



KPMG Turkey Automotive Executives Survey - 4

Business Models of the Future

2016

KPMG Turkey

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About the Survey

The survey aims to determine sector-related projections of Turkey's automotive sector executives. The survey has been conducted by ERA Research & Consultancy in cooperation with the Association of Automotive Distributors (ODD), Automotive Manufacturers Association (OSD), Association of Automotive Parts and Components Manufacturers (TAYSAD), Association of Authorized Dealers (OYDER) and members of these associations under the supervision of KPMG Turkey.

In addition to the general questions put to the members of the four associations, special questions were addressed to the members of each association under the scope of the work. General questions included in the study, the first edition of which was carried out in 2012, are reported on a comparative basis.

Graphs have been created according to the report of the relevant year. Utilizing the online survey method, the questionnaire was prepared in liaison with KPMG Turkey and ERA Research & Consultancy and was evaluated with the support of all associations. More than 200 executives from the leading companies of Turkish automotive sector, which are members of 4 associations, participated in the survey carried out between November 9 and December 7 2015.

While the results are reported in total for all members of all associations, the sampling of each association has an equal weight.

Preface

Revolution or evolution?

It's not possible to foresee the future. "The only thing we know about the future is that it will be different."*

We are living in an age where the automotive sector is experiencing major changes and we can be sure that the changes will be greater tomorrow. The question is: will the change be a result of a revolution as in the example of smart phones or an evolution as we are used to in the automotive sector?

The likelihood of a revolution is getting higher with the new players entering the market such as Google and Tesla. When Google announced in 2009 that they were going to develop an autonomous vehicle, the traditional automotive companies seemed to be sure about the impossibility of this idea that they reacted with nothing but a simple smile. However, their success was shortly perceived as a threat by the traditional automotive companies and forced them to respond promptly.

Although the manufacturers have accelerated their efforts towards autonomous and connected vehicles, they also intend to maintain the business models they have been using for years while extending the new technologies to all the models starting with the luxurious ones.

On the other hand, Google is planning a revolution. The objective is manufacturing or having manufactured a small, affordable vehicle. The fact that Google collaborates with the supplier industry for vehicle manufacture shows that new opportunities will arise for the automotive suppliers.

A study by KPMG UK for the Society of Motor Manufacturers and Traders (SMMT) estimates that connected and autonomous vehicles could create an additional 320,000 jobs in the UK by 2030. Thus, it is important that critical technologies be introduced in the Turkish

supplier industry. However, in order to succeed in this field, the ecosystem will need to evolve. Public support will also be important to accelerate these developments.

All these developments indicate a junction for the manufacturers. The manufacturers will have to decide whether they want to be metalsmiths or gridmasters.

Furthermore, we can clearly see that the speed of innovation in the Silicon Valley is much different from the clockspeed of Detroit. The integration of these two sectors under the automotive sector indicates a change in business models.

In a special chapter titled Business Models of the Future, I present a summary of two global KPMG reports: "Metalsmith or Gridmaster?" which addresses the junction for the manufacturers in detail and "The Clockspeed Dilemma" which addresses different development speeds.

This year's survey analyzes the export, sales, manufacturing and capacity figures in the market, reveals the expectations of respondents and casts light on the future of the automotive sector with the comments of KPMG experts regarding various topics of interest for the Turkish automotive sector, such as Industry 4.0, Transatlantic Trade and Investment Partnership, Regional Management Base, etc. as well as the future business models.

We would like to thank four important associations of the sector, namely ODD, OSD, OYDER and TAYSAD for their support in the preparation of the KPMG Turkey 2016 Automotive Executives Survey.

We hope that our survey will be a useful resource for the executives following the automotive sector and hope you enjoy reading it.

* Peter F. Drucker, 1909-2005, Executive Consultant and author



Ergün Kış
KPMG Turkey
Head of Automotive
Partner, Audit



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Executive Summary

General

- 1 The executives estimate that the market will remain over 1 million. However, decreasing the sales taxes still remains to be an issue of top priority.
- 2 For the first time, the penetration of BRIC manufacturers are not expected to penetrate into the European market.
- 3 For the first time, those who expect new manufacturers to the Turkish market are not in majority; there seems to be a tie between those who expect new manufacturers and those who do not.



ODD

- 1 The distributors consider the rate of increase in per capita income as the most important factor for the growth of the automotive market; this result is more important than decreasing the tax burdens on the sector for the first time.
- 2 No changes are expected in the profit centers in the next 5 years.
- 3 The car rental sector is expected to grow more than the automotive sector.



OYDER

- 1 The profitability of the authorized dealers does not meet the high financial risks and investments.
- 2 Changing consumer expectations and behaviors are among the most important external factors, ranking third after tax burdens and adverse effects of exchange.
- 3 The used vehicle trade, which is the most important field of investment for authorized dealers, is expected to be carried out over the Internet.



OSD

- 1 Production and capacity will continue to increase.
- 2 The domestic market needs to grow and the taxation system needs improvement for new investments. However, the appeal of investment of BRIC countries with bigger markets constitutes an important challenge for Turkey.
- 3 Accession to new generation of trade agreements and bilateral agreements with developing markets is a must for sustainable exports.



TAYSAD

- 1 The top priority of the supplier industry is increasing the R&D and design competencies.
- 2 Unlike the previous year, Iran ranked among the most important countries of the supplier industry this year.
- 3 The critical technologies of the future are gaining importance for the supplier industry.



General

Featured results

- 1 The executives estimate that the market will remain over 1 million. However, decreasing the sales taxes still remains to be an issue of top priority.
- 2 For the first time, the penetration of BRIC countries' manufacturers are not expected to penetrate into the European market.
- 3 For the first time, those who expect new manufacturers to the Turkish market are not in majority; there seems to be a tie between those who expect new manufacturers and those who do not.



KPMG Insight

The market is promising again

For the fourth year in a row, the most important matter for development of the market which broke a record by exceeding 1 million units in 2015 despite the high levels of sales taxes is the expectation for re-arrangement and decrease of sales taxes. 78% of the executives expect the Turkish automotive market to be over 1 million units.

At first sight, one could think that there is no need for decreasing the taxes in a year when sales records have been broken. However, the executives take profitability into consideration besides sales figures. High level of taxes also narrows the margins of dealers. Furthermore, the margins might be insufficient during the periods when uncertainties in economical situation and exchange fluctuations increase. In particular, the fact that the authorized dealers cannot reach a satisfactory level of profitability due to high financial risks and large investments obliges them to create new profit centers.

No hope for BRIC manufacturers

The Turkish automotive executives, who were almost sure for the last 3 years that the manufacturers in BRIC countries would penetrate into the European market, seem to have changed their minds this year. While more than 60% expected Chinese companies to penetrate into the European market before, this dropped to 45% this year.

The confidence in the Chinese manufacturers, who have been talked about for years but could not succeed despite all the hard work, seems to have been lost. The barriers of requirements of the European market seem too high for the Chinese companies to overcome. One of the most striking examples is the disappointment of Qoros brand. The shareholders who intended to manufacture a Chinese car with German technology by transferring German engineers and managers and thus earn the European markets had to give up this goal despite all the interest. The company, who could not succeed even in China, had to change its priorities. Although the quality of the vehicles was considered to be meeting international standards, the vehicles faced numerous barriers. The low recognition of the brand, the perception of low quality for Chinese vehicles, weakness of the sales network and limited number of model brought the failure. According to the new strategy, the company will expand to Europe once it succeeds in the Chinese market.

It's worth mentioning that some important challenges exist for every new brand for establishing an efficient system of dealerships in the EU market in particular. On the other hand, getting a place in the second market takes longer when compared with the established brands. This affects the consumer demand very adversely.

Under these circumstances, penetration of Chinese automotive products into the EU market does not seem very likely. It should also be noted that the market share of non-EU brands is still very far from satisfactory although they manufacture in the EU.

There is doubt about new investors

While 47% of the automotive industry executives taking part in the survey do not expect new investors, 45% do so. Last year, the majority of executives (54%) expected new investors while those who didn't expect new investors were in minority (42%). We can say that these two groups have an identical weight. However, we observed that the rate of those who do not expect investors for a new brand has increased from 23% to 47% in the last 4 years of the survey.

But we can see that the manufacturers currently operating in Turkey kept increasing their investments. In early 2016, two important international manufacturers, Toyota and Mercedes-Benz, announced that they are going to increase their capacities significantly. On the other hand, Ford and Fiat announced their new investments for new models. With these new investments which will exceed 1,6 bn-USD in total, it is estimated that the manufacturing capacity of Turkey will exceed 2 million units. This also shows that the investors have a positive view of Turkey in the long term.

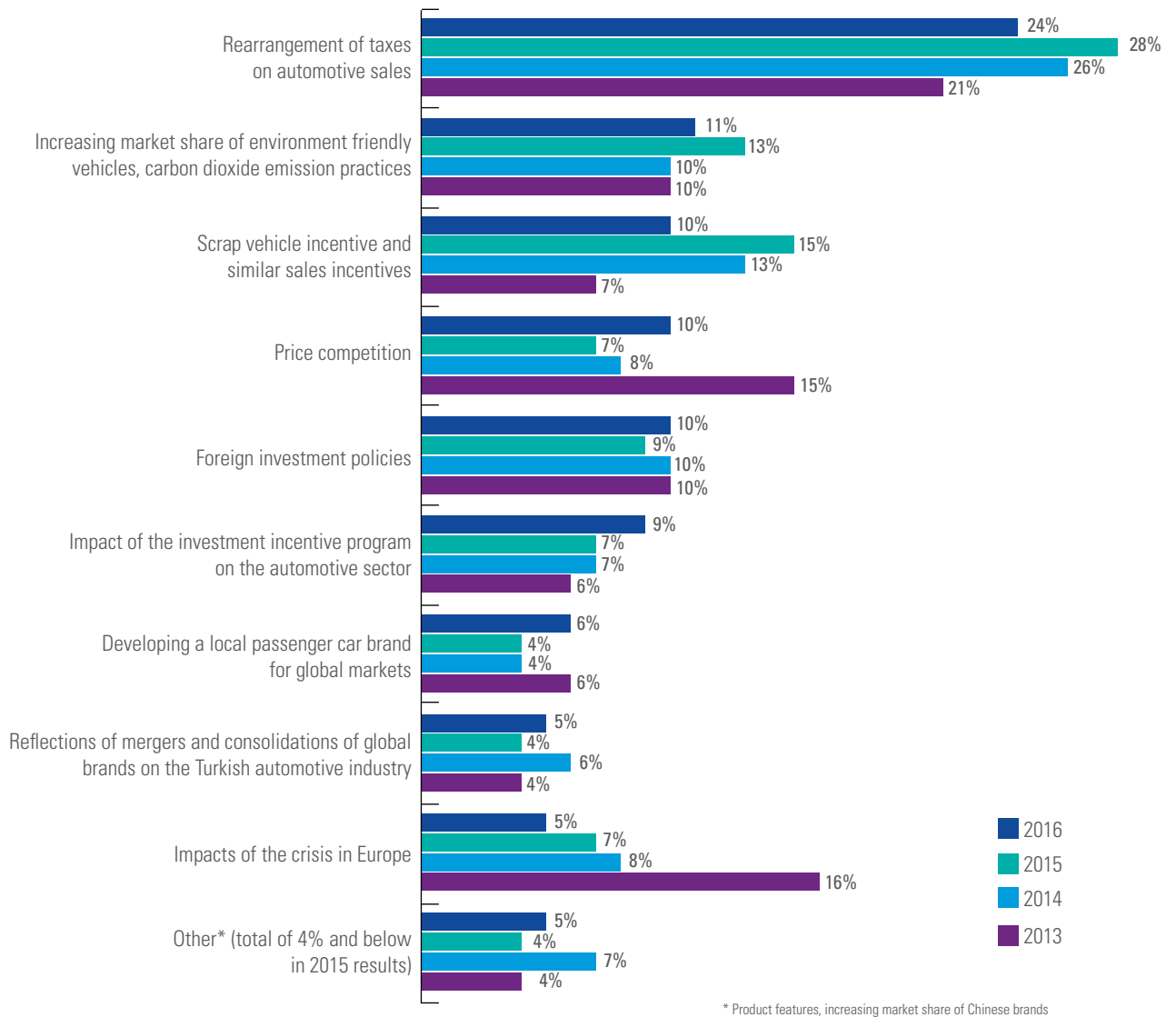
The decrease in the expectations of the executives for new investments despite this positive view might be a reflection of the fact that new investments worldwide are limited and the competitiveness of the countries competing with Turkey has increased.

Distribution of New Vehicle Registrations by Manufacturers EU + EFTA Countries

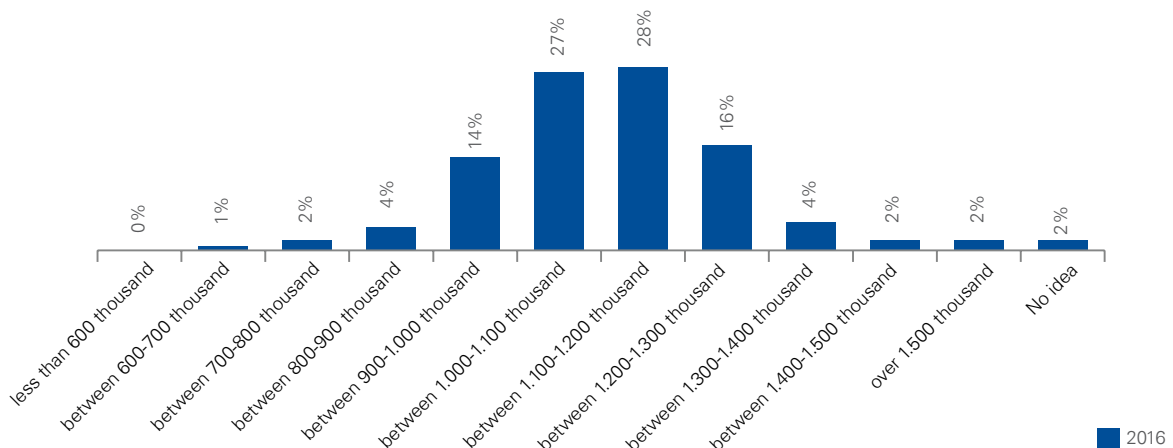
	share %	
	2015	2014
VW Group	24.8	25.5
PSA Group	10.4	10.7
RENAULT Group	9.6	9.5
FORD	7.2	7.2
OPEL Group	6.7	7.1
BMW Group	6.6	6.4
FCA Group	6.1	5.9
DAIMLER	5.9	5.4
TOYOTA Group	4.3	4.4
NISSAN	3.9	3.7
HYUNDAI	3.3	3.3
KIA	2.7	2.7
VOLVO CAR CORP.	2.0	2.0
MAZDA	1.5	1.3
SUZUKI	1.3	1.2
JAGUAR LAND ROVER Group	1.3	1.1
MITSUBISHI	0.9	0.8
HONDA	0.9	1.0
Other Japanese Brands	0.3	0.3

Source: ACEA Members

Issues of priority for the automotive sector during the course of the next five years



Expectations for growth in the automotive market in the next five years



“Old vehicles have as much negative impact on public health as the environment. Therefore there is a greater need for developing the policies to serve renewing our park.”

Market's View



Mustafa Bayraktar

Automotive Distributers' Association (ODD), Chairman

This valuable survey of KPMG, which has been carried out regularly for 4 years now and casts light upon the industry, shows once again that the negative impact of the reflection of taxes to sales prices in the domestic market, the need for rapid and systematic renewal of the old vehicle park and the need for improvement of the investment environment in the country to attract new investments are still the most important problems for the automotive industry.

An increase of 25% in the sales of the automotive industry is observed in 2015, however there is a base effect this year. It would be more accurate to compare 2015 with 2013 instead of 2014. When we compare the last 12 months period with 2013, the increase is in fact about 13%.

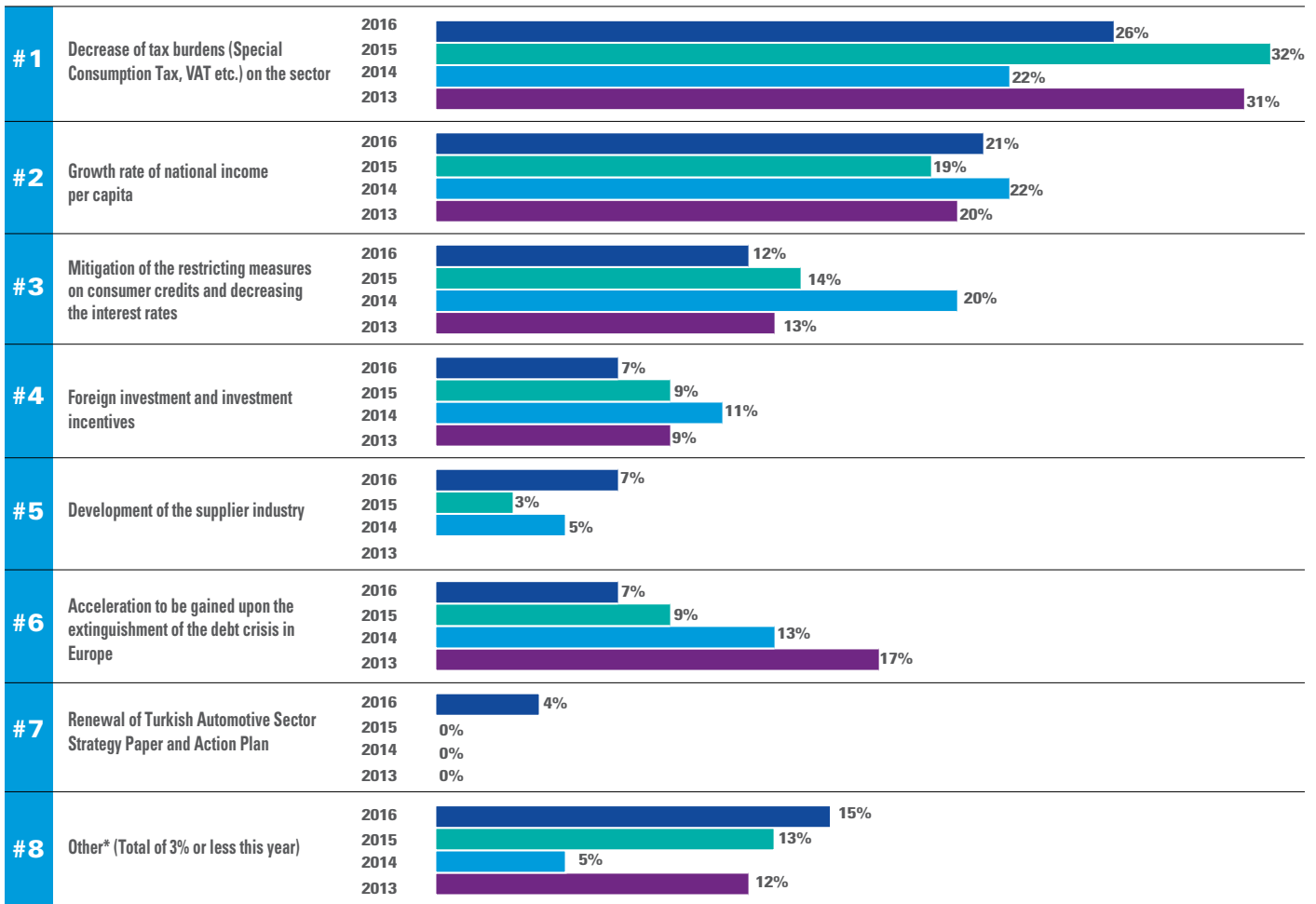
As you might remember, the market was below the norm in the first half of 2014. Since the automotive market was relatively more foreseeable in the first 6 months of 2015, the consumers preferred to purchase before the elections. Our exhibition, Istanbul Autoshow, which was organized in May after two and a half years, also accelerated the market.

In the Turkish automotive industry in the twelve month period of 2015, the total market increased by 25% to 1.011.194 units, production increased by 16% to 1.358.796 units and exports increased by 12% to 992.335 units when compared with the same period of the previous year. However, the value of exports decreased by 5% to 21,619,000,000 Dollars.

One of the most important problems of our sector, "the old vehicle park" and its adverse effects still remains. Old vehicles have as much negative impact on public health as the environment. Therefore there is a greater need for developing the policies to serve renewing and modernizing our park.

Turkey's vehicle park included approximately 1.5 million vehicles in early 1990s, and exceeded 15 million vehicles as of 2015. The automotive industry has gained a certain market rhythm since 2003 and the fragile and sensitive structure of the previous years was replaced by a more stable, more responsive, more proactive and stronger market. The changes in the global markets began to affect our country, which became integrated with the rest of the world, directly. Therefore, we need incentives and practices to take our domestic market to the level of global players in the automotive sector. In this context, we believe that the contribution of the public is also very important.

Factors affecting the growth of the automotive sector during the five-year period



*Manufacturing and launching domestic brand automobile; Impacts of interest rate hike decisions by FED, the Central Bank of the USA; Ease of access to global markets offered by new generation of Transatlantic and Transpacific trade agreements; Development of R&D with a focus on Industry-University-NGO's; Critical technology investment in Turkey; Manufacturing and launching environment-friendly automobiles

2016 2015 2014 2013

Market's View



Z. Alp Gülan
OYDER, Chairman

This year's results from the survey, which we have been carrying out with cooperation of KPMG Turkey and 4 major associations of the automotive sector for the fourth time this year and casts light upon the future of the sector, clearly reveals the expectations of the sector and what could be done for development of our country. The results of this survey provide very useful foresight for the public, the stakeholders in the sector, our business partners and us in both production and marketing aspects. We can clearly see from the results that our country has great potential and this potential can be utilized with the right strategies and also that our country will still be a very important market for foreign investors because of this advantage.

The results indicate that the most important problem of the sector is that it's not possible to achieve sufficient profitability in exchange for the high financial risks and large investments. It's obvious that the profits gained do not meet the risk taken considering the scale of the investments by all authorized dealers. Unfortunately, this features as the most important problem every year. While there are many root causes for this problem, we can mention insufficient capital and incorrect management of finance, inefficient use of profit centers, insufficient human resources and the mistakes in business models among others.

The taxation policies on the sector is among the most challenging changes for our colleagues. The fluctuations in the market during the periods when the tax burdens on automotive increase result in uncertainties in the sector as a whole. Furthermore, the overall economic developments and exchange fluctuations are also noted as the most significant matters of concern for our colleagues.

Also, the recent, important arrangements in the public field help growing our businesses and practices such as notary sales for used vehicles and ASBIS for brand new vehicles simplified the business model of the sector.

As we all have been witnessing in recent years, the rapid introduction of digital technologies into our lives caused certain changes in consumer behavior. There have been significant changes in the expectations of the consumers from the authorized dealers and changes in our business models have become inevitable. The most important initiative

brought by this is the fact that the authorized dealers now have to create new profit centers in addition to the new car sales and maintenance services in their focus. Particularly in the fields of used vehicle sales, insurance agencies and vehicle maintenance, accessories, extended warranty sales, new investments and efforts are made to meet the expectations of the consumers.

Likewise in the service and repair centers, the traditional structures are being replaced with brand-specific practices. At this point, "Branded Vehicle Insurance" projects offered by insurance companies and aiming repairs a service locations with sufficient equipment and knowledge seem to have the potential to become one of the most important practices in the future.

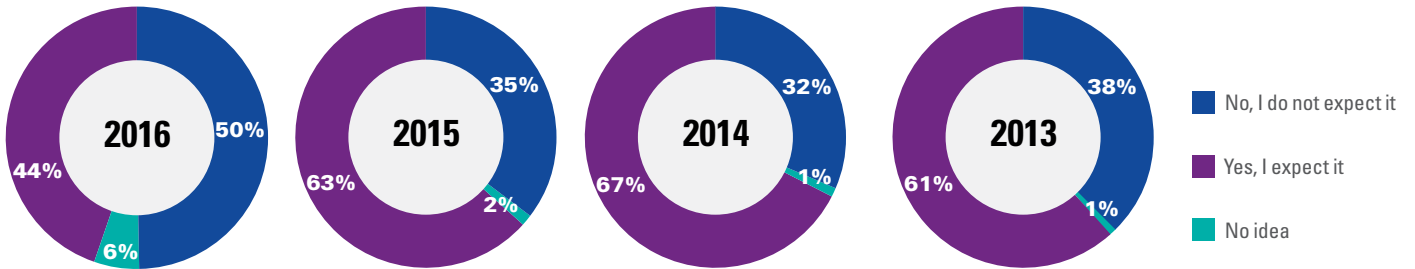
From the perspective of new vehicle sales, the most rapid development will probably be observed in the operational and day rental sector. It wouldn't be surprising if the operational and day rental sector, which dominates the majority of the market in developed markets of Europe, will keep growing in our country as well.

The expectations and concerns for the future in our sector are generally associated with both our ways of doing business and macro economic policies. Therefore, it's possible to say that our sector will be as wealthy as the country in general in the future.

