

BANMA CONNECTING CHINA



Passion for People and Technology

The announcement BMW Group and Daimler AG are combining to create a new global organisation providing urban mobility solutions, reflects an increasing importance, and urgency traditional OEMs are placing upon developing platforms to retain customers within their in-car connected service eco-systems.¹

This pooling of talent, technology and investment is designed to counter competition and disruption from the tech sector, in the provision of localised connected solutions better reflecting end user lifestyle needs.

Alibaba is one such organisation that via its partnership with SAIC, one of China's most successful domestic OEMs, created Banma. Banma an infotainment platform, based upon the AliOS operating system, enables collaboration between developers and car manufacturers in research and development. Building upon its initial activity with Roewe and MG cars, Banma plans to connect 6 million vehicles by 2023.²

Banma Network Technology

The Banma infotainment platform is based upon Alibaba's AliOS, a forked but incompatible version of the open-source Android operating system. AliOS is designed for smart devices, such as televisions, smart phones, and most recently connected vehicles. The latest Banma system, version 2.0, was released in Dec 2017 and requires a minimum of 8 minutes for its over-the-air upgrades, with over 400k car owners having now upgraded.²



Source: Banma

Banma's user experience is based upon its map service, where map is designed to be the desktop of its operating system. Banma provides a number of features, most popular of which are Navigation, USB video play, WiFi share (vehicle to phone and vice versa, two-way connectivity), fleet management and real-time CarChat.

Voice control is provided to both the driver and passenger and is arguably Banma's strongest feature. While the driver enjoys priority and access to all system controls, the passenger has access to features such as media, air-conditioning, seat adjustment and associated functionality.



Beyond in-car connected services, Banma continues to expand as a provider of broader mobility solutions, such as automotive insurance for individual trips and passengers, automatic payment services at fuel stations, parking facilities and highway toll gates.

At the end of 2018, Banma implemented an online portal allowing the download of telematic data reflecting an individual's driving behaviour. information provided includes distance driven, overtaking, hard breaking, excessive acceleration, turning speeds, fuel consumption and calls to Banma in comparison to national statistics.³

Feature	Category	Version 2.0	Version 3.0
System			
Feature 1	System	Over-the-Air upgrade	..
Feature 2	System	Intelligent speech interaction system	..
Feature 3	System	WiFi share (phone & car two-way share)	..
Feature 4	System	Map upgrade	..
Feature 5	System	N/A	Individual Commute Map
Remote Control			
Feature 6	Remote Control	Bluetooth unlock (only iPhone)	..
Feature 7	Remote Control	Air-condition	..
Feature 8	Remote Control	Seating	..
Feature 9	Remote Control	Start & stop Engine	..
Vehicle Status			
Feature 10	Vehicle Status	Navigation	
Feature 11	Vehicle Status	N/A	Daily route map
Feature 12	Vehicle Status	Vehicle Status & location	..
Feature 13	Vehicle Status	N/A	AI Engine
Feature 14	Vehicle Status	Vehicle abnormal warning	..
Feature 15	Vehicle Status	Safety warning	..
Feature 16	Vehicle Status	N/A	AR Driver Assistance
Feature 17	Vehicle Status	Drivers' behaviour analysis	..
Feature 18	Vehicle Status	Driving tips	..
Feature 19	Vehicle Status	Charging Management	..
Aftersale Service			
Feature 20	Aftersale Service	Maintenance	..
Feature 21	Aftersale Service	Emergency & roadside assistance	..
Feature 22	Aftersale Service	Insurance (single use case)	..
Social Service			
Feature 23	Social Service	Real-time CarChat	..
Feature 24	Social Service	Fleet creation & route sharing	..
Feature 25	Social Service	N/A	Cross-platform fleet creation
Feature 26	Social Service	Self-driving travelling recommendation	..
Feature 27	Social Service	Mobile camera video & photo sharing	..
Feature 28	Social Service	Onboard Karaoke	..
Feature 29	Social Service	USB video playing	..
Feature 30	Social Service	Online Radio	..
Feature 31	Social Service	Online Music	..
Feature 32	Social Service	N/A	My Delivery
Feature 33	Social Service	N/A	AI Pet
Feature 34	Social Service	N/A	Smart Device Connects (sport camera, UAV)
Aftermarket Service			
Feature 35	Aftermarket Service	Automatic Payment (fuel, parking, highway)	..

Table 1. The key features of Banma Network System are listed.

Banma participants in consultative dialogue allowing end users to determine which data is made available. Most recently, end users voted for options including annual fuel consumption, time spent listening to music, and driven routes for 2019.⁴ Via WeChat, users proposed a far broader range of data to be accessible, including average and peak driving speed, average daily mileage, fuel consumption and trip duration. Beyond driving behaviour, users requested data available via infotainment platforms including listening preferences both in terms of music and preferred media.

