Overview of the Chinese Infotainment Market

27 October 2016 | Shanghai, China

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Agenda

• Infotainment systems forecast
• Telematics market overview
• Smartphone connection
• Branded audio – consumer survey
• Other big things
Infotainment systems forecast
Global infotainment system trends

Head-unit system trends; growth of Display Audio

- **Audio only**
  - 2015 share: 46%
  - 2022 share: 25%

- **Display Audio**
  - 2015 share: 28%
  - 2022 share: 41%

- **Navigation**
  - 2015 share: 26%
  - 2022 share: 34%

Source: IHS
Global infotainment system trends

![Global system sales chart](chart.png)

Source: IHS

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Average selling price for infotainment systems

Source: IHS
Trends for the Chinese OEM infotainment market

- Fitment rate of pure audio systems will go down steadily.
- Fitment rate of navigation is still increasing, although not quickly.
- Display Audio will be the future star in the infotainment area.
Trends for the Chinese OEM infotainment market

- Pure Audio: $0.6 billion in 2022.
- Navigation: $3.5 billion.
- Display Audio: $1.3 billion.
Trends for the Chinese aftermarket infotainment

- A market to shrink.

- Aftermarket navigation will shrink sharply, caused by the rising trends of OEM navigation, smartphone-based navigation (through smartphone itself or display audio).
Telematics market overview
Trends for the Chinese OEM telematics market

- **Embedded telematics** is leading now, but the other two types will increase quickly. In 2022, the fitment rates of the three types will be very close.

- Most luxury brands will use either embedded or hybrid telematics.

- Due to the relatively low cost, consumer device telematics will be mainly used in entry level and mid-level vehicles.
Telematics products for major OEMs

OEM Telematics Roadmap (China – Part 1)

- GM
  - Chevrolet Epica eMotion
  - Shanghai OnStar
- Toyota/Lexus
  - G-Book
  - Toyota/Lexus G-Book
- Nissan
  - Nissan Carwings
- Hyundai
  - BlueLink
- Kia
  - UVO
- BMW
  - ConnectedDrive
- Infiniti
  - Infiniti Connection
  - Infiniti InTouch
- Ford
  - Ford Sync

2010 ➔ 2011 ➔ 2012 ➔ 2013 ➔ 2014 ➔ 2015

China
Telematics products for major OEMs

OEM Telematics Roadmap (China – Part 2)

<table>
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<th>Audi</th>
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Telematics products for major OEMs

OEM Telematics Roadmap (China – Part 3)

- Peugeot
- Acura
- Honda
- GAC
- Soueast
- M-B
- Chery
- Qoros

- Blue-i
- AcuraLink
- Honda Display Audio
- Evenus MirrorLink
- Trumpchi G-Cloud
- INS
- Connect
- Net-Car
- Cloudrive
- Cloud

2010 ➔ 2011 ➔ 2012 ➔ 2013 ➔ 2014 ➔ 2015

China
Telematics products for major OEMs
## Telematics services offerings

<table>
<thead>
<tr>
<th>Embedded Connectivity</th>
<th>CE Device Connectivity</th>
<th>Hybrid Connectivity</th>
<th>Features</th>
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<td><strong>BMW ConnectedDrive</strong></td>
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<td><strong>Toyota/Lexus Mobile G-Book</strong></td>
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<td><strong>Chevrolet eMotion</strong></td>
<td><strong>Stolen Vehicle Tracking</strong></td>
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<td><strong>Hyundai Blue Link</strong></td>
<td><strong>Kia UVO</strong></td>
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# Telematics services offerings

## OEM telematics services offerings (China -2)

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## Telematics services offerings

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<th>OEM telematics services offerings (China -3)</th>
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<td><strong>Hybrid Connectivity</strong></td>
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<td><strong>AcuraLink</strong></td>
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<td><strong>Mercedes-Benz Connect</strong></td>
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# Telematics services offerings

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<th>OEM telematics services offerings (China -4)</th>
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<td>VW Car-Net</td>
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<td>Volvo On Call/ Sensus Connect</td>
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<td>DS Connect</td>
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<td>Dongfeng Windlink</td>
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<td>Tesla Telematics</td>
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</table>
Smartphone connection
Google’s Android mobile OS comprises a clear majority in China (62%) and in Germany (67%). UK respondents were more divergent, with approximately 15% selecting either Windows Phone or Blackberry OS. Apple’s iOS (42%) is more dominate in the US than it is in other countries like Germany (21%).
Apple CarPlay

- Total 40 OEM brands
- 0 domestic brand
Android Auto

- Total 45 OEM brands
- 0 domestic brand
MirrorLink

- Total 17 OEM brands
- 1 domestic brand
Baidu CarLife

- Total 12 OEM brands
- 4 domestic brands
Android Auto vs. CarPlay

- Apple CarPlay and Android Auto will be the two most widely used smartphone connection solutions.