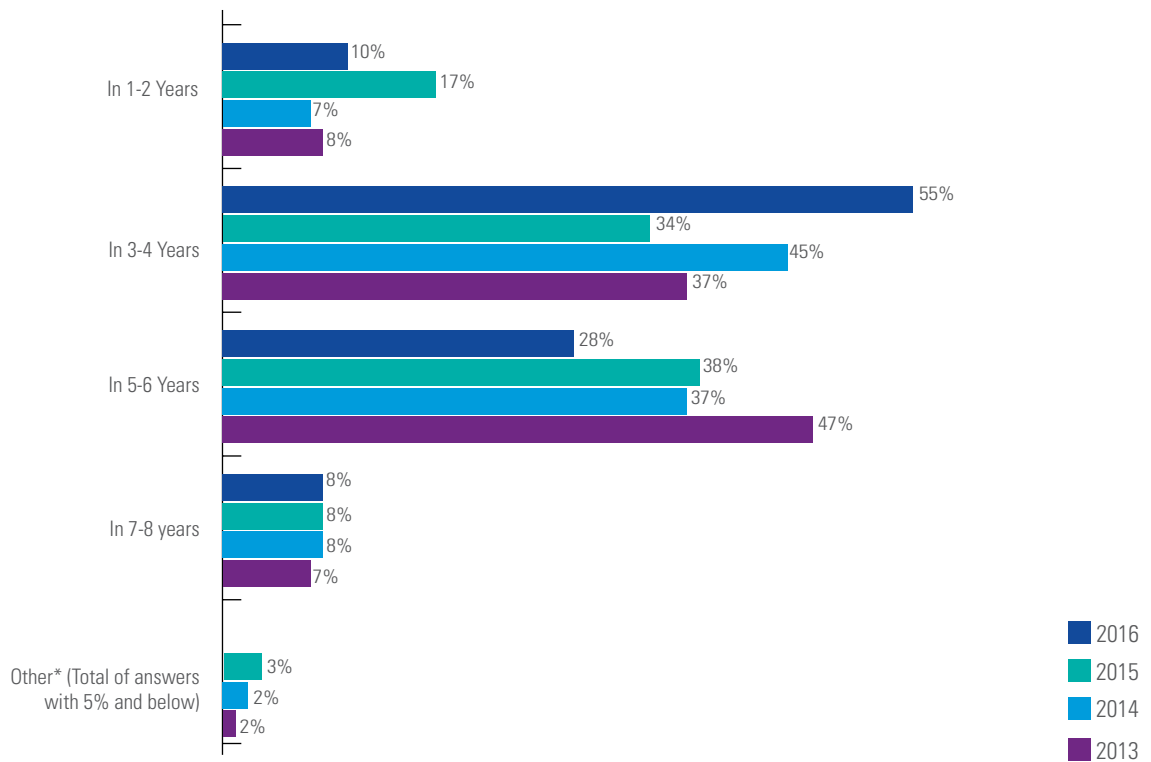
Hereby I'd like to congratulate all those who contributed to the survey and thank them for preparing such a study that will help foreign investors knowing the sector well.

"The most important change brought to our ways of doing business by digitalization is the fact that the authorized dealers now have to create new profit centers in addition to the new car sales and maintenance services in their focus."

Expectations as to the penetration of BRIC countries' automotive manufacturers into the European market



Expectations of those answering "yes"



* In 10 years, current inputs, no idea

Industry's View



Kudret Önen
OSD, Chairman

The automotive industry is the driving force of the industry and economy of the country today. This industry which exports 73% of the vehicles manufactured corresponding to 15% of the total exports of our country also maintains competitiveness in the global markets with the sustainable growth achieved in the recent years.

Taking into account that there were two elections in 2015 which witnessed challenging economic and political conditions and also that an election government was in charge, we should say that the economic performance is much better than the estimates. Despite the growth over 2014 in the domestic market, the problems in the region reflected adversely on our sector as well. Thanks to the measures taken, the loss in exports to countries such as Russia, Ukraine and the Middle East and the region was compensated by the growth in the European market which contributed positively to the production and export figures of our industry.

Our exports grew 12% in terms of units sold while the value of exports dropped by 5% in Dollars and grew by 14% in Euros due to the drop in Euro-Dollar parity. The automotive industry held its position among the sectors in total exports of Turkey. Our total production increased by 16% to 1,359 thousand units. With the records in production and exports in 2015, our industry achieved a production capacity of 1.75 million units from 1.5 million units thanks to the implementation of new projects and the capacity investments in the last 5 years. About 50,000 people were employed directly and about 500,000 people were employed indirectly.

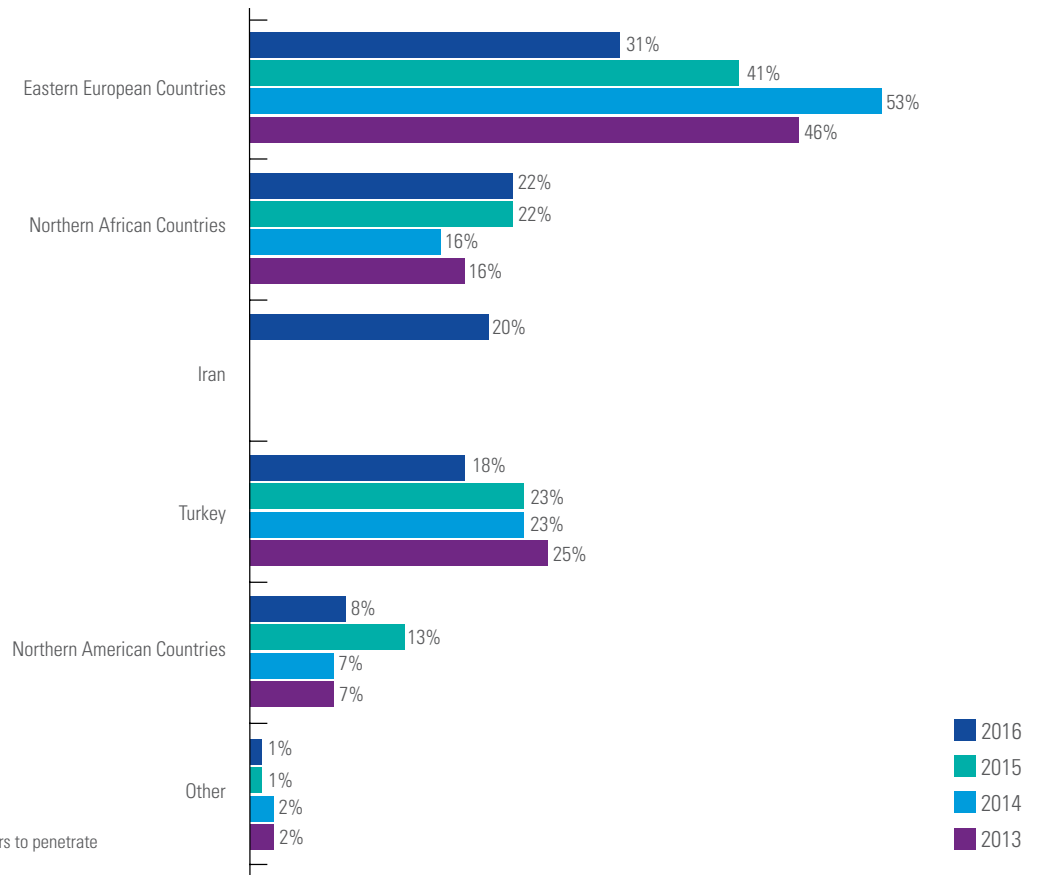
The automotive industry, which constitutes 15% of the total exports of our country and has a leading position with the direct and indirect contribution it makes to the economy of our country, has a strategic role in achieving the targets of our country. Our industry has gained high quality and value added production competency and a leadership position in development of new products and technology for the global brands which made us a key player in the global marketplace.

As promised in the government program, the R&D incentives provided by the government to help the automotive industry in becoming a production and R&D center for the global automotive brands made a great contribution. R&D employment increased by 90% and the number of patent applications by 207% between 2010 and 2014. The R&D studies for automotive has a share of 18.9% in the total R&D expenses which helped our country rank the third after Germany with a share of 31.7% and Japan with a share of 19.8%. We strictly believe that our industry, which held its leading position in exports in 2015 as well, will strengthen its position of being a production and R&D center for global brands with ongoing support of R&D incentives.

With the new model and capacity growth investments of our members, we estimate that the capacity of our industry will achieve 1.85 million units in 2016. We foresee that the exports will exceed the threshold of 1 million and the productions will reach 1.4 million units with the newly implemented projects and the ongoing investments mentioned. New projects supported by the incentives will create a growth in production based on exports in 2016. With a domestic market similar to 2015 with the assumption that there will be consistency in the market and the purchasing decisions will not be affected, records in total production is not unlikely in 2016 as well. It will be possible to maintain the competitiveness of our country for new projects and thus attract new investments to the country with ongoing policy support for the industry by the government.

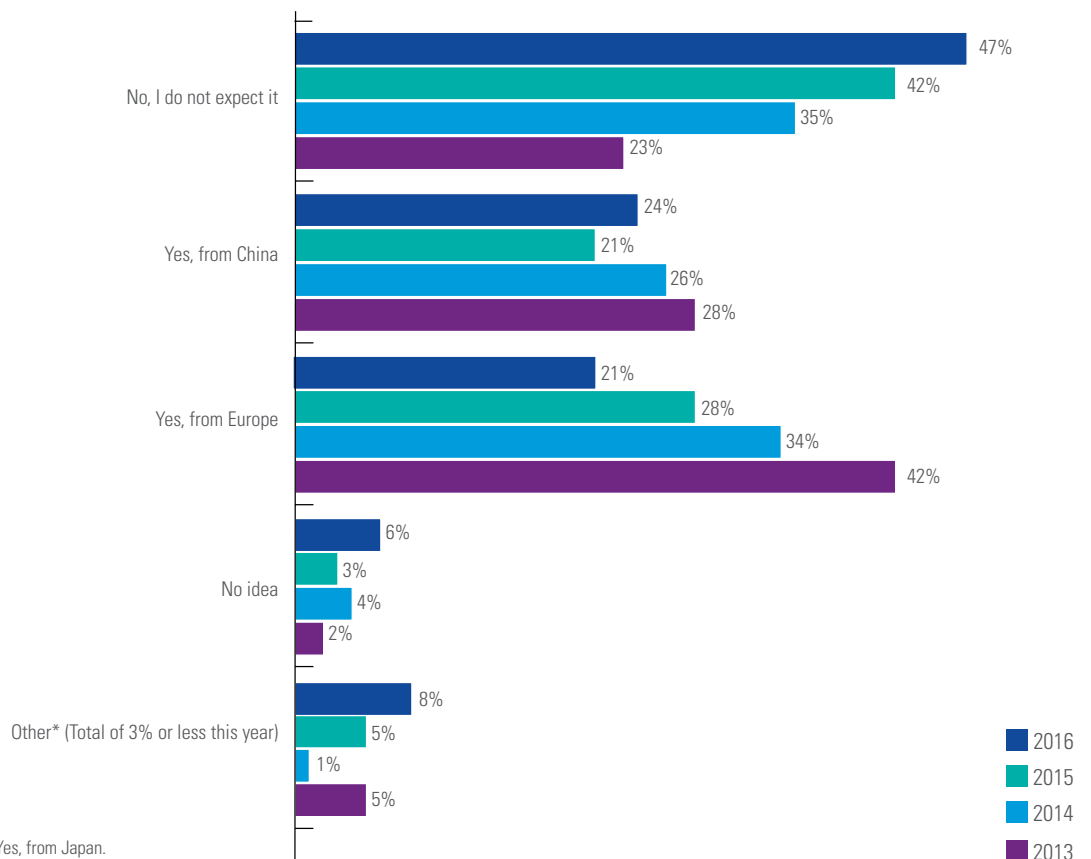
"The R&D studies for automotive has a share of 18.9% in the total R&D expenses which helped our country rank third after Germany with a share of 31.7% and Japan with a share of 19.8%."

Countries preferred by BRIC manufacturers while penetrating the European market*



* Asked to those expecting BRIC manufacturers to penetrate into the European market.

Projections for new investments in Turkey in five years



* Yes, from India. Yes, from America. Yes, from Japan.

“Turkey needs to improve its R&D and innovation capabilities and gain competence in competing with strength in design and technology.”

Industry's View



Mehmet Dudaroğlu, PhD.

TAYSAD, Chairman

More than 200 top executives contributed to our survey, which gives an overall picture of the automotive industry and market and which has been carried out for the fourth time this year. According to the results of the survey, taxes, investment environment and price competition are among the most important topics in the development of the sector.

Due to the changing conditions and increasing costs, competitor countries were unfortunately preferred for new automotive investments. It's not possible to attract new investments to the country with low labor costs only. Besides, it's obvious that we won't have the competitive advantage of low labor costs anymore as result of the recent arrangements increasing the cost of labor. Therefore, Turkey needs to improve its R&D and innovation capabilities and gain competence in competing with strength in design and technology.

In order to develop this competence for the Turkish capital, we, under the name TAYSAD, carried out a comprehensive survey in 2015 and prepared a report with the outcomes of the survey. In particular, we intend to help develop competence in the fields of technology that do not exist in Turkey at the end of this survey which casts light upon the product groups in which certain changes are expected as well as the changes in the sectoral trends.

We studied which components, modules and module systems will be affected the most by the fields of “Safety, Emissions, Material Lightening and Telematics-Infotainment” where the competence of the Turkish automotive supplier industry is very limited and we determined the components-modules and module systems with the most potential for the Turkish automotive supplier industry. When the companies operating in the Turkish automotive supplier industry design their growth strategies in such a manner to include these four fields of technology, the competence of our country in these fields will be increased.

The automotive sector in Turkey gives our country the potential to become a “leading” country with the support of the competent players in our ecosystem. We need to route our entire potential to producing high value added technological products by establishing the right industrial policies, ensuring continuity in these policies and coordinating the collaboration of the stakeholders.



Market



Market: ODD

Featured results

- 1 The distributors consider the rate of increase in per capita income as the most important factor for the growth of the automotive market; this result is more important than decreasing the tax burdens on the sector for the first time.
- 2 No changes are expected in the profit centers in the next 5 years.
- 3 The car rental sector is expected to grow more than the automotive sector.



KPMG Insight

The most important factors for growth of the automotive market

The prioritized position of tax burdens dropped slightly behind the national income growth for the first time this year. Not only the growth but also the distribution of the national income is of importance. The fact that the used vehicle market is 3 to 4 times bigger than the new vehicle market can be considered as an indicator of this. However, the growth in this market is not reflected in new vehicle sales due to the low level of income.

While it's natural that the general conjuncture changes in the economy reflect demand, it is observed that those changes reflect the automotive demand on a larger scale. This shows the need for a more balanced system for mitigating the adverse impacts on every segment of the sector from industry to trade.

The sales and annual taxation system in the automotive market is still of a different structure from the mature markets such as the US and the EU. While the average demand in the automobile market in the last 10 years is about 500 thousand as a result of this, the demand last year varied from 310 thousand to 725 thousand depending on the economic conditions.

The fact that the annual Motor Vehicles Tax, applied according to the age of the vehicle since 1992, is fixed at a rate of 10-14% of the regular tax after 11 years of age encourages use of old vehicles. Renewal of the vehicle park more rapidly is of vital importance in terms of both ensuring safety in traffic and preventing environmental pollution.

Therefore, the very first items on the agenda should be the inevitable change for the sector on a global scale and how to meet very diverse customer expectations in this market environment. The public should also consider these new changes as a regulator.

Development in profit centers

The profitability trends for the automotive sector's sales, service, spare parts, sales and after-sales business development services (vehicle insurance, insurance, accessories, tires), which constitute profit centers of the sector are not expected to change. 2 out of 3 people do not expect change for the next 5 years (it was 1 out of 5 people last year).

The importance of new profit centers is increasing for the distributors and authorized dealers because of the low profit margins in sales and insufficient and unbalanced growth of the market. However, the improvement in these fields is not found sufficient. The rate of those who do not expect much change in such functions increased over the expectations in 2015.

However, it is important for the future of the sector that new progress for improvement in these fields in addition to the sales should be planned collaboratively.

Contribution of car rental to the sector

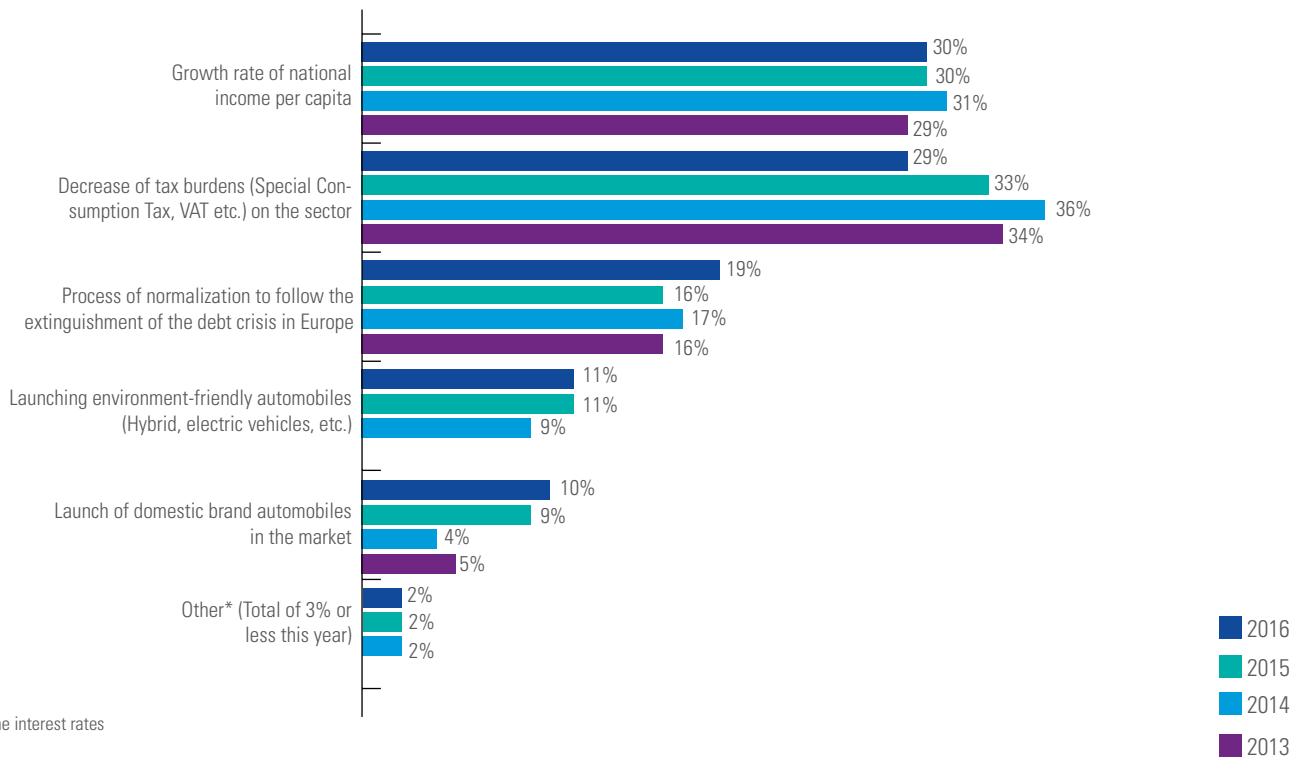
We have observed that expectations in the field of rentals in recent years are reflected in the results of 2015 as a significant increase. The rate of those who expect a growth over the automobile market is over 90% once again this year. This year, 3 out of 4 people expect the rental sector to grow 10% over the automotive sector.

Particularly in businesses with large vehicle parks, rental is spreading rapidly; companies prefer renting to purchasing.

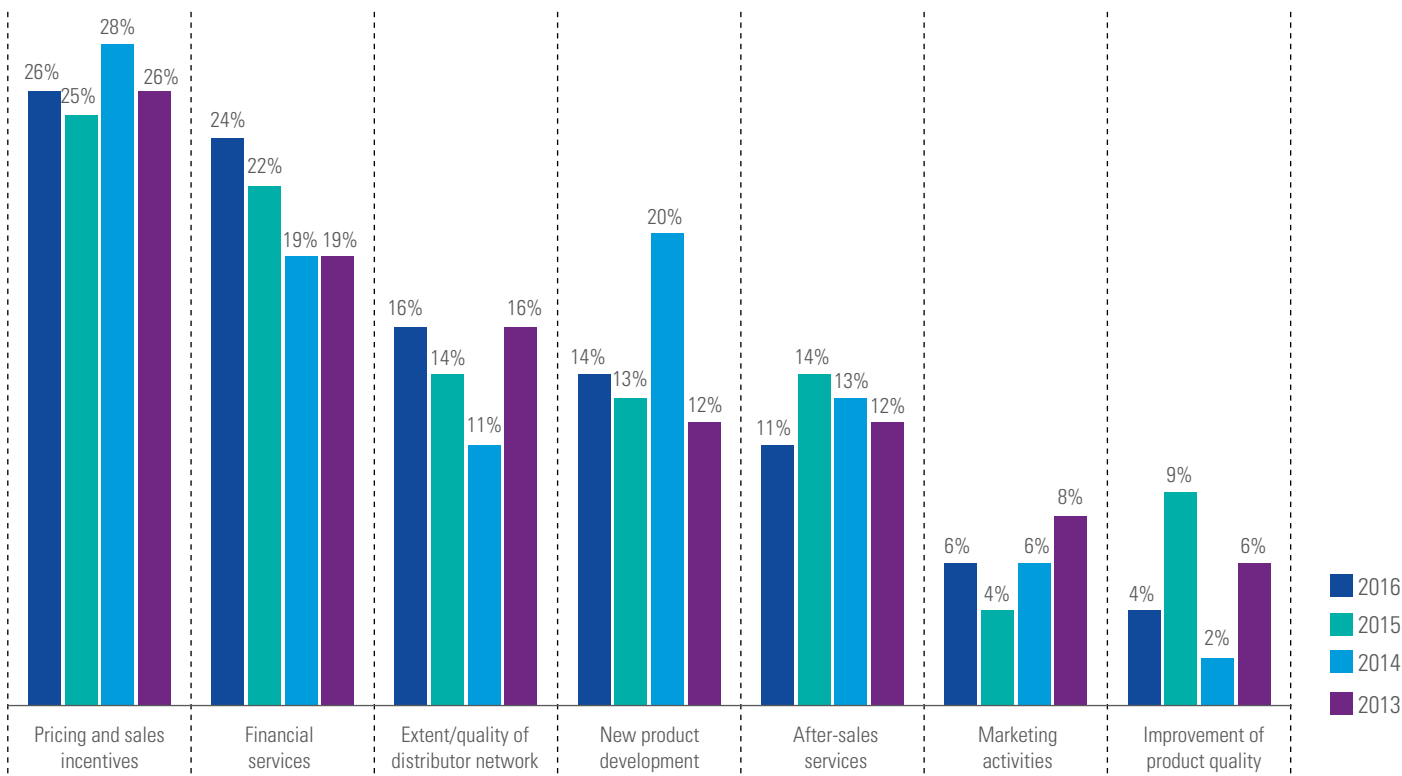
The urban population exceeding 80% in total brought the urban transportation further forward. The share of light commercial vehicle in urban transportation has also increased rapidly. However, the fact that these vehicles used in the scope of commercial vehicles are excluded from rentals is an important hinderance for the craftsmen using these vehicles in particular.

Another point worth noting is that Turkey is an important global development and design center for light commercial vehicles. The share of these vehicles in production and particularly in exports is increasing rapidly. It is expected that these vehicles will be considered for inclusion in rentals in order to meet the need for urban transportation as a result of rapid urbanization and rapidly growing urban population.

Factors affecting growth of the market during the five-year period



Success factors in automotive market



"I believe that the car rental sector, which has grown at least as much as the retail automotive market in the recent years, will grow over the market in the next 5 years, and this will have a very positive impact on the automotive sector."

Market's View



Ali Bilaloğlu

Automotive Distributers' Association (ODD), Deputy Chairman

The Turkish automotive sector has made significant progress in terms of both the market size and the number of sales in the last 10 years. Two sales records have been broken in a row since 2013. Thus, it strengthened its position as one of the driving forces of the Turkish economy by affecting and growing many sub-sectors.

