

“We shore up the main capabilities of automobile manufacturers”

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07/10/2020 Global technology companies and the automotive industry are in close exchange. This is especially true for China: Porsche Engineering talked with Cham Zhong, Vice President of the Tencent group, about new services related to vehicles, the automotive market in China and the future of mobility.

Why is the automotive market attractive to Tencent?

Cham Zhong: The automotive industry is one of the most important efforts of Tencent to embrace the industrial internet. China boasts the world's greatest potential for car consumption, not to mention the high acceptance rate and demand for intelligent products among Chinese consumers. According to a McKinsey survey, 69 per cent of Chinese consumers would like to change their car into an intelligently connected car. Automotive manufacturers are vying to change their positioning from automakers to

mobility service providers.

Over the past few years, we have formed various partnerships with 28 domestic and foreign automotive brands regarding automobile intelligence systems, autonomous driving and shared mobility services. As a digital assistant, Tencent is well positioned to help automotive manufacturers gain a better understanding of the Chinese market and its customers.

Could you give us some examples?

Zhong: First of all, we offer integrated automotive intelligence solutions and bring Internet services popular among Chinese consumers into the car, such as WeChat, QQ Music, or Tencent Maps. We also take the lead in developing an in-car light app framework, with cloud update, no need to download, and use-and-go apps. This enables such features as smart parking, car washing, car refuelling, car charging or restaurant reservation, all of which are based on the WeChat Unconscious Payment system.

Secondly, we are forging into the new territory of autonomous driving, mainly by focusing our efforts on three basic pillars: a data development cloud platform, a simulation platform, and high-precision mapping. In terms of simulation, Tencent has combined its game engine with industrial-grade vehicle dynamics models and integrated traffic simulations based on virtual-reality, allowing users to test autonomous driving in a highly realistic simulated environment.

We have also rolled out the "Smart 4S" solution to help 4S dealerships—dealerships that pursue a full-service approach by bringing together sales, service, spare parts and surveys—to sell cars more efficiently. Through digital tools and platforms like WeChat and mini programmes, as well as AI and big data technologies represented by facial recognition, this solution can help 4S dealerships attract customers more efficiently and accurately. Through its Automotive Cloud platform, Tencent helps automotive manufacturers maintain an efficient grip over the entire product lifecycle from manufacturing and sales to after-sales services. Furthermore, Tencent Keen Security Lab has been working on information security for years where it comes to internet access and over-the-air capability for vehicles.

Talking about over-the-air capabilities, how important is cloud technology in this context?

Zhong: One cannot talk about digitalisation without mentioning the indispensable cloud capability behind it. Tencent's Automobile Cloud provides a full-chain solution ranging from Infrastructure-as-a-Service and Platform-as-a-Service to Software-as-a-Service and Data-as-a-Service.

What exactly are potential applications of this technology?

Zhong: During the R&D and manufacturing stages, automobile manufacturers are able to cut costs and boost efficiency by employing big data to provide guidelines. Big data is also essential for accurate lead generation and thus enhances marketing and sales efficiency. With respect to after-sales, the Tencent Cloud helps manufacturers set up a comprehensive user management system and provide multi-

scenario value-added services, such as ride sharing, which may lead to novel business models. In the meantime, the data-driven services can provide services such as battery life and vehicle lifecycle estimation, part failure analysis and forecast, driver behaviour analysis, scenario-based data analysis, and service recommendation.

How can companies like Tencent and classic OEMs benefit from a collaboration?

Zhong: Automotive manufacturers have developed cutting-edge manufacturing technologies and maintain a sophisticated supply-chain system. In this new era, the automotive industry must embrace the internet to thrive, while internet companies must learn the fundamentals of the automotive industry. Tencent is poised to bridge this gap by offering flexible and modular digital toolboxes and ecological connectors.

By shoring up the four main capabilities of automotive manufacturers, Tencent helps automakers enhance the customer experience. First, the capability to recognise and understand users: intelligent systems will remember seat positions, preferred music or commuter routes. When a customer walks into a 4S dealership, intelligent systems will immediately identify them and anticipate their needs. Second, the capability to communicate and connect with customers in various ways. Customers interact with their car by voice. Virtual keys can work as a platform for the auto brand to communicate and interact with its customers. Brands can inform their customers of the real-time status and maintenance progress of their cars via WeChat notifications.

