



# STRATEGY ANALYTICS



# Connected Car in China: Facts, Trends & Challenges

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Strategy Analytics

GENIVI 13th All-Member Meeting & AMM OPEN DAYS



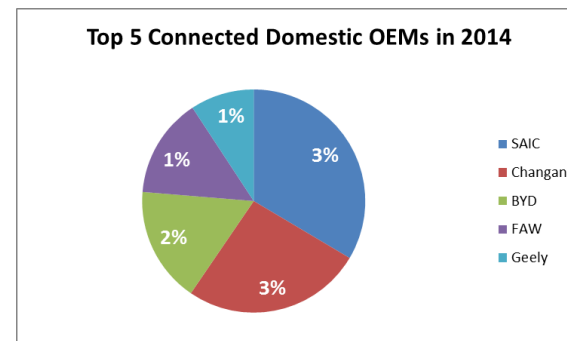
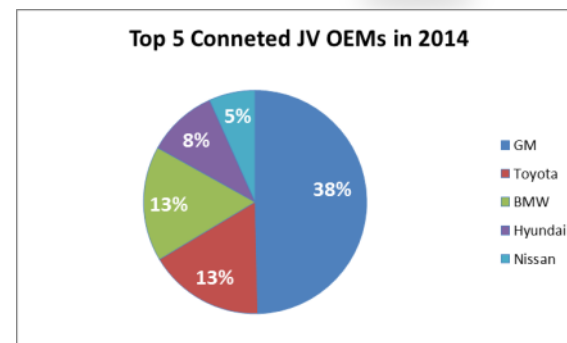
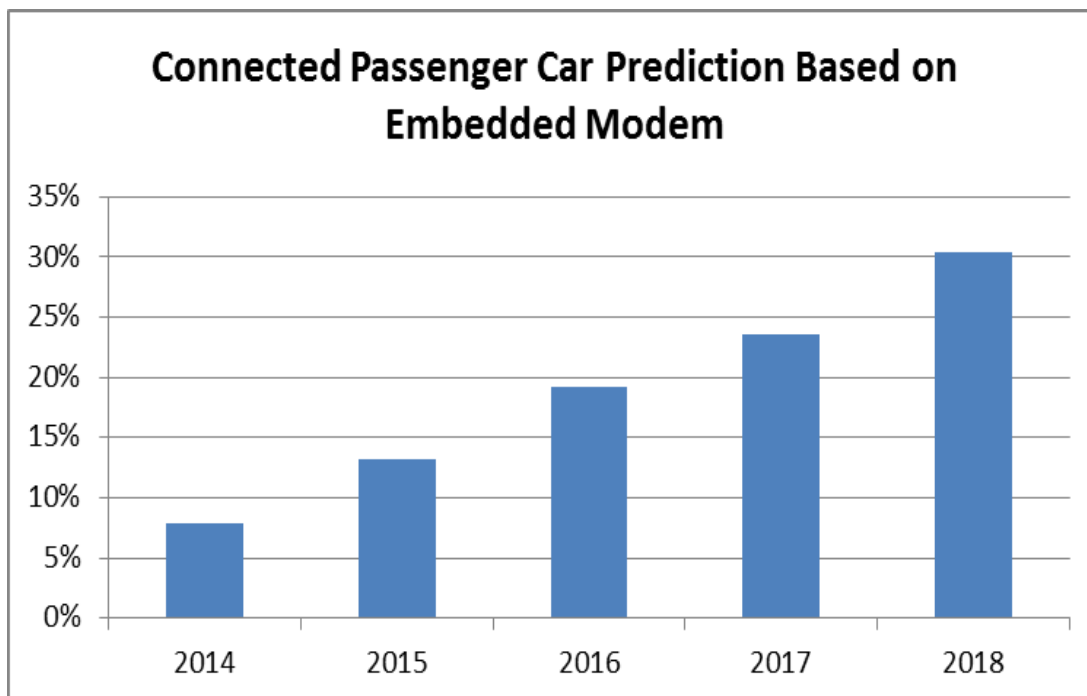
# AGENDA



- 1 Telematics Market Situation in China**
- 2 Software Topics-Smartphone GW & OS**
- 3 Internet Company's Automotive Practice**
- 4 HMI & Consumer Interest**
- 5 Aftersales Market**



