CONNECTED CAR MARKET (2013 – 2018)

By Connectivity Technology (LTE, Wi-Fi, 3G, HSPA); Form Factor (Tethered, Embedded, Integrated); Product & Service (OEM & Aftermarket), Application (Navigation, Telematics, Infotainment) & Geography

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1 EXECUTIVE SUMMARY

Automotive industry is witnessing a new wave of technological revolution, which is accelerating the idea of connected cars. Providing Internet accessibility in car is imminent as the consumer wants an array of real time services such as on-demand infotainment, traffic navigation, along with safety and security features. Thanks to the advancement in machine-to-machine communication; it is now possible to leverage telematics for processing a heap of data to assess risk and rewards for both - consumers and OEMs. The connected car marks a revolutionary convergence of players across different verticals such as automotive OEMS, telecom operators and solution providers, software vendors, and also service industries such as insurance.

The players involved in the connected car market include a host of companies, right from automotive OEMs to network operators, software companies, etc. The major companies include General Motors (U.S.), BMW (Germany), Ford (U.S.), Audi (Germany), Ericson (Sweden), TomTom (U.S.), Luxoft (Russia), Sierra Wireless (U.S.), Telit Wireless Solutions (U.K.), Samsung Electro-Mechanics (South Korea), AT&T (U.S.), Alcatel Lucent (U.S.), Verizon (U.S.), and China Mobile (China), Microsoft (U.S.), QNX Software (U.S.), Huawei Device (China), Delphi Automotive (U.S.), Intel Inc. (U.S.), and Qualcomm (U.S.) among others.

TABLE 1

GLOBAL CONNECTED CAR MARKET SHIPMENTS (MILLION UNITS), MARKET REVENUE ($BILLION), 2012 – 2018

Year	2012	2013	2014	2015	2016	2017	2018	CAGR% (2013 – 2018)
Shipment (Million unit)	XX	XX	XX	XX	XX	XX	XX	XX
Revenue ($Billion)	XX	XX	XX	XX	XX	XX	XX	XX

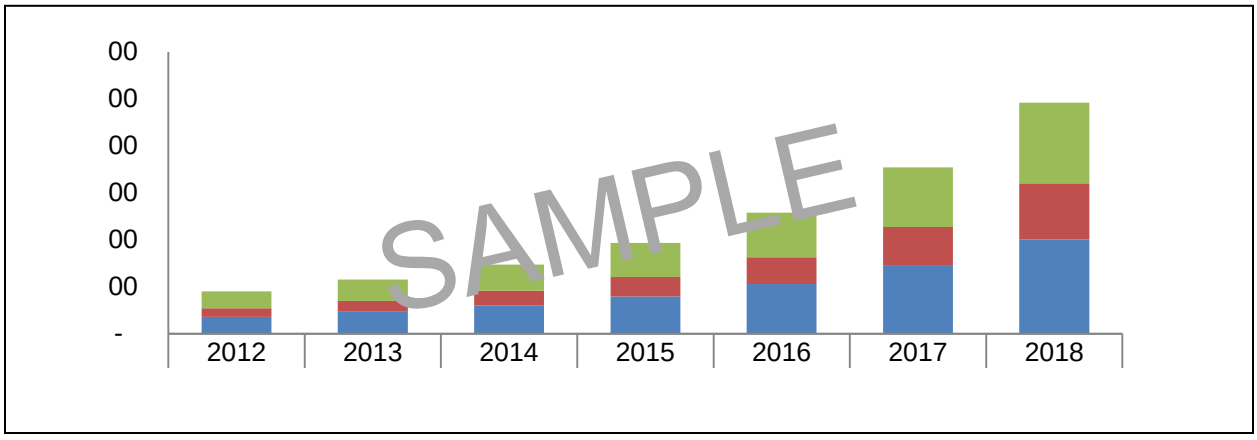
Source: MarketsandMarkets Analysis

The total shipments of connected car in 2012 were XX million units, which is likely to increase upto XX million units by 2018, growing at a CAGR of XX% from 2013 to 2018. This would account for more than XX% of total global car shipments by 2018. At the same time, the market opportunity in terms of revenue generation would be around $XX billion by 2018, with services and products - both contributing substantially. The future remains to be seen and will depend on to what extent the car companies open up their systems for third party developers. However, car makers will need to standardize on common solutions to drive the market and open systems to create the necessary critical mass among app developers.

