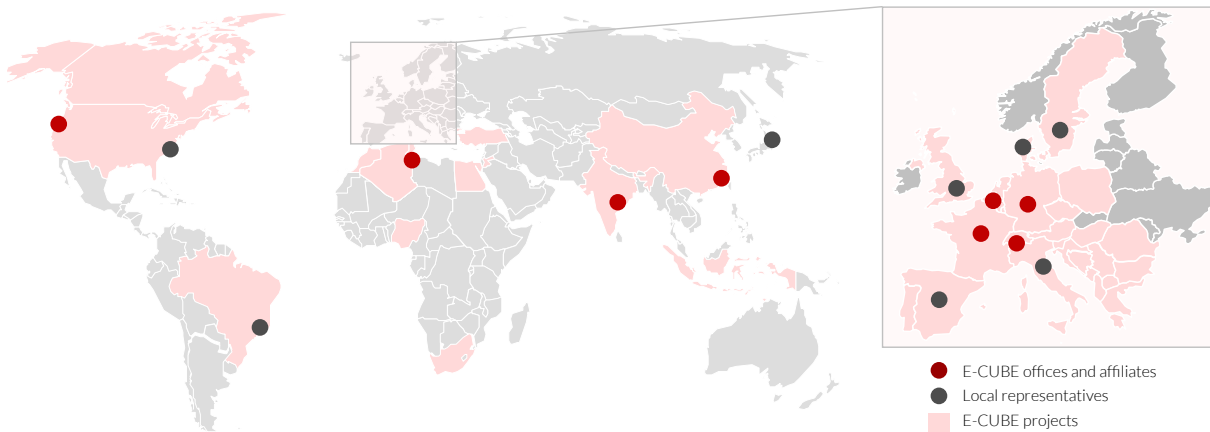
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