# HIGH LEVEL CHINA MARKET OVERVIEW



Source: Strategy Analytics

**154 Mil**

- 154 million cars by the end of 2014

**17 Mil**

- 17 million cars net growth from 2013 to 2014

**8%**

- 8% passenger cars sold in 2014 were connected in the OEM market

**30%**

- 30% passenger cars sold in the OEM market will be connected in 2018



# CHINA TELEMATICS MARKET LEADERSHIP

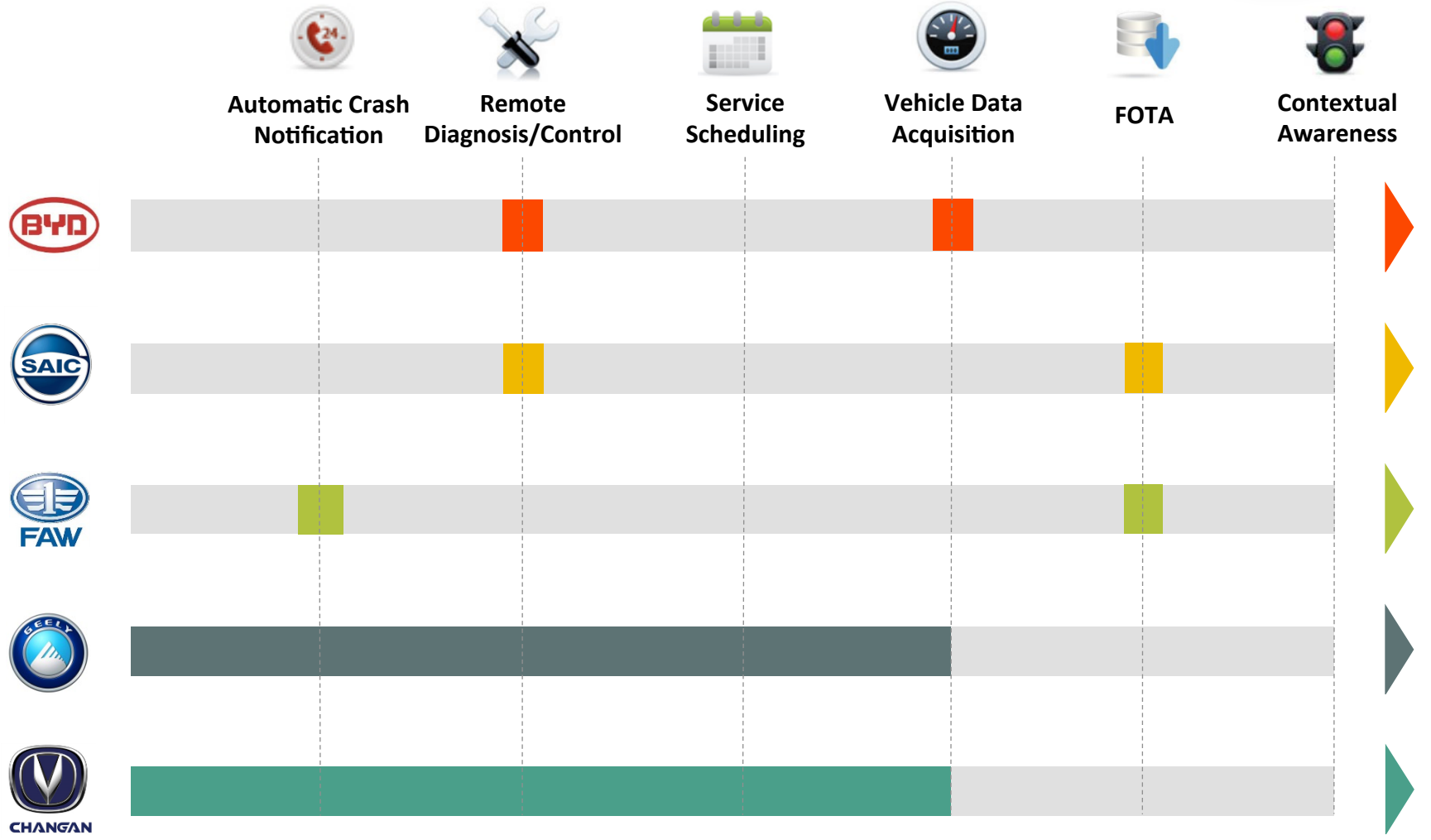
## Typical Players in OEM Market

OEM	Network Speed	TSP	Carrier	In-vehicle OS	Free Trial
<b>Qoros</b> QorosQcloud	3G	Microsoft	China Unicom	Microsoft	<i>Lifetime</i>
<b>BMW</b> ConnectedDrive	3G	China Unicom	China Unicom	QNX GENIVI	<i>3+7 Years</i>
<b>Volvo</b> Sensus	3G	WirelessCar	China Unicom	Microsoft	<i>3+7 Years</i>
<b>Lexus</b> G-BOOK	2.5G	YESWAY	China Telecom	QNX	<i>4-6 Years</i>
<b>Volkswagen</b> Car-Net	3G	Verizon Telematics China	China Unicom	Microsoft QNX	<i>4 Years</i>
<b>Mercedes-Benz</b> CONNET	3G	Verizon Telematics China	China Telecom	Microsoft QNX	<i>3 Years</i>
<b>Audi</b> Audi connect	3G	WirelessCar	China Unicom	QNX	<i>3 Years</i>
<b>SAIC</b> inkaNet	3G	PATEO	China Unicom	Android	<i>2 Years</i>
<b>BYD</b> BYD Cloud	3G/2.5G	BYD	All three	Microsoft Android	<i>2 Years</i>

*Embedded telematics is evolving to longer free trial period.*

# INDUSTRY CHALLENGES: CHINA

## CONVERGENCE OF INFO-TELEMATICS & SAFETY

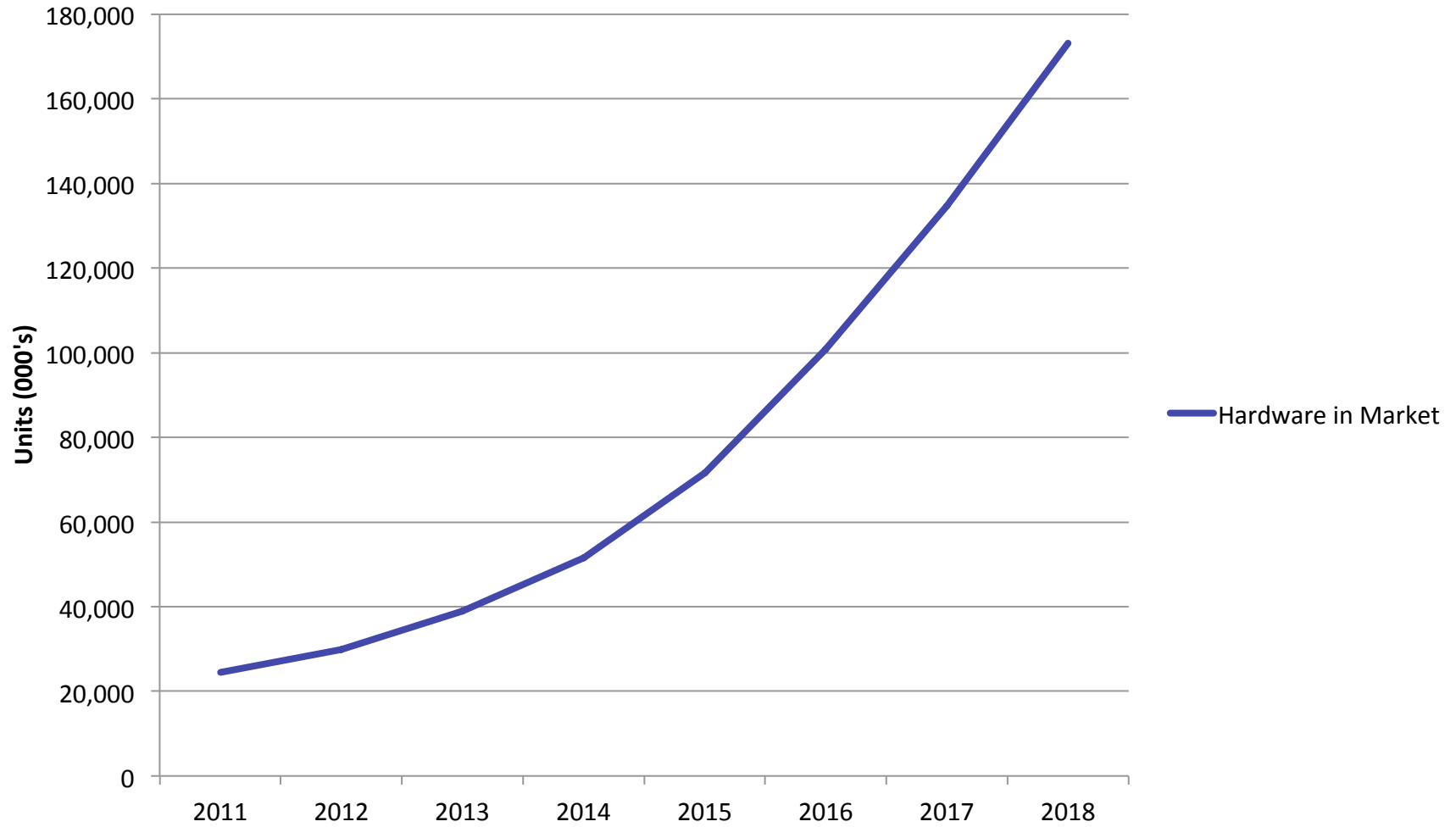




# MAJOR TELEMATICS SERVICE PROVIDERS IN CHINA

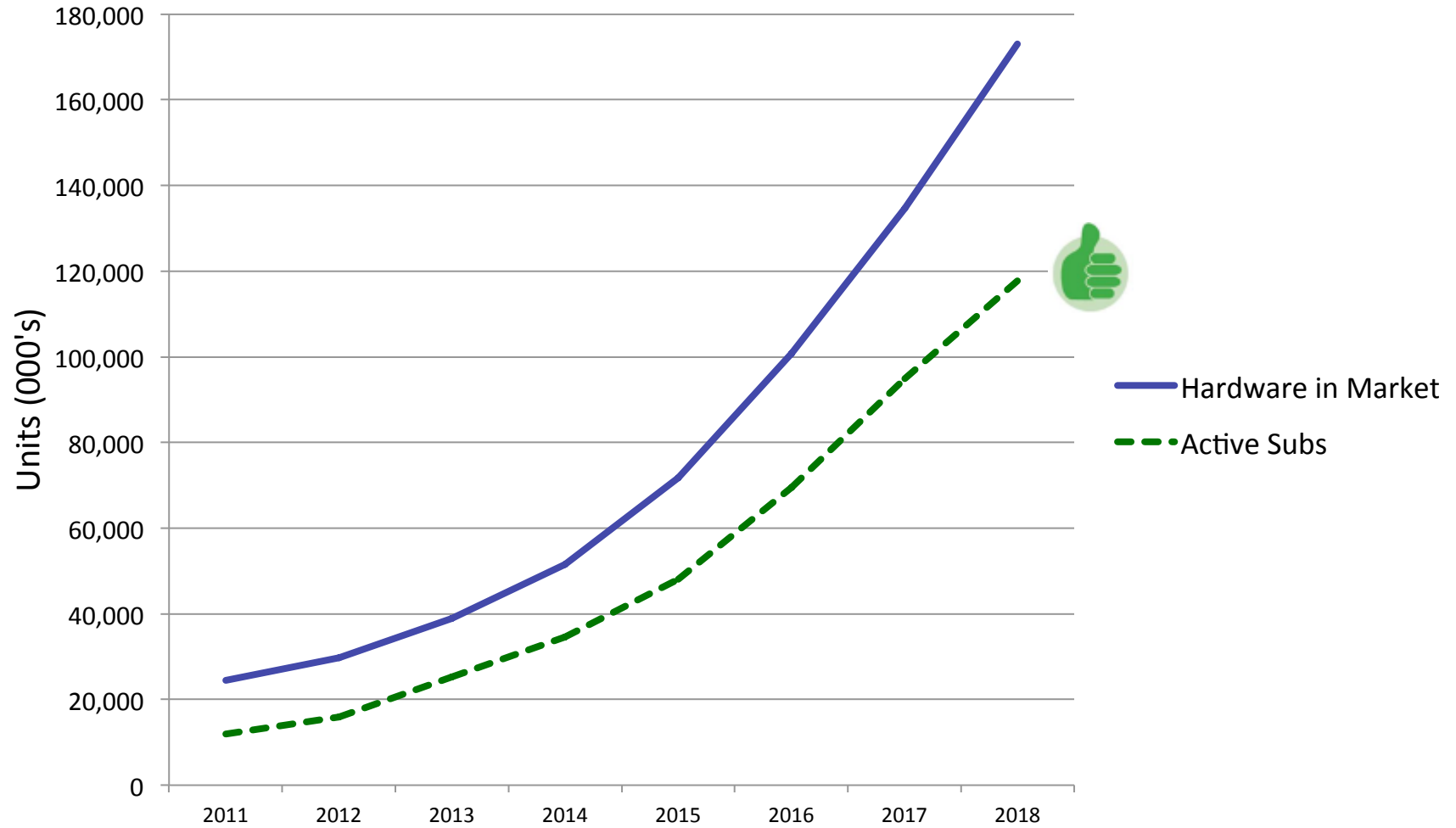
TSP	OEM Customers	Estimated Telematics Subscribers
China TSP	Chang'an, FAW, GAC, Geely	Cumulative 200k+ by June 2015
Verizon Telematics China	Mercedes-Benz, Volkswagen	160k active by June 2015
Shanghai OnStar	Shanghai GM	850k active by March 2015
PATEO	BAIC, CAPSA, DPCA, SAIC	Cumulative 200k+ by June 2015
TimaNetworks	CoWin Auto, GAC	20k+ active by June 2015
YESWAY/95190	Acura, BAIC, Hyundai/Kia, Toyota/Lexus	Cumulative 1 million by June 2015