Amongst the various enabling modes for connectivity, the market is likely to have uniform distribution of the three form factors- embedded, tethered, and integrated by 2018. Embedded and tethered will, however, be lagging behind integrated connectivity due to the unclear mandates in the U.S. and China. Demands from the European region would continue driving the integrated connectivity solutions. The major applications to drive the connected car market would be infotainment, navigation, and telematics. One of the major beneficiaries of application of telematics in the car would be the insurance industry, as telematics-supported UBI programs are traditional auto insurance business models.

FIGURE 1

CONNECTED CAR MARKET REVENUE, BY APPLICATION, 2012 - 2018

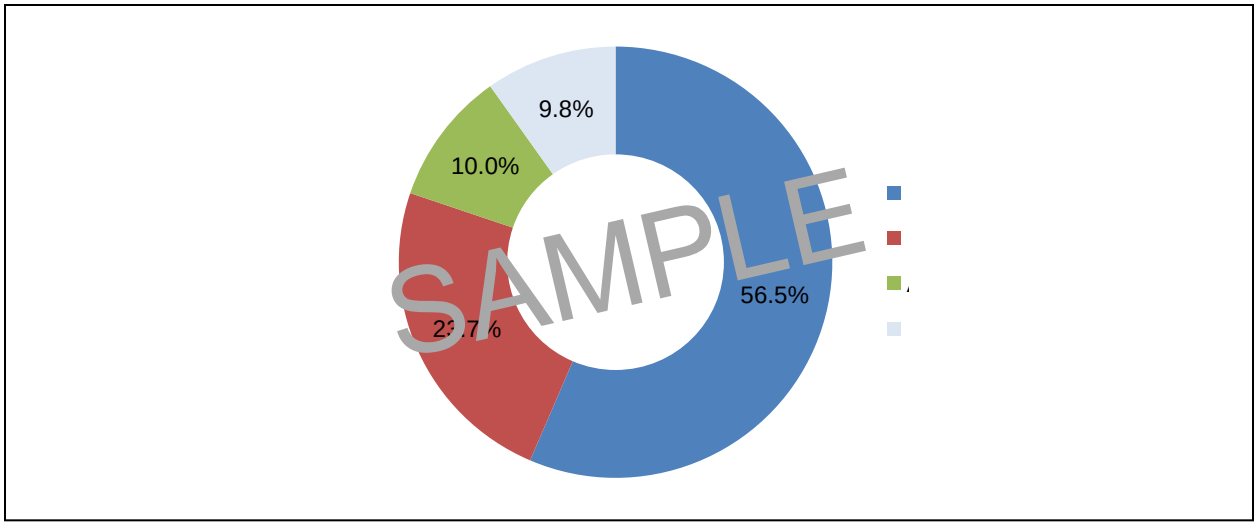


Source: MarketsandMarkets Analysis

All the application segments are likely to experience healthy growth during the forecast period, i.e. 2013 to 2018, with navigation expected to account for the largest market share and the telematics application to grow at the highest CAGR during the same period.

FIGURE 2

CONNECTED CARS MARKET, BY GEOGRAPHY, 2012



Source: MarketsandMarkets Analysis

North America is the largest market accounting for more than XX% of the total shipments for connected car as of 2012. The trend is likely to change during the forecast period and APAC is expected to grow at the highest CAGR, with huge demand from China.

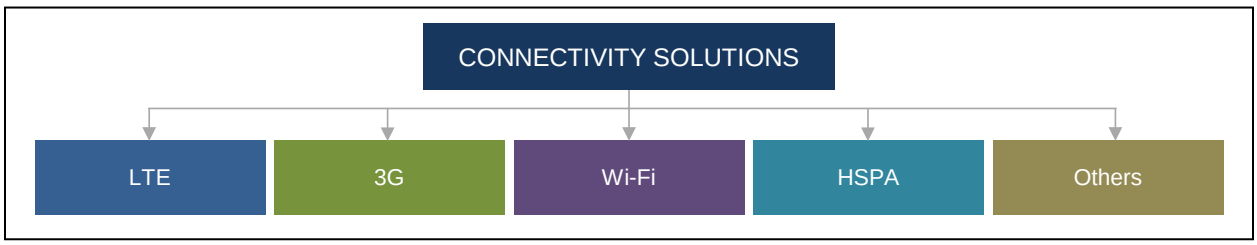
2 CONNECTED CAR MARKET, BY CONNECTIVITY TECHNOLOGY