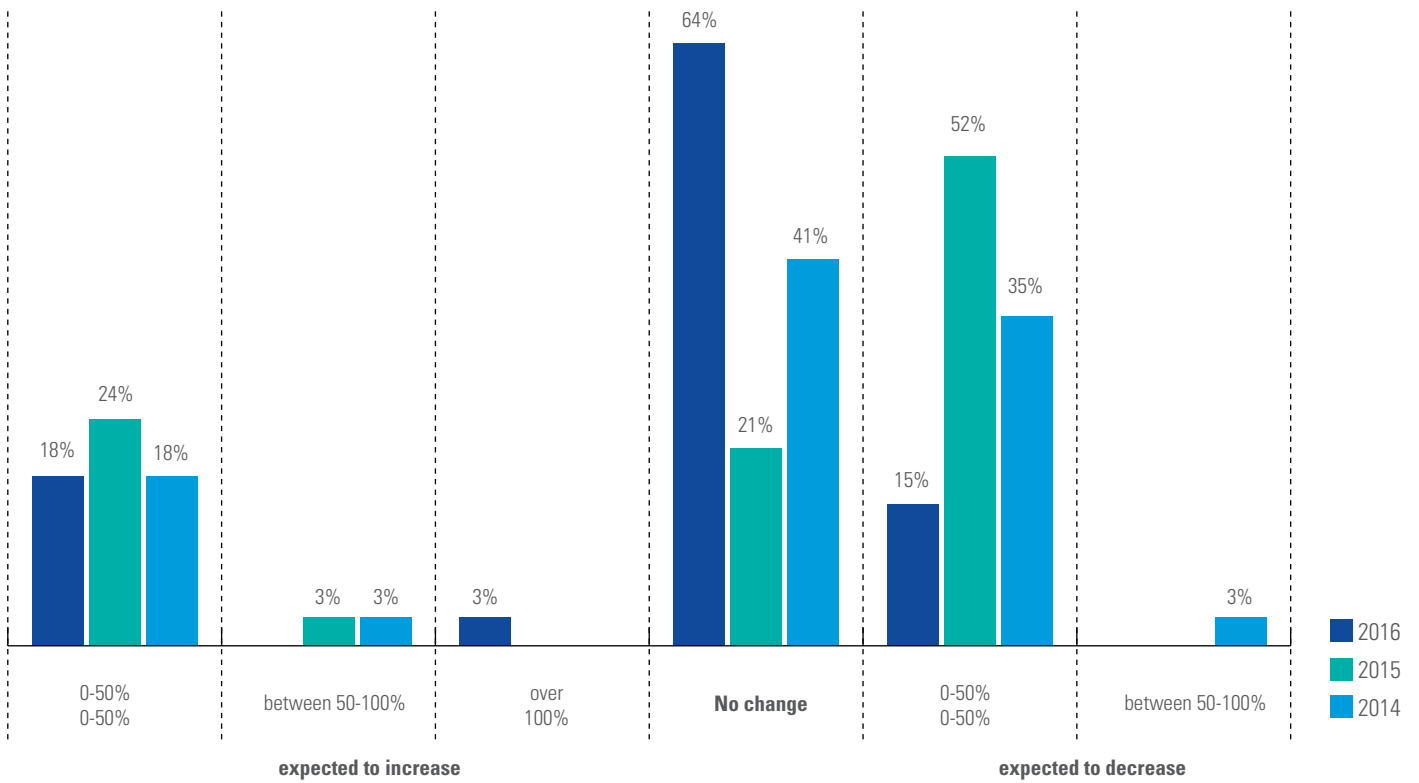
This year, we observed that the consumer confidence index dropped to the lowest level of the last 6 years with the impact of the political uncertainty period, terrorist attacks and the fluctuations in the exchange rates. Despite all these unfavorable situations, the automotive sector broke three records at the same time. The record in the production and export figures was certain as from November. The domestic sales of automobile and light commercial vehicles increased by 26.1% over the 2014 sales and reached a record level of 968.017 units. I think that this improvement in the sector mitigated the negative impact on the economy of the social and geopolitical problems to some extent.

Once again this year, the companies offering diversified experiences to their customers with a sense of quality in service featured in our sector where products and prices are getting more and more similar.

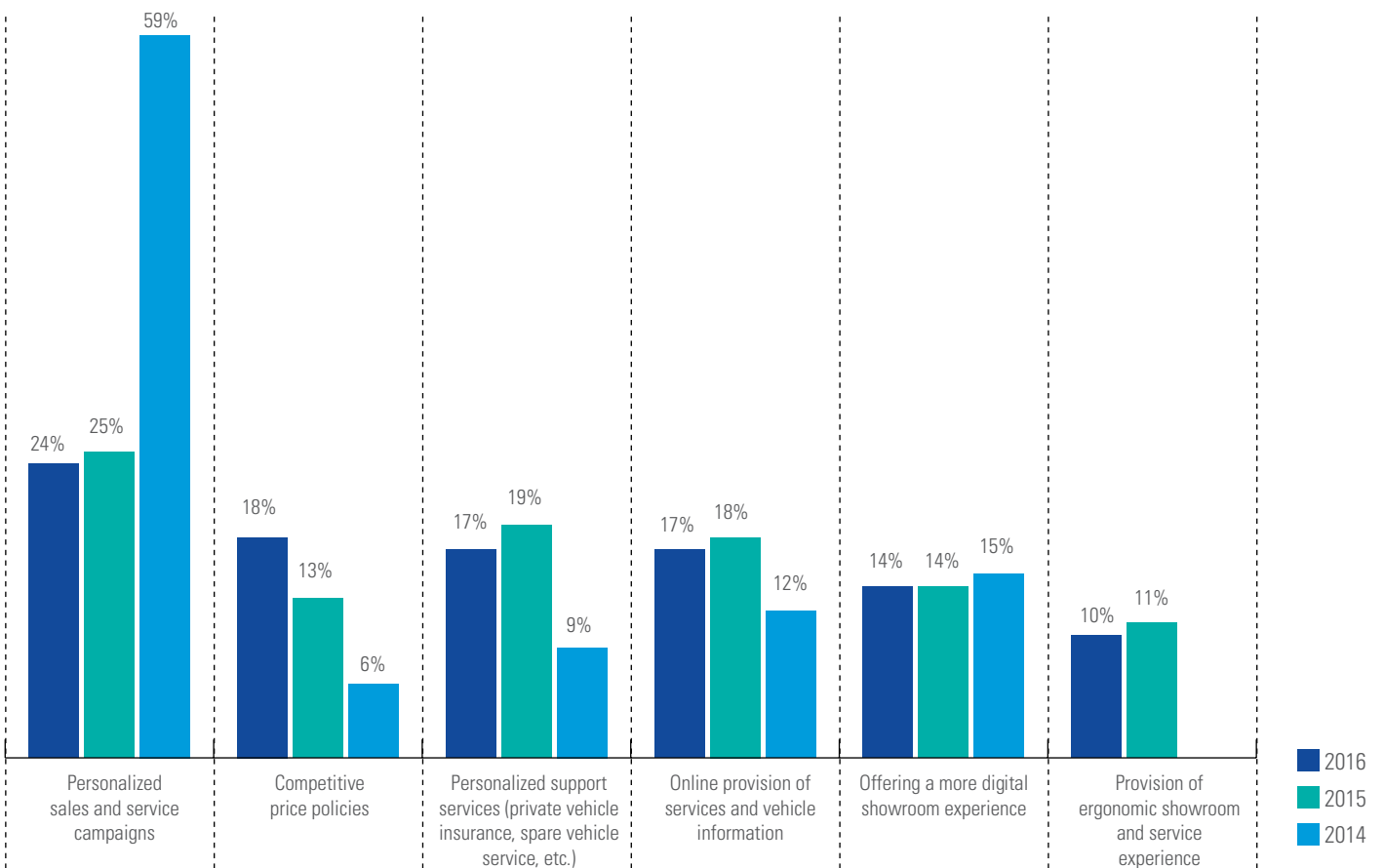
I believe that this trend will continue in the next 5 years as well and the brands offering customized and unique sales and/or maintenance services to their customers and users will be more successful. I also believe that the users will compare the aftersales services of the brands when making their purchasing decisions and prefer the brands offering the most suitable solution and services for them.

Another factor that we expect to improve the Turkish automotive sector in the next 5 years is fleet rental solutions. I believe that the car rental sector, which has grown at least as much as the retail automotive market in the recent years, will grow over the market in the next 5 years and this will have very positive impacts on the automotive sector.

The profitability trends in the automotive sector



Important points for increasing customer satisfaction



Market's View



Hayri Erce, PhD.

Automotive Distributers' Association (ODD), Executive Coordinator

In 2014, the rise in the exchange and interest rates, the increase in Special Consumption Tax for cars, restrictions by Banking Regulation and Supervision Agency (BDDK) for the credit procedures, loss of acceleration in growth, weakness in the consumption and investments of the private sector caused shrinkage in the automotive market. As a result of this, the market ended up with higher increase with the base effect in the first half of 2015.

We also left behind a very critical period when there were two general elections in the country. The uncertainty also reflected to the economic data. The consumer and economy confidence indices at low levels during 2015 started increasing as result of the confidence brought by the formation of the government.

The total automotive sector market achieved 1 million 11 thousand units in 2015.

Our sector has always been behind in achieving the desired sales in the domestic market despite the success in production and service quality as well as the continuously growing market. While the ownership of automobiles per 1,000 people was about 70 in early 90's in Turkey, this increased to 183 in 2015. This sounds like good news but the ownership of automobiles per 1,000 people is 613 in Western Europe and 336 in Eastern Europe. The automotive sector is of great importance but our market is still behind its actual performance.

We hope that the investments that have been falling behind the desired levels for some time will accelerate in 2016. There are indications that the increase in exports will be limited this year. As we rise in every platform, the size of the domestic market is very important in the international arena.

In 2016, the expectation regarding the decision of the Federal Reserve of the United States (FED) to increase the policy interest in parallel with the recovery in

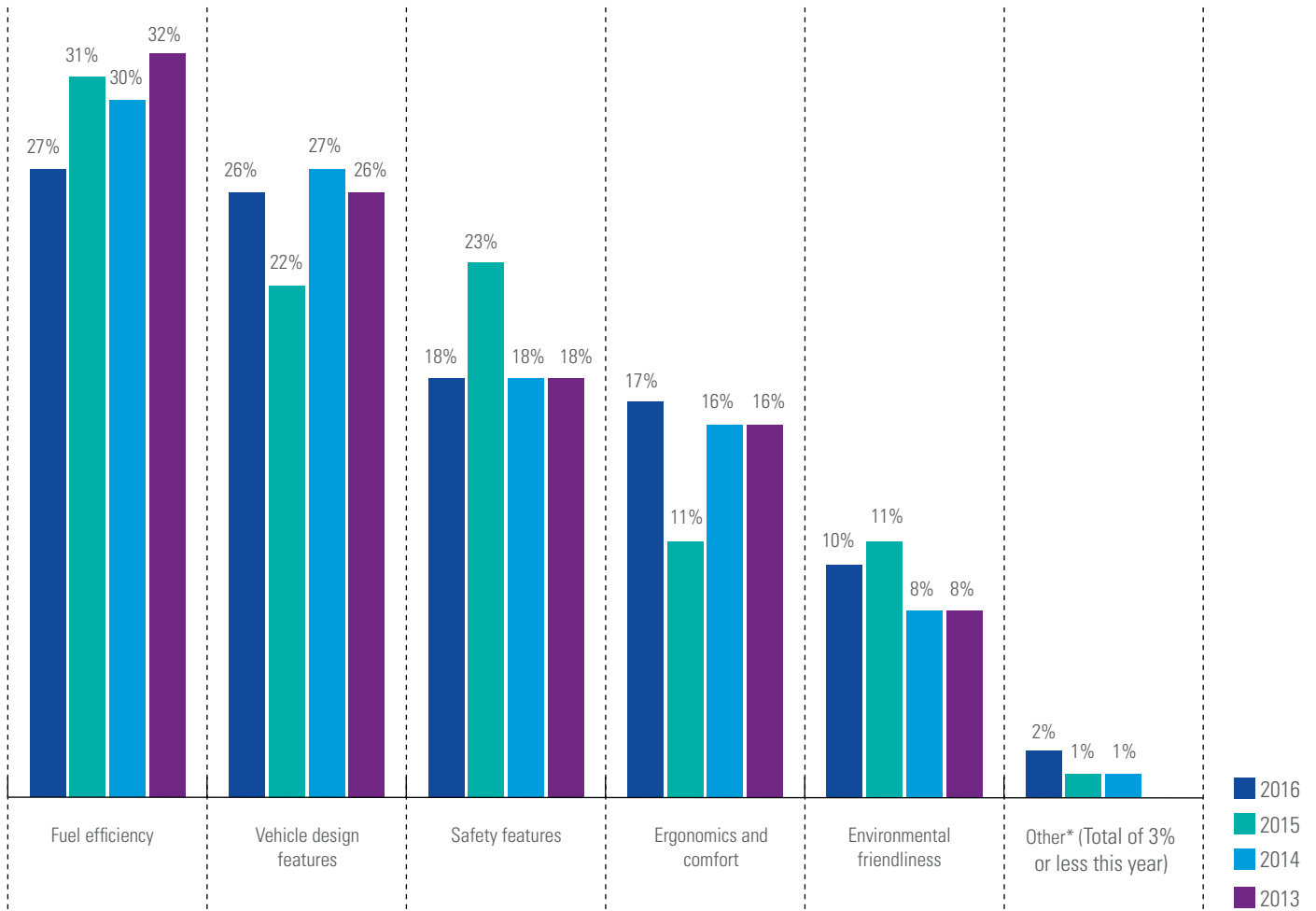
economy, the developments in the Chinese economy and its impacts on developing countries, the improvement in the EU economy and the decision of the European Central Bank (ECB) to continue monetary expansion to support economic recovery, geopolitical developments, the determination of Central Bank of the Republic of Turkey (TCMB) to fight against the inflation, improvement of the current accounts deficit, steps to be taken regarding the structural reforms and development and growth rate of the economic activity will have effects on the sector.

It is estimated that the total market of the automotive sector in 2016 will be slightly below 2015 between 900 and 950 thousand units.

This valuable survey of KPMG which has been carried out annually for four years and which defines all dynamics of the sector and sheds light on the sector, once more includes important findings to guide the projections for the future. We would like to thank everyone who contributed and got involved.

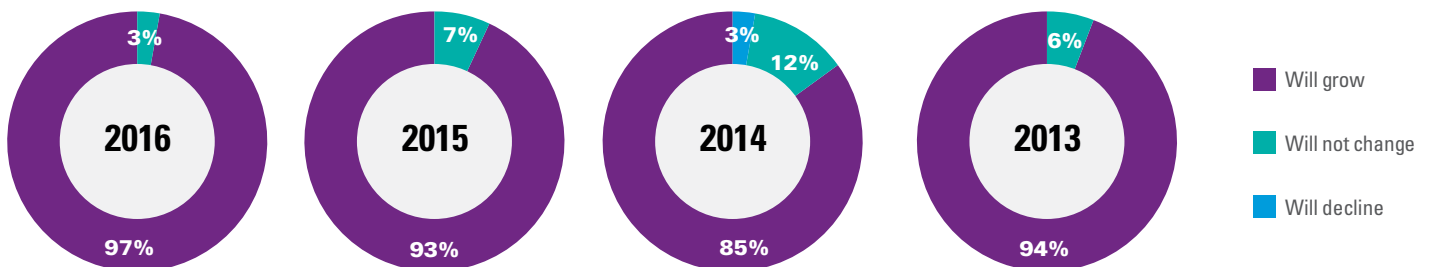
"We hope that the investments that have been falling behind the desired levels for some time will accelerate in 2016. There are indications that the increase in exports will be limited this year. As we rise in every platform, the size of the domestic market is very important in the international arena."

Important product features in automotive purchase decisions

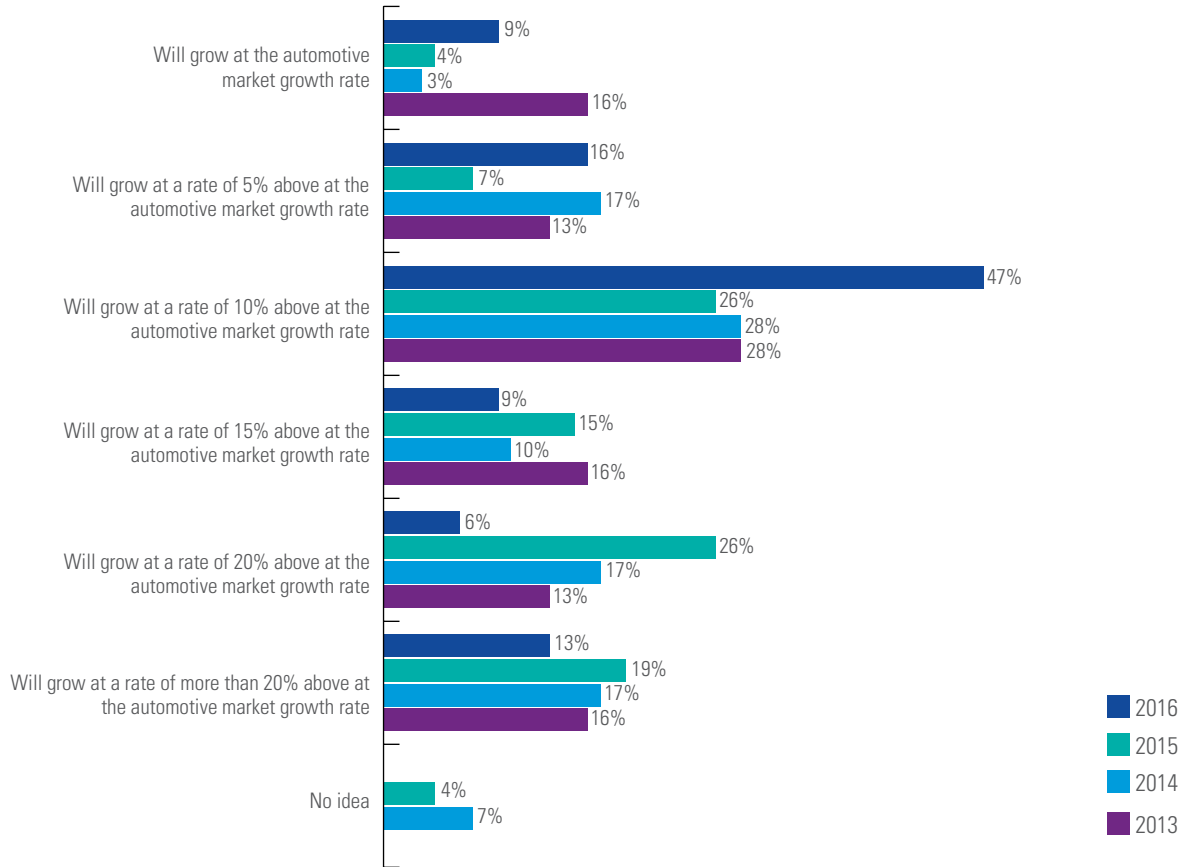


* Price; Interest; Personalized production.

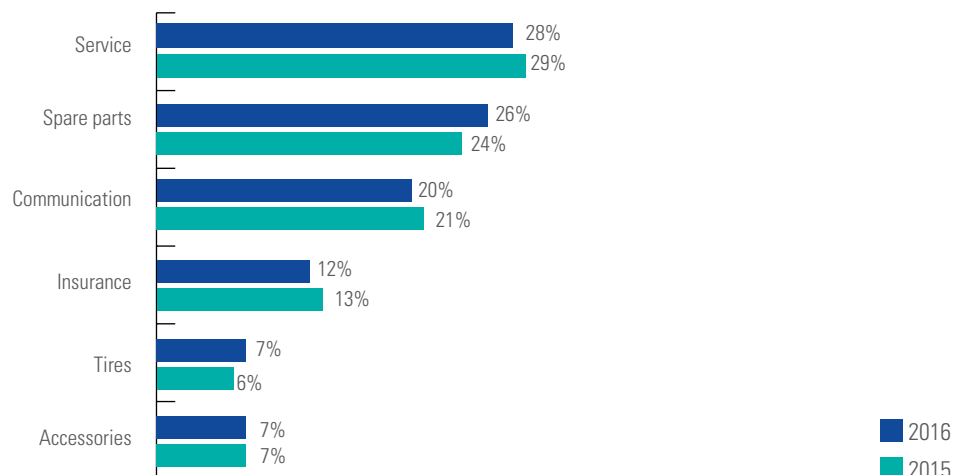
Assessments regarding the car rental sector



Expectations for growth in the car rental sector



Important aftersales service features in automotive purchase decisions





Özlem Karahan
KPMG Turkey
Audit, Director

The new leasing standard IFRS 16

The new leasing standard numbered 16, International Financial Reporting Standard (IFRS 16), which has been published by International Accounting Standards Board (IASB) on 13 January 2016, requires most of the lease contracts of the lessees to bring on balance sheet with a single model.

Currently, a finance lease is defined as a lease that transfers substantially all the risks and rewards incidental to ownership of an asset. Title may or may not eventually be transferred. All other leases are defined as operating leases.

Currently, for lessees of the operating leases, the right of use of the assets arising from the lease contracts are off balance sheet items. In the standard IFRS 16, excluding the allowed exceptions, for lessees the distinction between finance lease and operating leases is removed. For this reason, in the balance sheets of the lessee companies that are using their major assets under operating leases the reported amounts of assets and liabilities will increase.

This will affect a wide variety of sectors, from airlines that lease aircraft to retailers that lease stores. The larger the lease portfolio, the greater the impact on key reporting metrics.ⁱ

Why the Standard has changed?

For long years, IASB has been receiving critics from the investors that the lease accounting does not meet their needs. For lessees, because the lease contract accounting is depended on whether it is an operating lease or a finance lease, it was noted that most of the lease contracts remain off balance sheet. Currently over 85%ⁱⁱ of such contracts is estimated to be accounted off balance sheet. To address the needs of the investors the lease accounting has been changed to a great extent and for lessees the distinction between finance lease and operating lease has been removed.

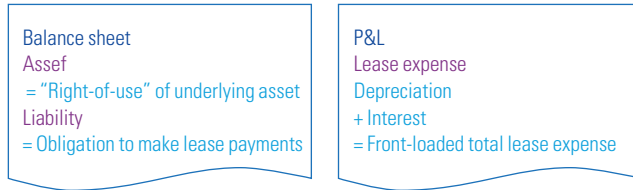
ⁱ Kimber Bascom, KPMG Global IFRS Leases Topic Leader

ⁱⁱ IASB Publications –Investor Perspectives—“A New Lease of Life”, January 2016

What will change?

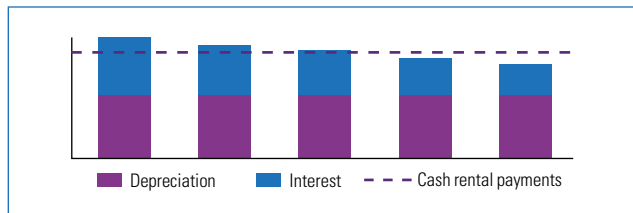
Lessees face major changes

Leases on balance sheet



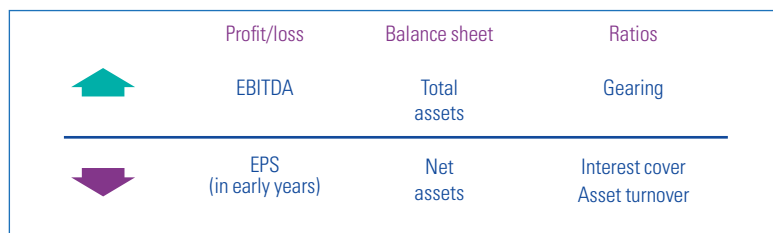
Companies with operating leases will appear to be more asset-rich, but also more heavily indebted.

Impact on profit/loss



In the cash flow statement, it is expected that the operating cash outflows will decrease, with a corresponding increase in financing cash outflows.

Impact on financial ratios



It is expected that the EBITDA, the balance sheet totals and the gearing ratio (debt/equity) of the companies will increase as the rent expense will start to be reported as depreciation and interest expense. However, when the present value of the lease payments is calculated, as higher interest expense is calculated in the early years, it is expected that earnings per share, net assets, interest cover and asset turnover ratios will decrease.

In the new standard, lessor accounting remains similar to current practice, whereas the difference between the operating lease and finance lease still exists.

Next steps

IFRS 16 will replace IAS 17 and related interpretations and will be effective for annual reporting periods beginning on or after 1 January 2019. Early adoption is permitted for companies that also adopt IFRS 15 "Revenue from Contracts with Customers".

During the preparation period for the transition, all companies should review their existing lease contracts under the new requirements of IFRS 16 to inform their stakeholders and investors and plan how the new standard will be implemented. It might be necessary for companies to make organizational changes to prepare the data required both from the information systems and the business processes.

For more information you can visit our web page.

<https://home.kpmg.com/xx/en/home/insights/2016/01/leases-new-standard-balance-sheet-transparency-slideshare-first-impressions-ifs16-130116.html>

Market: OYDER

Featured results

- 1 The profitability of the authorized dealers does not meet the high financial risks and investments.
- 2 Changing consumer expectations and behaviors are among the most important external factors ranking third after tax burdens and adverse effects of exchange.
- 3 The used vehicle trade, which is the most important field of investment for authorized dealers, is expected to be carried out over the Internet.





KPMG Insight

Authorized dealers find their profitability insufficient

The most important problem of the authorized dealership for the future is by far that the profitability does not meet the high level of financial risks and large investments.

While the effects of exchange and high levels of taxes increase the costs on one hand, fierce competition suppresses the sales prices on the other hand.

The development of the automotive sector is directly associated with the strong network of dealerships in the market. The authorized dealers made significant investments for compliance with the market structure that has changed with the Customs Union in parallel with the EU legislation and they achieved an important level at the maintenance services throughout the country. However, the excessive demand changes mentioned before restricts making mid and long term plans and creates an adverse environment where the plans are made for short term and even daily. It is also known that this situation hampers sustainability of the authorized dealer network that achieved a contemporary level in terms of capacity and service with the new investments made in the recent years.