# HARDWARE IN MARKET (CUMULATIVE) OEM EMBEDDED TELEMATICS - GLOBAL

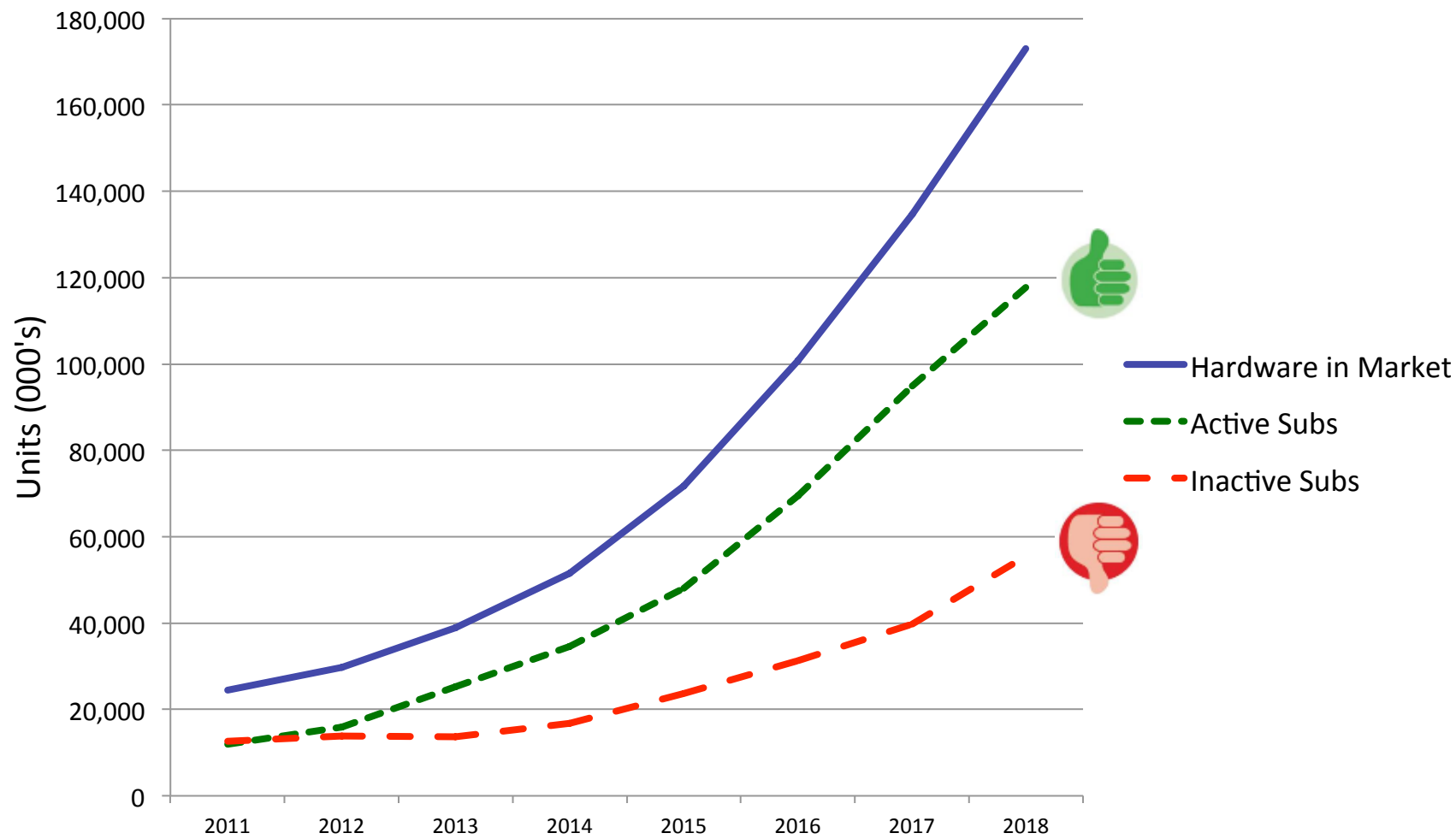




# ACTIVE SUBSCRIPTIONS (CUMULATIVE) OEM EMBEDDED TELEMATICS - GLOBAL

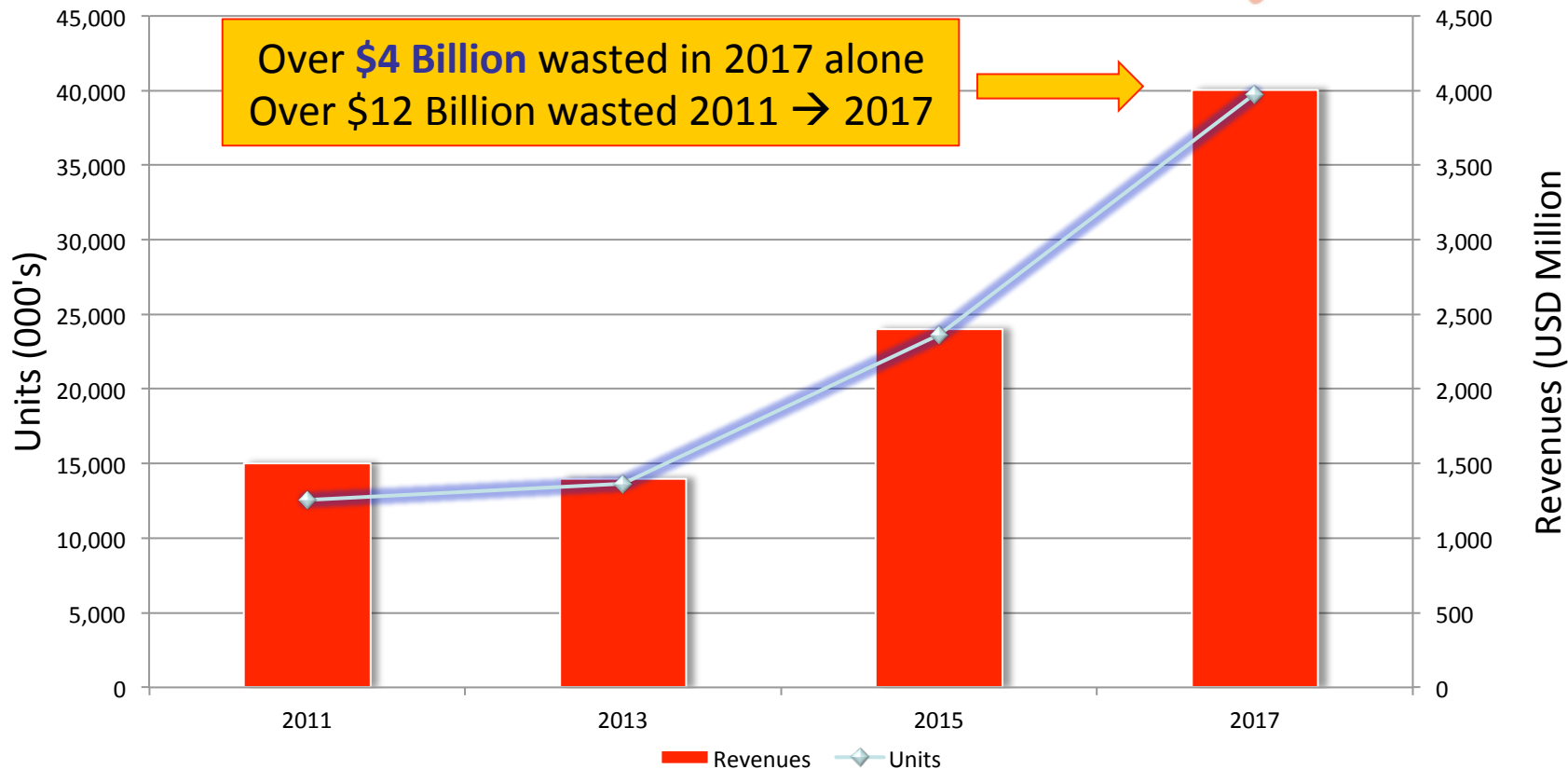


# IN-ACTIVE SUBSCRIPTIONS(CUMULATIVE) OEM EMBEDDED TELEMATICS - GLOBAL



# INACTIVE SUBS = DEAD \$\$\$

## OEM EMBEDDED TELEMATICS (UNITS/REVENUES)





# AGENDA



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## Telematics Market Situation in China