2.1 INTRODUCTION

Recently manufactured high-end/luxury car comes with connectivity solution of one kind or the other and at the heart of this connectivity lays one of these enabling technologies such as LTE, 3G, Wi-Fi, etc. among others. The market for connectivity solutions has been segmented as given in the tree diagram below:

FIGURE 3

CONNECTIVITY SOLUTIONS SEGMENTATION

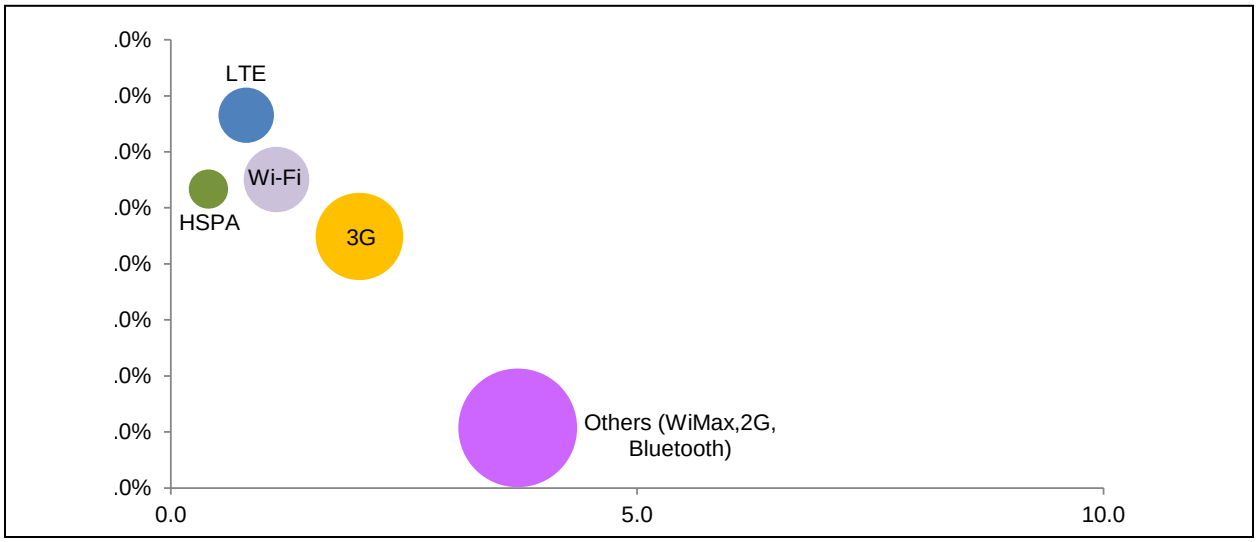


Source: MarketsandMarkets Analysis

Long Term Evolution, popularly known as 4G LTE aka LTE, 3G, Wi-Fi, and HSPA is analyzed in detail. Under “others”, remaining connectivity solutions such as WiMax, 2G, etc. have been discussed. The bubble chart below depicts the shipment of connected car by connectivity technologies and also presents the forecast CAGR for the period of 2013 to 2018.

FIGURE 4

BUBBLE CHART FOR CONNECTIVITY TECHNOLOGIES, 2012 (SHIPMENT IN MILLION UNITS)



Source: MarketsandMarkets Analysis

Other connectivity technologies such as 2G and Bluetooth accounted for the largest share i.e. XX% of the overall connected car market unit shipment in 2012, followed by 3G, Wi-Fi, LTE and HSPA technologies.

