



mAutomotive

BMW 互联驾驶
BMW ConnectedDrive
世界与你随行。

**China
unicom 中国联通**
创新·改变世界

BMW: Well Connected in China

Premium automaker enters into ground-breaking partnership with China Unicom

Navigating China's mega-cities just got a lot easier - if you own a new BMW. The premium automaker has teamed up with mobile operator China Unicom to roll out its innovative ConnectedDrive suite of services dedicated to the Chinese market. The exceptionally-broad partnership between the two companies covers everything from the provision of connectivity to customer service to content.

Since September 2012, new BMW 5 and 7 Series cars in China have been equipped with an embedded cellular communication module that enables drivers to access information services either on the display in the dashboard or via a call to a dedicated 24/7 concierge service, which can be reached by pressing a menu selection via the iDrive controller in the car.

Delivered by China Unicom 2G and 3G mobile networks, the data services include traffic information for 14 major Chinese cities presented on the new generation navigation system with 3D city maps. Using detailed information on the location and length of traffic jams and construction sites (relayed in real-time by the traffic data server), the navigation system will calculate an alternative route if the delay is likely to exceed five minutes. The system is the first in China to use the Transport Protocol Expert Group (TPEG) data format for traffic information, which employs more sophisticated algorithms than RDS-TMC predecessors.

Before they set out on a journey, the driver or a friend can use their PC or smartphone to send a destination to their BMW's navigation system. Or they can search for the destination inside the car by accessing the onboard map database. If need be, they can also call the concierge service for help finding a favourite restaurant, hotel or



another business. "With call-centre based services, the customers feel supported in any situation," says Francis Dance, BMW ConnectedDrive senior manager. "In Asia, the idea of calling an agent to have the destination sent for a restaurant is actually very desirable - destinations can be hard to enter into the navigation system and they frequently change locations, so you may need to use a number of data sources."



The ConnectedDrive service also links to roadside assistance in the event of a breakdown and emergency assistance in case of an accident. The car transmits key diagnostic data, such as how much fuel it has, the voltage level and coolant temperature, to the call centre agent. Using location-based information provided by the car, the agent finds the nearest BMW dealer or roadside assistance provider. In the event of a serious accident, the agent contacts the closest ambulance and police station to coordinate dispatch, providing BMW customers with help in emergencies.

Aiming to give its customers complete peace of mind, BMW has also designed its ConnectedDrive system to automatically transmit the vehicle's service and maintenance needs to the customer's chosen BMW dealer. If the vehicle needs its brake pads changed, for example, the dealer orders the necessary parts and calls the customer to arrange a convenient date and time for the service.

Services at your fingertips

Moreover, the ConnectedDrive system goes well beyond navigation and safety services. Drivers in China can now use the system to access the latest news from Xinhua, weather forecasts for anywhere in China, the current stock prices in the Shanghai and Shenzhen stock exchanges, and social networking blogging. The on-board computer will soon convert the text-into-speech, reading the information to the driver in Mandarin, Cantonese or English. The ConnectedDrive system can also pull results from search engine giant, Baidu Map, to display the address and phone number of local businesses or points of interest based on keywords inputted by the driver. BMW's broad range of services clearly reflects the specific needs and trends in China, with additional partnerships with new content providers underway.

These services can be accessed by BMW's new iDrive Touch Controller, a large rotary knob with an integrated touch pad just to the right of the driver's seat on the centre console. The new BMWs in China are the first in the world to be equipped with this controller, which uses handwriting recognition to let drivers directly input Chinese characters – without taking their eyes off the road. The driver or a passenger can also link their smartphone to the dashboard display via a USB connection, enabling them to access social networks, entertainment and make Bluetooth hands-free calls to friends and contacts. BMW has also integrated popular third-party apps, such as streaming music from Douban FM and Baidu Music.

Many of China's people are becoming accustomed to being connected wherever they are. BMW estimates there are 388 million mobile internet users in China, many of whom have now upgraded to smartphones. When they are away from their car, BMW drivers can either use the ConnectedDrive smartphone app or contact the BMW ConnectedDrive call centre to unlock their car's door, blow the horn, flash the lights or locate a missing or stolen vehicle.