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## Software Topics-Smartphone GW & OS

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## Internet Company's Automotive Practice

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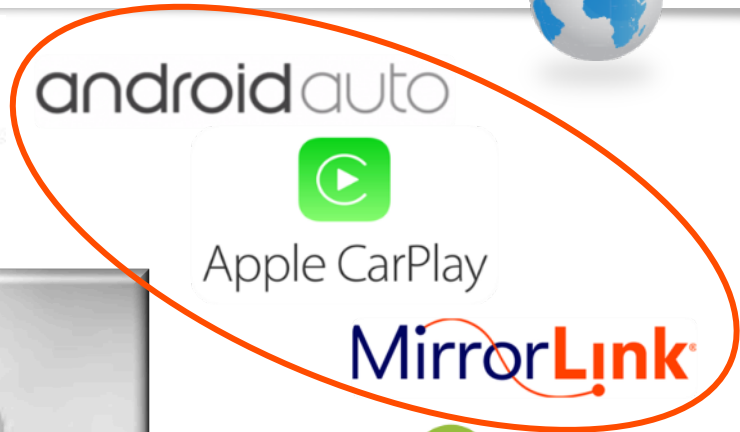
## HMI & Consumer Interest

5

## Aftersales Market



# CONNECTIVITY OPTIONS: NO CLEAR WINNER



android auto



Apple CarPlay

MirrorLink

mylink

INTELLILINK

Cadillac  
CUE

BLUE&ME™

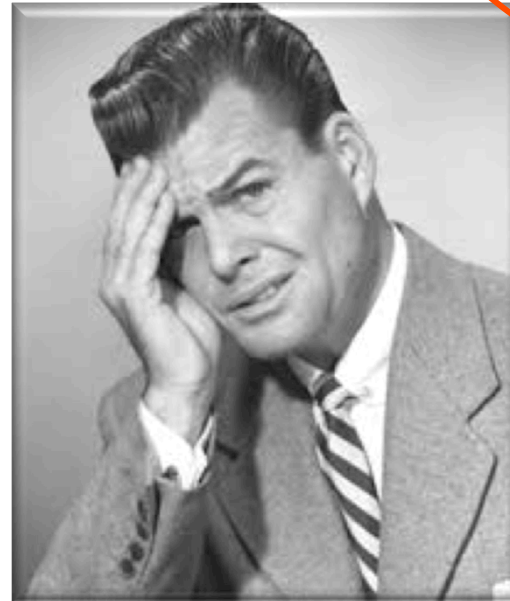
Ford | SYNC

HondaLink



UVO

MZD CONNECT



aha  
by HARMAN™

Baidu CarLife

SYNC® AppLink™

Airbiquity  
Choreo™

Pioneer

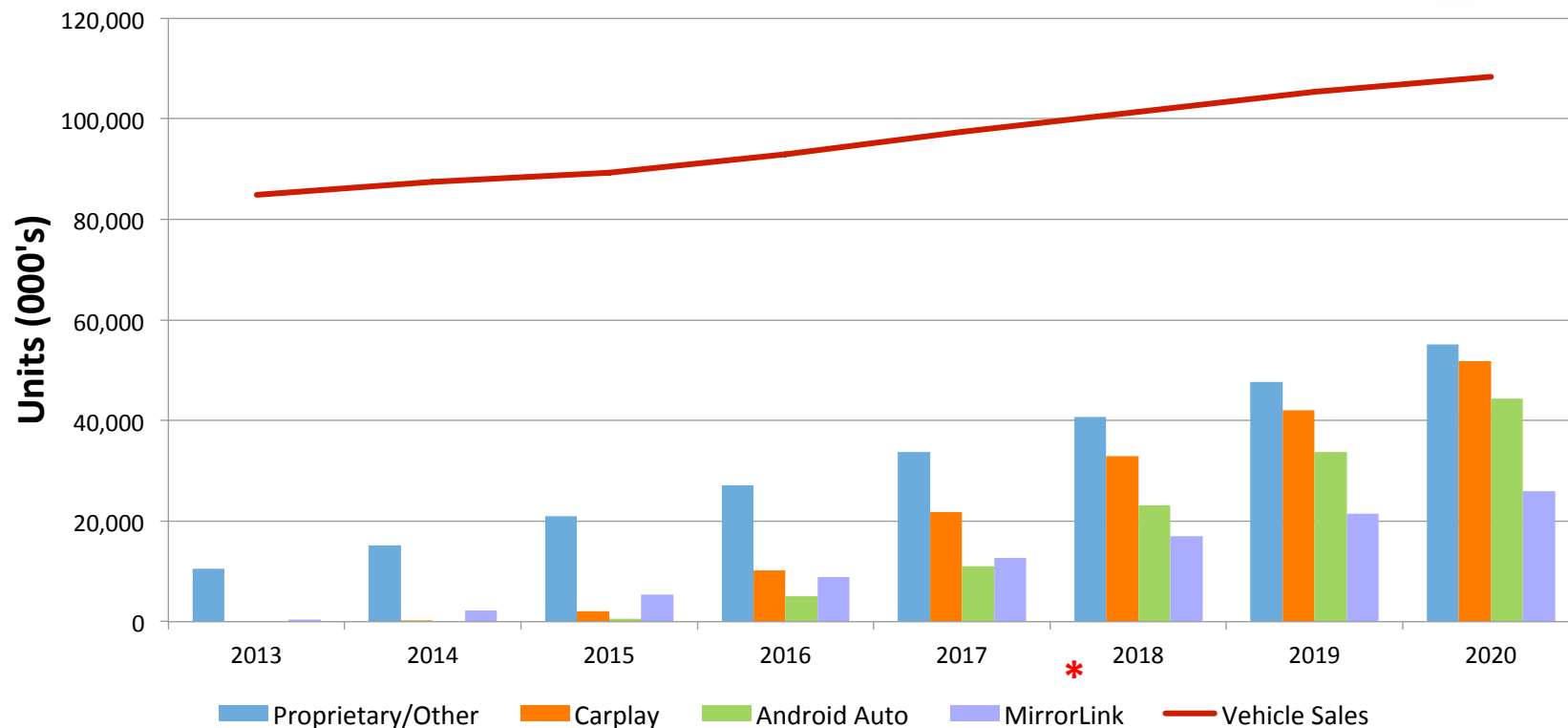
Zypr



REAL  
V2C

entune

# PREDICTION ON SMARTPHONE/GATEWAY CONNECTIONS



\* e.g. UVO, Entune, MyLink, etc.

Consumer Interest is High



...But... Limited Control  
of the IVI  
Environment!