- Overall, the race is very tight, as most OEMs will install both, because they can’t afford the consequence by installing just one platform.

- Since both Apple and Google have tremendous developer community, the result will be a flood of Android Auto–compatible apps and CarPlay-compatible apps in the near future.

<table>
<thead>
<tr>
<th>Enabled Auto Sales</th>
<th>Android Auto</th>
<th>Apple CarPlay</th>
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<tbody>
<tr>
<td>2015</td>
<td>1.06M</td>
<td>1.31M</td>
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<tr>
<td>2017</td>
<td>9.56M</td>
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<td>2020</td>
<td>40.3M</td>
<td>36.8M</td>
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<tr>
<th>Cumulative Enabled Auto Sales</th>
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<tr>
<td>2015</td>
<td>1.15 M</td>
<td>1.41M</td>
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<tr>
<td>2017</td>
<td>14.7M</td>
<td>14.4M</td>
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<tr>
<td>2020</td>
<td>99.9M</td>
<td>92.8M</td>
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</tbody>
</table>
Android Auto vs. CarPlay

- **China** is a different market. Baidu CarLife is forecast to succeed more than Android Auto because:
  2. Baidu CarLife can support both iOS and Android smartphones.
  3. Most of Baidu apps are more welcomed and popular in China.
Most popular apps customers want in car

What types of apps are you interested in directly downloading to your infotainment/multimedia system?

- Maps/GPS
- Live traffic information
- Internet radio/audio
- Information (e.g., News, Stocks, Sports, Flights...)
- Remote vehicle services
- Location-based services/Points of interest
- Convenience (e.g., Email reader, Text reader...)
- Driver aids (e.g., eco driving advice)
- Social Media
- Vehicle service instructions and information
- Other remote services

Base: 959 respondents who want built-in display system with onboard apps in China
Source: IHS

Navigation-centric service is very valuable to many consumers in China due to new road construction, relatively new drivers, and chaotic and constantly evolving traffic situations.

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Branded audio - Consumer survey
Consumers are willing to pay for a premium car audio

- Consumers are willing to pay for a premium car audio system.
- A decent proportion of respondents who are not willing to pay for premium car audio might in fact want such a feature, but they want it to “come with the car.”
Consumers - How much would you be willing to pay for premium car audio when buying a new car?

**USA**

- $4501-$7500: 5%
- $1501-$2250: 10%
- $751-$1150: 15%
- $151-$375: 20%
- None ($0): 25%

Mean: $2841

Base: 616 respondents who are willing to pay for premium audio
Source: IHS

**UK**

- £3000-£5000: 10%
- £1000-£1499: 20%
- £500-£749: 30%
- £100-£239: 40%
- None (£0): 0%

Mean: £1624 ($2511)

Base: 505 respondents who are willing to pay for premium audio
Source: IHS

**Germany**

- €4000-€6000: 10%
- €1250-€1749: 20%
- €600-€999: 30%
- €125-€299: 40%
- None (€0): 0%

Mean: €1962 ($2224)

Base: 660 respondents who are willing to pay for premium audio
Source: IHS

**China**

- ¥27301-¥30000: 10%
- ¥9101-¥10000: 20%
- ¥4551-¥6825: 30%
- ¥910-¥2,275: 40%
- None (¥0): 0%

Mean: ¥19860 ($3174)

Base: 616 respondents who are willing to pay for premium audio
Source: IHS

- Consumers find the premium car audio system highly desirable and are willing to pay a price for it.
- Mass market auto brands should think of offering premium audio as an optional feature for market differentiation as well as a means of driving margin increase. One possible strategy for these OEMs is to offer tiers of premium audio solutions to consumers.
Consumers – Brand name car audio systems do matter

- Consumers prefer a brand name car audio system. 95% of respondents prefer or don’t mind to have a brand name system.
- For respondents who are already interested in having branded car audio systems, 69% of them agreed that a brand name car audio system would influence their car purchase decision.
- Among the four countries, China has significantly more respondents that care about branded audio systems, while the UK has significantly more respondents who do not care about brand name systems.
Bose leads in a single-brand market share (24%) in 2015, as its Panaray system will not be available until 2016.

Harman leads in collective branded market share (35%).

Sony and Alpine take 3rd and 4th place, respectively.
The top audio brands across four forecast regions are well-known brands with multiple vehicle partnerships, such as Bose and Harman-kardon.

Harman has four brands (Harman-kardon, JBL, Bang & Olufsen, and Infinity) in the top 10 list. But as individual brands, they are behind Bose.

The next players in the rankings are found on brands with large sales, with Sony systems found on Ford vehicles and Alpine systems found on Chrysler vehicles. The rest are smaller brands looking to increase market share, or exclusive/premium brands found on luxury OEMs.
Other big things
• Artificial intelligence, deep learning
• Over-the-air (OTA) updating, making it a live thing
• Data plan, 5G
• Cyber security
• Wireless charging
• Augmented reality
• User-based insurance (UBI)
Thank You!

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