Free for three years

For BMW, ConnectedDrive is primarily a way to increase the desirability of its cars and differentiate itself further from the competition. A three-year subscription to the ConnectedDrive service is free with a new BMW in China – the cost is included in the price of the car. Customers can request not to receive the services, but very few do. As the first cohort of three-year subscriptions will not expire until September 2015, BMW has not disclosed what the annual renewal price will be.

BMW and China Unicom reached an agreement on a "mixed model communication tariff" in which BMW buys a certain number of minutes, SMS and megabytes of data from China Unicom each month for a set fee and then pays overage charges if its customers' usage exceed these limits. "But we are not talking about a huge amount of data traffic," he says. "We are not providing open access to the Internet or streaming videos. Customers have got that on their smartphone anyway." Moreover, the 3D map graphics on the navigation system are stored locally on the hard drive in the car, ensuring the system can work smoothly even over a 2G connection.

Although BMW pays China Unicom a fixed monthly fee per subscriber with a surcharge for overages, rather than a performance-related fee, Dance notes that the two companies "share a mutual interest in achieving high levels of customer satisfaction." He points out that both BMW and China Unicom will benefit if customers renew the service at the end of the initial three-year term through a continuing revenue stream. Moreover, China Unicom's role is made transparent to the consumer, so both companies have a direct stake in giving drivers a positive experience that will further enhance their mutual reputations.

As the content services do not carry any advertising, BMW also pays content providers a monthly fee based on the number of subscribers to the service. In some cases, the content provider's brand is visible on the display, raising their profile among the affluent BMW customer base.

BMW uses ConnectedDrive to build stronger on-going relationships with its customers. "A significant component of the value proposition for embedded connectivity is the ability to stay in touch with our customers," says Francis Dance.

"It makes our customer part of the BMW family and is an extension of the Chinese concept of Guanxi, which is a fundamental cultural element in China." Guanxi is the Chinese term for close-knit relationships in which people help each other in times of need. "If you ever have a problem, then you can call us by just pushing a button in the car," Dance adds.

Although BMW anonymises all the information collected by the ConnectedDrive system to protect its customers' privacy, it can use the data in aggregate form to improve its products and services. "In the event of a crash, the car sends us data on how many air bags opened, what was the change in velocity and other factors," says Dance. "We do accident follow ups with customers' permission.... the ConnectedDrive data helps to make our cars safer."

China Unicom and BMW: A unique relationship

China Unicom connects BMW cars to the ConnectedDrive services via its 3G (HSPA/WCDMA) network, falling back to its 2G (GSM) network where 3G coverage is not available. As well as providing specially-configured SIM cards to be permanently mounted into the embedded mobile modules inside the vehicles, China Unicom also operates a contact centre that handles the incoming calls from BMW drivers and hosts the data centres that run the ConnectedDrive information services. "If you define what the data centre needs to be - robust, load-balanced and with a fault-tolerant, redundant connectivity, it is actually a no-brainer to have China Unicom serve as our telecom-grade operation centre," says Dance.

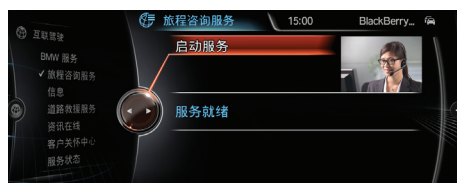
China Unicom says its expansion into telematics is part of its broader strategy of using its advanced 3G networks, together with new technologies, such as the Internet of Things and cloud computing, to expand into new business areas and develop its own business. China Unicom regards its flexible traffic management methods and

business model as key advantages in the telematics industry.

Although BMW has a direct relationship with Baidu and traffic content provider CenNavi, China Unicom manages the contracts with the Xinhua news agency and the suppliers of weather and stock information, building on its existing network of content providers. Dance says that China Unicom brings considerable economies of scale to the service proposition because it already delivers an array of content services to its mobile subscribers.

A three-year development cycle

BMW has now launched the ConnectedDrive service in 10 countries across the world using similar underlying technology, but customizing the solution according to local market conditions. In China, BMW first began to discuss the ConnectedDrive service with potential suppliers in 2009 and went on to form a project team the following year. Contracts with suppliers were signed in 2011 and the service went live in September 2012.