Third, the capability to help customers access a wide range of services while driving. Auto brands need to build an all-inclusive service ecosystem by bringing together a vast number of developers and service providers to enrich the in-car app ecosystem. Fourth, the cloud-powered capabilities accompany a vehicle throughout its entire lifecycle. The lengthy and complex supply chain—from manufacturing to sales and use including vehicle status and after-sales—is a daunting challenge for auto brands that could be eased by cloud-based processes.

What role do vehicles play in the overall concept of the Smart City of the future?

Zhong: With new technologies such as big data, cloud computing, AI or 5G, Smart Cities will spring up one after another. Vehicles will become important data nodes in these cities. They can sense the surrounding environment, upload real-time traffic data to the cloud, and assist efforts towards digital traffic and city management. Built on 5G technology and the cooperative vehicle-infrastructure system, the intelligent V2X human-vehicle-road network will become the new urban infrastructure.

In addition, self-driving vehicles are more versatile and can function as different spaces, such as conference room, cinema, shop, home, etc., increasingly blurring the boundaries between them. They will also increase the use of shared mobility with fewer private cars and more urban space in the future. Vehicles might drive to a suburban parking lot at night by themselves and return in the morning to pick up passengers.

What does Tencent think of the development of Level 4 or Level 5 autonomous driving? Which course still has to be set up—technologically, socially, and legally?

Zhong: L4/L5 autonomous driving is a necessary precondition for autonomous driving and shared mobility on which it is based. Currently, we have set two parallel courses. First, we are pushing algorithm development and data accumulation for an ideal L4/L5 autonomous driving solution. Second, we are taking into account the needs of customers by promoting applications in specific scenarios. Therefore, we are working towards a solution that combines a highway pilot and a traffic jam pilot, the commercialisation of which will provide strong data support for our future R&D efforts.

From a technical perspective, autonomous driving relies on high-precision map data, cloud computing, and simulation techniques. At the policy level, local governments need to gradually relax relevant policies to allow testing on public roads. We need to clarify road safety conditions and ethical judgments. We need support of road network infrastructures such as 5G-based intelligent transportation and traffic systems. With regard to the social aspect, we need to increase public acceptance of autonomous driving, eliminate consumer anxiety, and gain the public's trust.

What do Chinese digital natives value when it comes to in-vehicle infotainment?

Zhong: Digital natives are currently the main customers of the Chinese automotive industry. They are accustomed to constant real-time connection with the digital world and continuous access to its services. Such expectations are frustrated by the offline state experienced by drivers—it is difficult to check your smart phone while being behind the wheel.

To address this offline anxiety and ensure services are accessible from different terminals and in diverse scenarios, Tencent is providing perfect service continuity between mobile phone and cockpit via Super ID, the uniform identification system. Our Auto Intelligence system (TAI) enables efficient and convenient processing of diverse services through its robust interactive architecture and massive use-and-go light apps. Last year we launched WeChat for Auto, to help drivers communicate more safely through full Voice User Interface (VUI).

How does Tencent define luxury in the digital age?

Zhong: Luxury in the digital age must take into account services provided—how to leverage digital means. Traditional brand image campaigns easily lead to uniformity. Therefore, we should shift our focus to services. They can make all the difference and bring a brand closer to its customers.

China is developing rapidly. Where will the country be in the next ten years? In which technology areas will it stand out?

Zhong: In the coming decade, China will usher in a golden age of the industrial internet. Digital technologies such as 5G, AI, and cloud computing will accelerate the intelligence upgrade of diverse industries. The digital economy will become the engine of growth for China and the entire world.

Blessed with the fertile soil that allows new technologies to quickly move into the market, China will witness the unprecedentedly large-scale commercialisation of substantial cutting-edge technologies.

Cham Zhong

... joined Tencent in 2004 and is now the company's Vice President. As head of the Intelligence Mobility Business and Intelligent Platform Business, he is responsible for Tencent Maps, Tencent Auto Intelligence, Tencent Autonomous Vehicle, Tencent Location-based Services, Tencent Cloud Xiaowei, and Tencent AI Translation teams.

Tencent

Tencent was founded in 1998 and generated a turnover of around 49 billion euros in 2019.

Tencent had **63,000 employees** at the end of 2019.

Portfolio: Tencent's product range includes WeChat, one of the most widespread chat and payment services in China. It also offers video games, music, and numerous activities in the field of artificial intelligence.

Info

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