

Car Rental in a New Light

Consumption Upgrading, Disruptive Innovation
and “Dual Carbon” Goals

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A Joint Research by Boston Consulting Group and eHi Mobility Research Center

BCG



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Executive Summary

Since its inception in the early 20th century, the car rental industry has gone through a hundred years of development across the world. In China, the industry has seen a significant rise in the last two decades, driven by the national economic growth and increasing personal consumption expenditures. Heading into the 2020s, car rental will keep pace with the times and maintain rapid growth, thanks to new opportunities from consumption upgrading, technological innovations, and carbon net-zero initiatives.

Since the establishment of the first car rental company in Minneapolis, USA, the car rental industry has gone through a century of history. China's car rental industry emerged more than half a century late, but has grown rapidly, driven by domestic economic growth and the rise of personal consumption, achieving more than 30X growth in the past 20 years.

Today, in the context of recurring COVID-19 outbreaks, the reshaping of the consumption pattern and technological advancements are nurturing new trends for the future car rental industry. Specifically, the upgrading of personal consumption, the penetration of smart electric vehicles, and the evolution of autonomous driving are bringing ground-breaking changes to the industry.

Moreover, with China's societal development, the "Dual Carbon" goals—carbon peaking and neutralization—and

ESG issues have been put at the top of its national agenda. A series of policies on the "Dual Carbon" ambitions, rural revitalization, and common prosperity have been rolled out. Under the circumstances, the car rental industry should also align with these national goals by promoting the "sharing + green" model and driving the growth of road trips with its vast network of service outlets, thus facilitating the sustainable development of China's society.

In summary, China's car rental industry has achieved rapid growth for the past two decades, and will be greatly influenced by macro-trends in the future. As the effective COVID-19 containment measures have brought daily life back to normal, the car rental market has bounced back, with a stronger growth momentum: The market size is expected to double in the next five years. Based on that, industry players need to strategize in key areas and prepare themselves for new opportunities.



History of Car Rental

The practice of humans renting transportation can be traced back as far as ancient Rome, where chariots were leased out. Car rental in the modern sense emerged in 1904 with a car rental advertisement by a Minneapolis bike shop appearing in a local newspaper.

Modern Car Rental Has Gone Through A Century of Development Since Its Inception in 1904

The development of car rental over the last century can be divided into five stages. (See Exhibit 1).

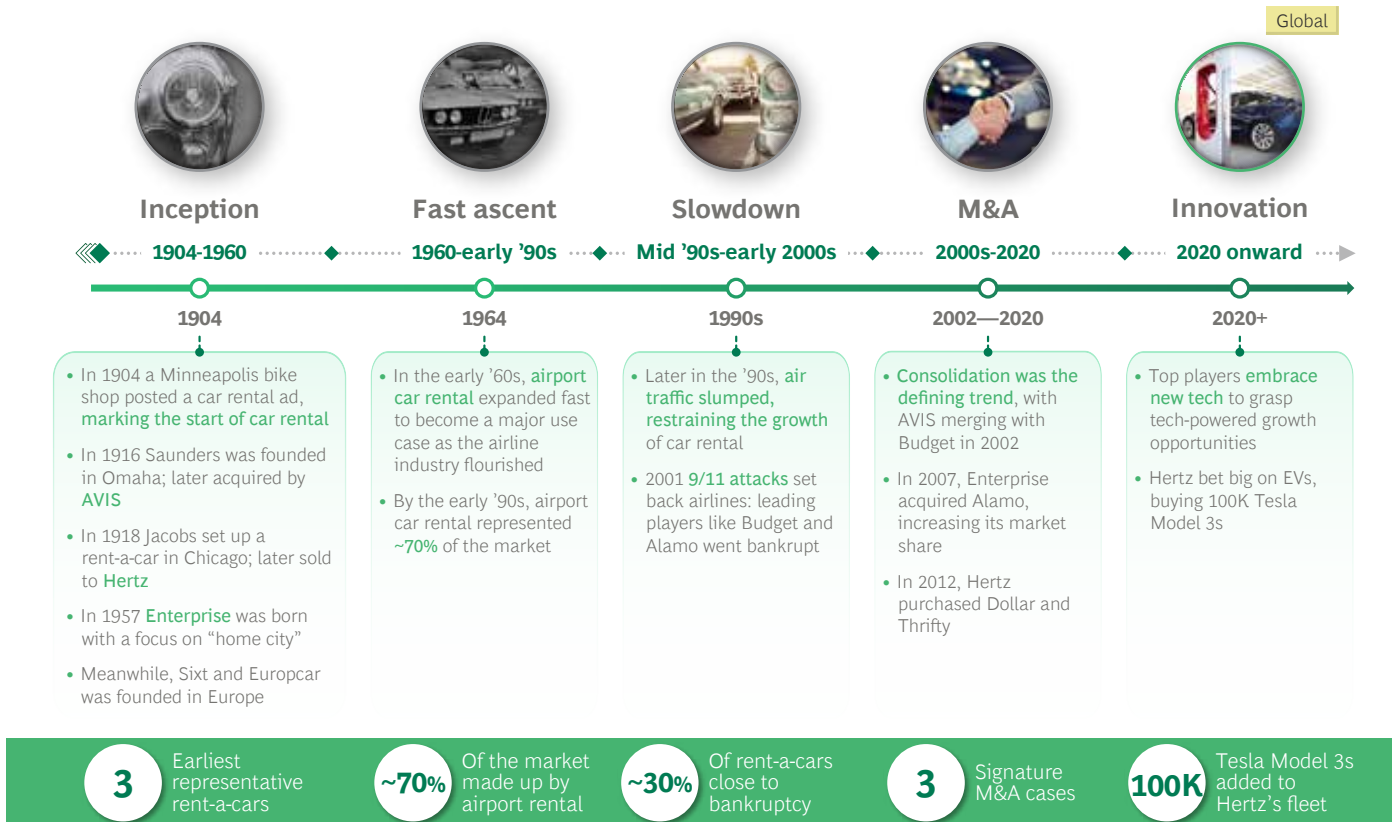
Between 1904 and 1960, three of the earliest representative car rental firms were founded. In the US, Joe Saunders rented out cars at 10 cents per mile in Omaha in 1916. At its pinnacle, his company, Saunders Leasing System, grew to more than 80 branches in 56 cities and was later sold to Avis. Its main competitor was a Chicago-based car rental firm founded by Walter L. Jacobs in 1918, which was bought by Hertz. In 1957, Enterprise Rent-A-Car was founded and quickly gained market share with the innovative “local community rental” model (renting from neighborhood locations). In the meantime, across the Atlantic, the first European car rental company, Sixt, was founded in Germany with a fleet of only three vehicles. Also, Godfrey Davis UK, the British car rental pioneer, was set up in 1920 and later acquired by Europcar.

From the 1960s to the 1990s, the car rental industry experienced **rapid development**. In the early 1960s, as the US saw the prosperity of the airline industry, airport-based car rental became a trend. By the 1990s, airport rentals accounted for 70% of the market.

In the early 1990s, the global economy suffered a cyclical recession, and fuel prices were pushed up by the Gulf War. This hit the airline industry badly. The continuous growth of airport passenger traffic stopped, which in turn **impacted** the car rental business. In 2001, the September 11 attacks made the situation even worse: Budget, Alamo and other leading players went bankrupt, and nearly 30% of car rental agencies were on the edge of it.

From the early 21st century to 2020, the car rental industry started to rebound and experienced numerous mergers and acquisitions (M&As). In 2002, Avis merged with Budget; in 2007, Enterprise acquired Alamo and National, making it a strong leader in the market; in 2012, Hertz purchased Dollar and Thrifty, among others.

Exhibit 1 - Car rental Has Gone Through A Century of Development Since Its Inception in 1904



Source: Literature search; BCG analysis.

Looking forward, the car rental industry will embrace a new era with **technological innovations blooming in the next decade**. In search of new business opportunities, industry leaders are actively exploring new technologies across the auto value chain, such as Autonomous Driving (AD) and smart Electric Vehicles (EVs). For example, several car rental companies, particularly Hertz, have started to employ EVs and invest in electrification. The industry is believed to be stepping into a new stage when technological innovation is the key.

China's Car Rental Industry Was Born Half A Century Late, but Has Since Grown Fast

Although car rental took off in China over 50 years after the US, Chinese players have been catching up. (See [Exhibit 2](#)).

China's car rental market was in its nascent phase from 1989 to 2001, and was initially **dominated by state-owned enterprises**, catering to special scenarios such as government affairs and sports events. The first car rental agency in the country, Beijing Taxi Rental Branch, was founded with a fleet of about 70 vehicles.

During the growing phase between 2002 and 2012, private enterprises and MNCs started to build their presence in the market. Chinese start-ups, notably eHi, were established and international giants such as Hertz and Avis also ventured into the Chinese market. The market flourished with diverse players.

Since 2012, **consumer rental has taken off**. With excellent operational capabilities, leading players have built their competitive advantages and dominated the market, squeezing out weaker ones. In reaction to this, international giants sought partnerships with Chinese companies. By 2019, China's car rental market had grown by more than 200%.

In line with the global trend, technological innovation and industrial transformation have become keywords in China's car rental industry since 2020, and the industry is being revolutionized by new technologies, new consumption trends, and new platforms. Domestic players are embracing the new trends and actively exploring potential applications of mobile connectivity, AD, and electrification.

Exhibit 2 - China's Car Rental Industry Was Born Half A Century Late, but Has Since Grown Fast

History of car rental industry in China



Source: National Bureau of Statistics; eHi Mobility Research Center; BCG analysis.