Month	Banma Network System - 2018 Key Milestone
Jan	Banma System Version 2.0 Over-The-Air Upgrade
Feb	Banma partners with Shell to provide smart fuel refill service across 2000 stations in China.
Mar	Banma signed strategic cooperation agreement with BOSCH.
Apr	Banma embedded voice clip "eject passenger" created an April Fool's Day's phenomenal on social network TikTok.
May	Banma announced smart payment on highway in Shandong Province.
Jun	Banma organised drivers' football club to watch World Cup together.
July	Banma hosted its first planet exploration conference, inviting 19 experts & KOLs from automotive & internet industry, and city operation to discuss industry-related topics.
Aug	Banma showcased its AR-Driving technology on <I am the future> variety show through Hunan TV.
Sep	Banma finished its first round of fund-raising, closed with 1.6 Billion, marked the technology unicorn of the year. It also announced three different version of its operating system, known as Plus, Pro and Lite, and its third generation MARS 3.0.
Oct	Banma systems announced it will be available on Roewe Marvel X, MG HS, Citroen C4 Aircross, Ford EcoBoost.
Nov	Banma saw 1 millions transactions in its "hello Banma" carnival month.
Dec	Banma awarded "technology innovation enterprise" of the year.

Table 2. The key milestones of Banma Network System in 2018.⁵

What's noteworthy is that Banma reached outside their own corporate eco-system into public forums such as WeChat, Weibo and Zhihu⁵ to engage with its users. Additionally, these social media platforms were utilised by Banma product managers to explain and support their product features and solicit real-time dialogue.

Outlook

Beyond those features already implemented, AliOs is understood to be developing base level software development kit (SDK) for its partners, and when fully developed its application programming interface(API) will enable both OEMs and tier 1 partners to further contribute to its further development. Citroen, Peugeot and Ford are some

of the OEMs already collaborating in the development of their in-car connected services.²

In terms of future developments, Banma is pursuing a saturation strategy with over 600,000 users having already installed its system in China.⁶

Banma continues to explore opportunities in which to expand its service offerings. In October 2018 and in partnership with Fliggy, it commenced providing fee based facial recognition access to over 1,000 popular tourist locations across China.

Recent announcements included a planned 2019,⁷ upgrade to Mars 3.0, delivering additional features powered by AI technologies.

As part of the Alibaba portfolio of companies, customers can expect further offerings that leverage other Alibaba initiatives, including:

- Skycat, a B2C online service via Tmall.
- Flying Pig, a reservations platform for flights and hotels via Fliggy.
- Blue Ant, providing financial services and cashless payment via Ant Financial.
- Mr. Fresh Hippo providing fresh seafood via Freshhema.
- Humble Birdie, a China-wide smart logistic network via Cainiao.



Comic characters of Alibaba's product range. Source: Alibaba.

The deployment of 5G will allow Banma to expand its functionality to internet of things and includes additional forked elements of AliOS across a variety of connected mobile devices. Opportunities exist in the provision of cloud-based eMail, web search, weather updates, GPS navigation tools, synchronising and storing call data, text messages and photos in a cloud hosted environment. AliOS Things, another forked of AliOS, will also support the access across other devices such as, personal computing, UAVs, smart wear and home appliances.⁸

While acknowledging Banma to be a relatively recent market entrant, it hasn't stopped questions being asked in terms of its accessibility, stability and security. We regard Alibaba to be shaping the future of in-car connectivity, a view endorsed by BMW Group, who recently announced its world-renowned⁹ intelligent voice assistant will be deployed across its model range by the end of 2019.¹⁰

Reference

¹ <https://www.theverge.com/2019/2/22/18235941/daimler-bmw-mobility-joint-venture-billion-dollars>

² <https://www.ebanma.com>

³ <https://mp.weixin.qq.com/s/R7NGUP6wyi84Ty2n9Dw60g>

⁴ <https://mp.weixin.qq.com/s/F0GELImq5UVMFluLoKXOeg>

⁵ <https://www.zhihu.com/org/ban-ma-zhi-xing-70/activities>

⁶ <https://36kr.com/p/5172601.html>

⁷ <https://www.pcauto.com.cn/news/1304/13040873.html>

⁸ <http://aliosthings.io/#/?id=alios-things>

⁹ <https://www.technologyreview.com/s/612511/alibaba-already-has-a-voice-assistant-way-better-than-googles/>

¹⁰ <https://www.bmwblog.com/2019/01/07/alibaba-voice-assistant-introduced-into-bmw-vehicles/>