On the other hand, the authorized dealers arrangement under the scope of Customs Union at the same level as the EU competition legislation of 2002 is in effect since 2005. The EU revised this legislation in 2010 but it's still not certain when this new arrangement will be implemented in Turkey. This situation results in uncertainty in the relationship between the authorized dealers and the manufacturers/distributors in our country which is a part of the EU market. Therefore, the Competition Authority is expected to clarify this matter as soon as possible.

Establishment of a special incentive mechanism for scrap vehicles to encourage the renewal of the vehicle park has not been implemented yet although it has been discussed for years. It is also expected that the enactment of the studies being carried out by the Ministry of Environment through the network

of authorized dealers in the near future will liven the sector up. This practice will mitigate the adverse impacts of old vehicles on the environment by contributing to the rapid rejuvenation of the vehicle park.

Changing customer expectations and behaviors are gaining importance

Among the most important external factors affecting the authorized dealers, tax policies, the impact of the economy and exchange rates rank first as with the previous year. However, we observed that the changing consumer expectations and behaviors showed the most significant increase and ranked the third.

The authorized dealers monitor the development of a different market in meeting the rapidly changing consumer demands besides the increasing competition. It seems that this situation reflected to the assessments as well. This trend can be better observed in the new generation of consumers in particular. The consumers expect more offerings and options from the dealers.

On the other hand, the increasing choice of brands and models in the market require the showrooms of the dealers to display more models for the consumer.

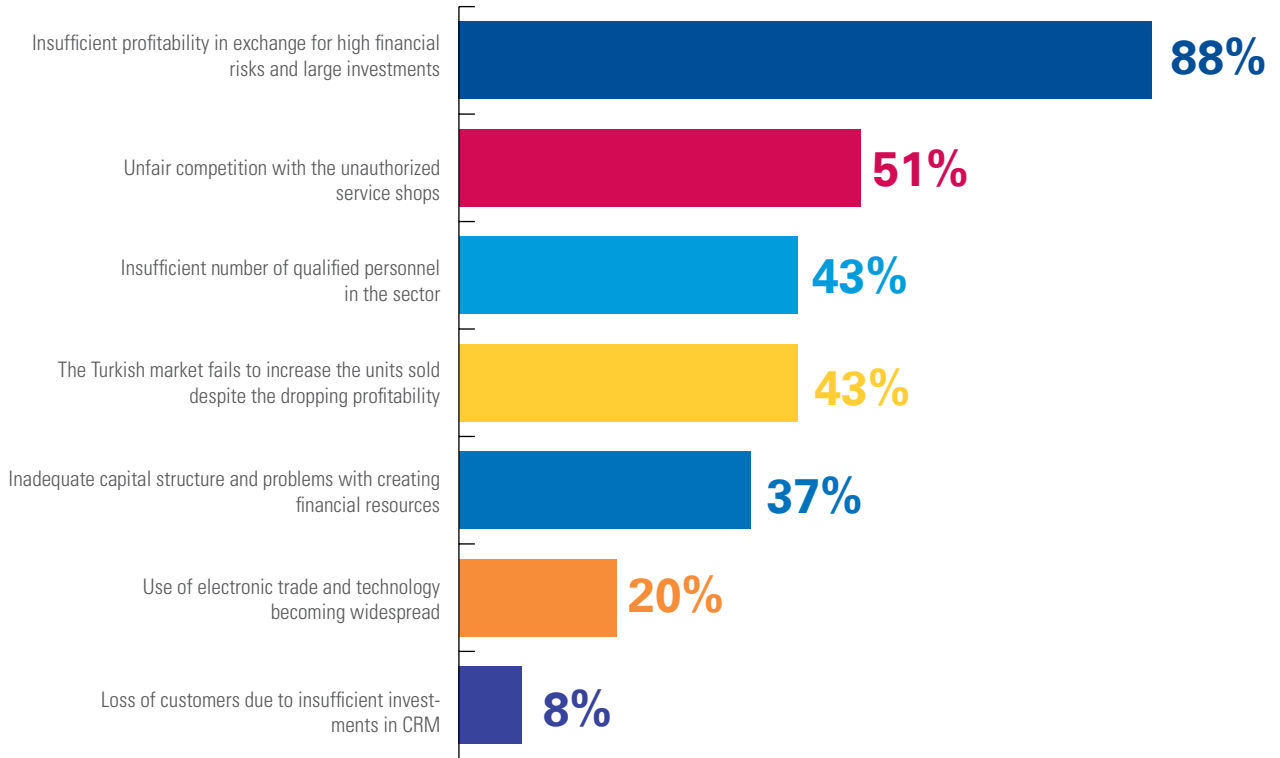
The used vehicles trade will transform into e-trade

The authorized dealers intend to establish professional used vehicle (2nd hand) sales organizations. This ranks the first among the investment trends of the authorized dealers with 88%. These sales are expected to be made through the electronic trade system.

Replacement of used vehicles with new vehicles at a reasonable cost provides convenience for the customer. And sale of these vehicles rapidly over the Internet by the dealers is of importance in terms of cash management in the business.

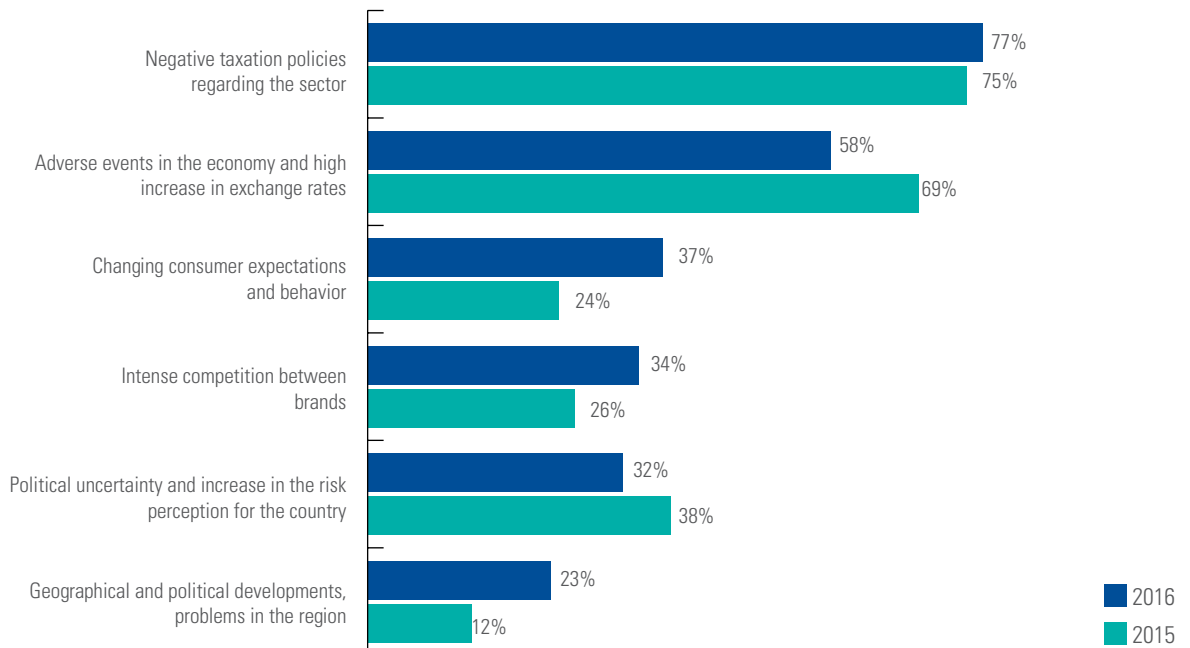
However, e-trade requires a very different business model. The authorized dealers will need strong partners to enter and succeed in this field.

Future problems of authorized dealership



2016

External factors affecting the authorized dealership



■ 2016
■ 2015

Market's View



Murat Şahsuvaroğlu
OYDER, Deputy Chairman

Before commenting on this year's results from this valuable survey, which is carried out by KPMG Turkey every year and casts light upon the future of the sector, I'd like to thank everyone contributing and KPMG experts in particular. These results show the problems and expectations we have each year very simply and clearly. I believe that these expectations serve as the most important guide to ensure continuity of our business by setting our position on the basis of these expectations and acting accordingly.

When we look at the results of this year briefly, we can conclude that the basic dynamics of the sector are still the same but the sector is more optimistic with the increasing sales figures.

As everyone already knows, both the purchasing taxes and the usage taxes in the sector are at the highest level throughout Europe. In particular, the Special Consumption Tax rates applied create a very significant tax burden on the users. As we've been stating for years, the upward updating of these tax rates prevents the real potential of our country from being reflected to the sales.

If the new vehicle purchasing taxes are decreased to 20-25% levels as observed in the European averages, it's quite likely that the annual sales figures will increase twofold within 2-3 years. However, the fact that no one dares to make such an arrangement due to the fear that the foreign trade deficit will increase from the macro economic perspective of the country, remains to be the greatest problem for the sector.

Besides, the fact that the market target of 1 million units which we had been expecting for years was achieved for the first time this year gives hope for the future. Both the permanent increase in the

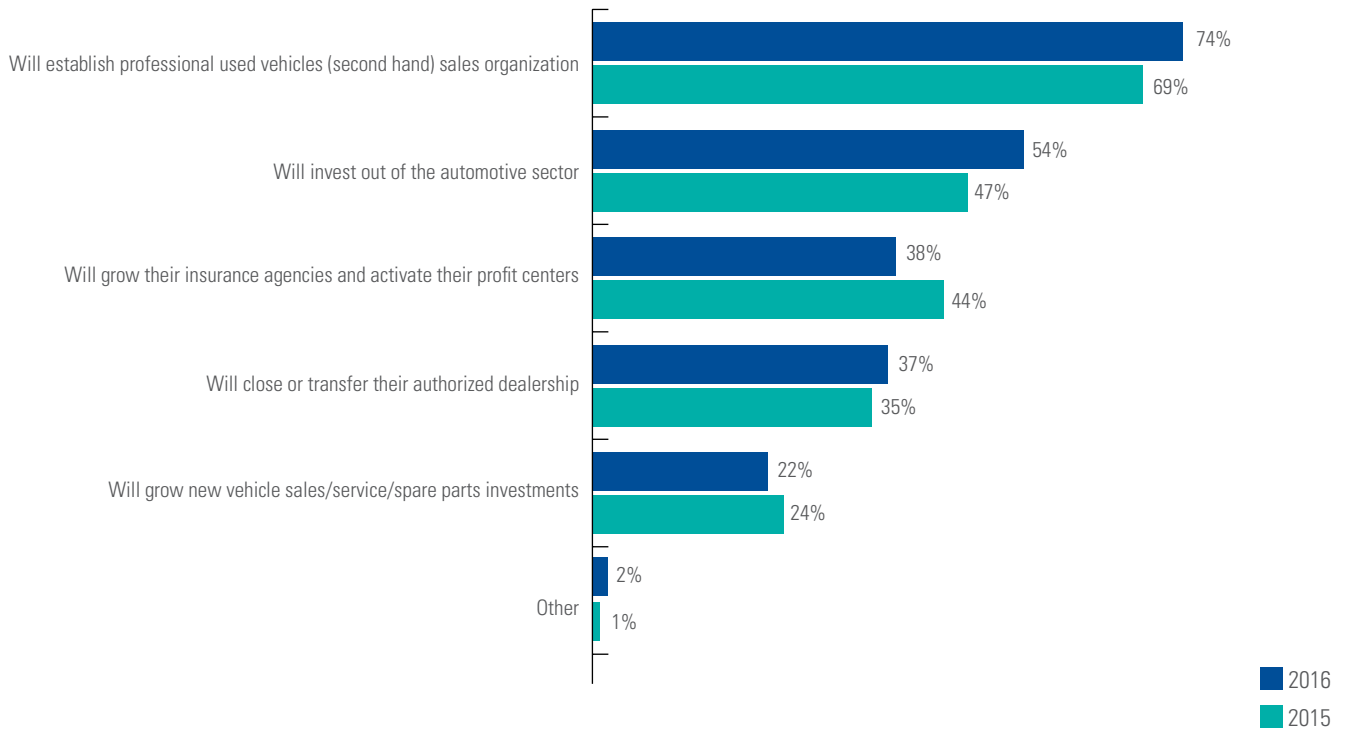
passenger vehicle sales and the developments in the rejuvenating light commercial vehicle market indicate that it will remain at the level of 1 million or over unless there are serious economic or political turbulences in the upcoming years.

Fixation of the domestic market size, which is of great importance for attracting new investments to our country, at the level of 1 million units or over is a promising situation for the future of our country. However, the developments in BRIC countries which should be taken into account for succeeding in the global competition are also of great importance for our sector.

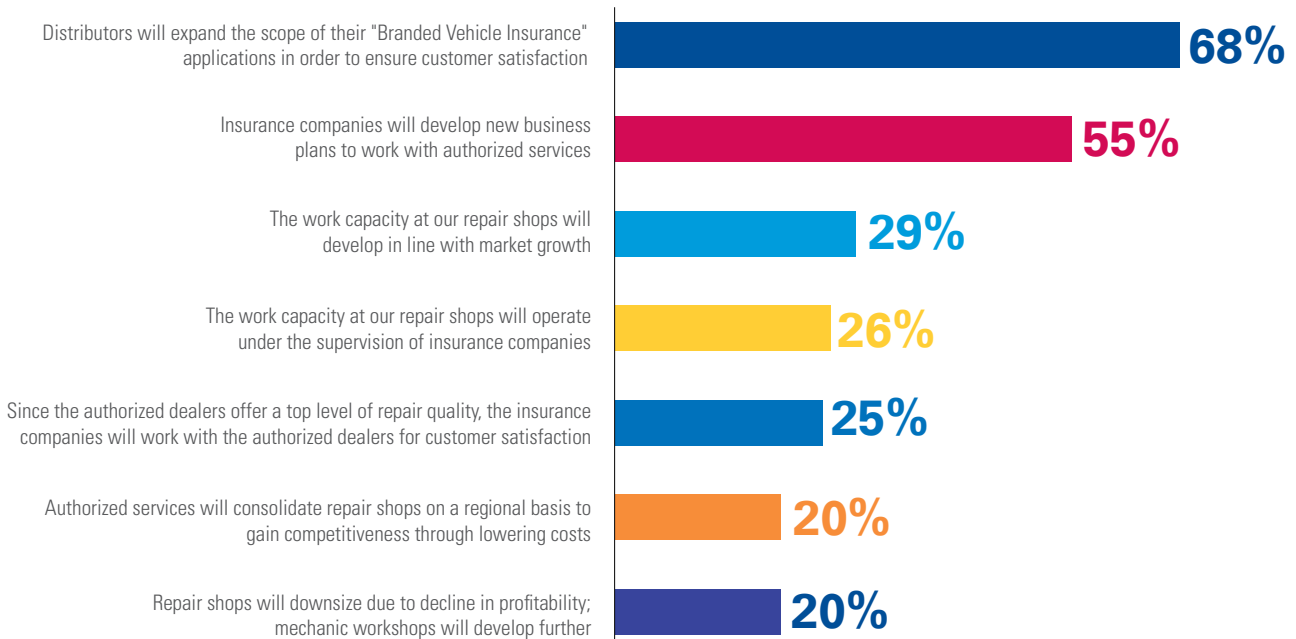
Particularly the attempts of China and other big economies to penetrate into the automotive sector should be monitored closely since it's probable that they will dominate the markets in the future. The penetration of Chinese brands into the European and Turkish markets strongly could affect the stabilization of the market. In this case, Eastern European and Northern African countries could be the points used to penetrate into the European market.

"If the new vehicle purchasing taxes are decreased to 20-25% levels as observed in the European averages, it's quite likely that the annual sales figures will increase twofold within 2-3 years."

Investment trends of authorized dealers



Expectations for change in the works carried out in repair shops of authorized service stations



Market's View



Özgür Tezer

OYDER, Secretary General

The Turkish automotive sector successfully concluded 2015 with records in production, exports and sales despite many adverse events such as two general elections, increase in exchange rates, FED interest uncertainty and increase in interest rates.

This year, our sector grew 26% over the previous year and exceeded 1 million. Furthermore, our sector realized a production of 1.359 thousand units for the first time in its history and made a significant contribution to the growth of industrial data of our country which ranks the 6th in Europe in total automotive production. Despite the economic crisis going on in the world, the sector created new markets in addition to the EU countries and exported 73 out of every 100 vehicles produced. Thus, our automotive industry which has been achieving new success each year constituted 15% of the total exports of our country and ranked the first among all sectors once again.

In the near future, the Turkish automotive market will grow even more with the increase in the per capita income and the number of automobiles per 1,000 people will increase even more. Furthermore, it is observed that it paves the way for new investments in countries with strong production and domestic market structure. We hope that the major brands of the world will invest in our country and contribute to employment as our domestic market gets stronger.

With a simple calculation to find out the number of vehicles per 1,000 people; currently there are 19 million 800 thousand motor vehicles in traffic in Turkey. With a population of 78 million, the number of vehicles per 1,000 people is 250 and 129 of these are passenger vehicles. This is much below the average of EU countries. The average for EU countries is 650 and even our neighbours, Bulgaria, have an average of over 400. We can see that our company will remain an important market with its demographical structure and enormous trade potential.

The positive developments in our sector were not only observed in new automobile sales but also in second hand sales. According to TÜİK data, 4.4 million units of used passenger vehicles were sold in the last 12 months. In such an environment where only 725 thousand new passenger vehicles were sold in 2015,

second hand automobile sales of 4.4 million units indicate that this market will become more and more important.

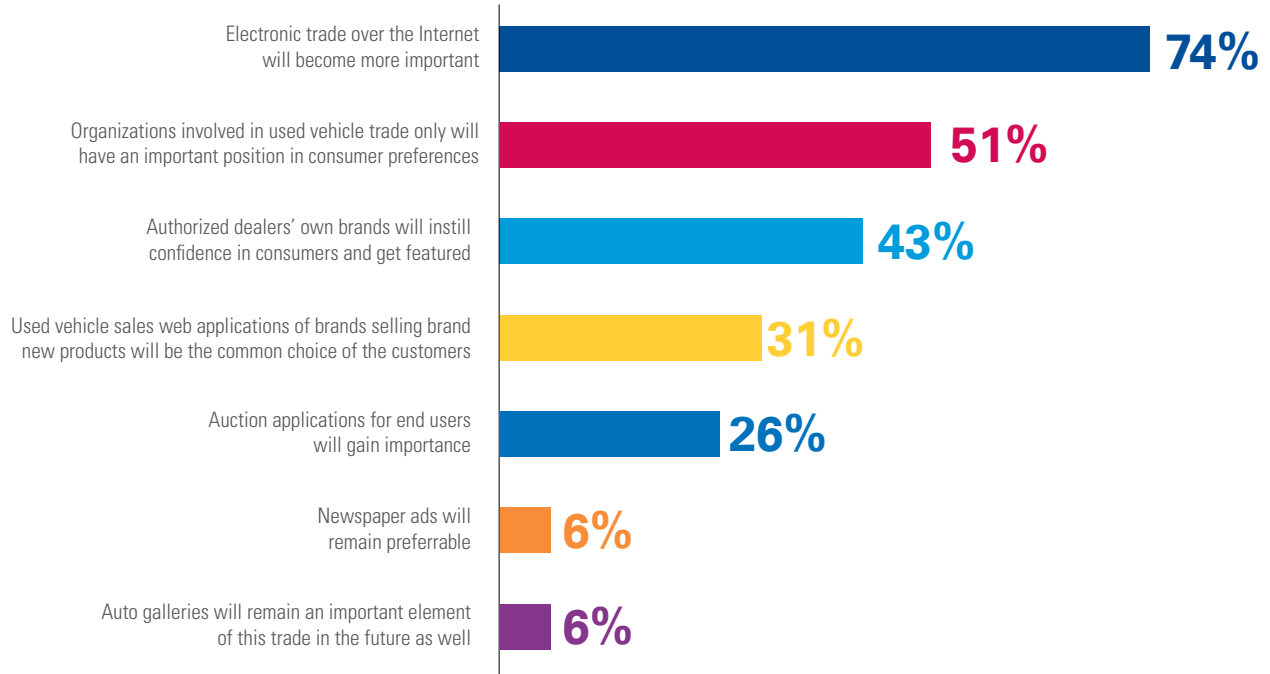
The subject of sending the vehicles over 20 years of age to recycling centers as scrap, which we have been insisting on for a long time, keeps getting more important. The strategic decisions by the government regarding removal of these vehicles from traffic since they cause serious safety problems and are an important factor in environmental pollution will accelerate the upward movement of the sector. Such an arrangement for those end of life vehicles would relieve the traffic and allow travelling on the road with safer vehicles and taking an effective measure against air pollution which is on the agenda nowadays. Furthermore, the automotive sector would be affected positively by such a decision.

Assessing the situation from the perspective of the Authorized Dealers; the target pressure and the adverse environment created by the spot vehicle sales emerging again recently, the problems in the process management and the new legal requirements resulted in an unprofitable period for the dealers in a year of records. This unprofitability prevents new investments as well as new opportunities for employment.

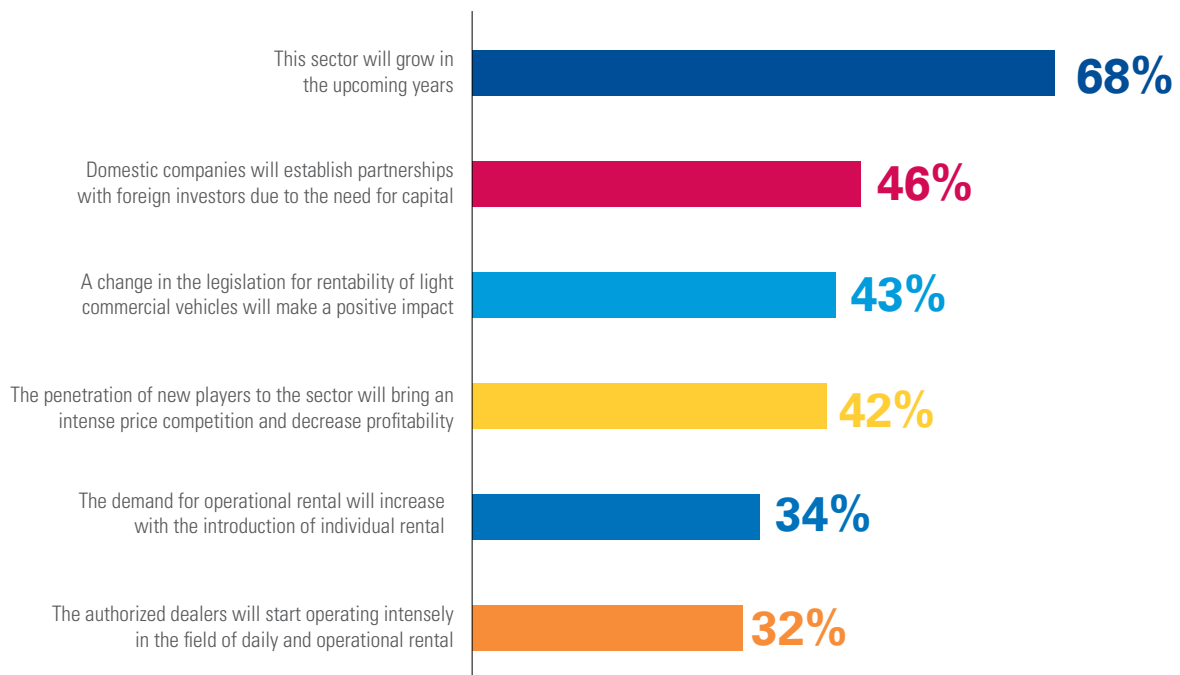
I'd like to thank everyone contributing to this valuable survey carried out with KPMG.

"According to TÜİK data, 4.4 million units of used passenger vehicles were sold in the last 12 months. In such an environment where only 725 thousand new passenger vehicles were sold in 2015, second hand automobile sales of 4.4 million units indicate that this market will become more and more important."

Consumer preferences in used vehicle trade



The future of the operational rental sector



Special Section: Business Models of the Future



The automotive industry at the crossroads of a highly digitalized age

In the era of ubiquitous connectivity, the days of the traditional purchase decision and the predictable customer journey with a strong product and technology focus are numbered: OEMs' future business models will have to far more accurately reflect the lives of their customers, who are looking to optimize their time, cost and quality of life in real-time and depending on situation and application.