# LIMITED OEM DIFFERENTIATION-CARPLAY & ANDROID AUTO



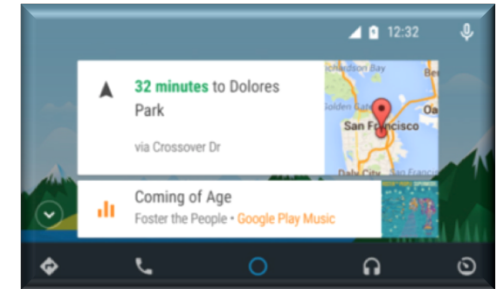
android auto



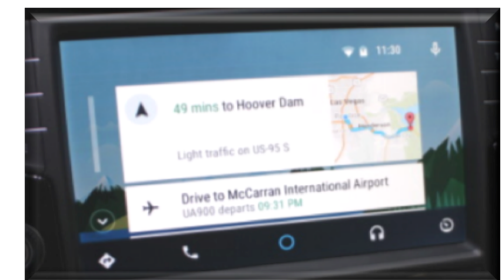
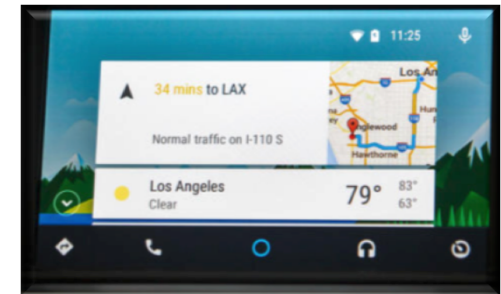
Apple CarPlay



Mercedes-Benz



HYUNDAI



# OVERVIEW OF BAIDU CARLIFE DEMOS



OEM Demos



Tier 1 Demos







# KEY MESSAGES OF BAIDU CARLIFE

## • Major UIs of CarLife



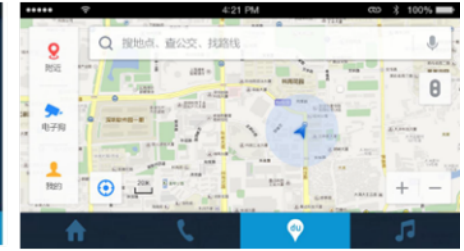
Homepage



Phone Page



Music Page



Map & Navi Page

## • Key Indicators of CarLife

- Connection to head unit: USB, Wi-Fi
- Head unit OS support : Linux, QNX, WinCE, Android 4.1 and later
- Smartphone support: Android 4.1/iOS 7 and later
- Screen resolution: 800\*480
- Vehicle data support: up to 300+ data sets from the vehicle
- License fee: free
- Corporate apps: 9
- Market region coverage: China and Asia

## • CarLife Partners and Market Launch Information

- **CarLife Partners:** 20 OEMs, 13 Tier 1s and four aftersales service providers.
- **Demos:** Hyundai & Kia, Delphi, Harman demoed CarLife in April in Shanghai Auto Show; Audi, Mercedes-Benz, Shanghai GM and Adayo demoed Carlife in May 2015 in CES Asia.
- **Market Launch:** Hyundai 's Tucson model on September 2015, BYD's Song model and Kia's K5 in October 2015

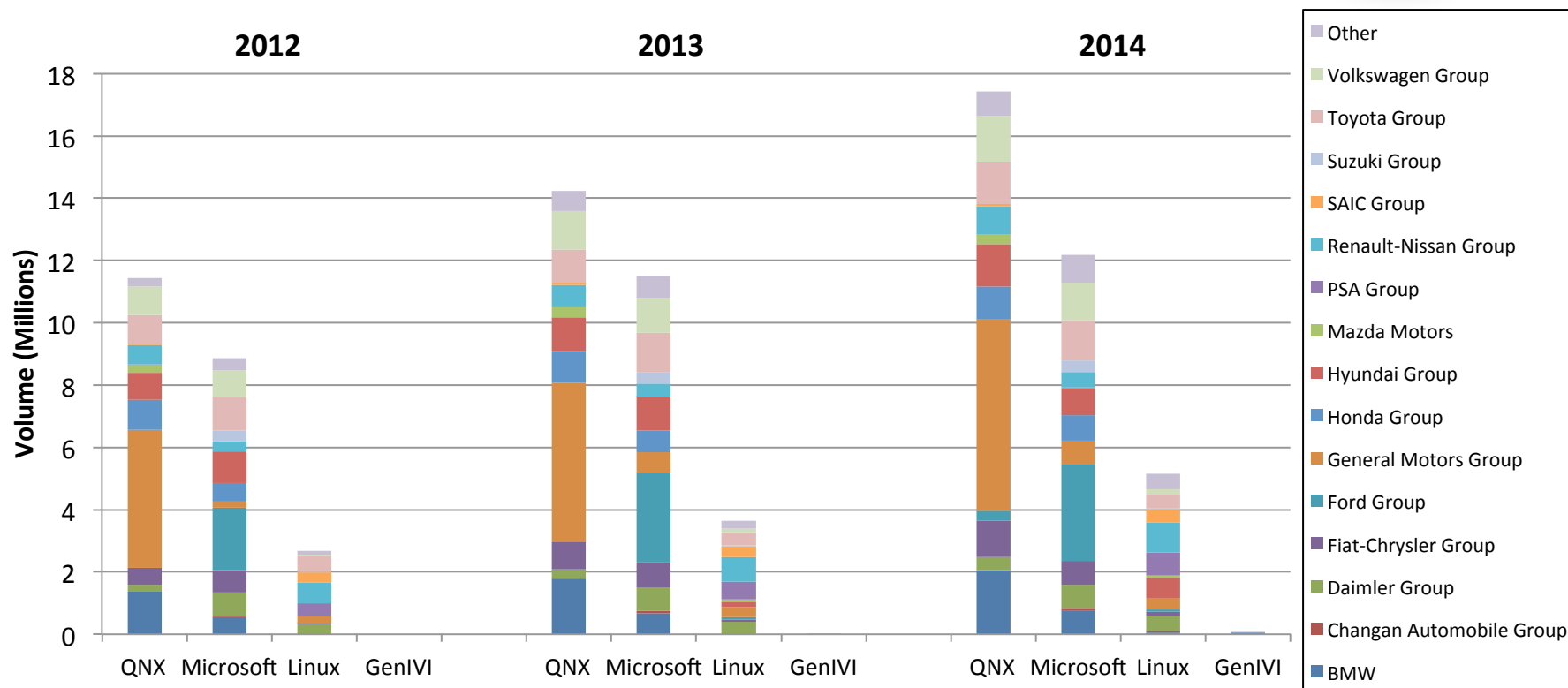


# MAJOR GATEWAY SOLUTIONS-CHINA

	A-Link by AutoNavi	CarLife by Baidu	MirroLink	mySPIN by Bosch	SiViLink by Desay SV
Connection to Headunit	USB, Wi-Fi	USB, Wi-Fi	Ver 1.1: USB Ver 1.2:Miracast Bluetooth	Bluetooth, USB, Wi-Fi	USB, Wi-Fi HDMI ongoing
Smartphone Support	iPhone & Android	iPhone & Android	Symbian, Android, Mobile Linux	iPhone & Android	iPhone & Android
In-vehicle OS support	WinCE, Android, Linux	WinCE, Android , QNX, Linux,	Linux, Windows, QNX, Tizen, Android, uITRON, T-Kernel	Linux, QNX and WinCE	Linux and Android
Corporate Apps	5	9	9	>15 in China, >26 in EU and NA	Not disclosed
License Fee	TBD	Free	Needed for device venders	Needed for OEMs	May needed for App developers
OEM Partners	GAC	20 OEMs 13 Tier 1s	20+	Jaguar Land Rover, Renault	10+
Commercial Launch	Seven models of GAC	Hyundai , Kia, BYD in 2015	VW, Skoda, Shanghai GM, PSA, Honda, Toyota, SAIC	Evoque (Land Rover), XE (Jaguar), Alpine (Renault)	SGMW



