



## Automotive

## Connected cars



The **connected car** allows for the transfer of data via the Internet through an integrated communications module or other devices such as smartphones. **The services** that the user is aware of in a smart car are related to: **road safety** (eCall, stolen vehicle alert, geolocation and speed control), infotainment (internal wireless networks, multimedia content streaming, social networking connection), **traffic efficiency** (available parking spaces, best fuel prices, real-time traffic levels), **cost reduction** (monitoring of dangerous behaviour, telematic insurance management) and **interactivity with the system** (manufacturer call centre, remote control, payment of parking metres).

### ORIGIN OF THE INVESTMENT OPPORTUNITY



#### ECONOMIC/BUSINESS



#### DEMAND



#### REGULATIONS



#### TECHNOLOGY

The benefits and services that the **internet connection** allows creates a demand for it in almost all industries, such as the automotive sector. Nowadays, a very high percentage of the sector's customers choose the car based on its **connectivity features** rather than for the performance of the vehicle itself. This is a **change in the trend** as until now there had been no significant interest in **connected cars**, although they first appeared in the sector several years ago.

Car connectivity allows its occupants to **exchange data** with other vehicles and the surroundings, reduce costs, access **entertainment** applications, and other services related to road safety, such as theft detection, speed control and an emergency call system. The latter, known as **eCall** will be implemented in all cars manufactured in Europe by 2018, following the **guidelines under the Regulation (EU) 2015/758** of the European Parliament and Council, published in 2015.

The automotive industry must adapt to meet the new demand and to meet the sector's regulatory requirements.

### LOCATION OF THE INVESTMENT OPPORTUNITY IN THE SECTOR VALUE CHAIN

Components industry

Assembly industry

Commercialisation  
and sales

After-sales service and  
maintenance

This change in trend is an opportunity for all **manufacturing of components in the sector**, with there being the possibility to expand market share and increase product range. Moreover, this trend may promote the entry of **new players** into the industry, such as companies that manufacture electronic components or involved in software development.

### DIFFERENTIATING FACTORS OF THE INVESTMENT OPPORTUNITY

#### CONSUMER/USER

- ● ● Innovation
- ○ ○ Price
- ● ● Quality

- Internet connection in the vehicle allows its occupants to enjoy entertainment applications, access information and other **services similar to those offered by a smartphone**.
- This context provides many advantages to its users, such as **reduced costs** in terms of operation and maintenance of the car and improvement in **fuel efficiency** due to the different services.

#### COMPANY/INNOVATION

- ● ○ Operations
- ○ ○ Supplies
- ● ● New business lines

- Connectivity in cars marks a new phase in the sector, involving **new players** in the manufacturing process to meet the demand of consumers and of public administration that expect the sector to adapt to the digital age.
- The variety of services offered by the installation of software in cars provides the manufacturer with the opportunity to **diversify** its market and to give **added value**.

#### SOCIETY

- ● ○ Environment
- ○ ○ Well-being
- ● ● Safety

- One of the services provided by the connected car is **safety**, reducing risks of accidents, providing **assistance** to the vehicle's occupants and reducing the impact on the health of the occupants, through services such as the Smart SOS or emergency calls.
- Traffic efficiency and cost reduction reduces the **environmental impact** of traditional cars, cutting CO<sub>2</sub> emissions and fuel consumption.

### INVESTMENT OPPORTUNITY LIFE CYCLE

DEVELOPMENT

INTRODUCTION

GROWTH

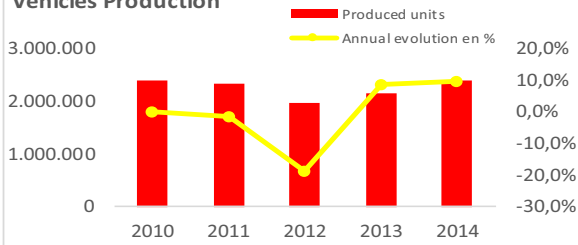
MATURITY

"The Internet of things" is a concept which has been used for years and its application to all types of machinery is marking a new phase in the industry. Connected cars are going through a period of **introduction** in the Spanish market: **21 automotive brands** of the 54 currently selling cars in our country have **technology platforms** focused on a real connectivity strategy and 24 of these brands already offer some type of **connectivity solution**.