A person in his mid-thirties, married, with a successful career, living in the modern urban environment of a big city:

- Waking up every morning already involves his smartphone – preferably not at a specific time, but because his rapid eye movement (REM) cycles are being recorded by a fitness strap.
- His first action is to take his phone out of flight mode and enter the connected world. The radio automatically fires up a playlist to fit his mood.
- The skip button of the smartwatch on his wrist means he wastes no time listening to songs he does not like.
- Instead of having to navigate to the main news pages, they appear as small pop-ups directly on each of the digital devices in his apartment based on his search and communication history
- His daily companion optimizes everything that can save him money, helps him use his time more efficiently and improve his quality of life.
- Based on his calendar entries, his smartwatch vibrates to let him know that he needs to start driving five minutes from now if he wants to get to work on time. Having made a detailed calculation of his total cost of ownership, however, he has not actually owned a car for some time.
- His digital assistant knows there are various car-sharing services in the immediate surroundings but based on the latest traffic data, it suggests he takes the underground instead.
- He has an important appointment and time is of the essence, so he chooses the right mode of transport to get from A to B based on the specifics of his situation.
- He also has time to shop while on the train, since his digital assistant has also popped up a reminder that his favorite shoe brand is available from an online outlet store today.

Just a few years ago, this person in their mid-thirties would have been the ideal customer for an automaker. But where can automakers and their traditional business models generate sustainable revenue from the everyday life of today's customers as described above? The troubling answer is that the opportunities may be few and far between.

A distant scenario of no concern to the automotive industry just yet?

Quite the opposite – this is already the day-to-day reality of many potential customers and this scenario could have occurred yesterday. From now on OEM's should expand in the areas below addition to being an extreme complicated automotive industry manufacturer.



Metalsmith or gridmaster?

To be a grid master, OEM's will need to control both upstream and downstream elements in one central business model

The car is and remains undoubtedly the world's most complex industrial product. Over the past decades, automakers have impressively demonstrated their ability to successfully control the upstream as a central interface, despite growing complexity and the need to integrate new elements. To a large extent, the same applies to the traditional elements of the downstream such as dealerships, aftersales and service.

Accordingly, the positive aspect of the metalsmith tag is that automakers will continue to be able to harness their core product and technological competencies as a competitive advantage in the future. This is particularly true for OEMs with less strong brands and lower potential for customer retention. For these OEMs, the possibility of establishing themselves as a supplier providing outstanding vehicles – mobile data rooms – for high-tech companies like Apple or Google is a promising avenue, as these high-tech companies may have no long-term interest in the risky and capital-intensive process of automotive production and in selling the product, even in the future.

What makes a Grid Master successful?

Automakers will need to intelligently connect the traditional and new elements of the upstream and the downstream in order to develop into Grid Masters. Only those

automakers that succeed in establishing themselves as the preferred data hub for customers in future, will be able to hold firm as Grid Masters in the face of an influx of third parties.

The internet of things alone will not be enough to keep pace with new competitors from silicon valley at the customer interface

Looking at the most successful business models of the recent past, there is good reason to think that – contrary to the suggestion that still frequently does the rounds – it is not the Internet of Things that will be the key to success for future automotive business models, but rather the Internet of Behavior. Logically, a car that operates solely within the Internet of Things could become just another commoditized hardware device within the total ecosystem of connected mobile and immobile data rooms in future. By contrast, behavioral vehicle and customer data from the Internet of Behavior will enable the generation of scalable, sustainable revenue streams. But the question that arises today when it comes to the car is: for whom?

Largely behavior-related data of the internet of behavior will enable the generation of scalable, sustainable revenue streams

In the upper right-hand quadrant of the connectivity matrix, which is home to predictive customer analytics, growing connectivity is accompanied by the greatest revenue potential for future business models, in the area of mobility. »

Location-based cross-selling: The intelligent use of location-based information and the right combination of cooperation partners could lead to the creation of interesting incentive systems for customers, allowing them to perform additional tasks while

travelling from A to B, for example.»

Behavior-based cross-selling: Taking this principle one step further, knowledge of the behavior of vehicle users at specific times of the day or week could lead to the creation of incentive systems that combine vehicle and customer data intelligently to enable customized services.

By shaping these services, valuable vehicle and customer data can be combined innovatively, to generate entirely new revenue streams that go far beyond mere vehicle sales and servicing. In addition, these virtual services are scalable and involve relatively low investment costs and capital tieup. However, this is also precisely what makes them so attractive for third parties from outside the industry.

How captives can support the new business model of oems

Captive finance companies (Captives) are no longer sole financing partners to their customers and simple sales motors for their OEMs. Things have changed and they will continue to change at a fast pace.

Captives will become indispensable companions for all OEM endeavors, claiming their stake in an evergrowing automotive financial services market spanning the automotive product lifecycle, both upstream and downstream. Captives will complement and upgrade OEMs' products with their services and insight into the customer. Financial stability and independence will be of utmost importance if Captives are to live up to these new requirements. Involvement with external risk bearers will slow down efforts to become a frontrunner in captive finance. Banking licenses will become the new norm and pay-off as they facilitate refinancing and investment endeavors.

Data security as competitive advantage and core competence in future

In the digital age, every medium to large enterprise is now collecting, sharing or evaluating large quantities of data in even larger varieties. Over the last few years, many security-related incidents have shown that while digitalization processes open up new business models and opportunities, cyber security needs to be integrated right from the start into any new strategy or concept.

The intelligent connection of vehicle, environmental and customer-related data is the fuel for future automotive business models

A car becomes a gigantic data-generating machine only in conjunction with its occupants, their behavior and social environment and its own physical surroundings. The first step is to draw a distinction between upstream and downstream data and clarify who will ultimately be the owner of the data.

A data-based grid master business model requires a strong brand and high potential for customer retention

Given that customers are becoming increasingly aware of the value of their own data, this could be the catalyst for premium manufacturers in particular to implement databased Grid Master business models. This will give them an advantage over the competition for vehicle and customer data thanks to the trust enjoyed by their strong brands.

As they compete with third parties from outside the industry, premium automakers will benefit from the fact that their customers place greater trust in them to manage their personal data than internet and technology companies. Or, to summarize one customer's sentiments: a company that has been keeping me alive for many years with active and passive safety and driver assistance systems can also be trusted when it comes to data security. Premium manufacturers from Germany, in particular, could have an additional advantage over other competitors on account of the country's particularly strict regulations on data security, which usually tend to be seen as a disadvantage. Logically, manufacturers from the mass-market and low-price segments may be forced to surrender the customer interface to new competitors from the information and communication

technology industry, and concentrate on a product and technology-oriented business model.

What the upcoming changes could mean in quantitative terms.

Our market forecast on the connectivity of new vehicles in 2022 shows that the market potential for OEM-captive connectivity solutions (i.e. the Grid Master model), could account for less than 40 percent of the global new car market in 2022. Only North America, Western Europe, Japan and Korea are expected to see higher regional market shares on account of the maturity of their respective markets. However, according to our estimates, 52 percent of new cars will be fitted with fully or partially integrated solutions from third party providers following the metalsmith business model.

How might a business model built around customer behavior and service look for automakers of the future?

To evolve into becoming the Grid Master, in the medium to long-term automakers will have to develop into being trusted, virtual data marketplaces, that all interested companies can approach to collect vehicle and customer data.

The first prerequisite for this scenario is for customers to take the motto "My car, my data" and add their consent with the words: "and I am confident that my data is in the best possible hands with my preferred automaker".

From the current perspective, the greatest challenge will be to establish an intelligent and, in particular, highly intuitive incentive system that persuades customers to give the OEM exclusive access to their data trail as the central partner at the outset, rather than handing it over to any and all third parties more or less free of charge. Undoubtedly, cultural-and-maturity-related

market differences need to be taken into account when designing the specific details of the incentive system.

Release-ability is the key to success for automakers

The automotive industry will never be the same again. Even the product development process of the connected car will have to change fundamentally. The integration of additional service-oriented functionalities that support customers throughout the vehicle lifecycle will succeed only if manufacturers ensure that certain parts of their development process are release-able (i.e. modular and updateable). Accordingly, flexible, decoupled R&D processes and freeze periods between vehicle-dependent and vehicle-independent hardware and software features are essential – and the key to ensuring a quick response to future customer expectations. It is clear that simply installing core functionalities including permanently integrated, high-margin special equipment such as navigation systems, based solely on safety and efficiency functions from the Internet of Things will not be enough. To generate sustainable revenue at the customer interface in future, additional functionalities that enable the driver and all other occupants to use their travel time from A to B efficiently will be absolutely essential.

The development process for the integration of ICT hardware at the human-machine interface (network technology, displays, etc.) will need to be separate and with shorter freeze periods. The cornerstone of this process is the modular structure of all the components used, which can be exchanged and added flexibly. Whereas the modular concept in traditional vehicle production is aimed solely at optimizing costs for the manufacturer, the modular principle for ICT hardware is aimed solely at optimizing the customer's needs.



The Clockspeed Dilemma

What does it mean for automotive innovation?

In the last 100 years, the auto industry has been at the forefront of innovation, building a powerful base of knowledge along the way. From design to mass production to sales and marketing, the car has evolved into an amazing blend of road machine and sophisticated computer. And yet, despite all this astonishing innovation, we believe the next decade will produce as much change as the previous century.

Therefore, it is projected that information technologies, same as in mobile phones, will increasingly find a field of application in the automotive industry.

At the same time, consumers are being led toward new expectations—new kinds of unmet needs—by the most disruptive innovators, many from outside the traditional auto ecosystem. When Uber shows them they can have a car available to them on demand, when and where they want it; when the iPhone teaches them they can have a beautiful, stylish piece of equipment that satisfies their desires for music, the Internet and phone service in one device, they learn of something they “always wanted.” Now, courtesy of disruptive innovations, they demand it.

It is obvious that we are at the edge of an age of unprecedentedly fast growing innovation when the investment hit record level on technology companies is considered.

KPMG brings forward a new topic of discussion with a report published a short while ago: “The Clockspeed Dilemma”. Clockspeed dilemma makes the point simple that time is actually relative for the automotive industry. Car companies obey a pace—a clockspeed—required of capital-intensive powertrain plants, stamping plants, and assembly lines, to ensure cars work at Six Sigma quality every time and all the time, from -40 to 130 degrees Fahrenheit.

Now they must also embrace a far faster clockspeed—actually, multiple faster clockspeeds. The faster clockspeeds are the result of new players entering the ecosystem, from technology giants to start-ups. The changes in consumer behaviors and competitive equilibrium increase the speed of innovations in auto industry, especially in autonomous vehicles, connectivity, and mobility-on-demand. In all these areas the speed of innovation is different and various and to create the multiple clockspeeds it now faces, the auto industry must institutionalize faster-paced innovation capacity that dovetails with its current clockspeed.

Some of the new competitors operate at a much larger economy of scale. All of them fuel customer demands for cars to be repeatedly new, exciting, and sexy while still holding to the standards of quality. Thus the clockspeed dilemma: the need to serve two different paces at once.

Innovation in the current auto space will transform the very nature of transportation and change people’s lives along the way. The need for transportation increases due to the expansion in urbanisation. Consumers expect as a given that a car provides increasingly better fuel economy, increasingly safer experience on the road, and increasingly better-looking cars. The speedier paces of innovation come out of consumer demand for what we call the “sexy, dynamic experience”. Because, consumers have learned to expect a new kind of satisfaction from their cars—a “new sense of good.”

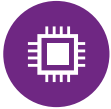
The power of the Sexy Dynamic Experience to drive innovation and to change markets should not be underestimated: sexy can kill robust.

Key changes: Big opportunities



Personal miles will soar.

Younger and older age groups are making small changes in their mobility decisions that will drive big changes in personal miles traveled. Our models project as much as an additional trillion or more by 2050. That increase will have a profound but unknown impact on vehicle sales, car ownership models, energy demand, and infrastructure.



The tech giants and disruptive start-ups are here to stay.

The pyramid OEMs once ruled now has company at the top. Car companies are standing shoulder to shoulder with new players who can sense consumer changes and drive new technologies into the market at a very fast pace.



Welcome to the world of tailored premiums.

Our focus groups tell us premium experience might diversify according to demographics and user situation. If so, what millennials or their children think of as premium won't be the same as baby boomers today. A rolling office? A moving entertainment center? Zero to 60 in 3 seconds or less? Automakers must pay attention to increasingly tailored consumer demand.



Build flexible architecture for an ever-changing future.

To interface with all the evolving technologies, your vehicles must have a flexible architecture. Or no one would buy your car.



Choose your core competencies wisely.

Accept that you will never keep up with all the technological changes or compete in all areas. The ecosystem is too vast and changing, and you do not have enough capital to invest in everything.



Sense the ecosystem from its center to its farthest reaches.

It's critical that you keep up with all the innovative forces inside and outside the industry, which are rapidly and constantly transforming consumer expectations.



Embrace the value of failure.

Nobody gets it right the first time, so fail fast in small ways and learn a lot from your failures.

**More than ever we believe the ecosystem is evolving...
It is just happening faster than we expected**



Last year, we hypothesized that the structure of the ecosystem in the automotive industry was going to change. High-tech entrants and tech start-ups would match the OEMs at providing technology and revolutionizing the industry. This past year proved that is happening at a faster rate than we anticipated.

New technologies are coming from every direction, so auto companies have to broaden their radar to keep pace. In the future, horsepower may matter less than processing power. Winning companies will be nimble, future-oriented, and prepared to invest in new technologies, new talent, and new strategic alliances.

**So what should an automaker do?
How does it innovate facing the clockspeed dilemma?**

This will be hard. Yet innovating successfully will be the difference between winners and losers in the evolving industry.

We believe the solution requires two essential and related steps:



Step 1: Facing the obstacles to change



Step 2: Aligning the organization for fast-paced innovation

The power of a solution lies in its details...

Facing the obstacles

Most traditional automotive players nod in recognition of multiple challenges but have not fully come to terms with their effect on the ability to innovate. They understand completely that fast-paced innovation can be disruptive, and they understandably struggle to balance it with core businesses they must not change. And yet there are other cultural and institutional obstacles—many of them core strengths in the past—that impede innovation in the current ecosystem:



Securing new talent

The industry is losing the war for young talent at the same time its knowledge base is shrinking as older talent retires. For many reasons, traditional automotive companies are not places where the most talented millennials dream of working.



Rewarding failure

Innovation is high risk and requires failure—something that true innovators expect and celebrate—but the industry tends to reward well executed, low risk change.



Investing in risk

Innovation means making financial commitments according to compelling investment theses. The traditional industry makes business decisions based on carefully calculated ROI.



Thinking disruptively

The traditional industry often finds it difficult to embrace truly powerful innovation, refusing to examine it where the industry has been most successful. That's different from the courage Apple showed to intentionally disrupt the iPod with the iPhone, producing a phenomenal result.



Partnering to innovate

With a heritage of engineering success, the industry instinctively prefers to build from within, cutting themselves off from the ideas of outsiders and the dynamism partnerships bring.



Building global awareness of innovation

The industry needs to capitalize on innovation anywhere, which means it needs better awareness of new centers of innovation everywhere from Tel Aviv to Berlin and from New York to Silicon Valley.



Special Analysis

We asked Mr. Türkay Oktay, Chairman of TOKKDER, to provide a sectoral analysis taking into account the positive views of the contributors regarding the operational rental sector.

Ergün Kış

KPMG Turkey
Head of Automotive
Partner, Audit



Türkay Oktay
Chairman, TOKKDER

The operational leasing sector continued to grow rapidly in 2015 as well.

Turkey is a country that needs foreign resources for economic growth and has to use the limited resources efficiently.

Since the operational leasing method allows the businesses use their resources effectively and operate efficiently in all aspects, this sector has been growing at a rate of 15-20% each year since 2009.

With a corporate car park of over 2 million units the operational leasing currently serves only 11% of this scale in our country. The fact that this rate is 30-45% in developed countries shows that our sector has a significant potential for growth. Furthermore, due to the condition of self-ownership introduced with a change in the Road Traffic Legislation in 2010, we are not able to lease commercial vehicles. The potential for growth of our sector will further increase with new arrangements to be made in this context. Therefore, we expect the growth in the sector to continue in the upcoming years as well unless there's a sudden constriction in the economy.

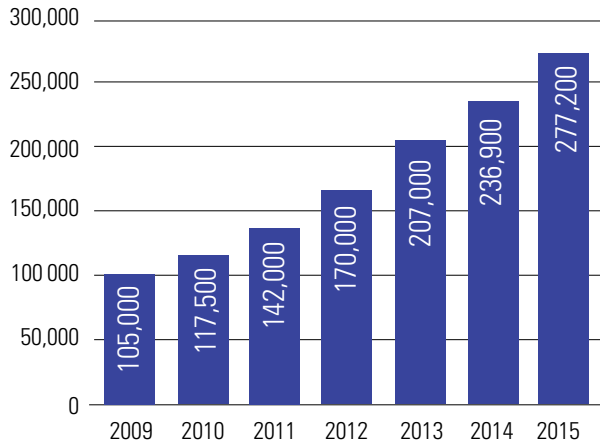
The vehicle park managed by the operational leasing sector has reached to 280,000 units and the size of assets to 18 billion TL by the end of 2015 and this sector has begun gaining a significant share in the total economy.

The number of customers served by this sector increased by 35% to 42,000 in the last 5 years.

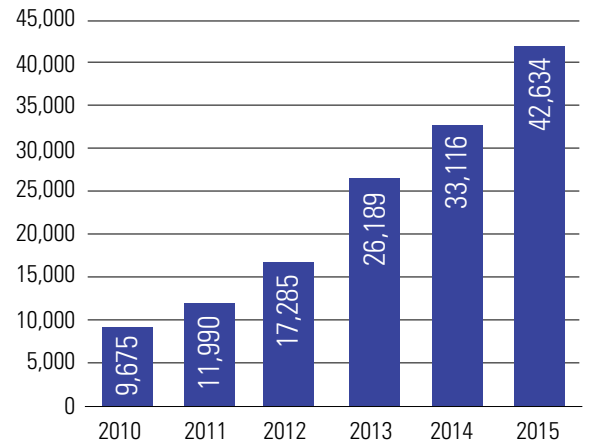
The operational leasing sector operates in liaison with the automotive sector. Touching each link in the automotive value chain, our sector carries out maintenance and repair of the vehicles via the service shops and the growth in this sector reflects to all these service shops as an increasing volume.

The sector purchased more than 110,000 passenger vehicles in 2015 and increased its share in the passenger vehicle sales to 17%. It's expected that the share from both the number of vehicles purchased and the vehicle sales will increase in parallel with the growth of the sector.

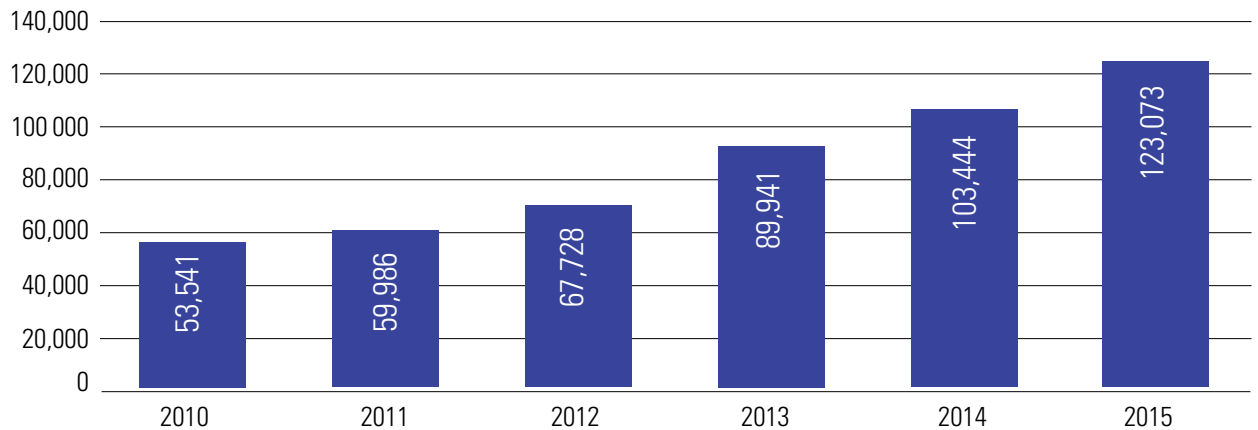
The operational rental sector vehicle park



The operational rental sector customer number



Number of Vehicles Purchased



The Future of Operational Rental

The world is experiencing a paradigm shifting from owning to using. Using a needed product for the period of the need is replacing the ownership of that good/product. This causes the operational rental to be preferred by both individuals and businesses and drives the growth worldwide.

Furthermore, mega urbanization, increasing traffic density and increasing travel have changed the operational rental sector from just renting motor vehicles to meeting all sorts of mobility needs of the customers as a solution partner.

Technology is being used more for mobility solutions as well.

Concepts such as time and cost management, efficiency, safety and environmentalism have already taken precedence over other elements such as prestige or comfort. More flexible products and solutions are demanded in vehicle rental choices.

Vehicle sharing and use of vehicle pools are the services that are demanded more and more. Sharing instead of owning vehicles is getting more widespread. Companies are trying to establish pool systems for using their vehicles all day and to solve their transportation needs with a smaller vehicle park by making reservations based on the need.



Gençer Keser
KPMG Turkey
Management Consulting,
Senior Manager

Industry 4.0 - the ultimate goal for manufacturing

Industry 4.0 is the current buzz-word in the sector. Even the world economic forum used The Fourth Industrial Revolution as its theme in 2016.

But what is Industry 4.0?

To describe it very simple: Industry 4.0 describes the integration of all value-adding business segments and the entire value chain with the support of digitalization. In the “factory of the future” the information and communication technology and automation technologies are fully integrated. All subsystems - including non-producing areas such as R&D, suppliers, original equipment manufacturers (OEM), and customers - are networked and integrated together in one system. All relevant requirements for production and manufacturing capacity are known already in the product development phase. The entire process can be totally watched on from the first step and controlled in real time – this includes the complete quality assurance in the production.

Why is it so important for the Automotive Industry?

We have on the one hand the customer who wants to have a vehicle as cheap as possible. And on the other side we have the companies that manufacture the vehicle on optimal possible costs. The customers expectation has changed over time and do not only required cheap vehicles, but also vehicles which are individually customized on each single persons requirements. The reaction on this new customer expectation is very welcome with most OEM but the complexity will significantly increase. The problem is that customers do not want to pay extra on the customization. Therefore manufacturing companies are looking for intelligent solution to produce the individual products on at least the original cost level based on recent years.

Paradigm shift from the “centralized” to “decentralized” production

For the manufacturing, the networking and transparency ensure a paradigm shift from the “centralized” to “decentralized” production. Already today production sites are working with “Embedded Systems”, which collect and pass on the specific data. In the “Factory of the Future” a central computer ensures the intelligent networking of these subsystems to cyber-physical systems (CPS). These Systems can work more and more independently. In man-machine interfaces the physical and the virtual world will act closely: Humans are setting the requirements, the process management is carried out autonomously.

The progress of the networking depends mainly on the technological innovation cycles, the technology acceptance and the willingness to invest. Already today various aspects are emerging in the implementation of industry 4.0 applications: sectors with short investment cycles, high capital investment and strong lot sizes such as in the automotive industry.

Suppliers must follow

If OEMs will become the “industry-4.0 Companies”, the suppliers must follow. Suppliers and service providers have to offer system-integrated solutions. Already today the complete traceability of all parts, components, modules and systems is a key requirement in order to be listed at the OEMs. A comprehensive system of the human, machine and related environment will create a so-called “Connected Ecosystem”.

What does that mean for the Turkish OEM’s and suppliers?

Turkish Automotive suppliers need to take this challenge as well in order to be competitive in long term. The close location, cheap price and high quality of products will not be enough in the future to enter new markets and win new customers.