# OS DEMAND IN NA, EU & CHINA: BY OEM



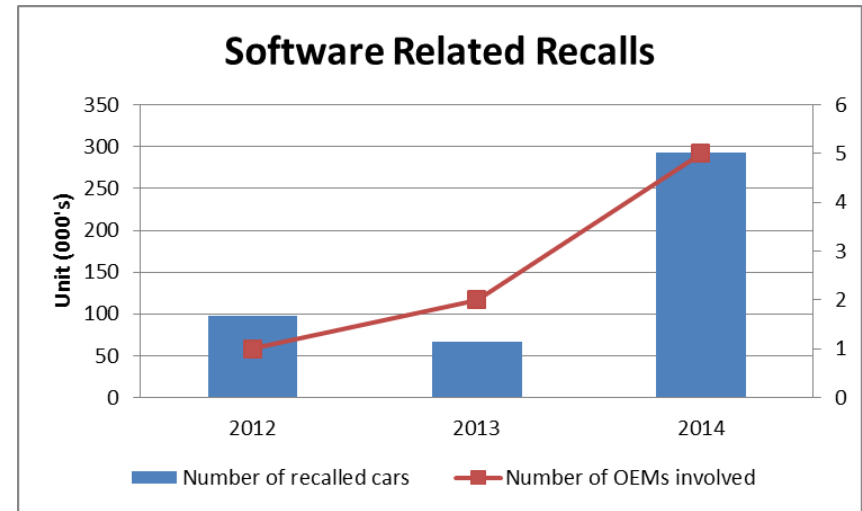
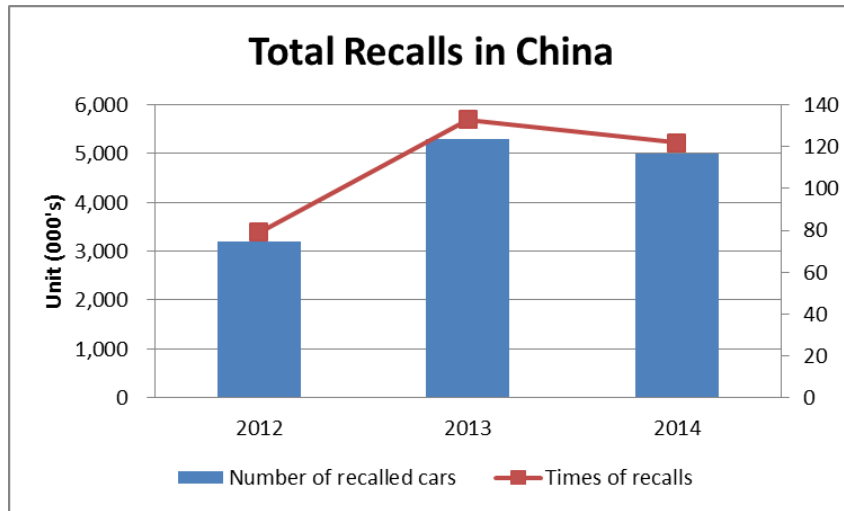
- QNX very strong at GM
- Ford largest Microsoft user (SYNC)
- Linux volumes emerging strongest at Renault-Nissan



# OS DEMAND IN CHINA: BY OEM

OEM	Tier 1	OS Supported
BAIC	Alpine, Foryou, HSAE, Panasonic, Shenzhen Borong	Microsoft
BYD	NAD: Huawei, Fibocom	Microsoft, Android
Chang'an	China TSP, Coagent	Microsoft, Proprietary Linux, Android
Chery	Desay SV, Jiangsu TopPower	Microsoft
FAW	Infive, Qiming	Microsoft, Proprietary Linux, Android
GAC	Foryou	Android
Geely	China TSP, Harman	Microsoft, QNX
Qoros	Alpine, Neusoft	Microsoft
SAIC	Flairmicro, PATEO, Pioneer	Android

# SOFTWARE RELATED RECALLS INCREASED



## Mechanical recalls are shifting to software related recalls.

- 80% of recalls in China were related to engine, airbag, safety belt and suspension system in 2012-2014.
- In 2013, more than 10 million vehicle recalled in the US because of safety-related issues.
- In 2014, 293k+ software related recalls in China related to airbag control unit, body control module and engine control which were involved in five OEMs.



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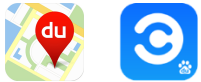
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5

## Aftersales Market



# INTERNET COMPANIES' MAJOR AUTOMOTIVE PRACTICES



- **CarLife**: Released in January 2015, launched to the market in Hyundai BYD and Kia models in 2015, CarLife's partners include: 20 OEMs, 13 Tier 1s and four aftersales service providers .
- **MyCar**: vehicle private cloud and complete ecosystem for aftersales market, launched in BYD Song.
- **CoDriver**: voice recognition solution for in-vehicle usage
- **CarGuard**: safety solution for connected car.
- **Autonomous Driving**: Signed agreement with BMW in September 2014, to provide HD map, also aims at the R&D of sensing system, decision support system and control system.



- **Automotive Strategy**: involves cooperating with OEMs, used-car dealers, and aftersales service companies to create an 'Internet + Automotive' ecosystem.
- **Alibaba's Automotive Business**:
  - Telematics application: AutoNavi (map & navigation), Xiami (music)
  - Automotive e-Commerce: Tmall (new car sales), Taobao (spare parts, used car, aftersales service)
  - Internet car: cooperates with SAIC to deploy YunOS in the car and improve UX in the future
  - Supportive resource: Alipay, Ali Telecom, Ant Financial, Aliyun, Alimama (online AD, sales leads)

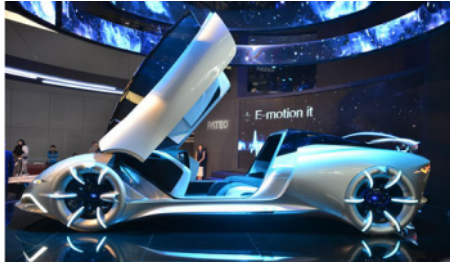


- **Tencent Automotive Service**:
  - **In-vehicle ROM**: embedded telematics solution currently cooperating with aftermarket Tier 1s
  - **In-vehicle App**: smartphone connectivity based app solution includes WeChat, QQ, Music app, real time traffic
  - **MyCar**: OEM oriented, app integration includes WeChat, QQ, demoed in Mercedes-Benz GLE in October 2015
- **Internet+Intelligent EV**: Signed agreement with Foxconn and Harmony on the creation of the domestic intelligent EV brand and the whole ecosystem in March 2015.



# CAR MAKING STORIES IN CHINA-INTERNET THINKING

## PATEO®



- **Market Position:** End-to-end solution provider and an OEM in the future
  - iVokaOS: Android based in-vehicle OS used by SAIC's inkaNet and compatible to Ford's SDL
  - TSP: Service provider for PSA, BAIC, SAIC, call center for Volvo
  - Aftermarket: Android based headunit and embedded SIM based OBD dongle used in Chery
  - Project N concept car: A vision for automated driving EV that has foldable steering wheel, super large display, "natural" user interface for in-vehicle HMI or HMI exterior etc.

## Letv



- **Le Telematics:** A subsidiary of Le Holdings, focusing on R&D, manufacturing of Internet of Vehicles technologies, user service operations, online to offline distribution, R&D and manufacturing of super cars. Letv's major business is connected TVs and media.
- **SEE Plan:** aims at "super EV" manufacturing and create a complete connected car ecosystem, eUI (eco User Interface) system was released as the stage one progress
- **Yongche.com:** is a major car sharing service provider, Letv acquired 70% of its shares in Oct 2015
- **OEM Partners:** Aston Martin and BAIC

## NEXT EV



- **Market Position:** Tesla's competitor in China, focuses on the R&D of high performance, smart EV
  - Investors include Tencent, some famous VCs and CEOs from JD, Yiche and Autohome.
  - Positioned as a customer service oriented, all the customer owned company in the mobile social network era.
  - HQ in Shanghai, Offices in Beijing, Munich, London, HongKong, and San Jose
  - The first product will be limited edition EV super car which will be launch by the end of 2016.





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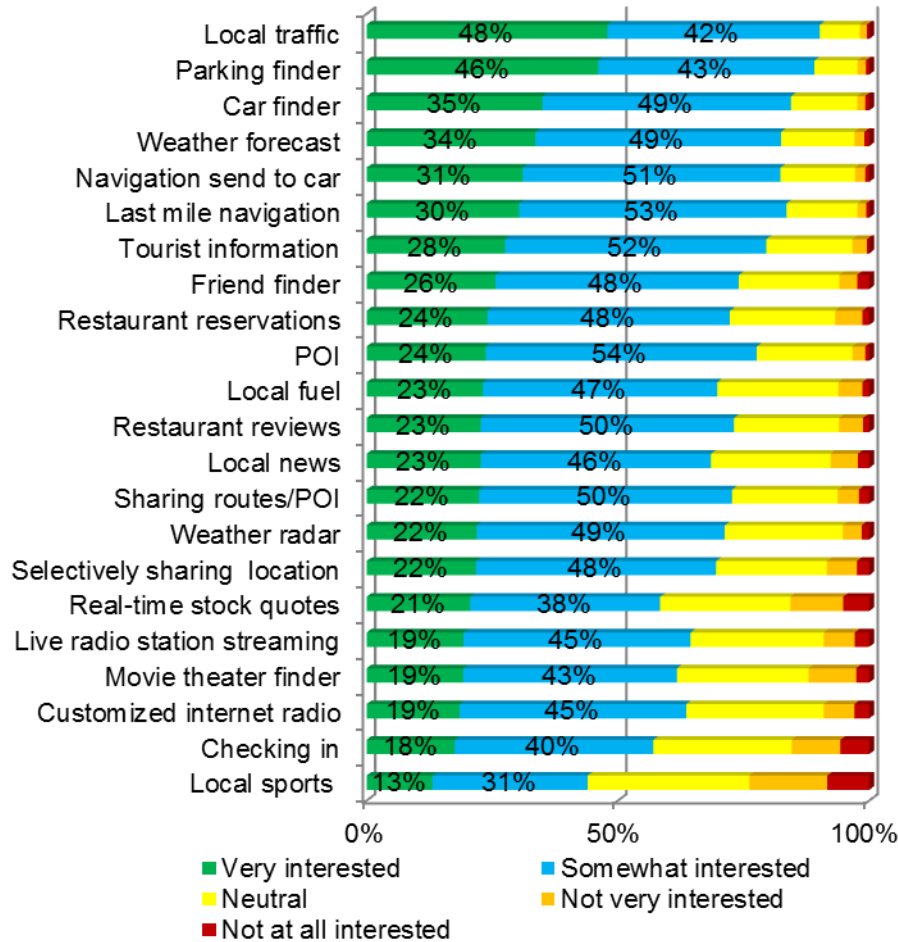
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5