2.2 WI-FI

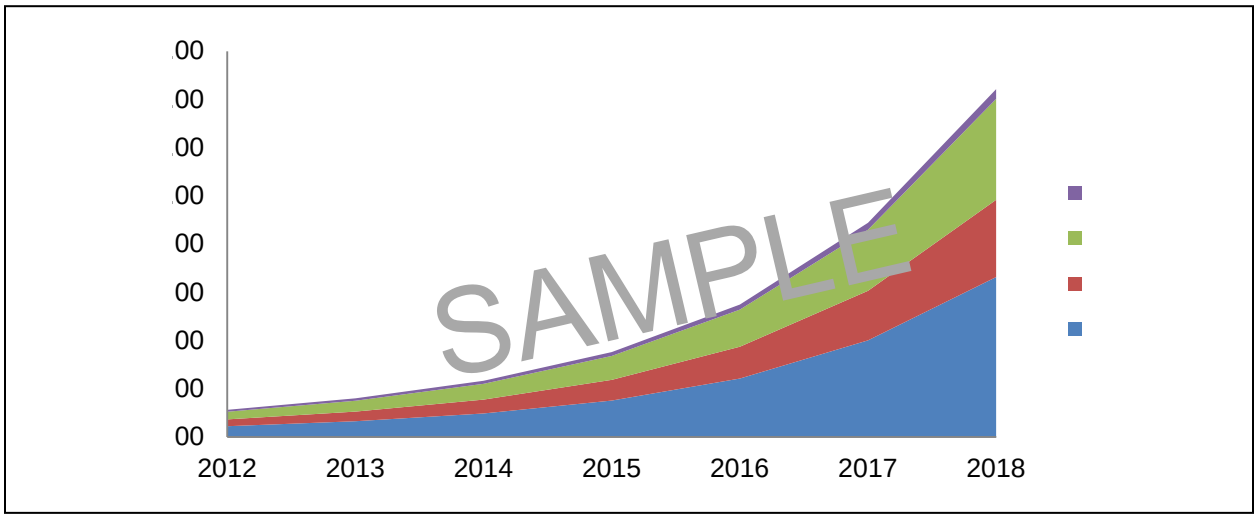
2.2.1 WI-FI BOOSTING VEHICLE TO INFRASTRUCTURE CONNECTIVITY

One such deployment was done in Michigan during December 2012, where 300 cars were connected through Wi-Fi as a part of a yearlong field trial The National Highway Traffic Safety Administration is currently conducting, to determine whether an offshoot of the 802.11 protocol known as Dedicated Short-Range Communications (DSRC) could serve as the glue that connects cars to help reduce accidents. Moreover, it is believed that successful test would result in DSRC be mandated by the federal government.

Many auto manufacturers have already started shipping Wi-Fi connectivity-enabled cars such as Ford Motors Company (U.S.) with its Ford Sync System. Audi (Germany) A8 is capable of sharing its data connection with up to eight devices.

FIGURE 5

WI-FI CONNECTED CAR UNIT SHIPMENTS, 2012 – 2018



Source: MarketsandMarkets Analysis

The total units of Wi-Fi-enabled car shipments are estimated to increase from XX million units in 2012 to XX million units in 2018, growing at a staggering CAGR of XX% during the forecast period.

3 CONNECTED CAR MARKET, BY CONNECTIVITY FORM FACTOR

3.1 INTRODUCTION

TABLE 2

GLOBAL CONNECTED CAR MARKET SHIPMENT, BY CONNECTIVITY FORM FACTOR, 2012 - 2018 (MILLION UNIT)

Connectivity Form Factor	2012	2013	2014	2015	2016	2017	2018	CAGR% (2013 - 2018)
Embedded	XX	XX	XX	XX	XX	XX	XX	XX
Tethered	XX	XX	XX	XX	XX	XX	XX	XX
Integrated	XX	XX	XX	XX	XX	XX	XX	XX
Total	XX	XX	XX	XX	XX	XX	XX	XX

Source: MarketsandMarkets Analysis

The connectivity form factor market for global connected car is expected to grow from XX million unit shipment in 2012 to XX million unit shipment in 2018, at an estimated CAGR of XX% from 2013 to 2018. The integrated market accounted for the largest share, i.e. XX million unit shipment of the overall connectivity form factor market in 2012. This segment is expected to reach XX million unit shipments in 2018, at a CAGR of XX% for the same period. Tethered is the second biggest market for connectivity form factor and expected to grow from XX million unit shipment in 2012 to XX million unit shipment in 2018, at an estimated CAGR of XX% from 2013 to 2018. The growing Telematics mandates in developed as well as developing countries for safety and security issues will drag the embedded market into peak in the forecast period at an estimated CAGR of XX% from 2013 to 2018.

4 CONNECTED CAR MARKET, BY PRODUCT AND SERVICES

4.1 INTRODUCTION

The connected car ecosystem is a very fragmented one. At times it is the OEM that fits the entire product and also offers services while many times the services are provided by third parties. The connected car market presents an increasing opportunity; both - for product and services players. The connected car is driving the automotive, semiconductor, electronics, and software industry alike. However, non-interfacing data formats from the separate subsystem that is tied to proprietary protocols are a key restraint to the semiconductor industry. As a result of this, the OEM fitted networking connections are increasing due to integration of the systems with sensors networks that are not accessible post vehicle assembly.