Industry 4.0 will make manufacturing more flexible and individual than ever. For the manufacturers this leads to:

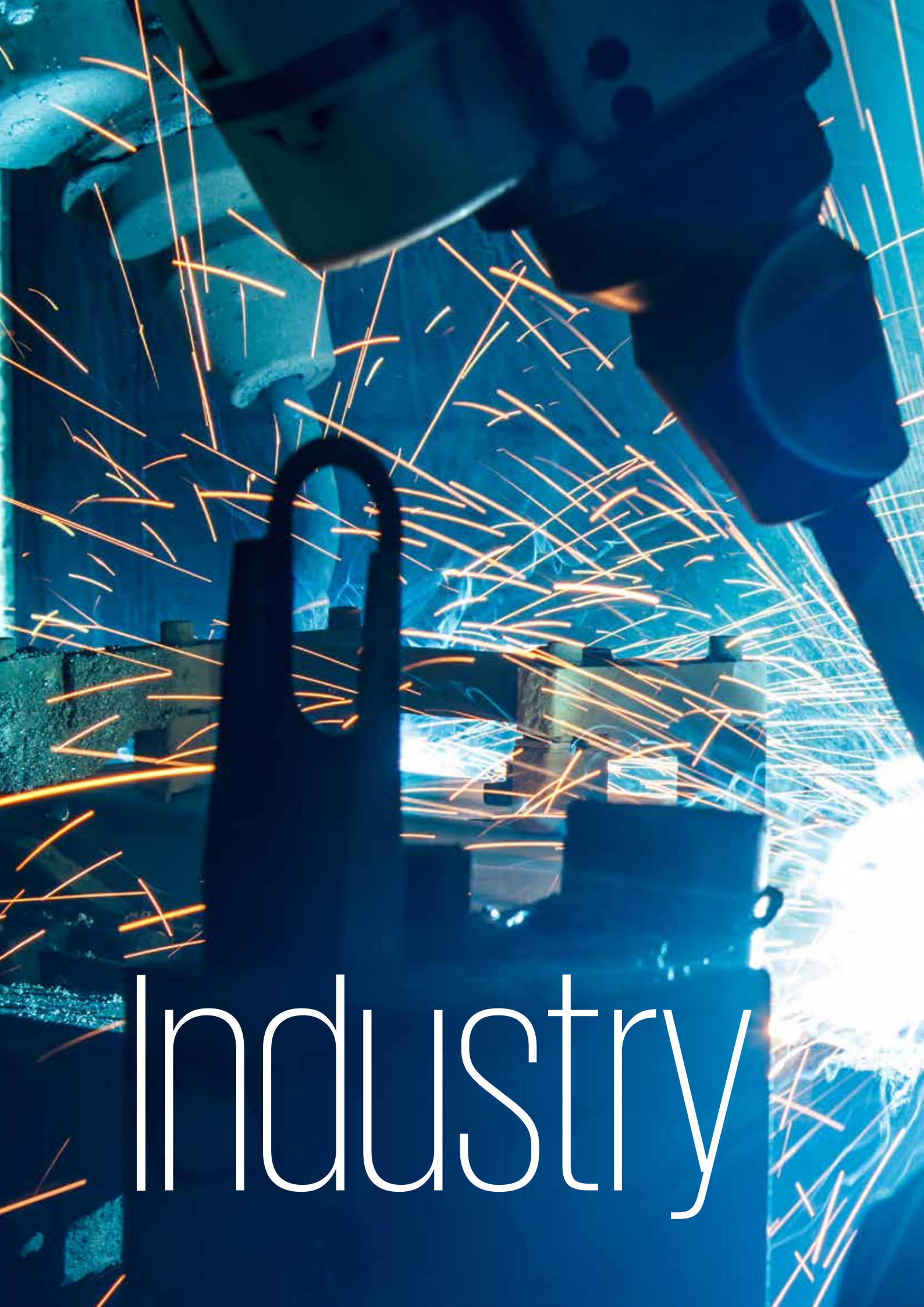
- 1. Increasing number of variants:** many differentiation options must be produced
- 2. Lot size 1:** No product is like any other
- 3. Shorter product life cycles:** The products are not built to last forever - the customers expects after a short time already a new product.

Industry 4.0 can only be implemented company-specific, tailored and based on strategic needs. Profound changes as they require the industry 4.0, are always unpleasant, but the challenge is there and needs to be taken.

No manufacturing company will be successful in long term without the adaptation to the new changeover.

In a special edition KPMG will publish a comprehensive report which does discuss the challenges and solutions of tomorrows manufacturing site. The report will also include the view of Senior Management, who needs to be involved in the transformation process of Industry 4.0 and how KPMG will support you with our professional management consulting approach.





Industry



Industry: OSD

Featured results

- 1 Production and capacity will continue to increase.
- 2 The domestic market needs to grow and the taxation system needs improvement for new investments. However, the appeal of investment of BRIC countries with bigger markets constitutes an important hindrance for Turkey.
- 3 Accession to new generation of trade agreements and mutual agreements with developing markets is a must for sustainable exports.



KPMG Insight

Production and capacities announced exceeded expectations

The vast majority of executives expect an increase in production. They are almost sure that production will exceed 1.4 million from 1.2 (base year 2014) and capacity will exceed 1.9 million from 1.7 million.

However, things progressed more rapidly and exceeded the expectations. With the announcements from Toyota, Mercedes, Tofaş and Ford at the beginning of 2016, it became certain that the production and capacity will exceed the expectations.

The automotive industry has gained a significant acceleration for development with new R&D and investment incentives in recent years and positive events keep coming. However, growth of the existing companies with new investments is very important though a new brand investment is not likely in the short term. It's particularly pleasing that this development is within the "supply chain."

In addition to the flat steel, special steel and plastic industries that have strategic importance for the automotive industry the electronic and software sectors will gain more priority gradually. This requires the industry to establish closer and long term cooperation with these sectors just like the supplier companies.

This rapid development needs to be supported with additional measures. Significant infrastructure investments for development tests in accordance with global standards for light and heavy vehicles designed domestically at the level achieved by the rapid development in R&D competence should be completed as soon as possible with public resources. This problem should be addressed as a supplement to R&D. Re-arrangement and expansion of the R&D legislation seems likely to provide new and additional aspects to these efforts.

The most significant problem for automotive exports growing rapidly is considered to be the logistics infrastructure. While re-foundation of the railway system is of priority for accessing the EU market, the need for an automotive port is growing more and more each year. A new port should be established in the Southern and Eastern Marmara in particular.

Turkey should increase its competitive power against BRIC countries.

According to the results of this year, the market size of BRIC countries increases the investment appeal of these countries.

The appeal of new investments from BRIC countries with large domestic markets is naturally more than that of Turkey, which has a limited domestic market. However, the investment incentives in effect in addition to the successful and devoted young work force of Turkey are still important factors. The investment attempts despite the adverse conditions can be considered as an indicator of this fact.

To increase the competitive power of Turkey in the automotive industry, the Turkish market needs to grow on one hand. On the other hand, Turkey needs to strengthen its position of being a production base in the region and expand its accessible market (the most important topics in this context are the logistics infrastructure, free trade agreements, legal and tax arrangements).

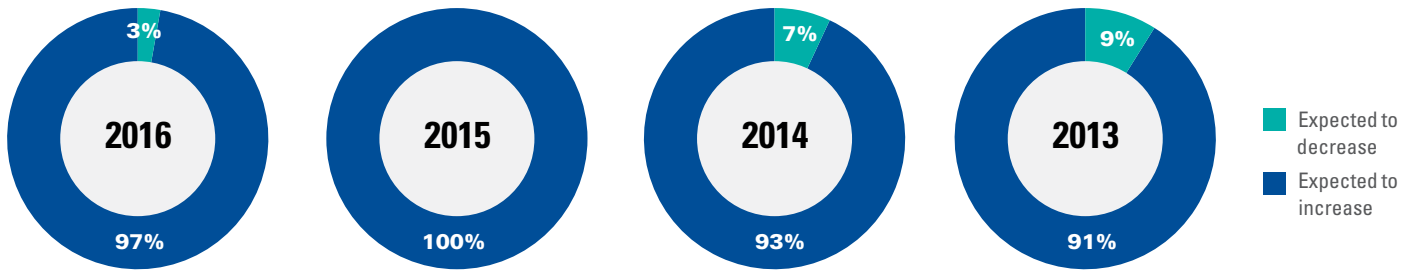
New generation of free trade agreements and bilateral agreements are a must.

Ensuring the continuity of export is among the foremost problems of the manufacturers. There is an established system with the European Union but the growth potential of this market is limited. The executives believe that this can be solved by Free Trade Agreements with non-EU markets as well as bilateral agreements with emerging market countries.

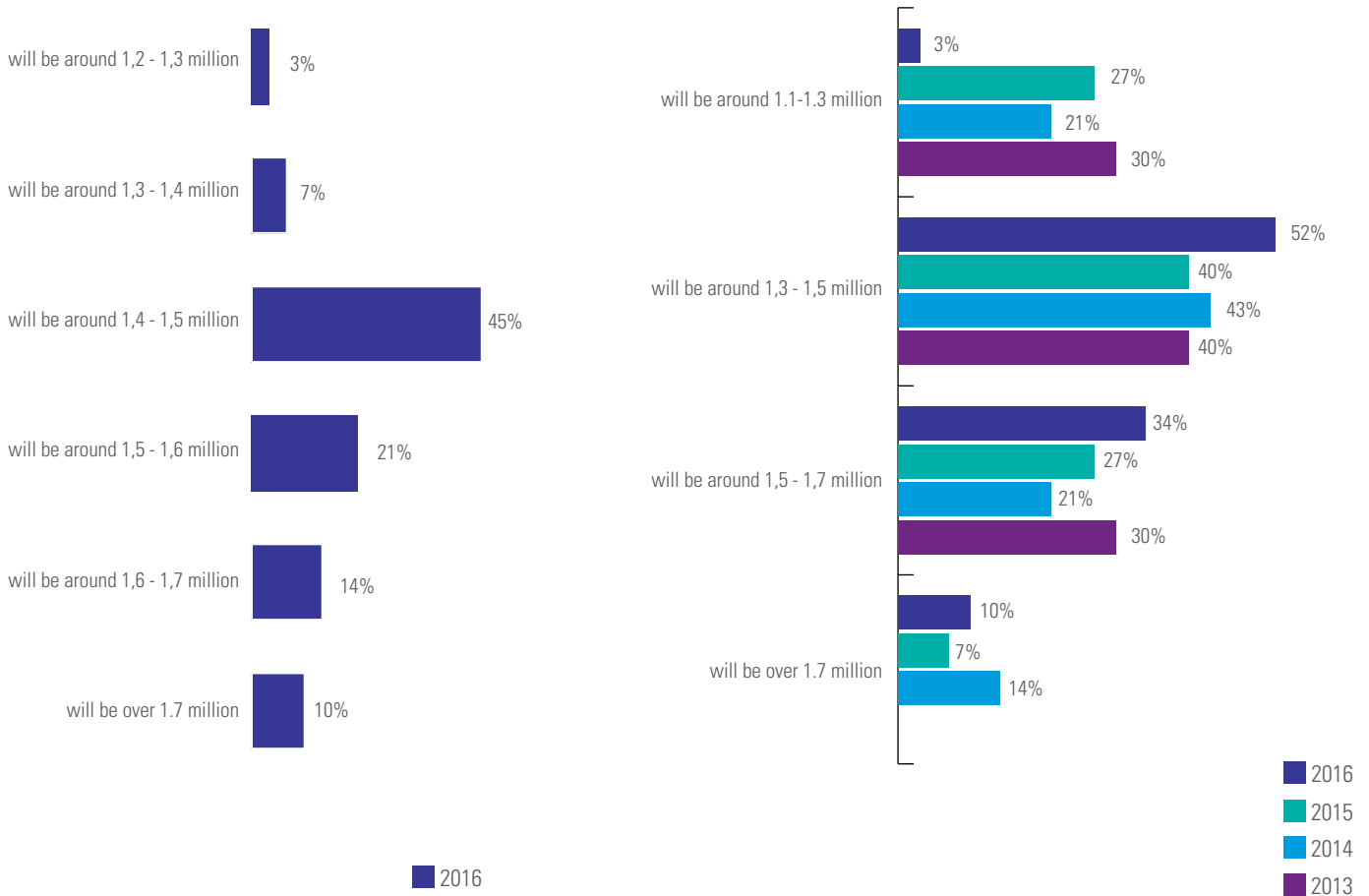
The new global trade conditions are very important for Turkey, which exports more than 75% of the automotive production to developed markets. The contributions to our exports and industry of the Customs Union with the EU even under limited applications shouldn't be ignored.

New generation of trade agreements will naturally be more comprehensive than the Customs Union and allow Turkey expand to non-EU markets as well. This topic should always be kept on the agenda and efforts needed to position our country in such agreements are expected.

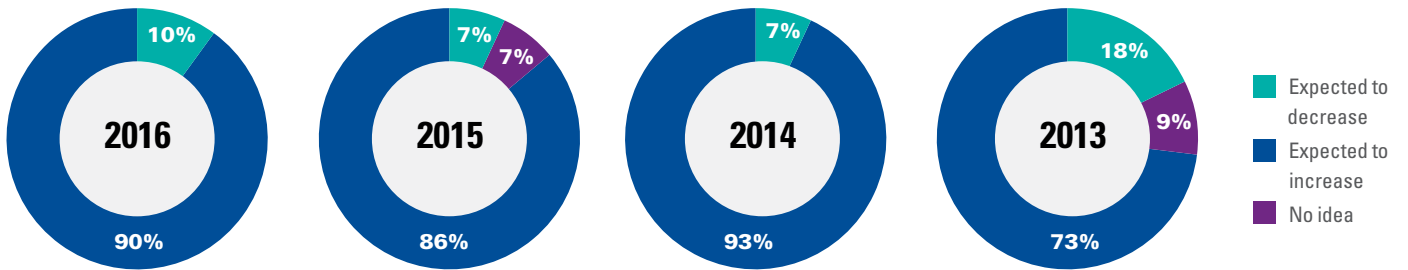
Manufacturing expectations of the automotive industry for the next 5 years



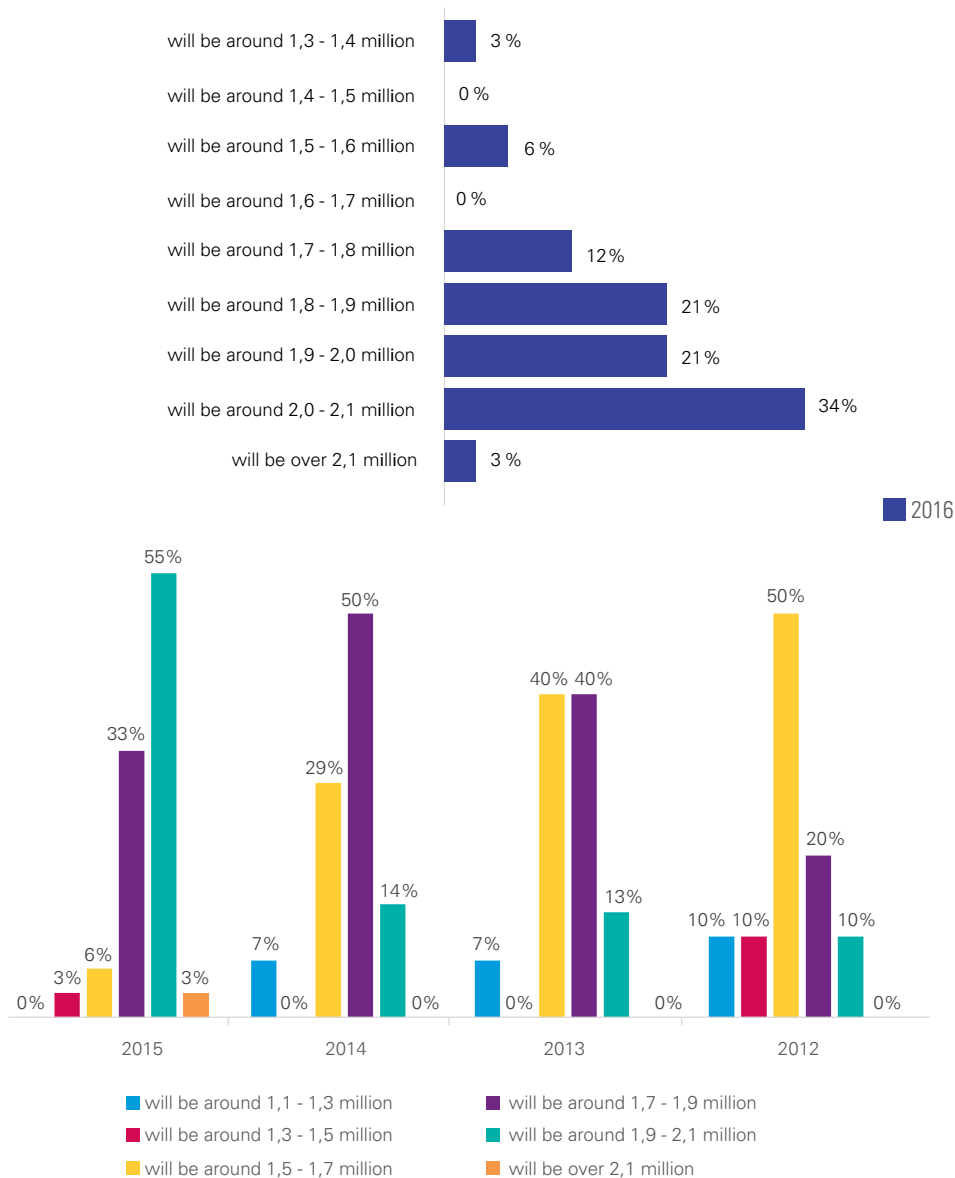
Manufacturing expectations of the automotive industry for the next 5 years (2016 vs. 2013-2016)



Capacity expectations of the automotive industry for the next 5 years



Capacity expectations of the automotive industry for the next 5 years (2016 vs. 2013-2016)





Emrah Akın, YMM
KPMG Turkey
Tax, Partner

Can we become a regional management center for the automotive industry?

What is our position in foreign direct investments?

"The foreign direct investment statistics have been a very important economic parameter for the economies of countries for years. The steady increase in the amount of foreign direct investments in the country is considered an important economic stability parameter as well. It's not easy to say that Turkey is a world leader in attracting FDI yet; however we can't ignore the fact that there has been a significant acceleration in FDI towards Turkey in the recent years. In concrete terms, Turkey attracted foreign direct investments worth 14.6 billion Dollars between 1984 and 2002 while this amount reached 148.75 billion Dollars between 2003 and 2014. We attracted 14.1 billion Dollars of foreign direct investments by the end of November in 2015. It's possible to draw conclusions:

- The share of Turkey in the total FDI flows in the world with such a size and potential is still not enough.
- The increasing speed of foreign direct investment flows towards Turkey in the last 10-15 years has decreased in recent years.

Consequently, increasing foreign direct investments, affected by many factors such as the incentives and taxation system, legal security, economic and political stability, ease of doing business, etc., is essential for the economic future of Turkey.

Becoming a regional management center in the automotive industry...

According to the data from the Ministry of Economy, there are 46,720 foreign capital companies established and operating since 1954. Among these, 6,115 companies fall into the category of manufacturing industry and not all of them operate in the automotive sector. However it's worth noting that Turkey hosts very important and large automotive investments even if they are in small numbers. Looking at the export data of January-November 2015, we can see that "motorized land vehicles" are listed in the first row with 15.8 Dollars. This fact highlights that our sector is a leading sector for both exports and the domestic market.

Then, what do we mean by "regional center/center"? Briefly, we mean "regional management center" and "regional production and export center". Turkey is a very strong candidate for becoming both a regional management and a production and export center in automotive industry, but it's not at the expected levels yet. It is of vital importance for Turkey to sustain its commitment to becoming a regional center in order to attract foreign direct investments and increase the inflow of receipts. Let's examine becoming a "regional management center."

Boarding the plane from Istanbul Ataturk Airport, one can reach nearly 60 countries and 2 billion people in 4 hours; this indicates that Turkey has an excellent geographical location. However, the geographical location alone is not enough to attract foreign investments.

The basic provisions for encouraging foreign direct investments to Turkey and transactions regarding the foreign direct investments are included in the Foreign Direct Investments Law No.4875. "Freedom of Investment" is a fundamental principle embedded in Law No.4875. In other words, unless provided otherwise by the international agreements and special law provisions, foreign investors are free to make direct investments in Turkey and even more importantly, foreign investors are treated equally with the domestic investors in Turkey.

In 2012, the Ministry of Economy made a very important change in the Regulation for Implementation of Foreign Direct Investment Law to allow international investors establish "Regional Management Centers" in Turkey. Then it became possible for international companies to operate in Turkey by establishing a

regional management center (organized as a liaison office). However it must be noted that the regional management centers to be established must operate exclusively supplementary to the functions of the international investors in other countries. That is to say that these centers are not allowed to do business in Turkey yet!

What is the problem?

Unfortunately, the taxation aspect of the matter is a little bit problematic. Since the liaison offices do not carry out any commercial activities and therefore do not gain any commercial revenue, they are not subject to any corporate tax or value added tax under the current legal arrangements. Furthermore, the wages paid to the people employed in liaison offices are not subject to withholding tax. From this perspective, "regional management centers" are very attractive for international automotive investors. However, the practice and views of the Revenue Administration about whether the activities of the regional management centers would be assessed as a "permanent establishment (PE)" in terms of taxation and how they should be taxed are not very clear. This situation causes doubt for international automotive investors planning to establish regional management centers in Turkey.

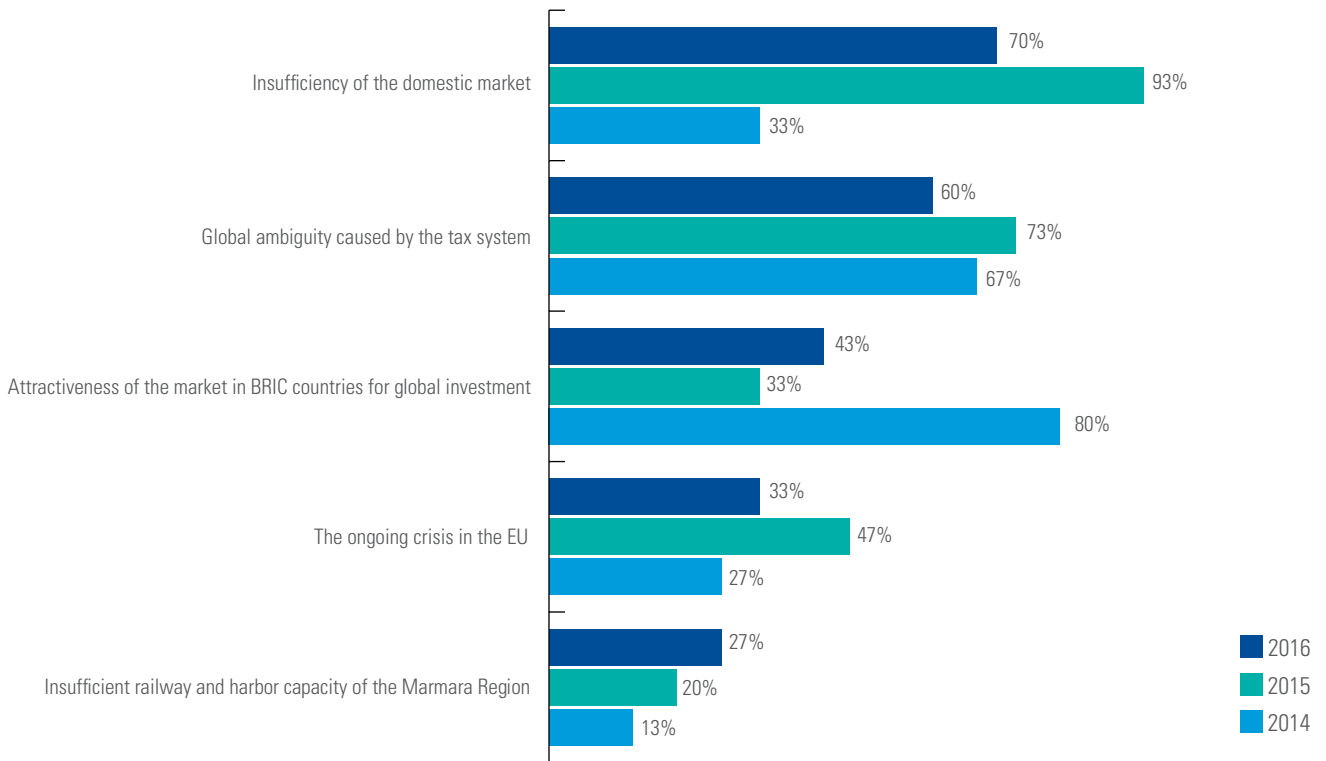
What should be done?

It must be said that efforts are being made to make Turkey a regional management center, but it is very difficult to say that these efforts are strong and sufficient to make Turkey a "regional center in automotives."

In a period when our competitors are in a race to attract international automotive investments, Turkey needs to take big steps not only in the fields such as the investment incentives and R&D but also for becoming a regional management center in order to get the share of these investments that the country deserves.

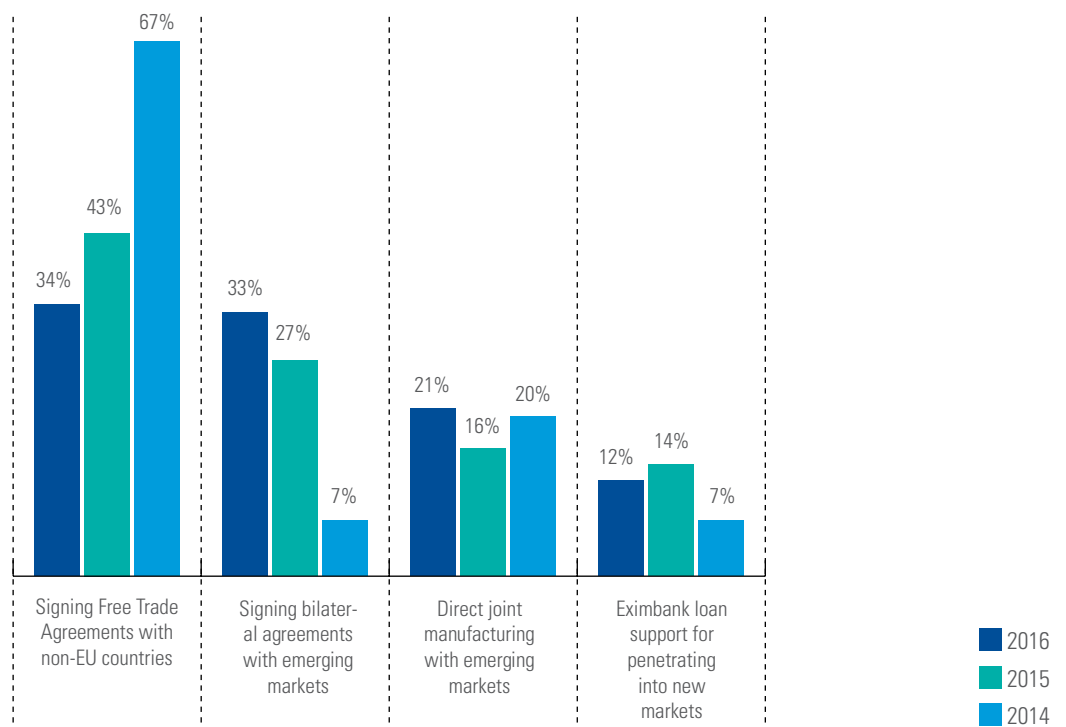
The foundation of the legal status and infrastructure of the regional management centers on a solid legislation, clarification of the gray areas of taxation regarding the regional management centers and exclusion of these centers from taxation should be emphasized as the priorities in this field.