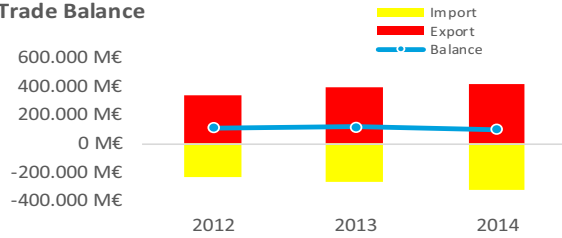
With respect to forecasts regarding the opportunity it is estimated that the total number of **vehicles with integrated connectivity** will increase from 10% of the entire global market to **90% in 2020**.

CHARACTERISTICS OF THE AUTOMOTIVE SECTOR <sup>(1)</sup>

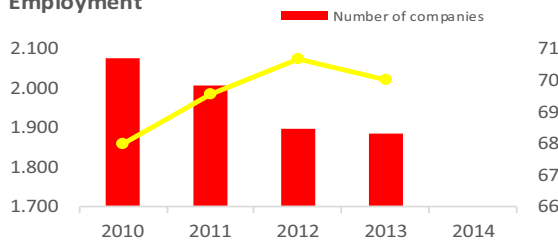
Vehicles Production



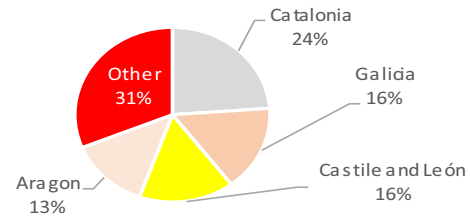
Trade Balance



Employment



Territorial distribution of turnover (2014)



## SUPPLY

## TOP 5 COMPETITORS IN SPAIN

#	Company	Net sales	Last available data
1	Telefónica	€59,104 M	2014
2	Microsoft	€464.01 M	2014
3	Apple	€237.86 M	2014
4	Google	€52.18 M	2013
5	Octo Telematics	€0.703 M	2013

## DEMAND

## GROWTH

- The market for connected cars will reach **mass penetration** in the coming years, it is expected that the total number of vehicles with **integrated connectivity** will increase from 10% of the global market at present to 90% in 2020.
- Globally, 71% of drivers are interested in or already have some connected car services. In Spain, this percentage is higher at 85%.
- 66%** of Spanish consumers choose the car depending on its **connectivity** instead of the performance of the vehicle itself. <sup>(2)</sup>

## SUCCESS STORIES



Spotify subscribers, whether via PC, tablet, iPad or smartphone, can access the catalogue of more than 20 million songs from their car.

The synchronisation between the car and Spotify will be possible through Ford SYNC AppLink. Following the agreement between Ford and Spotify on 26 February 2013 at the **Mobile World Congress (MWC)** in Barcelona, this technology was created which allows mobile devices to synchronise automatically with the car's **entertainment system** and be controlled by voice and gestures. Ford's objective is to be available in 3.5 million vehicles in Europe in 2015.



The manufacturer **Opel** uses its **own connectivity platform**, Intellilink. This entertainment system is compatible with devices using Android and Apple iOS. The **voice assistants** play a key role in controlling functions in the infotainment systems. If the user has an iPhone, Siri will perform that function. Recently, Opel has announced an **app market of its own** called Opel Appshop. Currently, there are three applications available: BringG, a **European navigation system** that provides maps in 2D and 3D; Stitcher, the Internet's most popular generalist radio service; and Tuneln Radio, which provides a network of 70,000 online radio networks from across the globe.



BMW's commitment in terms of its multimedia connectivity services is called **BMW Connected Drive**. It is one of the most mature and advanced **connectivity systems** on the market, bringing together a set of technologies that connect the driver and vehicle with the surroundings. A standout among its applications is the **dynamic parking prediction system** which is able to report on the availability of parking spaces using information regarding the movement of the fleet of vehicles. The application is able to identify available parking spaces on the street and the number of drivers looking for parking are taken into account for the calculation. This system provides an effective way to reduce traffic related to the search for parking.