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# INTEREST IN CONNECTED SERVICES IN CHINA



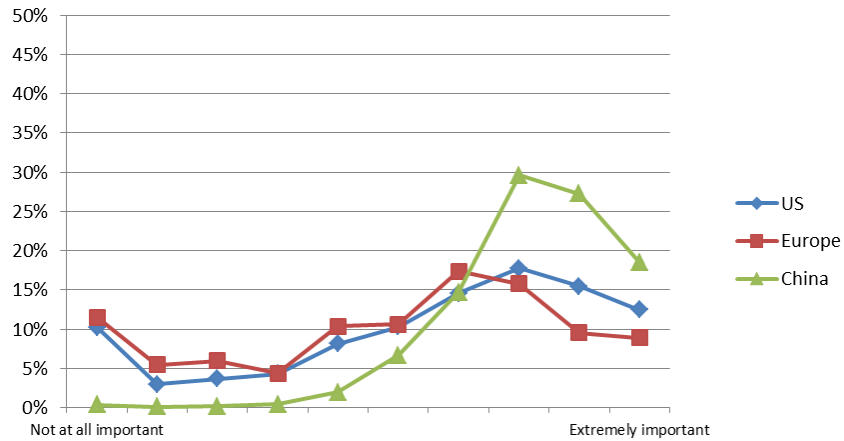
Source: Strategy Analytics Automotive Consumer Insights



# IMPORTANCE OF CONNECTIVITY IN VEHICLE PURCHASE

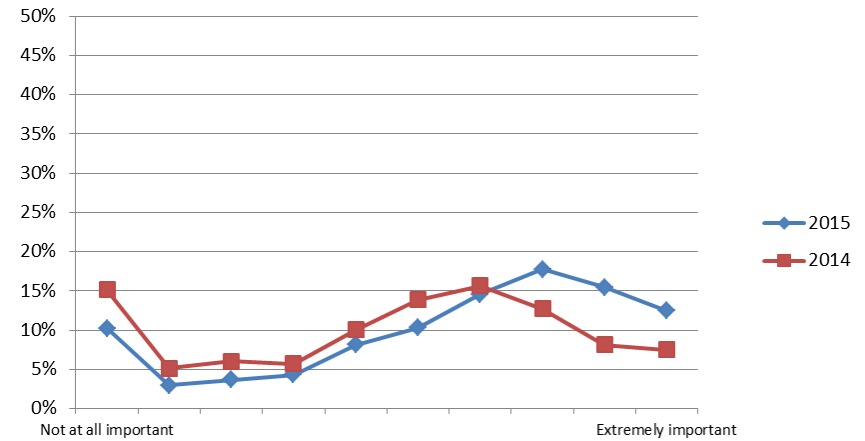


## US, Western Europe, China



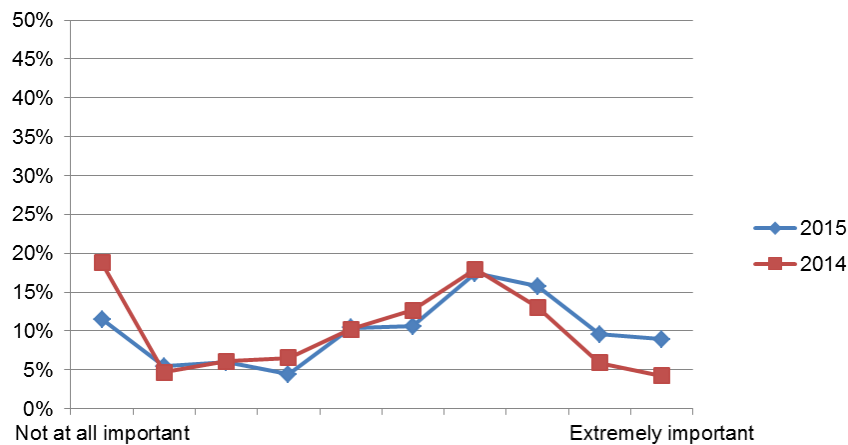
Source: Strategy Analytics Automotive Consumer Insights

## US 2014-2015



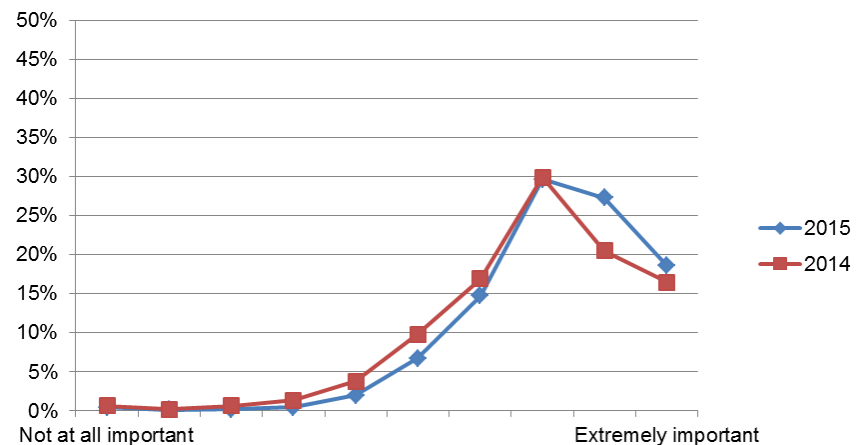
Source: Strategy Analytics Automotive Consumer Insights