Explosive consumer demand for the car rental service has put the industry on a fast-growing path. As China's economy and travel consumption have grown significantly in the last two decades, consumers' rental demand has far exceeded that from governments. The demand has been boosted by many factors, including improvement of infrastructure, restrictions on license plates and driving in urban areas, shift in young consumers' mindset from "car ownership" to "car sharing", and increasing demand for road trips.

Three Drivers Will Speed Up The Future Development of China's Car Rental Industry

China ranks top worldwide regarding transportation infrastructure in several sub-categories; it is also a leading market in terms of the auto industry; meanwhile, it is a fast mover in the mobile Internet sector. The three drivers will further accelerate the maturing of its car rental industry. (See Exhibit 3).

Infrastructure: The vast network of highways, high-speed railways, and airlines in China has increased the demand for self-guided tours and the total volume of people traveling. The country has the world's longest highway and high-speed rail systems, and its airline network has expanded by 10% year-on-year for the past five years. Its total highway length hit 161,000 km at the end of 2020 and is expected to reach about 210,000 km by 2025; its high-speed railway network was 38,000 km long at the end of 2020 and is forecast to hit 50,000 km by 2025; there were 240 airports

with regular flights by the end of 2020, and the number is projected to grow to more than 270 by 2025.

Auto market: After nearly 20 years of rapid development, China's auto market has caught up with leading ones globally. Vehicles have penetrated into the life of millions of Chinese households, and the number of people with a driver's license has steadily grown. To date, China has the largest installed vehicle base worldwide, which is expected to increase from 280 million in 2020 to 370 million in 2025. Above all, there are 420 million licensed drivers, 140 million of whom have yet to own a car. We predict that this group will grow, which will provide a large consumer base for car rental.

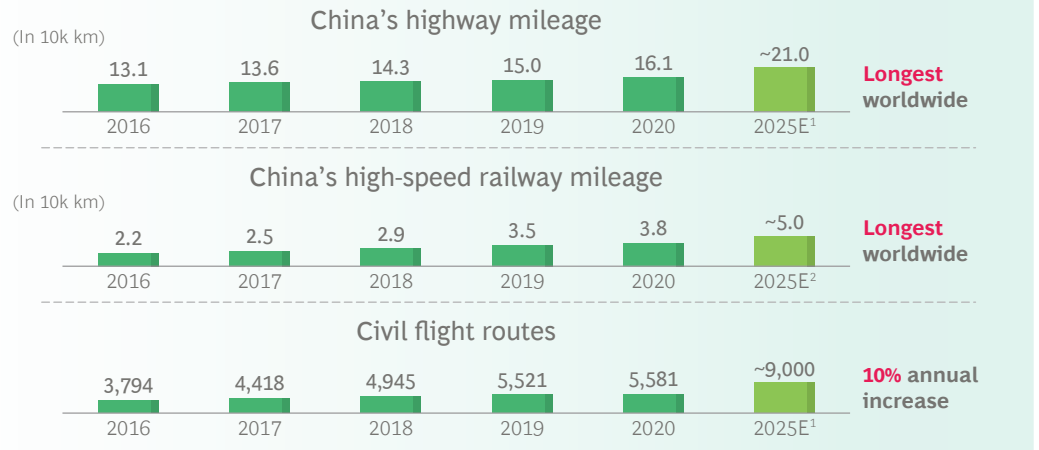
Mobile Internet: The wide adoption of consumer electronics, such as smartphones and associated software applications, has helped shape a mature mobile ecosystem. Additionally, both user base and traffic have boomed, with the latter significantly outpacing the former. These have brought more convenient car rental experiences: Mobile Internet and Online Travel Agency (OTA) platforms enable navigation, online orders, mobile payment, etc. For example, consumers can rent a car and pay for it from the rental agency's proprietary App and mini-program or via a third-party platform.

To sum up, while China's car rental market is in the developing stage, these three drivers will become more prominent and together boost the further growth of the country's car rental industry.

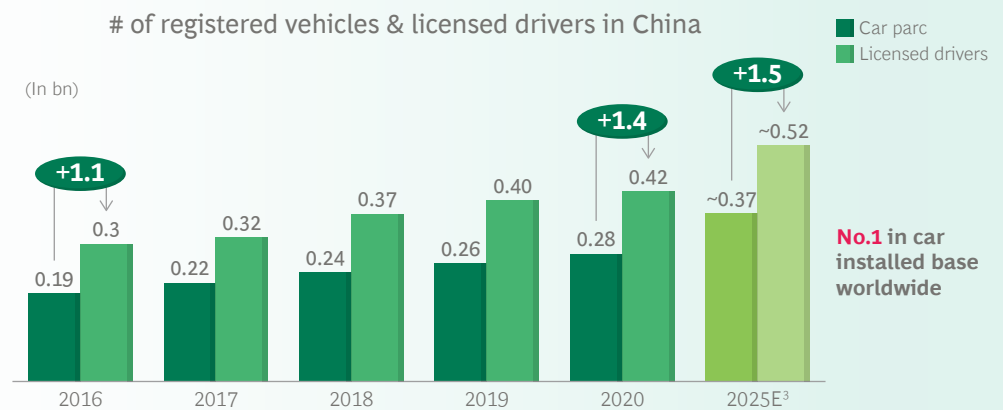
Exhibit 3 - Three Drivers Will Speed Up The Development of China's Car Rental Industry



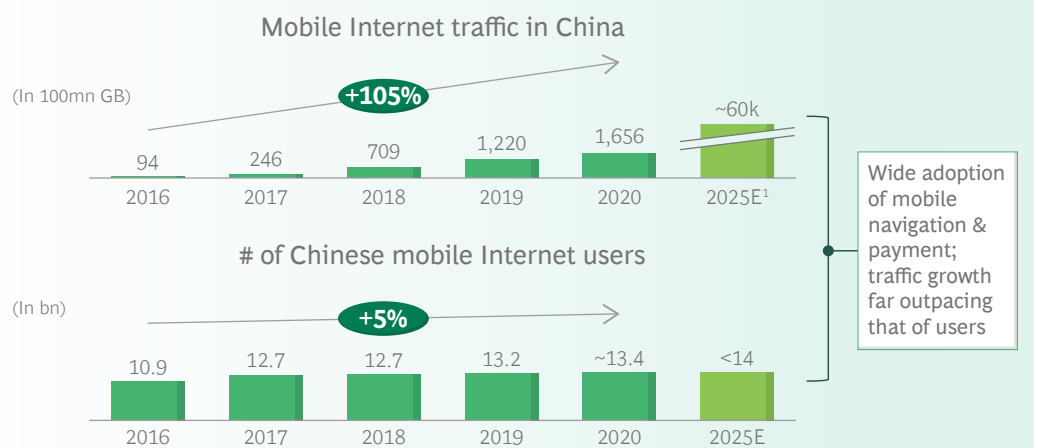
Leading
in transport
infrastructure



Leading in
global auto
market



Pioneering
in mobile
connectivity



Source: National Bureau of Statistics; National Railway Administration; Ministry of Culture and Tourism; IHS Markit; BCG analysis.

¹ 2025 forecast based on CAGR 2016-2020.

² Official info from National Railway Administration.

³ 2025 Chinese car parc forecast based on IHS Markit's data; the no. of licensed Chinese drivers in 2025 (at ~20mn) is based on 2020 additional driver population.



Insight into Market Trends

In response to recurring COVID-19 outbreaks, the reshaped consumption landscape and technological advancements are revolutionizing the car rental trends. Specifically, the upgrading of personal consumption, the penetration of smart electric vehicles, and the evolution of autonomous driving are bringing ground-breaking changes to the industry: Higher personal consumption drives growth in general consumer industries including the rental area, and new technologies provide applications that enhance the mobility experience, thus accelerating the industry transformation.

Trend 1: Covid-19 Is Spurring Faster Growth in The Consumer Rental Market and Diversification of Consumer Taste for Product Experience

1 Several forces are driving consumer car rental market growth. (See Exhibit 4).

Government policy. As a result of the new economic strategy “inner circulation” (i.e., the domestic market) set out in China’s 14th Five-Year Plan, consumer demand, especially tourism demand, is ballooning. According to data from the country’s Ministry of Culture and Tourism, people in China made nearly 2.69 billion domestic trips in the first three quarters of 2021, or more than 60% of the 2019 level for the same period. This figure is expected to rise to 8.6 billion by 2025.

Changing modes of travel. With the huge expansion in the number of domestic trips, the road trip has emerged as an important means of travel. In 2019, road trips in China hit 3.8 billion, accounting for 64% of the total number of domestic trips. A vehicle owner survey conducted by eHi Mobility Center shows that 73% of the respondents’ first choice for short-haul travel was road trip.