Impediments that hamper new investments in Turkey *

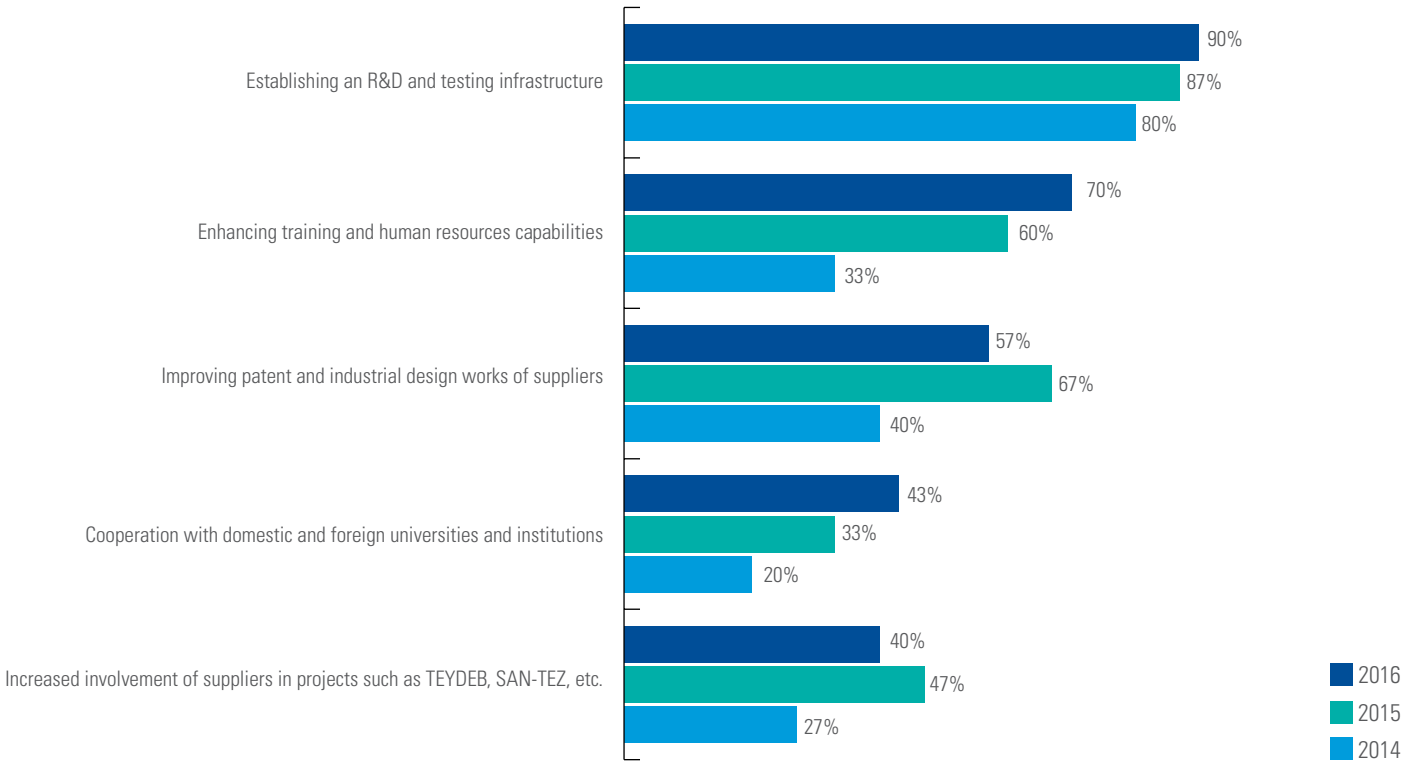


(*) The participants were allowed to select multiple options as answers.

Actions to be taken to ensure continuity of exports

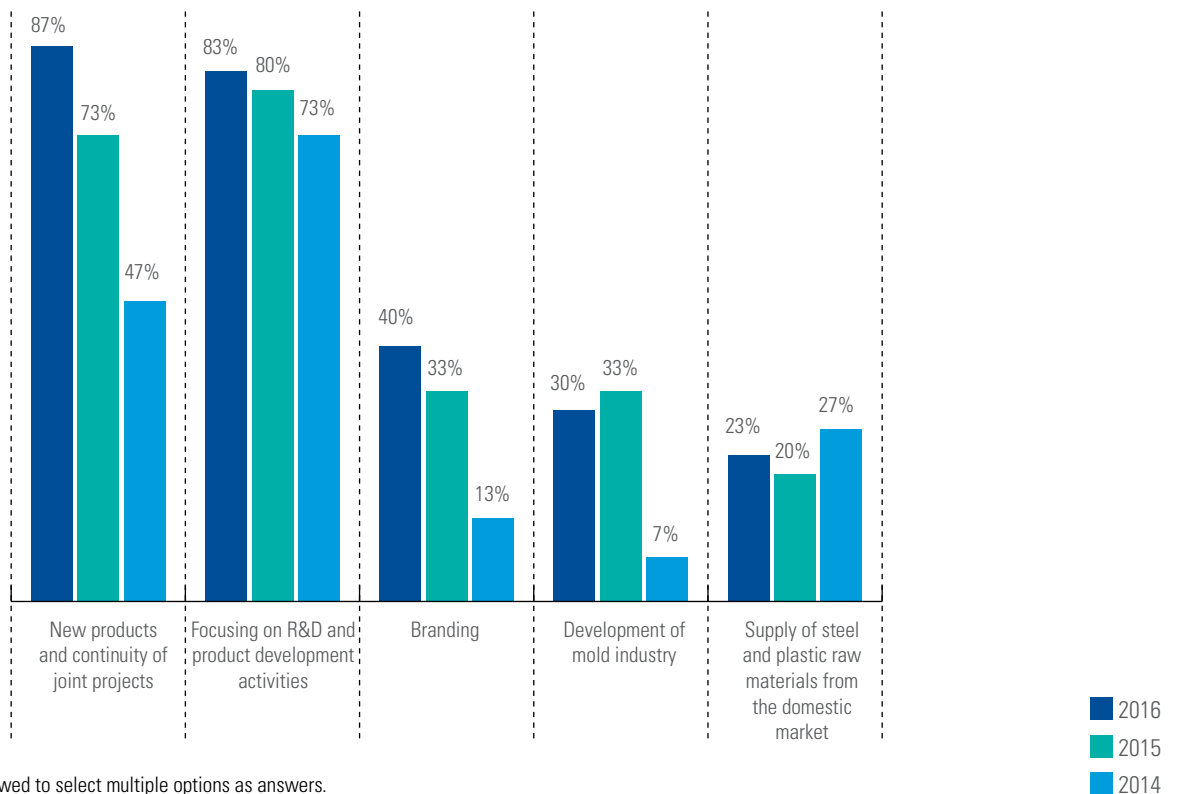


Actions to take to increase involvement of the supplier industry in new vehicle projects*



(*) The participants were allowed to select multiple options as answers.

Precautions that must be taken by the OEM and the supplier industry*



(*) The participants were allowed to select multiple options as answers.



Murat Palaoğlu
KPMG Turkey
Head of Customs and
Foreign Trade, Partner

Transatlantic Trade and Investment Partnership

The rules of global trade are being redefined, but is the automotive sector ready for this?

It is projected that the EU and the USA will accelerate negotiations for the Transatlantic Trade and Investment Partnership (TTIP) Agreement, which will cause major changes in the global trade system and introduce a new trade system, in 2016, because the agreement between the EU and the USA is expected to take effect in 2017.

This agreement between two major economies is an important matter of interest for our country as well; because it's likely that our country, despite being a party to the Customs Union, might be excluded from the scope of this agreement. And this is an important matter of interest for the automotive sector, which is the driving force of our foreign trade.

Which areas is the Transatlantic Partnership expected to govern?

Under the scope of Free Trade Agreements (FTAs), decreasing the customs tariffs, removing the non-tariff barriers and protecting the intellectual property rights can be mentioned as the featured topics.

While it is expected that the possible arrangements under TTIP will focus more on non-tariff barriers it is intended to eliminate the different standards in products and production processes with joint arrangements.

When we examine the topics under TTIP at this point, it can be seen that the non-tariff impediments such as standardization are also governed within the scope of the agreement in order to decrease them.

Possible impact of TTIP on Turkey

In accordance with the Customs Union between the EU and Turkey, the same taxation policies are supposed to be applied by Turkey as the EU for trade with countries under the agreement. Therefore, Turkey becomes an open market for every country executing an FTA with the EU and this might lead to shrinkage in some sectors.

The possible FTA between the USA and the EU is based on the origin, and if Turkey is not a party to the agreement, the exports from Turkey to the USA are not covered by the agreement. So it is anticipated that the exports of Turkish- origin commodities to the USA will be adversely affected by this process.

If Turkey is not a party to the agreement, the commodities from the USA might be imported to Turkey without customs duties through the EU with A.TR Movement Certificate but the commodities with Turkish origin will be subject to customs duties when exported to the USA directly. It is obvious that such a situation will affect the existing trade balance and adversely impact Turkey.

Furthermore, it should be remembered that TTIP is not only an FTA but also an investment partnership. As can be seen, according to the data from the KPMG Turkey 2016 Automotive Executives Survey, there has been an increase in the number of those not expecting new investments to Turkey in the next 5 years. The exclusion of Turkey from the TTIP process might result in an increase in the existing negative expectations regarding new investments in our country.

It is foreseen that the FTA between the EU and the USA will take the global trade to a new dimension, because the trade volume between the two continents reaches 2.7 billion Dollars per day. It is foreseen that the exports of our country might be affected adversely if our country is excluded from this agreement.

According to the data from the KPMG Turkey 2016 Automotive Executives Survey, the most important factor for new investments for increasing our exports is the improvement of the investment environment. In such an environment, making progress in the TTIP process and being included in the process are important factors for creating a new investment environment and improving the existing investment environment.

How will TTIP possibly impact the automotive sector?

It is foreseen that the automotive industry, which is the driving force of our exports, will be affected by the FTA to be executed between the USA and the EU as well; and the costs of the automotive products of the USA exported to the EU will decrease under the FTA.

Considering the fact that a significant amount of the exports of the Turkish automotive sector is to the EU, it can be said that such an important cost advantage to the USA will be very important for the EU, which is the most important market for Turkey.

Will TTIP affect revision of the Customs Union?

The most effective way for Turkey to be included in the TTIP process is to make Turkey a party to the FTAs to be executed by the EU by making the necessary arrangements in the Customs Union agreement. At this point, revision of the Customs Union Agreement with the synergy from the new EU Customs Law is on the agenda. It is expected that these changes will be of a nature that extends the coverage of the agreement. Not only the arrangements regarding the industrial products but also those regarding the agricultural products, services and investment environment will be discussed.

Since the changes are expected to increase integration, it's possible to expect integration in the trade policy

measures applied unilaterally by Turkey and non-tariff impediments as well. In addition to other important issues for the automotive sector, it will be beneficial to assess separately the possibility of removal of the restrictions on used vehicle imports.

European Union Customs Law changing

The European Union Customs Law, which is closely related to the Customs Union legislation that our country is a party to is taking effect on May 1st, 2016. In parallel with the said changes, it's expected that the Customs Law in effect in our country will be amended and harmonized as well.

What are the featured topics in the European Union Customs Law?

There are fundamental changes in some customs practices in the European Union Customs Law. For instance, the Drawback System practice under the Inward Processing Regime will be repealed. On the other hand, the Processing under the Customs Control Regime, which is another economically effective customs regime is ending.

We can say that the Authorized Economic Operator (AEO) Status will be maintained with a larger scope in the new law. When we consider the subject in light of efforts to make customs transactions, we expect the practices for facilitation of trade to continue.

When we look at the arrangements regarding the basis for collection of import taxes in European Union Customs Law, it is possible to say that liberal approaches have been replaced by conservative ones. We can say that the boundaries of the statement "first sale to the union", which defines the basis for collection of customs duties, are extended. Further, the new EU Customs Law is expected to cause the factors affecting taxation, such as "royalty and license" practices which have been discussed in our country in relation to Serial No 2 General Communique of Customs, to be interpreted on a wider scale in the union.

How might the European Union Customs Law possibly impact the automotive sector?

In parallel to the recent arrangements under the European Union Customs Law, the Customs Law in effect in our country is expected to change as well. As a result of the new arrangements to be made, we can say that the automobile manufacturers/importers will benefit from many customs conveniences while a more conservative approach will be introduced in the factors affecting taxation such as customs value.

Industry's View



Osman Sever

OSD, Secretary General

The automotive industry is a building block that shapes the global economy, makes significant contributions to the national economies and is an indispensable part of our lives with its products today. A very important source of employment, tax, technology and innovation, the automotive industry is closely associated with the development levels of the countries. Many developing countries are developing their strategies to start and improve their automotive industry investments.

The automotive industry always faces global changes within the framework of both the changes in the products and production technologies and the developments in the customer expectations. The automotive sector of our country operating in such a dynamic and competitive environment finished 2015 with many achievements.

Along with the ongoing recovery of the European automotive market, which is the market of priority of the Turkish automotive exports, the exports of our country broke an all time record of 992 thousand units in 2015. Our exports grew 12% in terms of units sold while the value of exports increased by 14% in Euros and dropped by 5% in Dollars due to the drop in Euro-Dollar parity. The automotive industry exporting to more than 190 countries held its top position among all sectors with 15% of the total exports of Turkey.

"Nearly all respondents believe that the production and production capacity will increase further in the upcoming period and the added value created will reach higher levels thanks to the R&D and P&D studies."

The production of our industry reached 1,359 thousand units in 2015 with the stability in the domestic market, positive progress in the export markets and new investments and production also reached its highest level in parallel with the exports.

The year 2015, in which all time records were broken in production and exports, also witnessed our industry ranking 15th in global automotive production and 1st in commercial vehicle production among the European Union countries.

Becoming a production base for the global automotive brands with great contribution of the R&D incentives given by the government, our country keeps rising in the global lists. Turkey ranked 3rd after Germany and Japan with a share of 18.9% in the automotive industry R&D expenditure within the total R&D expenditures. With 66 R&D centers, the Turkish automotive industry ranks 1st in total R&D centers.

The results from the KPMG Turkey Automotive Executives Survey also indicate that this positive progress in the automotive industry will continue. Nearly all respondents believe that production and production capacity will increase further in the upcoming period and the added value created will reach higher levels thanks to the R&D and P&D studies. Continuity and improvement of the incentives offered by the government for new investments is very important. The results of the survey also show clearly the importance of a sustainable domestic market and the necessity of renewal of the old vehicle park for both environmental and energy efficiency reasons.

Under the light of all these facts, it is possible to say that the automotive industry leading R&D and export in the country will keep accelerating the added value it creates.



Industry: TAYSAD

Featured results

- 1 The top priority of the industry industry is improving the R&D and design competencies.
- 2 Unlike the previous year, Iran ranked among the most important countries of the industry industry this year.
- 3 Critical technologies of the future are gaining importance for the industry industry.





KPMG Insight

Improvement of R&D and design competence stands out

The fact that the priority of the industry industry is R&D and design competence can be seen in the continuous increase in the number of companies with R&D centers.

There are interesting positive developments in the industry industry, an integral part of the motor vehicles industry. While expanding the capacities with new investments, implementing the latest production technologies and the superior product quality achieved as well as rapid improvement of R&D and design competence takes this industry to a new and global dimension. These are quite pleasing since more added value is created and the competitive power increases.

For successful and sustainable cooperation in the industry chain, the problems in setting prices should be solved with common efforts. For higher capacities in the future, the opportunities in the new export markets shouldn't be missed.

For direct industry to global companies, foreign investments are now on the industry's agenda but new incentives should also be discussed here.

The casting and forging facilities with high capacity and which are suitable for new technology needed by the engine and transmission parts industry developing with new investments in Turkey should be included in the incentive system as soon as possible. The impact of this on the increase of added value should also be considered.

There are important opportunities awaiting this industry but the threats also persist. The development of the industry as a global industry requires the investments to be extended abroad as well.

In addition to the geographical distance to the EU, logistics problems caused by the insufficient infrastructure must be addressed with priority. It could also be helpful to try methods of partnership and work division in some areas through "clustering."

Iran; the land of opportunities

Iran was not listed among the regions where collaboration among the industry industry was expected last year, however it ranked second this year and fourth among countries where investments are planned. This being a hot topic, we are sharing an output of a project carried out with DEIK.

The critical technologies of the future are gaining importance

Among the focus areas for the industry industry, the most significant increase has been observed in the investment in critical technologies.

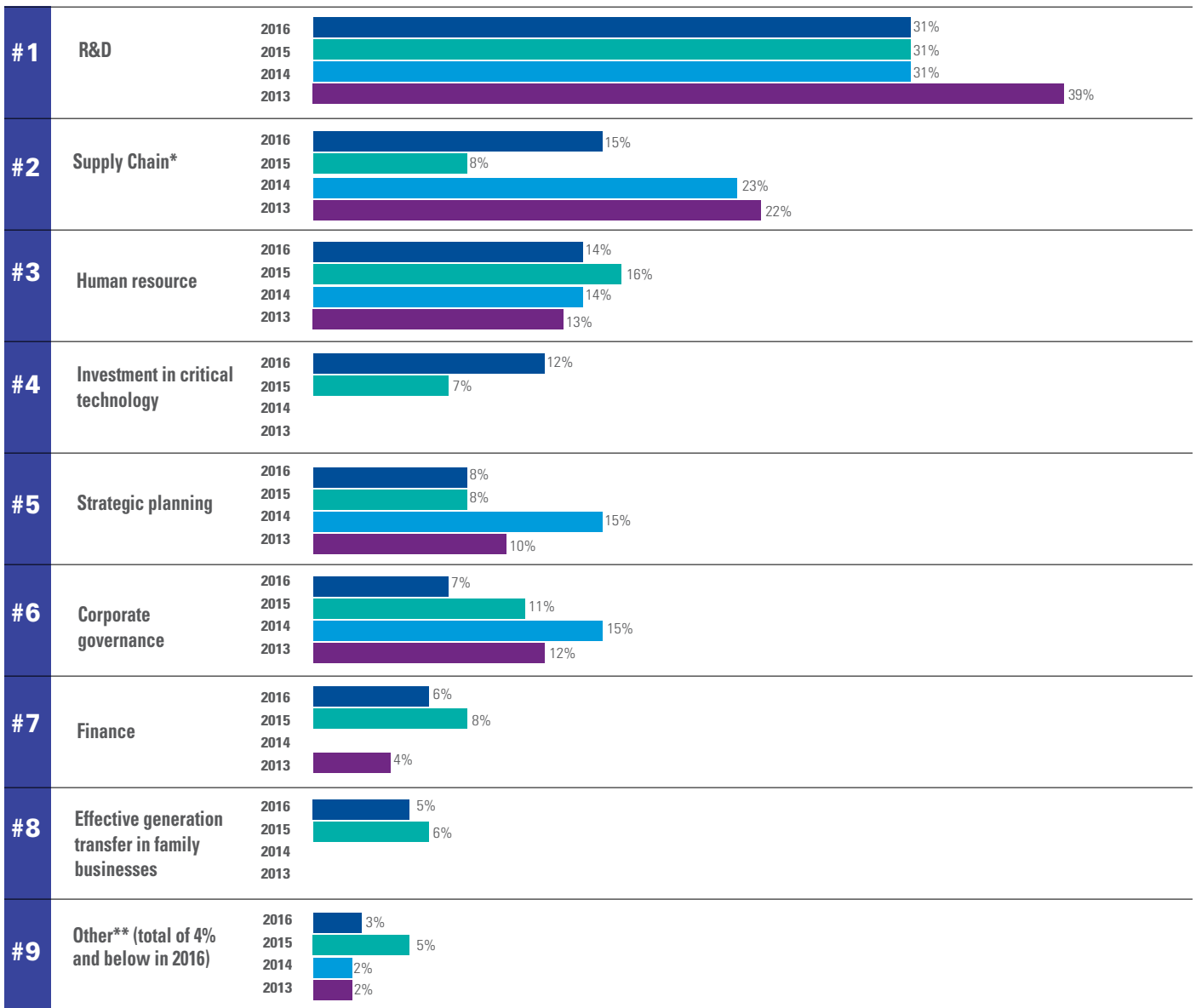
Considering the global events, our industry industry needs to develop more rapidly in the fields of electronics and mbedded software as well. It's very important to succeed in these fields as much as it has been achieved in mechanical technology so far. It can be seen that the priority given to new technologies in comparison to mechanical technologies has increased.

In order to do this, the industry industry needs to establish continuous cooperation on certain topics within itself and with the industry manufacturing passenger vehicles in particular. These cooperations are of strategic importance for sustaining competition under the rapid developments in communication technologies in particular. This matter is also of importance for cooperation in global projects.

According to a study of KPMG UK, new technologies in this field will provide employment for 320,000 people in the United Kingdom until 2030.