## Western Europe 2014-2015



Source: Strategy Analytics Automotive Consumer Insights

## China 2014-2015

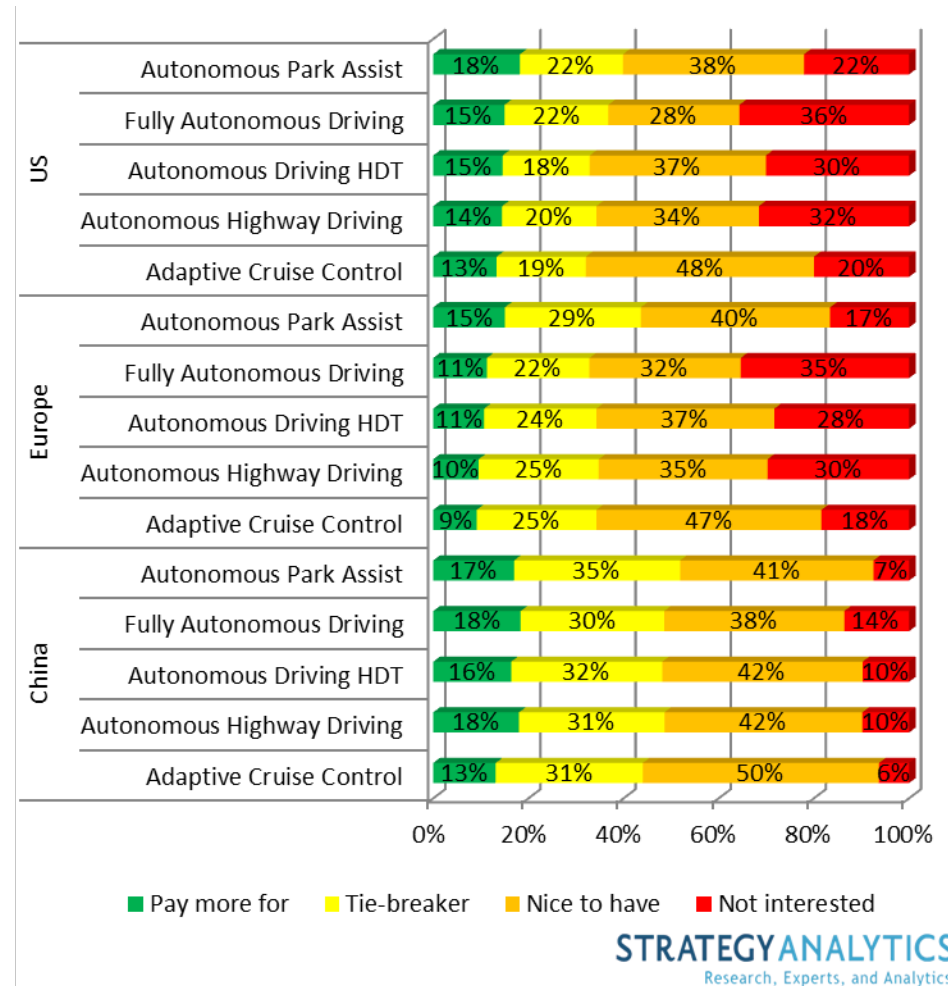


Source: Strategy Analytics Automotive Consumer Insights

# CONSUMER INTEREST IN AUTONOMOUS VEHICLES



- Interest in autonomous park assist has been growing.
- The percentage who are “Not interested” in autonomous features is decreasing.
- Consumers unsure about monetary value of autonomous features.





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# AFTERSALES MARKET - POLICY INFLUENCE



- **Jiao yun fa [2014] 186** issued by MOT\* on September 18 2014, to break the channel monopoly of the automotive OEM parts in Chinese market.
- On February 17 2015, **Implementation Approach for Disclosing Automotive Maintenance Technology Information (Draft)** was also released by MOT.

## Key Message

- Break spare parts monopoly from OEM
- Encourage chain operation in aftersales business

## Influence Scope

- Passenger cars: Launched since **July 1 2008**
- Commercial vehicles : Launched since **January 1 2015**

## Time Limit

- Information disclose deadline (draft): **January 1 2017**



\* MOT (Ministry of Transport)



# AFTERSALES MARKET OPPORTUNITIES IN CHINA-1

- **SAIC & Shanghai GM**



- **Achezhan.com**: SAIC's subsidiary in online aftersales service, 12 service stores in Shanghai.
- **Shanghai GM** is buying ACDelco's business in China to provide auto parts and maintenance products to support its 'Chegongfang' fast repair chain stores in China. Shanghai GM plans to develop 100 Chegongfang stores in China within its 4S dealer system. The stores will not be limited to serve Shanghai GM cars.

- **Volkswagen**



- **Volkswagen** announced to establish 1,200 fast repair store in China in June 2015 to cover VW group's car brands that are not limited to VW brand but may also cover Audi and Skoda.

- **BMW**



- **BMW** released three major strategies on aftersales market, in particular emphasized on 'Deliver maintenance to the door and the challenge from smartphone app'.

- **Hyundai**



- **Hyundai** released online maintenance in nine cities in China in July 2015, and announced the service will cover whole China scope.



# AFTERSALES MARKET OPPORTUNITIES IN CHINA-2

## • Tier 1s efforts



- **Bosch Car Service (BCS):** Transforming from brand authorization mode to franchise mode and planning to expand **1,000** franchise BCS stores in China in three years.
- **Checkstar:** Magneti Marelli's aftersales service brand, planning to expand **2,000** franchise stores in China in 2015 and **5,000** stores in 2016.

## • Internet companies' efforts



- **Alibaba:** 'The pinnacle' strategy announced by Taobao in Nov. 2014, includes **30k+** service stores in **200+ cities** in China. Consumer can separately buy parts and services in Taobao.
- **Tencent:** Launched 'i-Car Life Platform' in May 2014 with PICC and Shell, sub product 'i-Maintenance' released in Dec. 2014 offering unlimited free maintenance to PICC customers.

## • Vertical e-Commerce websites' efforts



- **Amazon:** Owns proprietary aftersales products, certifies service stores by its own criteria, 100- stores in 12 provinces/cities.
- **Autohome:** Certificates service stores by its own criteria, 500 stores in Beijing, app available,
- **JD.com:** Owns proprietary aftersales products, certifies service stores by its own criteria, a few hundreds stores in 38 cities, app available.





# CONCLUSION

## 1 Opportunities for smartphone connectivity solutions

- The biggest opportunity lies in the relevance of the app to the driver and the compatibility of the solution
- Some domestic OEMs in China tend to have smartphone connectivity as the only telematics solution for its low end models
- Customer awareness of smartphone connectivity solution is low in China, but it will be booming very soon

## 2 The value of the telematics services

- Major value of the embedded telematics services belongs to the OEMs: safety (e-call), security (FOTA) and CRM (customer care)
- Smartphone is being used to build close ties with the customer: smartphone app-remote control and keep customer informed, smartphone connectivity-individual contents brought-in

## 3 Challenges & opportunities both lie in aftersales market in China

- Government gives more power to 3<sup>rd</sup> repair stores in the name of breaking industry monopoly
- Internet companies will have stronger influence for the same quality of spare parts and standard services
- Traditional dealers will face the competition from the 3<sup>rd</sup> party repair stores as well as dealers of other OEMs



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**THANKS FOR YOUR ATTENTION!**

**Q&A**

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## Supply Side Research and Consulting



Devices



Automotive



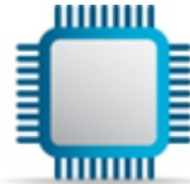
Networks



Media & Services



Enterprise



Components



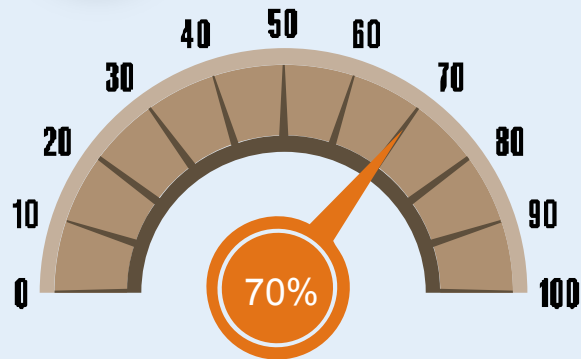
UX Innovation



## LEADING-NAME CLIENTS ACROSS THE VALUE-CHAIN

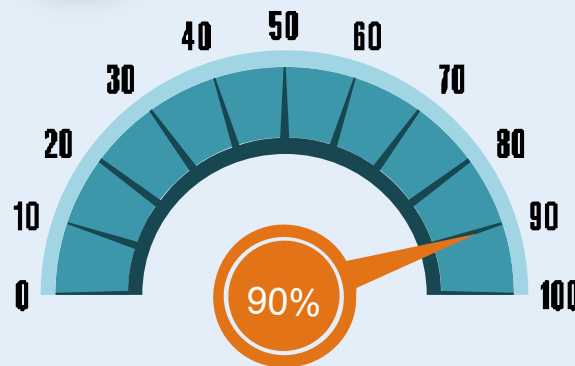
70%

of Tier One Automotive Suppliers



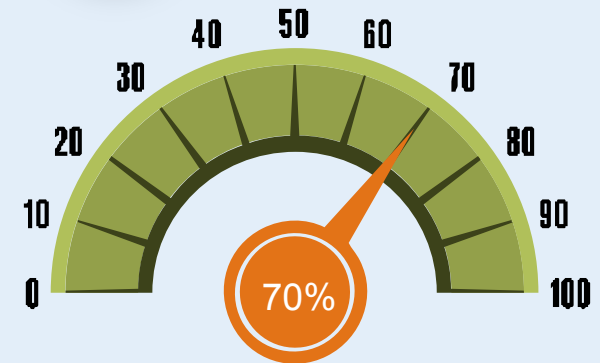
90%

of Major Automotive Semiconductor Suppliers



70%

of Top Global OEMs



## FOUR SERVICES TO COVER ALL AUTOMOTIVE OPPORTUNITIES

### Powertrain, Body, Chassis & Safety

- Powertrain
- Chassis
- Safety
- Body/Security

### Infotainment & Telematics

- Audio/Video/Nav
- Telematics
- Connectivity
- HMI

### Autonomous Vehicles

- ADAS to Autonomous
- Components
- Software
- Connectivity

### In-Vehicle UX

- Behaviour & Attitudes
- Surveys
- HMI/Driver Distraction
- System Benchmarking