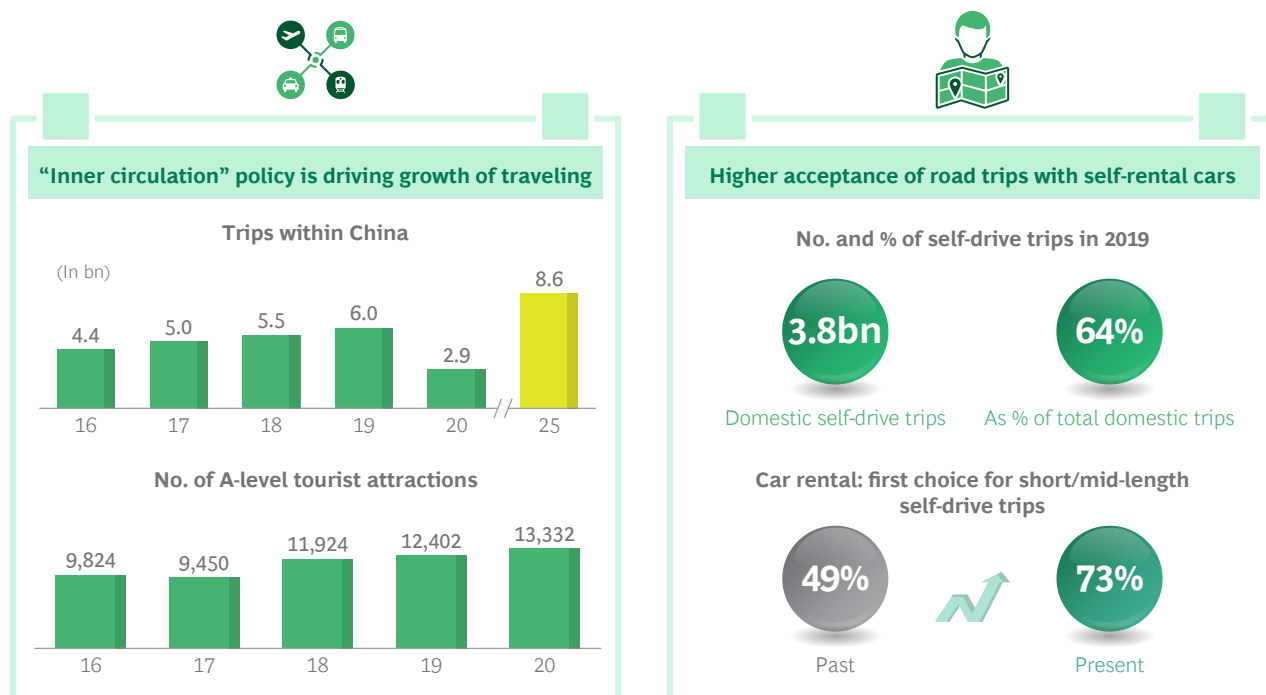
2 Consumer needs are shifting towards diversified and digital rental experiences

The needs of younger generations who seek a personalized and unique shopping experience are becoming ever-more diversified. For instance, spending on fashionable brands shot up by 62% during 2015–2017, three times the growth of common labels. As for tourist destinations, young people have developed a growing enthusiasm for driving themselves to off-the-beaten-path scenic spots or small towns.

In addition, with cutting-edge, **ubiquitous intelligent** technologies like AD, consumers highly value **digital applications** and the **car rental experience** and are willing to pay a premium for excellent services. Chinese consumers are more receptive to novel technologies than Americans, including Internet of Vehicles, EVs and AD. Technological innovations, in turn, are sparking demand for intelligent driving, with an increasing consumer focus on functionality such as in-vehicle infotainment (IVI), AI, self-parking, and keyless entry.

In terms of the rental model, the statistics show that over 90% of consumers hope that the traditional “deposit model” will be changed. Also, they pay more attention to transparency over the condition of rental cars and more convenient pick-up locations.

Exhibit 4 - Several Forces Are Driving Consumer Car Rental Market Growth



Source: National Bureau of Statistics; eHi Mobility Research Center; BCG analysis.

3 The shock of COVID-19 has increased consumer acceptance of car rental and delivered a heavy blow to modes of public transport like air and rail, spiking self-drive tours.

With soaring demand for general travel in China, the **road trip has gained in popularity accordingly**. As the pandemic comes to be seen as the new normal, it has suppressed overseas-travel demand, sparking a rebound and even growth of trips inside China. According to data from a leading OTA platform, for example, nearly 70% of people are inclined to go on a self-guided road trip, and the volume of car-rental orders jumped by 30% in the first half of 2021 compared to two years earlier. On top of that, **privacy and travel safety** concerns have shot to prominence. Almost 50% of the people surveyed cared primarily about the safety and privacy of their transport options, and these concerns have fueled the recovery of self-drive rental.

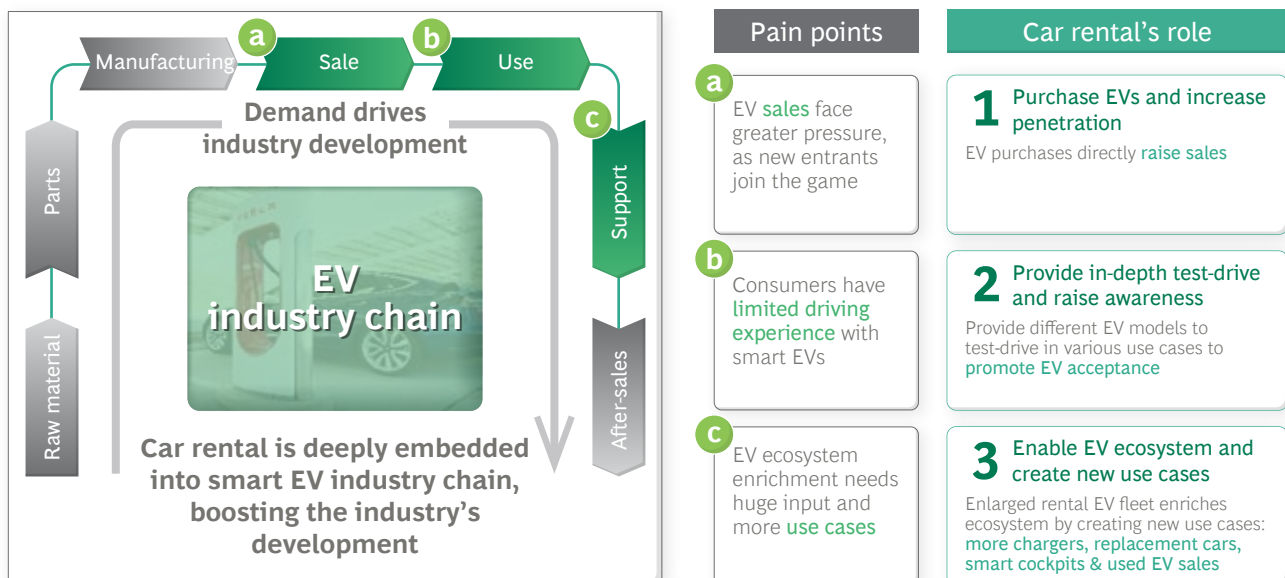
Trend 2: As An Important Player in The Smart EV Value Chain, Rent-A-Car Accelerates Development of The Smart EV Industry

Electrification and smart connectivity have emerged as the defining trends of the auto industry and hold the key to the future of the car rental landscape.

In recent years, a series of preferential policies introduced by the central and local governments have paved the way for the continued development of the EV industry. Since 2020, the electrification of auto sector has been much further accelerated, and China has become the largest EV market globally, with sales growth in EVs outpacing that for internal combustion engines (ICEs). The share of both plug-in hybrid electric vehicles and battery electric vehicles in the market is rising: in the first nine months of 2021, about 2.17 million EVs were produced and 2.16 million were sold, up by 80% and 90% year-on-year respectively. At the same time, smart connectivity was widely deployed, with its penetration rate forecast to grow from less than 35% in 2019 to nearly 100% in 2030.

Downstream demand and ecosystem-supporting services are set to accelerate industry development. Integrated with multiple links in the value chain, car rental companies are instrumental in boosting demand and enhancing the ecosystem and are thus **an engine for the development of the smart EV sector**. (See Exhibit 5).

Exhibit 5 - As An Important Player in The Smart EV Value Chain, Rent-A-Car Accelerates Development of The Smart EV Industry



Source: Literature search; BCG analysis.

First, **rental players are important buyers** in the smart EV value chain, directly pushing up the sales and penetration of EVs. For instance, Hertz has bought 100,000 Tesla cars.

Second, smart EV technology is characterized by fast iteration, so **consumers prefer renting to buying in order to enjoy the latest upgrades**. Also, in response to insufficient exposure to the use cases and driving experience of smart EVs, car rental offers an **in-depth test-drive** with an opportunity to try different models, which increases consumer acceptance of smart EVs.

Finally, through deeper integration into the intelligent EV value chain, the car rental industry will enrich the EV ecosystem and use scenarios. Rental players are scaling their smart EV fleets, which will contribute to the installation and optimization of supporting infrastructure, such as charging stations. On top of that, such players are helping remedy a range of pain points involving new and used vehicle transactions as well as aftersales services. Challenges include the protracted waiting time for EV deliveries due to the global chip shortage; low utilization of charging facilities in far-flung tourist destinations, such as in China's north-west, since most EVs are driven in megacities like Beijing and Shanghai; and lower residual value of used EVs. That is why creative rental agencies are offering "rental to waiting car-buyers", "identical-model rental across different locations", "smart cockpit set-up synchronization" and "used EV deals" to shape a better customer experience throughout the product life cycle and expand EV use cases.

In turn, the development of intelligent EVs is transforming how car rental operates. There is a shortage of supporting infrastructure, especially charging points. Considering the data from China Electric Vehicle Charging Infrastructure Promotion Alliance, the ideal ratio of EVs to charging piles should be 1–1, but it is currently 6–1. In addition, the residual value of EVs is noticeably lower than that of gas guzzlers. For example, a Shanghai-licensed three-year-old car with 50,000 km on the clock and no traffic accident record: the residual value of a petrol-fueled luxury SUV is 76% versus a comparable electric model's 53%.

Nevertheless, car rental leaders have risen to meet these challenges head-on and are proactively exploring solutions. They are rapidly expanding their in-house charging networks in collaboration with OEMs and charging operators, and optimizing their assets with innovative business models by categorizing and managing their smart EV fleet based on factors such as brand influence and the car parc.

Trend 3: As An Important Commercial Use Case of AD, The Car Rental Industry Benefits from The Progress of AD at Different Stages of Its Maturity

The **continuous evolution of AD technology** will bring new development possibilities to the car rental industry. As AD technologies continue to mature, L0–2 AD technologies have been widely deployed in various vehicle models.

Levels 2+/3 AD technologies are gradually maturing with an increasing penetration rate and will achieve mass production in the short run. And L4 AD is still in the R&D phase.