For software industry, the opportunities are even large, with application-, services-, and content-based services presenting direct revenue channel. Rudolf Streif, Director of Embedded Solutions, the Linux Foundation (U.S.), opines that software updates will become the main revenue generator since people are willing to pay if they are reasonably priced. Software can keep the car up-to-date even if it is not the latest model anymore and is essentially tied to the regular maintenance of the vehicle. The future remains to be seen and will depend on how much the car companies open up their systems for third party developers.

TABLE 3

GLOBAL CONNECTED CAR MARKET REVENUE, BY PRODUCTS AND SERVICES, 2012 – 2018 ($BILLION)

Product & Service	2012	2013	2014	2015	2016	2017	2018	CAGR% (2013 – 2018)
Service	XX	XX	XX	XX	XX	XX	XX	XX
Product	XX	XX	XX	XX	XX	XX	XX	XX
Total	XX	XX	XX	XX	XX	XX	XX	XX

Source: MarketsandMarkets Analysis

4.1.1 SERVICE MARKET BY TYPES

TABLE 4

SERVICE MARKET REVENUE, BY TYPES, 2012 – 2018 ($BILLION)

Type	2012	2013	2014	2015	2016	2017	2018	CAGR% (2013 - 2018)
OEM Service	XX	XX	XX	XX	XX	XX	XX	XX
After Market Service	XX	XX	XX	XX	XX	XX	XX	XX
Total	XX	XX	XX	XX	XX	XX	XX	XX

Source: MarketsandMarkets Analysis

The total service market is likely to grow from $XX billion in 2012 to $XX billion by 2018, at an estimated CAGR of XX% from 2013 to 2018. However, OEM Service market revenue would increase from $XX billion to $XX billion, growing at an estimated CAGR of XX% during the same period.

5 CONNECTED CAR MARKET, BY GEOGRAPHY

5.1 APAC

TABLE 5

APAC: MARKET SHIPMENTS, BY FORM FACTOR TYPES, 2012 – 2018 (MILLION UNITS)

Connectivity Form Factor Type	2012	2013	2014	2015	2016	2017	2018	CAGR% (2013 - 2018)
Embedded	XX	XX	XX	XX	XX	XX	XX	XX
Tethered	XX	XX	XX	XX	XX	XX	XX	XX
Integrated	XX	XX	XX	XX	XX	XX	XX	XX
Total	XX	XX	XX	XX	XX	XX	XX	XX

Source: MarketsandMarkets Analysis

In terms of connected car shipments by connectivity form factor in APAC, integrated connectivity is expected to grow from XX million units in 2012 to 19.11 million units in 2018, at an estimated CAGR of XX% during the forecast period, i.e. 2013 to2018. Embedded connectivity is expected to witness the highest CAGR of XX% during the same period, with more and more OEMs shipping its cars with the embedded solutions.

5.1.1 CHINA

5.1.1.1 Likely to become the largest market by 2018

The Chinese government seems to be committed to “Internet of Things (IOT) with a great emphasis on the development of “connected cars”. This, obviously, becomes crucial for China as many players all across the value chain are wholly or partially government- owned. All these

players are looking up to the government for funding as the country identifies telematics as a new opportunity for growth in the automotive and telecom sector. On a very positive note, the Chinese government has already invested more than $XX billion in IOT industry since October 2010.

The government believes that the connected car project would facilitate the Intelligent Transportation System in the country to ease out the ever increasing traffic. One of the three leading automotive OEMs in China plans to ship more than XX% of its total production as connected car by 2014.

TABLE 6

CHINA: CONNECTED CAR MARKET SHIPMENTS (MILLION UNIT) AND REVENUE ($BILLION), 2012 – 2018

Particulars	2012	2013	2014	2015	2016	2017	2018	CAGR% (2013 - 2018)
Shipments	XX	XX	XX	XX	XX	XX	XX	XX
Revenue	XX	XX	XX	XX	XX	XX	XX	XX

Source: MarketsandMarkets Analysis

As of 2012, the total shipments of connected car in China accounted for XX million units and a market worth of $XX billion. The shipments are expected to grow at an estimated CAGR of XX%, during the forecast period, i.e. 2013-2018, while during the same period, the market revenue is expected to grow at a CAGR of XX%. The country is expected to emerge as the single largest market in the world by 2018, both - in terms of volume and market revenue.