A key consideration for BMW was that China Unicom had sufficient mobile coverage across the country's road network to enable drivers to access the ConnectedDrive services whenever they need them. "We are really seeking extensive 2G coverage as a backbone to the urban 3G network to allow the services to operate," says Dance. "China Unicom ensured that every dealership was covered so our dealers could demonstrate the services to prospective customers."

Another challenge is the significant differences in mobile communications and automotive product lifecycles. Whereas people expect mobile handsets to last for three years, they expect cars to last for ten years or more. "We are concerned about the longevity of the network," acknowledges Dance. "We are one of the first automakers to employ an embedded 3G module with fall back to 2G...many other automakers and M2M players are still using 2G modules, so this backbone is really necessary."

Noting the "different service workflows and different culture backgrounds" in the mobile and automotive industries, China Unicom describes its co-operation with BMW as "a totally brand new innovation step" which required "dramatic change from both sides to create the successful cooperation story in a limited time between two large scale enterprises coming from different industries."

BMW would also like to see mobile network operators (MNOs) around the world adopt standard interfaces for key processes, such as SIM activation and deactivation. "For every contracted MNO, we have to set up our processes all over again," Dance says. Once the services are up and running, there is also the question of how much access the automotive maker should have to call and session logs.

Whereas mobile operators typically do not want another company to be able to access their records, Dance says there are circumstances in which BMW needs to know if a customer has tried to access a ConnectedDrive service.

Tens of thousands of users

Still, such concerns are outweighed by the benefits of connected car services to both the automotive industry and its customers. In the first few months in operation, the ConnectedDrive services have been well received, according to Dance. He says the information call line and the Baidu Map search service are seeing particularly high traffic levels.

By the end of this year, he expects BMW to have tens of thousands of customers in China using the services. BMW plans to extend its ConnectedDrive services beyond the 5 and 7 Series to other cars in its range. "Our intention is to make it a cross-platform service," says Dance.

Looking to the future: outlook

The path to success to China can be long and difficult, but the rewards can be great. The partnership with China Unicom reflects BMW's commitment to the long haul for the Chinese market, building its relationship, trust and respect for the customer needs and for all the partners in delivering these services.

For its part, China Unicom is looking to work with its partners to create new value-added in-vehicle services, such as streaming media, real-time video monitoring, location based services and e-commerce based services (including floating car information, part management, maintenance, travel care, entertainment and social activity). It is also focusing on providing comprehensive service capabilities for the telematics industry,

making use of its call centres, together with its system integration and content integration capabilities.

"Our relationship with China Unicom is quite special," says Dance. "BMW has never previously engaged with a mobile operator to the same depth as achieved in this venture." China Unicom has invested heavily in providing in-house competencies to meet BMW's service and support requirements, demonstrating its commitment to the telematics and infotainment services, as well as its new positioning in the value-chain: China Unicom has gone beyond being solely a connectivity provider to being a call centre, content provider and telematics service provider.

"Could that play out in other markets? Absolutely," Dance says, depending on the approach taken by mobile operators elsewhere. "A huge part of our success together was China Unicom thinking outside the box beyond its excellent mobile network to extend services."



About the GSMA Connected Car Forum

The GSMA Connected Car Forum (CCF) is a platform for sharing information between the automotive sector and mobile network operators. It is designed to enable joint cooperation and foster activities that may not be possible through existing bilateral business discussions in a timely manner. The Forum is a response to the explicit need, expressed by both automakers and mobile operators, to remove current barriers and to improve the speed and take up of telematics and infotainment services.

To find out more and to join the GSMA CCF email: mautomotive@gsma.com

About the Connected Living programme

Connected Living is a three year market development initiative whose mission is to help mobile operators accelerate the delivery of new connected devices and services. Our target is to assist in the creation of 700 million new mobile connections, whilst stimulating a number of service trials and launches in the Automotive, Education and Healthcare sectors. The Connected Living programme is also working with the city of Barcelona, the Mobile World Capital, to develop and showcase smart city services.

For more information visit:
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Connected Living