The statistics indicate that in 2019, most new cars equipped with ADAS systems were of L2 or lower, and in 2020, the uptake of AD technology accelerated. It is expected that various new vehicles will be equipped with L2+ or higher-level AD technologies and make up around 30% of the market in 2025 and 70% by 2030.

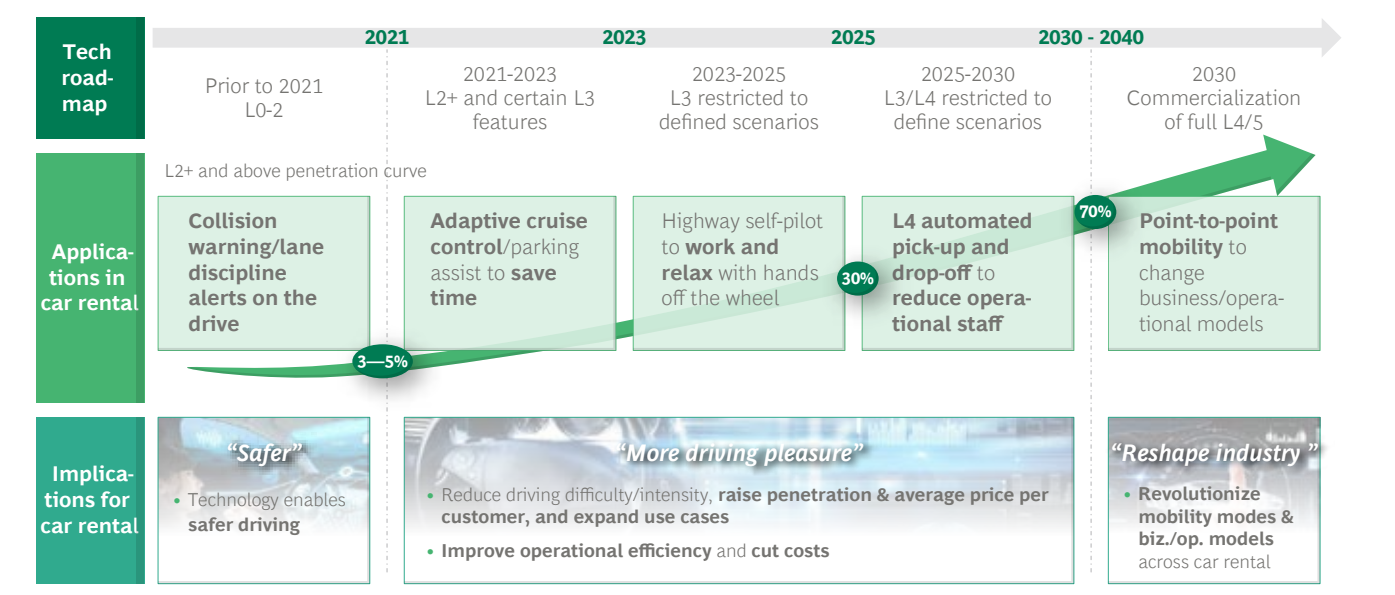
As one of the earliest AD use cases, car rental benefits from all levels of AD applications. (See Exhibit 6).

2021 was a watershed year for AD evolution. Prior to 2021, L0–2 AD technologies were still maturing. The main features such as "Collision Warning" and "Parking Assist" were only to improve safety.

In the next 10 years from 2021 to 2030, L2–4 AD technologies will grow and mature. Consumers will have access to more advanced assisted functions including Adaptive Cruise Control, Automated Valet Parking, Highway Pilot, and Automated Pick-up and Drop-off, and they eventually will be able to drive hands-free to work or relax. These advancements in AD can lower the difficulty and intensity of driving, increase driving pleasure, optimize driving experience, and expand mobility use cases; they will also **increase operational efficiency** and bring cost savings from reducing operational and maintenance overheads. Tapping into the successful commercialization of L2+/3 and partial L4 AD technologies, the car rental industry will achieve marginal improvements in its business model.

We forecast that the commercial use of full L4 and L5 AD technologies will mature from 2030 onwards and mobility will transition from multi-methods transportation to true point-to-point transportation, thereby redefining the car rental business and its operating models.

Exhibit 6 - As One of The Earliest AD Use Cases, Car Rental Industry Benefits from All Levels of AD Applications



Source: Literature search; BCG analysis.

Application of AD technologies can **improve customer experience** by bringing convenience/safety and allowing multitasking on the move. Higher-level AD technologies will reduce the intensity of driving, improve driving safety and, in certain scenarios, enable drivers to attend virtual meetings or relax on the road. Autonomous vehicles (AVs) will also help save passenger's time by guiding themselves toward nearby parking spaces and parking themselves automatically.

At the same time, the car rental industry is taking actions to accelerate the AD technology advancement and penetration:

- Research and testing of AD technologies in partnership with players across industries.
- Providing abundant data on road and traffic conditions as well as driving behavior collected by the fleet.
- Exploring commercial applications of AD in specific car rental use cases.
- Day-to-day operations and maintenance of rental vehicles via AD technologies to ensure operational stability.

On top of that, leading players are doubling down on AD through purchasing autonomous driving vehicles, which is driving up the AD penetration rate.



“Dual Carbon” Goals with ESG

As China develops, its dual carbon peak/neutrality targets and ESG focus have become the country's top priorities. At a time when China has rolled out a series of policies about its “Dual Carbon” goals, rural revival, and common prosperity, different industries must focus on the long-term perspective and achieve sustainable development. The car rental industry should align with China's eco-friendly goals by promoting the “sharing + green” model instead of owning vehicles and use its vast network of service locations to foster the continued growth of road trips, thereby helping the sustainable and equal development of Chinese society.

As A Significant Step Toward China's Sustainable Development, Car Rental Encourages Resource Sharing

As part of a “shared real economy”, the car rental industry helps consumers share vehicles instead of owning them, thus reducing the total number of cars in China and achieving efficient use of social resources.

The extensive rental network allows efficient turnaround among different user groups. For instance, every eHi vehicle is rented ~70 times annually. It can be a means of transportation for white-collar workers' short business trips, families' leisure travel, young people's touring in natural attractions, and migrant workers' home visits during holidays. The figure below illustrates that car rental companies can serve various groups of users and **through “shared mobility” help to achieve the efficient use of social resources.**

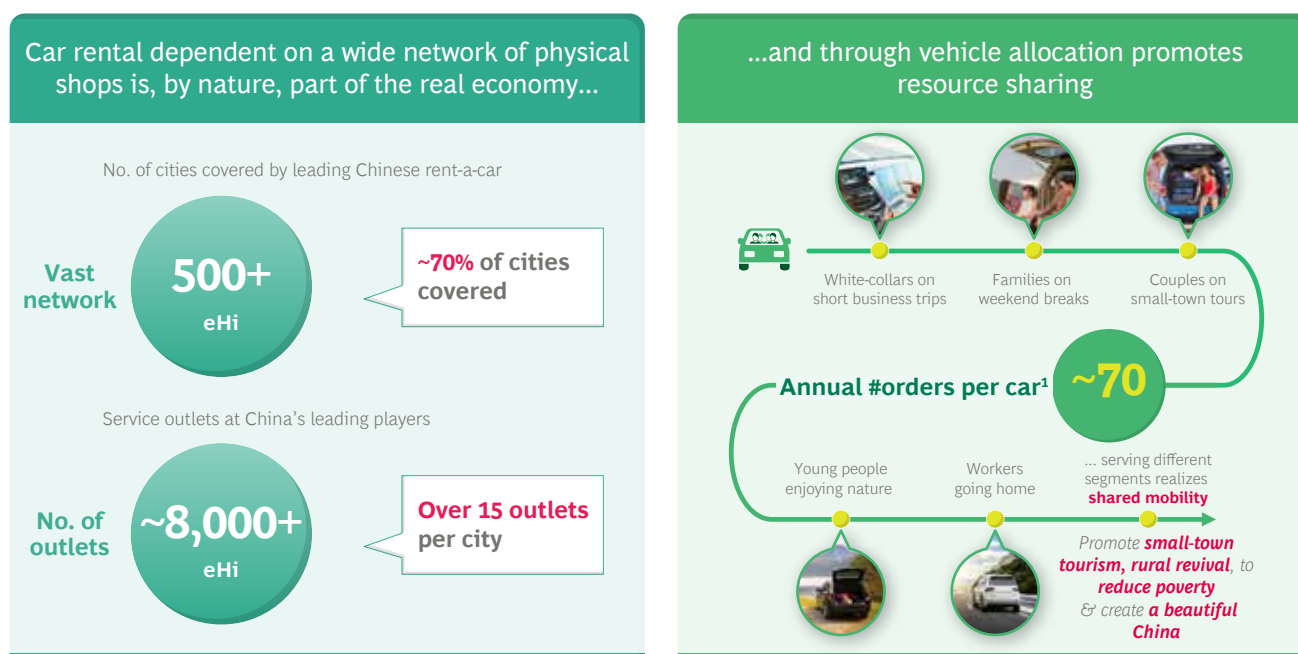
The car rental industry is also promoting sustainable development of the economy. As the industry has developed steadily in recent years, top players have established advantages of wide city and location coverage. eHi, for instance, has 8,000+ service locations across more than

500 cities, covering 70% of the total cities in China. With its ubiquitous presence built on large numbers of fleet vehicles and workforces, the industry “gives back to society and supports the real economy” by creating jobs and shouldering ESG responsibilities. (See Exhibit 7).

Road trip rental is more than a means of transport; it also enables tourists to experience their destination in depth and supports local economies. Road trips help promote national development initiatives such as “small-town tourism”, “rural community revival”, “poverty reduction”, and “a beautiful China” in a concrete way that turns these initiatives into realities.

Given the impact of COVID-19 on overseas tourism, small towns with stunning scenery have become alternatives to overseas destinations. Notably, central and western China, which abound in spectacular landscapes, are attracting more and more tourists. Recent eHi data shows that the number of visitors to tier-3 cities has almost doubled. During China's National Day and Labor Day holidays, the top 10 cities with the fastest-growing rental orders recorded by eHi were all tier-3 or lower-tiered cities, including those in Hunan, Hubei, and Guangxi. Of the tourists who visited these locations, around 45% had previously traveled abroad.

Exhibit 7 - As A Significant Step Toward China's Sustainable Development, Car Rental Encourages Resource Sharing



Source: Literature search; eHi Mobility Center; BCG analysis.

¹ Based on eHi data.

The car rental industry has been taking actions to drive the growth of tourism in small towns and rural areas, contributing to rural revitalization, poverty relief, and the building of a sustainable Chinese economy.

Car Rental Players Champion The Green Mobility Model Featuring “Sharing and Electrification” to Support China’s “Dual Carbon” Goals

In the spirit of environmentally friendly and sustainable development, the car rental industry is doing its part to help China cap its CO₂ emissions, go carbon neutral, and promote resource sharing for sustainable development (See Exhibit 8).

As stated by Chinese President Xi Jinping at the General Debate of the 75th Session of the United Nations General Assembly on 22 September 2020, China strives to “have

CO₂ emissions peak before 2030 and achieve carbon neutrality by 2060”. There is no doubt that the transport sector is a major carbon-emitting force. BCG’s analysis has found that transport registered the fastest growth in carbon emissions in the country from 2011 to 2020. The *Technology Roadmap for Energy Saving and New Energy Vehicles 2.0* (*Technology Roadmap 2.0*), a newly published guideline, stipulates that “the auto industry should outpace China’s commitments, peaking carbon emissions around 2028 and cutting that peak by 20% as of 2035”.

As EV adoption increases, car rental companies are bound to add lower-cost, more eco-friendly EVs to their fleet to **build a green mobility model dedicated to “sharing and electrification”**. They can also install solar panels and energy storage facilities to build a nationwide-distributed power grid, pushing China towards its **net-zero goals**.

Exhibit 8 - Green Mobility Is A Key Lever for China’s “Dual Carbon” Goals

China announced goals of CO₂ peak & net zero to drive green & low-carbon economy



“China will follow the Thought on Ecological Civilization...with a special focus on developing **green and low-carbon energy**... China will strive to **peak carbon dioxide emissions before 2030 and achieve carbon neutrality before 2060**...We are making action plans to support key industries and enterprises to pioneer in carbon peaking...”

—Chinese President Xi Jinping



Transport produces carbon emissions the fastest, but China has set a strict topline, highlighting the importance of green mobility

Transport carbon emissions & comparison by sector (Gt CO₂e) 2011-2020¹



“The auto industry should outpace China’s overall carbon commitments, **peaking carbon emissions around 2028** and cutting that peak by 20% by 2035

Technology Roadmap 2.0

By China Society of Automotive Engineers under guidance of MIIT²

Source: CAIT; World Resources Institute; literature search; BCG analysis.

¹ 2010-2016 data from CAIT and 2017-2020 data extrapolated by BCG.

² Ministry of Industry and Information Technology.



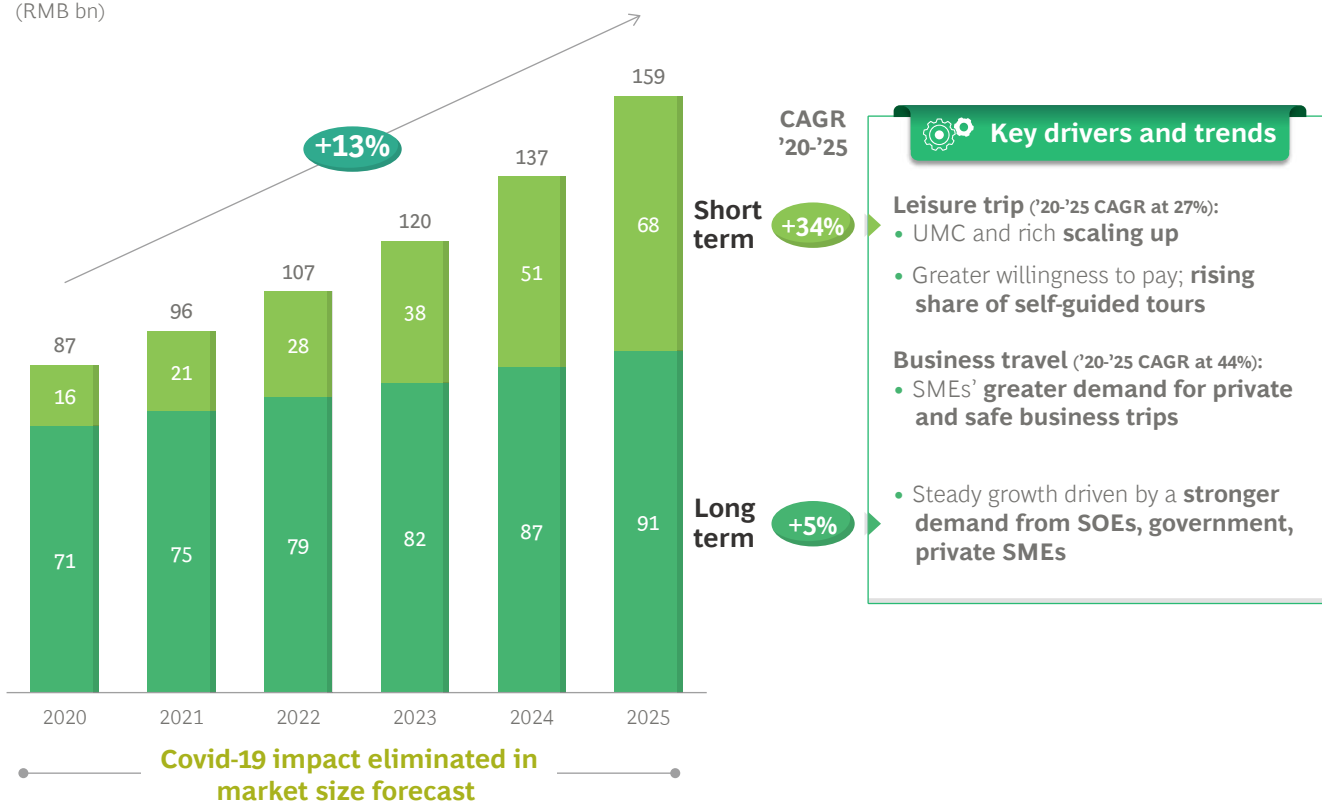
Market Outlook: Two-fold Growth in Five Years

As the effective COVID-19 containment measures have brought daily life back to normal, the car rental market has bounced back, with a stronger growing momentum. Our projection shows that the market size is expected to double to **RMB 158.5 billion in 2025** from RMB 87 billion in 2020 at a Compound Annual Growth Rate (CAGR) of roughly 13%. (See [Exhibit 9](#)).

The car rental market can be divided into short-term and long-term rental. Generally, **the short-term rental segment**, including pleasure and business trips, is growing more quickly; by comparison, **the long-term rental segment is growing more steadily**, driven mainly by growing demand from state-owned enterprises (SOEs), government agencies, and private small-and-medium-sized enterprises (SMEs).

Exhibit 9 - China's Car Rental Market Is Expected to Double to RMB 150bn by 2025

Domestic car rental market 2020-2025E
(RMB bn)



Source: Literature search; eHi Mobility Research Center; BCG analysis.

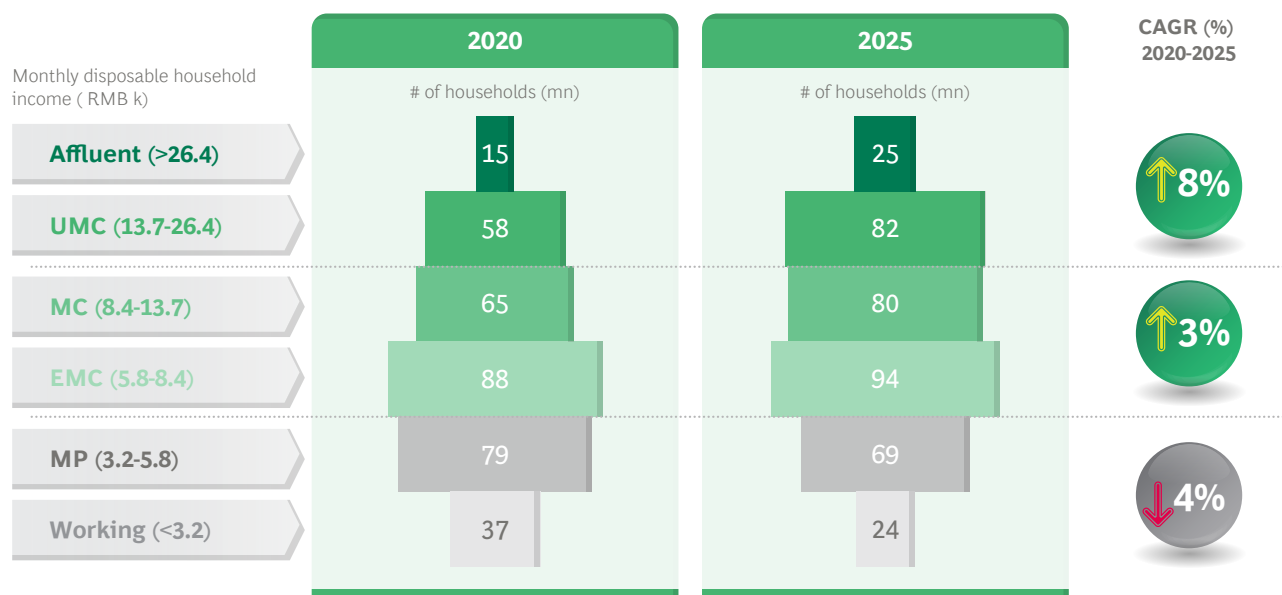
Note: UMC=the Upper Middle Class.

Short-term Rental for Leisure: The Growing Upper-middle Class and The Affluent Will Drive The Demand for Leisure Car Rental

A closer look at the leisure car rental market reveals that the **upper-middle class (UMC) and the affluent will grow at an average of nearly 10% per year in the next five years. They prefer self-guided tours and have more willingness to pay, thus will drive the growth of the leisure car rental market.** In China, **16 core cities will become the focus of the market.** In addition to Beijing and Shanghai along with a few provincial capitals like Guangzhou, tier-2 cities like Dongguan and Foshan are also on the list.

Based on the data from BCG's Center for Customer Insight (CCI), there were a total of 73 million households with a monthly disposable income exceeding RMB 13,700, defined as the UMC and the affluent, in 2020, and this number is expected to grow at a CAGR of 8% to 107 million by 2025. The middle and emerging middle classes, with a monthly disposable income between RMB 5,800 and RMB 13,700, are projected to increase to 174 million in 2025 from 153 million in 2020 at a CAGR of 3%. (See Exhibit 10).

Exhibit 10 - The Growing UMC and Affluent Pave The Way for Demand Surge in Leisure Car Rental



Source: EIU; NBS; Literature search; BCG's Center for Customer Insight; BCG analysis.

Note: UMC=the Upper Middle Class; MC=the Middle Class; EMC=the Emerging Middle Class; MP=Moderately Prosperous (xiaokang).

On top of growing in scale, the middle class and the affluent are more willing to travel and to spend.

Research indicates that 60% of the latest domestic trips taken by the UMC and the affluent were self-guided, each costing around RMB 2,500 on average. These two groups of people have sufficient funds to pay a daily amount of RMB 300 to RMB 500 on car rental during these trips. They can choose from a wide range of premium rental products from national car rental companies.

The middle and emerging middle classes do not have as much willingness to pay, and tend to spend a daily amount of RMB 150 to RMB 300 on a rented vehicle. With higher price sensitivity, they are more likely to opt for less expensive rental services.

Short-term Rental for Business: Increased Emphasis on Privacy and Safety Will Fuel The Rapid Growth of Short-term Business Car Rental, with Strong Demand from SMEs

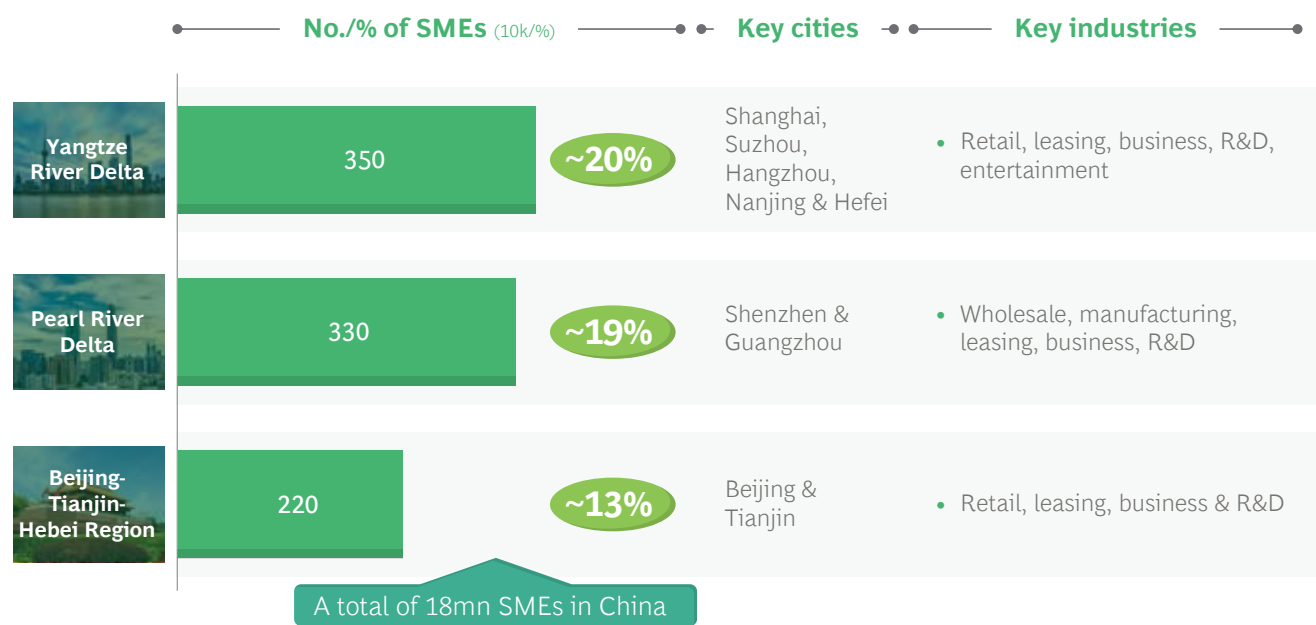
Business travel is an important form of short-term car rental. As the demand for private and safe travel increases, business car rental will continue to grow. Among all segments, SMEs are set to become a key market focus in the future due to their strong needs.

The statistics show that, of 18 million SMEs across China, 3.5 million, or about 20% of the total, are clustered in the Yangtze River Delta region, most specializing in retail, manufacturing, leasing, business, R&D, and information technology. The Pearl River Delta region is home to 3.3 million SMEs, or around 19% of the total, most of which are located in Shenzhen/Guangzhou and operate in whole-

sale, manufacturing, leasing, business, R&D, and information technology. The Beijing-Tianjin-Hebei region hosts 13% of the SMEs, dedicated to retail, leasing, business, R&D, and information technology.(See Exhibit 11).

However, car rental services are struggling to keep up with this escalating demand. Problems arise such as lack of special service personnel, low professionalism, high deposit required by some car rental agencies, and cumbersome payment mechanisms. To win in the future, car rental players need to grow brand awareness, build up rental use cases, and offer efficient payment options. After understanding consumer needs, industry leaders should provide a wide range of vehicle models and tailor value-added services to enterprise clients, including special discounts, dedicated maintenance technicians, and a monthly payment method.

Exhibit 11 - With SMEs’ Soaring Demand for Business Trips, Three Regions Are Well-Placed to Be The Key Markets



Source: Literature search; eHi Mobility Research Center; BCG analysis.
Note: YRD=Yangtze River Delta; PRD=Pearl River Delta; JJJ=Beijing-Tianjin-Hebei region.

Long-term Car Rental: With Subtle Growth in The Future Driven Mainly by Private SMEs, The Market Will Focus on Innovation and Service Quality

Long-term car rental is still the mainstream of the car rental market. In the long run, demand from SOEs and government agencies will grow steadily, whereas demand from SMEs will grow rapidly.

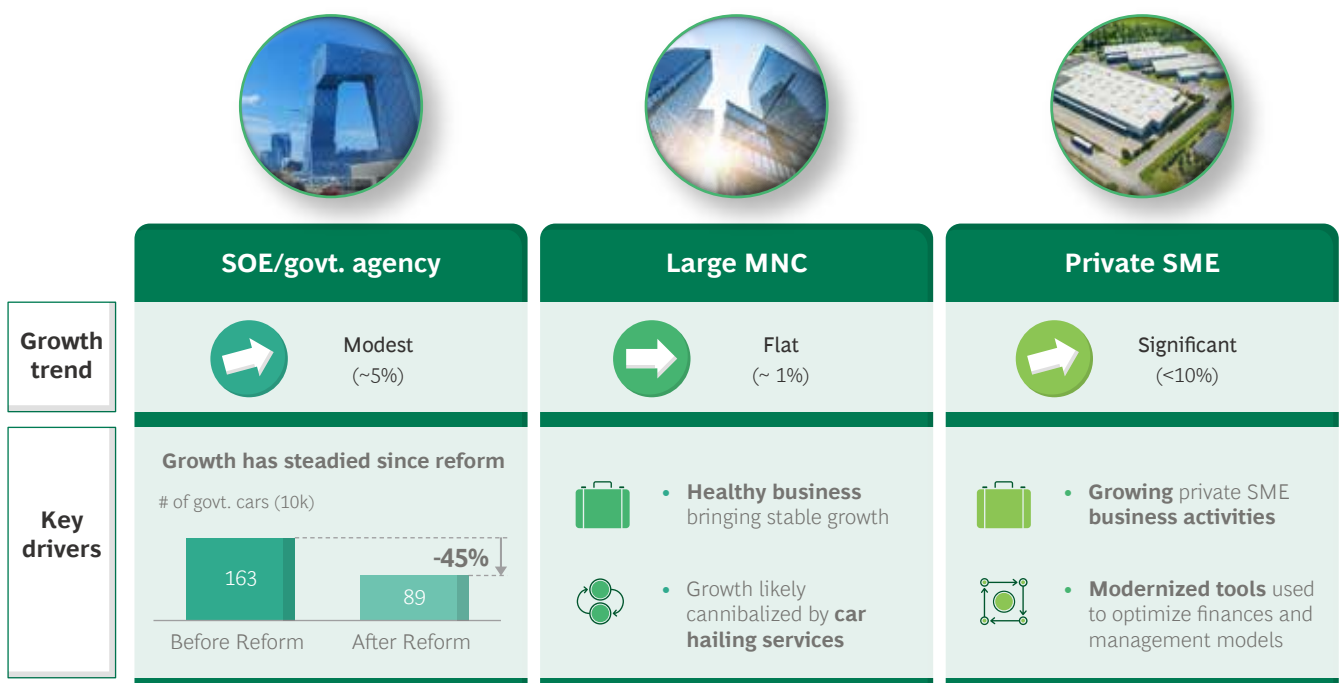
China's Government Vehicle Reform culminated in success by the end of 2015, reducing the official vehicle fleet by about 45% or 740,000 units at the provincial, municipal, and district levels. That is where long-term car rental could come in to meet the unmet demand. Since the completion of the reform, SOEs and government bodies' demand for rented vehicles has been increasing. The market is forecast to grow by 5%. The demand from well-established multinational corporations is trending up slightly but will be cannibalized by car hailing services. As SMEs grow their business rapidly, their demand for long-term rental is predicted to be 10%. (See Exhibit 12).

When the growth of long-term car rental slows down, the differentiating factors in this market will be innovation and value-added services, such as differentiated and high-quality services in all locations at any time (e.g., statewide free car replacement).

New Use Cases, New Experiences: Emerging Use Cases Facilitate Market Growth and Advanced Technologies Enhance Customer Experiences

Growing consumer demand for mobility and the booming car rental market are both driven by ever-more popular road trip rentals, strict traffic restrictions, and a large "car-less licensed drivers" population. According to the *Report on Development of Self-drive Trips, RV Travel and Camping in China 2020-2021*, the proportion of domestic road trips to domestic tourism stood at 77.8% (2.24 billion trips) in 2020. Since 2017, this number has exceeded 60% in four consecutive years, meaning that road trips have become a major form of travel for Chinese people. Supported by better living standards and domestic consumption stimulus policies, the need for travel has become more diversified:

Exhibit 12 - After The Government Car Reform, The Car Rental Market Expects A Subtle Growth, with Private SMEs' Demand Grows the Fastest



Source: Literature search; eHi Mobility Research Center; BCG analysis.

Note: MNC=Multi-National Corporations.

Emerging use cases such as **small-town tourism, natural sightseeing, EV test-drive, migrant workers' home visits during holidays, and Instagrammable scenic trips** will become growth drivers for car rental services.

As the car rental customer journey involves pick-up, driving, in-car entertainment, parking, charging, and drop-off, a new wave of technological revolution is helping car rental players **fine-tune their customer experiences**.

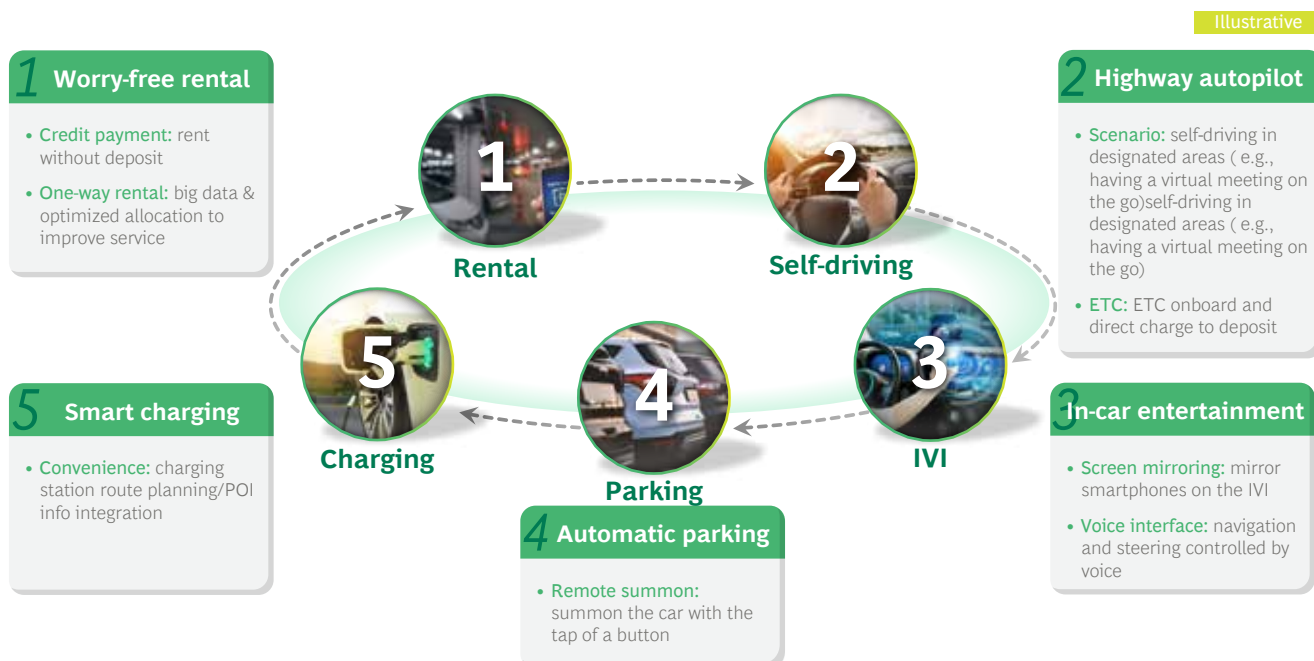
At each step along the process, car rental players can offer personalized services. For instance, when customers arrive at an airport or a railway station, they do not need to go to a rental location in person; the reserved vehicle equipped with AD technologies will come to them instead. On a highway, when activating the “autopilot” feature, people can simultaneously work or relax. The interactions between vehicles and people are also increasing. Drivers can mirror smartphones onto an IVI screen, use audio-control navigation and steering, or remotely summon their vehicles via their smartphones.

For EV owners, destination route planning for charging stations and POI information are provided. When a customer returns a rented car, it can drive itself to the designated store, and, for those who need the one-way rental service, big data and the vehicle scheduling optimization system will help. In addition, consumers can choose **credit payment** as an alternative to the traditional deposit model. Moreover, rented vehicles equipped with the ETC system allow toll fees to be directly deducted from the deposit, cutting toll booth waiting times (See Exhibit 13).

Supply side: As Leading and Regional Players Complement Each Other, The Car Rental Industry Is Integrating and The Branding Is Gaining More Importance

The car rental market is full of opportunities. **With changing consumer demand, the supply side of the industry will further consolidate, and differentiating brand identities will be the focus. In response to the changing market dynamics, car rental leaders are joining forces with local companies to transform the industry.**

Exhibit 13 - Cutting-Edge Technologies Enable Features Like Zero-Worry Rental and Hands-Free Driving to Enhance Customer Experience



Source: Literature search; eHi Mobility Research Center; BCG analysis.

Industry leaders have strong competitive advantages in operational excellence, asset utilization, and brand perception, thus are in a good position to gain ground in the market. Uncompetitive players, on the other hand, face the risk of being acquired or forced out of business. As a result of the increasing need for car rentals across the country, car rental giants are accelerating their nationwide expansion. In addition, local companies can fill in the blind spots of national giants, and therefore continue to occupy a certain market share.

In the last three years, China has introduced supportive policies for car rental platforms and infrastructure to stimulate auto consumption and car rental development. The *Work Guideline on Boosting Automotive Consumption from the Business Perspective and Best Practice of Local Governments to Encourage Automotive Consumption*, introduced by the country's Ministry of Commerce on 9th February 2021, proposed to further grow the car rental market by improving parking facilities at transport hubs such as airports and railway stations, which thus will attract more players to the car rental sector. Car rental companies are encouraged to extend and optimize their coverage to provide services like “one-way rental” (rent in one place and return in another); to develop a range of lease models including long-term, short-term, and by-the-hour; to offer IT-powered one-stop services featuring reservation, pick-up, drop-off, e-payment, and insurance; and to set reasonable fees and service standards. By doing so, car rental players will meet diverse consumer demands for high-quality rental services.

As homogeneous rental product offerings flood the market, brands will have an ever-greater influence on consumer choice. When a brand image takes root in a consumer's mind and heart, the brand's competitors will find it diffi-

cult to displace it. In a period of fast-evolving consumption patterns, **brand images that keep pace with the times will play a bigger role in the business development of rent-a-cars.**

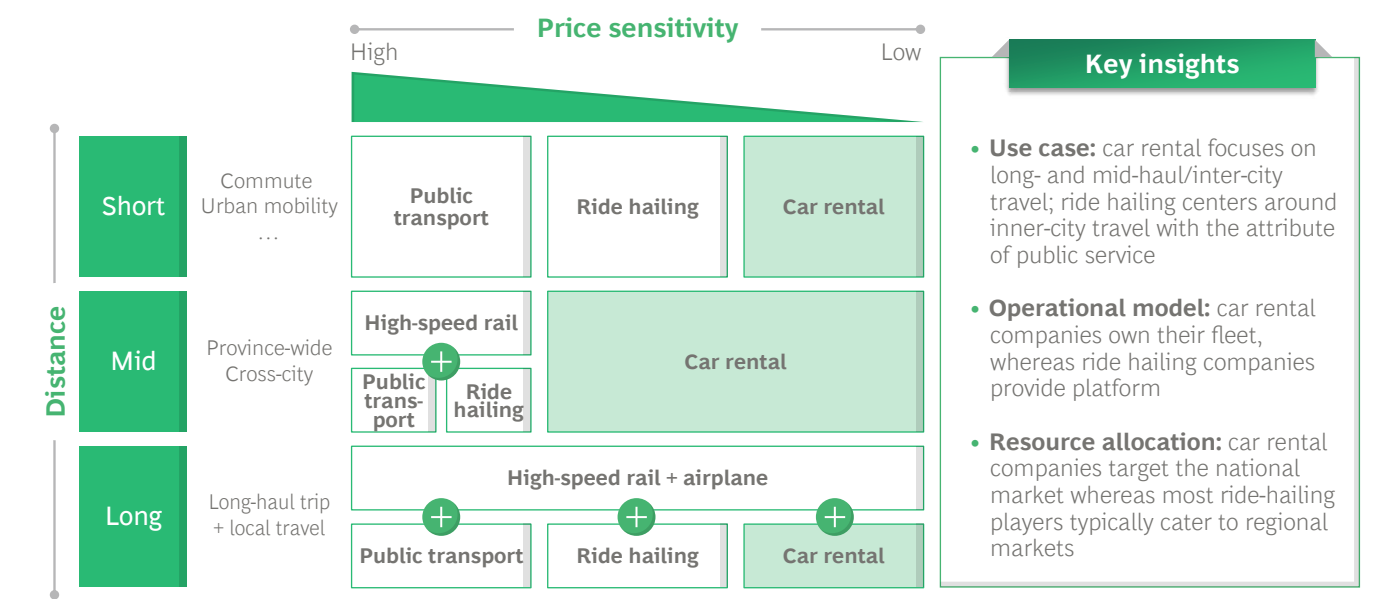
Car rental companies embracing Internet technology are often mistaken for players in the “platform economy”, but **they are in fact based off physical assets and are fundamentally different from their ride-hailing counterparts in use cases, operational models, and service standards.**

Use case: Mobility modes vary by consumer segment and travel distance. Rented cars are mostly used by long- and medium-haul travelers while ride hailing is geared toward inner-city commutes and local rides in tourist destinations. Additionally, the upgrading of consumption, the development of infrastructure, and growing demand for travel are also more favorable to the car rental industry. Unlike car rental, ride hailing, with a focus on short-distance travel, is more like a part of the public transport system; in some ways, it is a public good that ensures the public have easy access to mobility in daily life.(See Exhibit 14).

Operational model: Comparing car rental and ride hailing is essentially comparing the “real economy” and the “platform economy”. A car rental company owns most of the vehicles in its fleet and has the fully-fledged fleet management capability whereas a ride-hailing company acts as a digital platform connecting drivers with passengers.

Resource allocation: Car rental companies typically target the Chinese national market whereas most ride-hailing players typically cater to regional markets.

Exhibit 14 - Car Rental Differs from Ride Hailing in Use Cases, Operational Models & Service Standards



Source: Literature search; eHi Mobility Research Center; BCG analysis.



Implications: What Does It Take to Win the Future?

China's car rental industry has experienced rapid growth in the last two decades due to the rising national economy and household consumption. In the future, the three macro-trends detailed previously will further impact the car rental market, accelerating the transformation of the industry. However, opportunities come with challenges. There are high barriers to entry and increasingly high requirements on rental service networks, off-line operational efficiency, fleet management, and technological innovation. To address the new competition dynamics, rental players will need to harness five success factors to win.

High Barriers to Entry

Chinese car rental players, heavy on assets and operations, face a mix of opportunities and challenges in their development process. Given the enormous roadblocks ahead, they should commit resources to network expansion and enhancement of off-line operational efficiency, fleet management, and cutting-edge technologies, thereby creating competitive advantages (See Exhibit 15).

Specifically, the network coverage matters because of consumers' need for convenient pick-up/return locations. Thus, players with better coverage will have a competitive edge. A 2020 survey indicated that more than half of Chinese consumers picked up or returned a rental vehicle at an urban location, as did over 40% at an airport or a high-speed railway station. At the same time, airports, bus stations, hotels, and tourist attractions are all potential rental locations.

Developing a large network requires stronger management competence and operational efficiency, so car rental companies must pay special attention to operations. In terms of fleet operations, on one hand, more efficient dispatch

and utilization of vehicles can be achieved via technologies such as big data. On the other hand, more efficient vehicle maintenance and traffic violation handling can be achieved via digitalized fleet management. In terms of store operations, big data can also help with site selection to expand coverage and maximize revenue.

Being asset-heavy, the industry needs to make an extra effort to manage vehicle residual value. The typical rental car has a three-year life cycle, with an annual depreciation rate of 33%. To maintain the scale and quality of their fleet, leading players purchase more than 10,000 new cars each year. Used rental vehicles form a pool of high-quality used cars with a low mileage and traceable maintenance record, likely enabling car rental players to move downstream along the mobility value chain into used car sales.

In addition, new technologies in the automotive value chain appear quickly. Empowered by electrification and other new technologies, new vehicles can create better user experiences. Car rental players need to keep up with the technological innovation and promote the commercial applications of these technologies.

Exhibit 15 - Four Entry Barriers Remain Formidable



Source: Literature search; eHi Mobility Research Center; BCG analysis.

¹ Data from eHi.

Five Success Factors

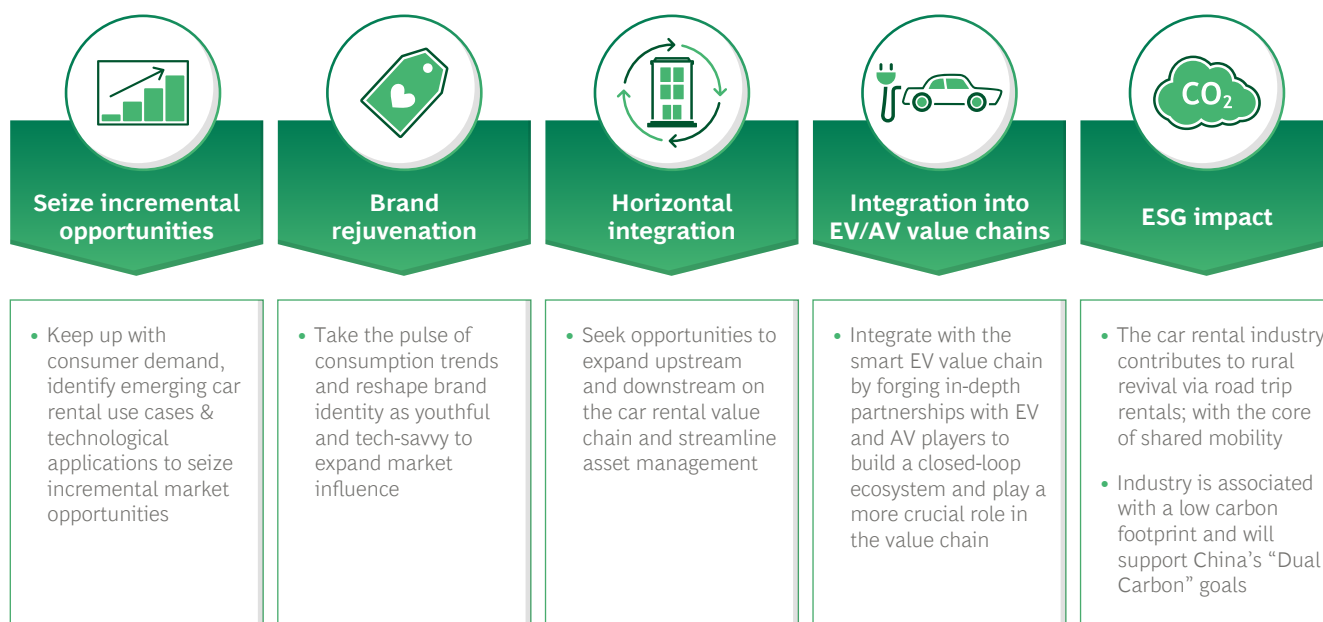
Ambitious players could start with the following five success factors to capture the future market. (See Exhibit 16).

1 Seize incremental opportunities: keep up with consumer demand, identify emerging car rental use cases & technological applications to seize incremental market opportunities. Fueled by the on-going consumption momentum and the booming domestic demand, the car rental market is growing and consumer preference is shifting toward digital and smart product experiences. To address this trend, players need to create use cases such as small-town sightseeing and EV test drives, and put in place intelligent tech applications, including worry-free rental and smart charging, facilitating their business growth and seizing incremental market opportunities.

2 Brand rejuvenation: take the pulse of consumption trends and reshape brand identity as youthful and tech-savvy to expand market influence. Car rental consumer segments and tastes are changing imperceptibly over time. For a company to build up its market influence, the key is to break the stereotypes and refresh its brand image, while being careful not to damage its existing customer base.

3 Horizontal integration: seek opportunities to expand upstream and downstream on the car rental value chain and streamline asset management. Car rental players can make full use of the high-quality used car sources from their main business and can take advantage of their physical and online networks to move downstream to used car sales. China's used car market has huge potential, as the latest data shows that the parc turn rate of China (used car sales/the total car parc) was only 5%, about one third of the US level. With stronger asset management capabilities, top car rental players are in a good position to expand their foothold in the used car market.

Exhibit 16 - Ambitious Players Could Start with The Following Five Success Factors to Capture The Future Market



Source: BCG analysis.

4 Integration into EV/AV value chains: integrate with the smart EV value chain by forging in-depth partnerships with EV and AV players to build a closed-loop ecosystem and play a more crucial role in the value chain. EV- and AV-related tech innovations have entered the stage of rapid development. Leveraging the automotive innovation trend, Chinese car rental companies can partner with EV and AV companies to redouble their efforts in areas such as fleet upgrading, electric transportation, used vehicle disposal, and autonomous pick-up and drop-off, thereby accelerating the growth of the EV and AV value chain with commercial applications in car rentals.

5 ESG impact: the car rental industry contributes to rural revival via road trip rentals; with the core of shared mobility, the industry is associated with a low carbon footprint and will support China's "Dual Carbon" goals. Nowadays, ESG has become a mainstream value, which requires greater commitments from corporates in terms of environmentally friendly and sustainable growth. To enable China's carbon peak and neutrality ambitions, Chinese car rental players should push forward low carbon growth in ways that accelerate the national transition to green energy and shared mobility. Sharing-based road trips bridge gaps between mass transit and micro transit to alleviate poverty and spark a rural revival through small-town and rural tourism. All these efforts will become the building blocks of a brighter future.

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