Areas which the supplier industry should focus on

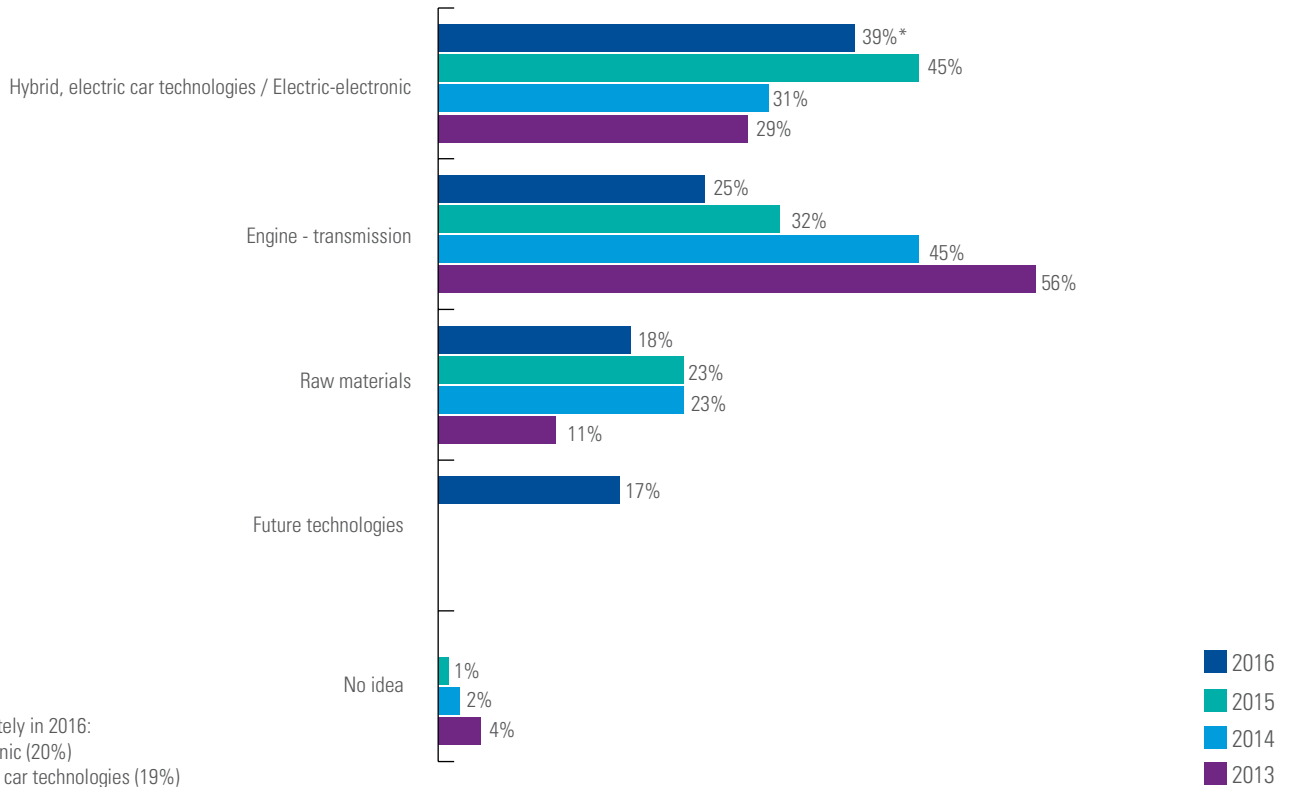


* Quality, manufacturing, marketing, logistics, sales, purchasing

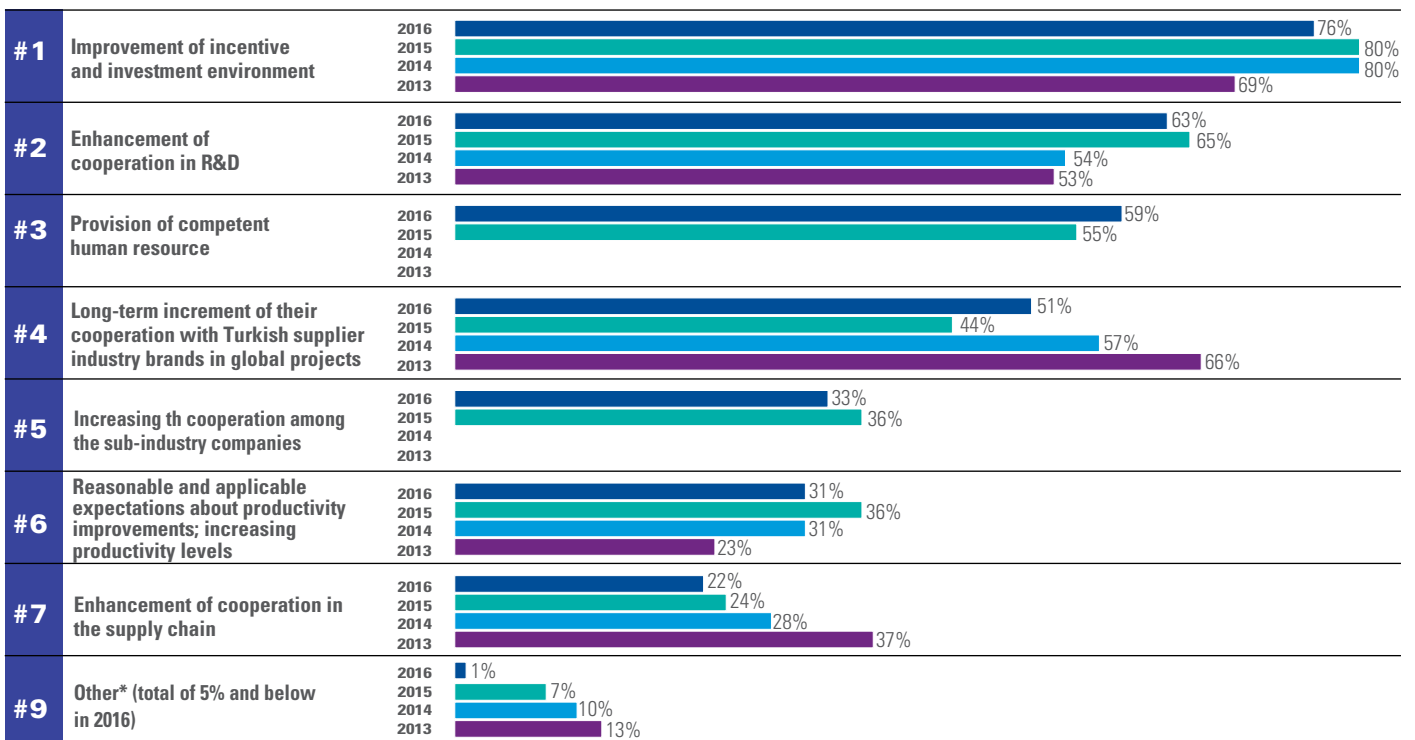
■ 2016 ■ 2015 ■ 2014 ■ 2013

** Brand (Turquality, etc.), efficiency, decreasing labor costs, being a global player

Strategic investments which appear to be promising for the automotive industry



What actions must be taken to attract new foreign investments to Turkey?*



* Rapid and reliable legal system; growth of the domestic market; ethical approach for human resources transfer



Gençer Keser
KPMG Turkey
Management Consulting,
Senior Manager

Increasing speed of Innovation

The global automotive industry is undergoing through a fundamental transformation due to increasing consumer preferences toward vehicles. With the further development of vehicles, new customer expectations, environmental regulations, noise regulations, safety regulations and technical requirements of OEM's the entire industry is required to adopted constantly to new challenges and update their product portfolios to meet numerous regional and global regulatory requirements, which are expected to add significantly to their manufacturing costs. These regulations vary markedly from one part of the world to the other and adding complexity to the mix of vehicles offered by OEMs worldwide.

Besides the governmental regulations it is important for Turkish Automotive suppliers also to apply standards of automotive interest groups such as the International Automotive Task Force. This association published a series of standards and recommendations, which are key for each supplier who wants to be listed in the OEM or Tier 1 supplier.

Challenging CO₂ Emissions Regulations – EU Example

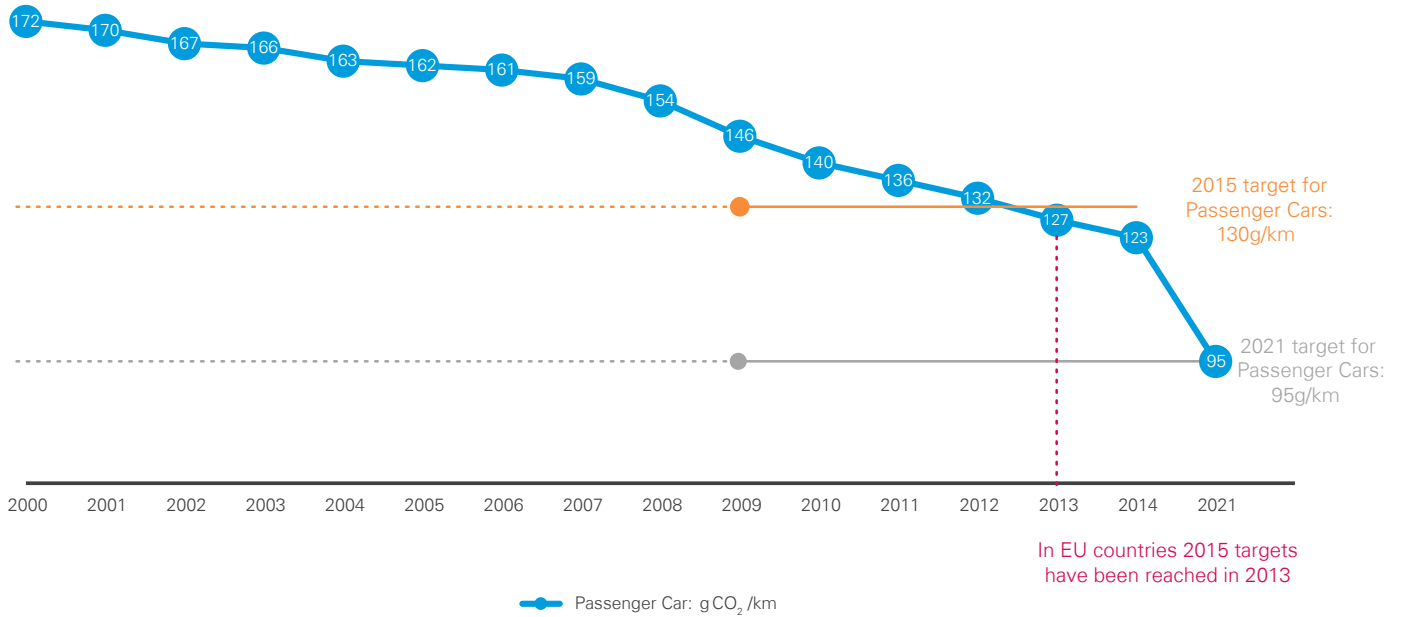
Due to challenging legal requirements and as a positive differentiator in the market the OEMs have made reducing the amount of CO₂ emissions as a priority. To significantly reduce CO₂ emissions, OEMs are focusing on the most cost-effective technologies capable of being deployed on mass-produced models, in line with their strategy of offering "everyone an environmentally friendly vehicle." To pursue this objective, most OEM strategies are focused on:

- Improving fuel efficiency
- Developing of alternative fuel vehicles
- Electrification technologies by enhancing the cost-effectiveness of electric vehicles.

Cars and vans produce around 15 % of the total EU emission of carbon dioxide (CO₂) which led the EU legislation to define new emission reduction targets for OEMs. In 2009 and 2011 the European Parliament defined a standard which sets the acceptable limits for exhaust emissions of new vehicles sold in EU member states. The emission standards are defined in the Regulation (EC) No 443/2009 (passenger cars) and Regulation (EU) No 510/2011 (light commercial vehicles) of European Union ¹.

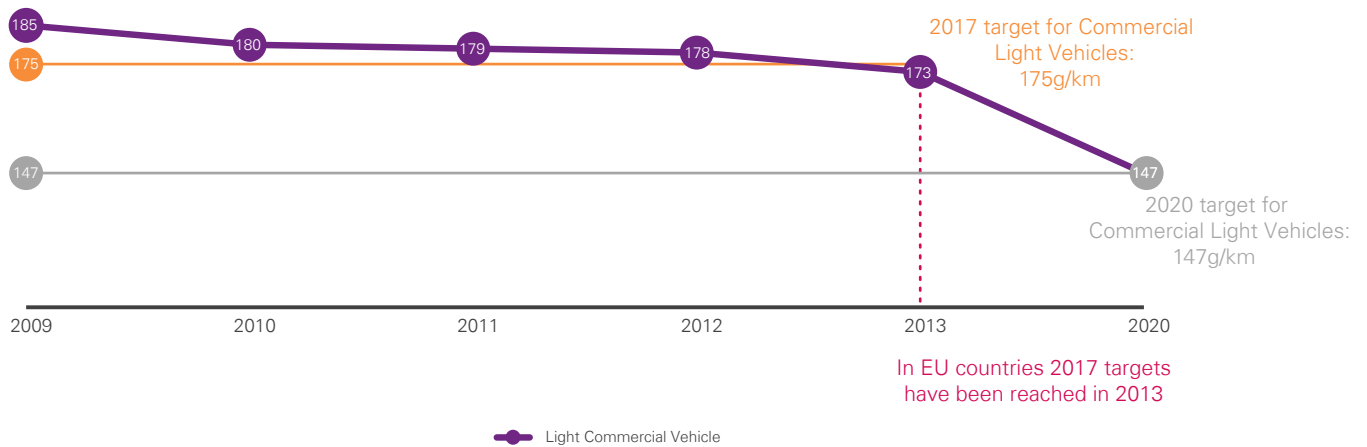
The intention in 2009 was that OEMs should achieve the set target in two phases. While cutting the emissions further, the automotive

EU gCO₂ Emissions per Year for new sold Cars - History & Future Targets



Source: International council on clean transportation - Factsheet EU-28 / December 2014

EU gCO₂ Emissions per Year for new sold Commercial Vehicles- History & Future Targets



Source: International council on clean transportation - Factsheet EU-28 / December 2014

industry were ensured enough time in order to carry out long term investments in R&D, new technologies and innovations. The below graphic illustrates, both, that car and light vehicle manufacturer have met the set targets for 2015 and 2017 already in 2013. In 2021 the target will be 95 grams of CO₂ per kilometer for passenger cars. Light commercial vehicles will need to meet 147 grams of CO₂ per kilometer in 2020. ¹

Heavy-duty vehicles are producing according to the European Commission 6% of total EU emissions. A regulation compare to cars and light commercial vehicles is not set yet. However it is expected that the European Commission will publish very soon a new strategy to decrease CO₂ emissions for both freight and passenger transport.

Opportunity for Turkish Automotive Suppliers: increasing alignment of international standards

The quality of products is always the result of all activities in all phases of the production process. Therefore it is important for Turkish Automotive suppliers to understand the key **Quality Management (QM)** regulations which are expected in the global automotive industry. In order to stay competitive it is very important not only to understand the specific product requirements from OEM's or their suppliers (technical requirement handbook), but also to apply global standards of quality management which will qualify the Turkish companies sustainable to competitive companies and develop to key suppliers in the global automotive industry.

The interest group **International Automotive Task Force (IATF)** is a joint association of international automobile manufacturers and suppliers with the target to harmonize QM methods and standards which are already implemented on national level. Automotive manufacturers such as BMW Group, Daimler AG, Fiat Auto, Ford, General Motors, PSA (Peugeot Citroen), Renault and Volkswagen AG have founded this working group with following purpose:

- Development of an international baseline regarding fundamental QM requirements
- Development of policies and procedures for a global 3rd party certification standard
- Development of a specific training to support ISO/TS 16949 requirements

Part of the IATF are also the national automotive associations such as AIAG (USA), ANFIA (Italy), FIEV (France), SMMT (Great Britain) and VDA (Germany) which are covering the interest of suppliers as well.

Besides the harmonization of quality standards the IATF is also publishing OEM specific specification regarding QM. However, main purpose is to define a common understanding of the ISO/TS 16949:2009 across OEM's and suppliers. A new automotive quality standards will be released in December 2016 after a joint assessment in the second half of 2016. The content will include following²:

- Requirements for safety-related parts and processes
- Enhanced product traceability requirements to support latest regulatory changes

- Requirements for products with embedded software
- Warranty management process including addressing NTF (no trouble found) and use of automotive industry guidance
- Clarification of sub-tier supplier management and development requirements
- Addition of corporate responsibility requirements

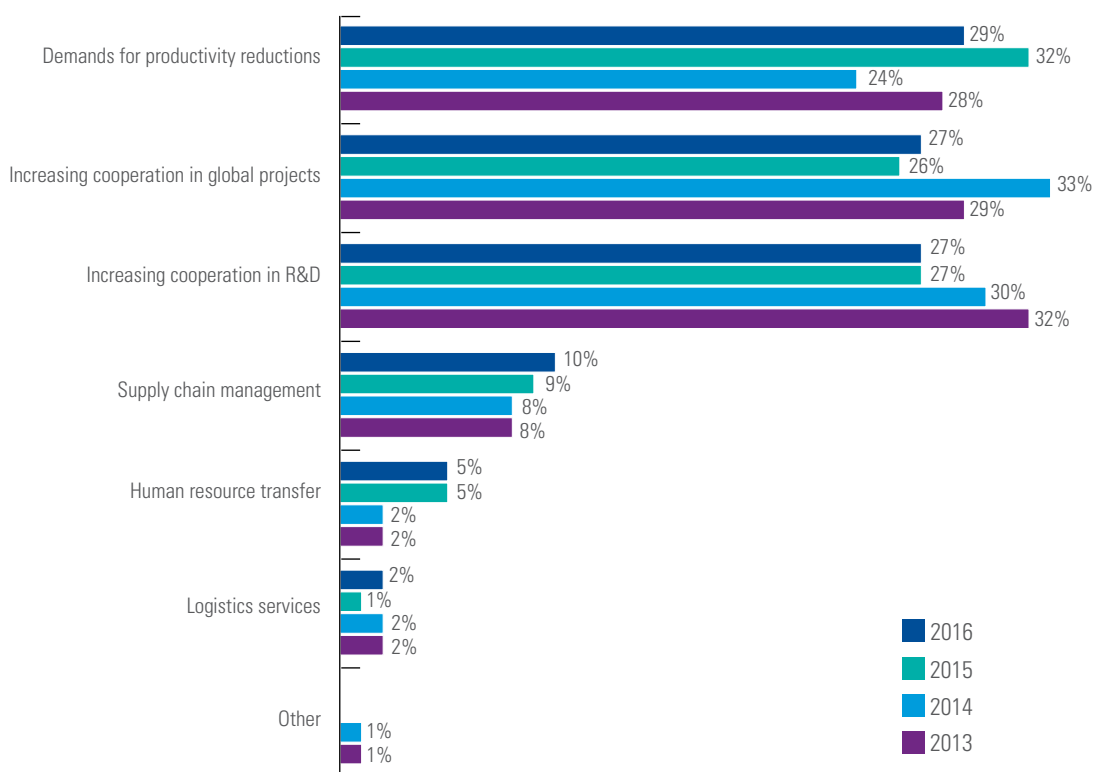
A lead standard in the new definition of ISO/TS 16949 will be the VDA 6.1 which sets the German quality standards. It includes all elements of ISO-9001 and defines the recognition of product risk, employee satisfaction, quotation structure and quality history. The VDA 6.1 is broken down into two parts: Management and Product & Processes. In order to get the certificate any company has to achieve at least 90% compliance during a formal audit. Besides ISO/TS 16949 (Quality Management in the automotive industry) VDA 6.1 is necessary for each producing direct supplier to get qualified for future business.

It will be key for Turkish Automotive suppliers to apply the new standards. It offers to big opportunity to become supplier for many OEM's at once when adopting one standard. But on the other hand it offers the same opportunity to the competitors. Fast movers will benefit. But the increasing complexity will require a clear vision and execution. A coordinated approach for the Turkish Automotive Suppliers is recommended.

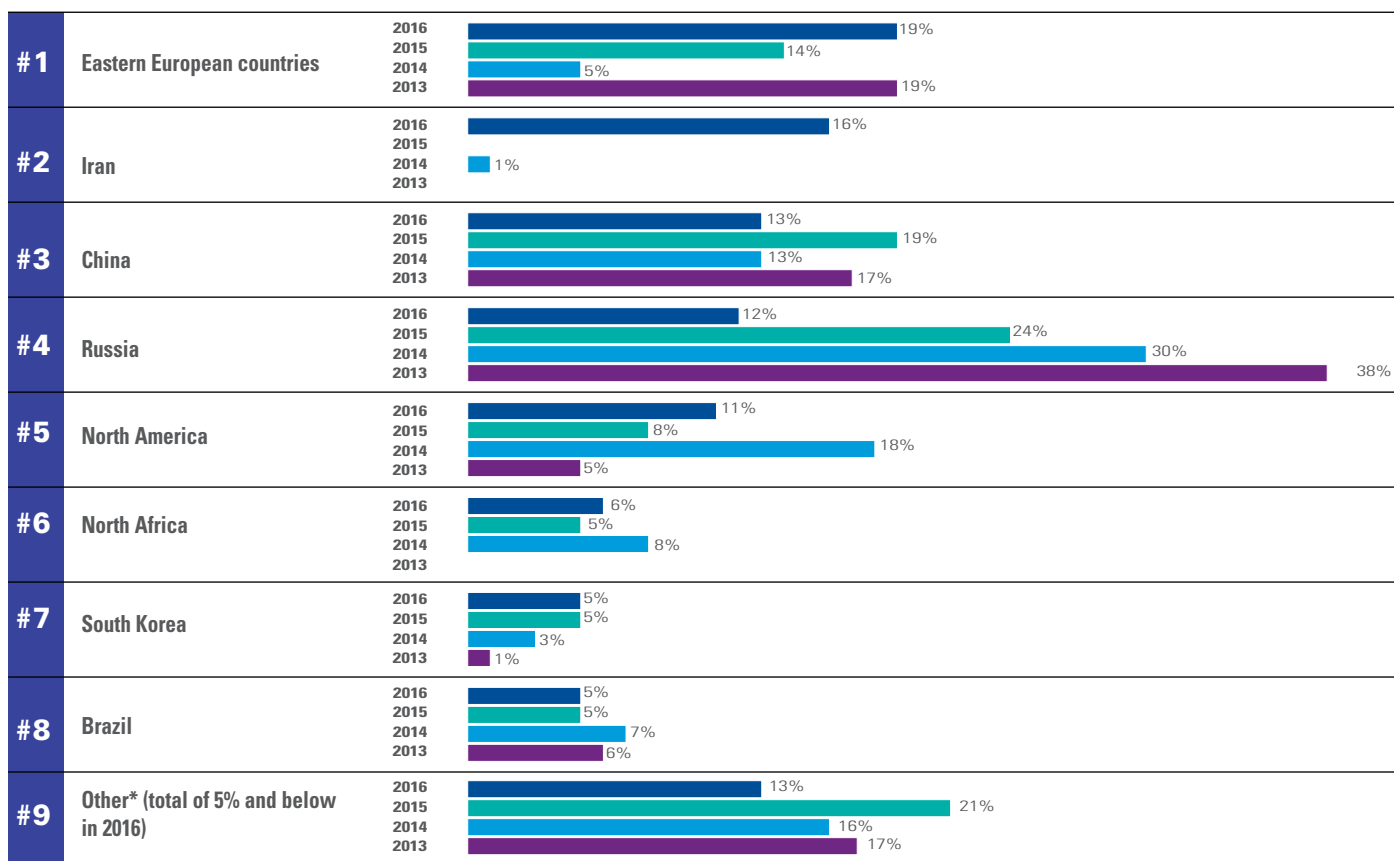
¹ <http://ec.europa.eu/clima/policies/transport/vehicles>

² <http://www.iatfglobaloversight.org/>

Issues Affecting Relations Between OEMs and Suppliers



Regions where cooperation with suppliers will increase the most in the medium term



* India, Mexico, Africa, South Africa, No idea

Automotive

Iran has the largest automotive industry in the Middle East and it is Iran's second-largest sector, currently accounting for 10% of the GDP. There is little doubt about the enormous potential for both domestic as well as foreign manufacturers and suppliers.

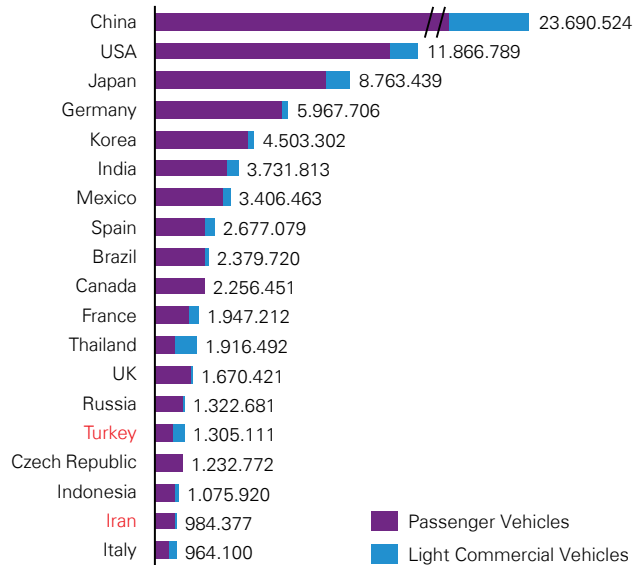


Kaveh Taghizadeh
KPMG Turkey
Head of Management Consulting, Partner



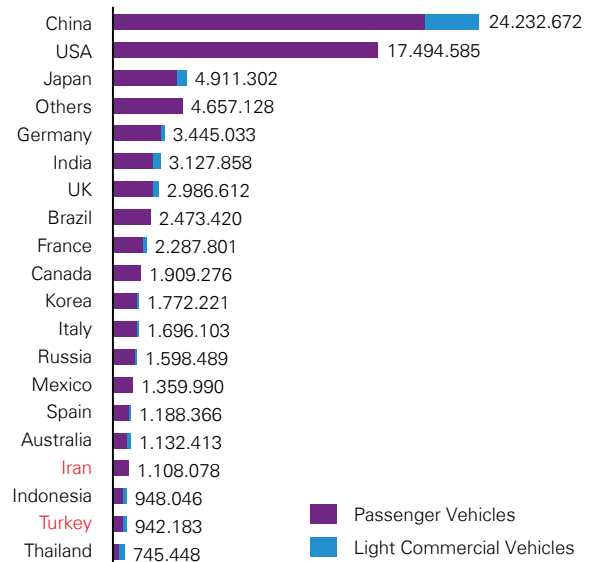
İlker Dinç
KPMG Turkey
Management Consulting, Director

Production (in units)



Not: Q4, 2015
Source: LMC Automotive

Sales (in units)

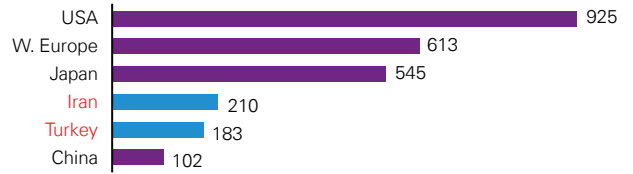


Not: Q4, 2015
Source: LMC Automotive

Iran is globally among the top 20 of car manufacturers and sellers.

Iran's automotive sector has around 20 car manufacturers and is dominated by Iran Khodro Industrial Group (IKCO), which was founded in 1962 and possesses a market share of 70% with activities in both passenger car and commercial vehicle production. Iran's second-biggest producer Societe Anonyme Iranienne de Production Automobile Corporation (SAIPA) was established in 1966 to build vehicles under license of Citroën. Together IKCO and Saipa have a combined market share of well over 90%. Foreign companies – mostly European and Asian – entered the market through joint ventures formed to assemble imported CKD (complete knock down) kits, and had a considerable presence. The imposed sanctions against Iran lead

Passenger cars per 1,000 people



Not: Q4, 2015
Source: LMC Automotive

to a decline of production led due to reduced access to products and to technologies needed to improve efficiency. Furthermore foreign carmakers had to stop their activities and long-standing relationships for fear of losing access to larger Western markets as well as transactions and investments with Iranian auto-manufacturers were subject to sanctions.

Market overview

Sanctions against Iran showed their effect in years 2012-2013 with a dramatic decline of car sales by 51,2% compared to previous CAGR of 12,2%.

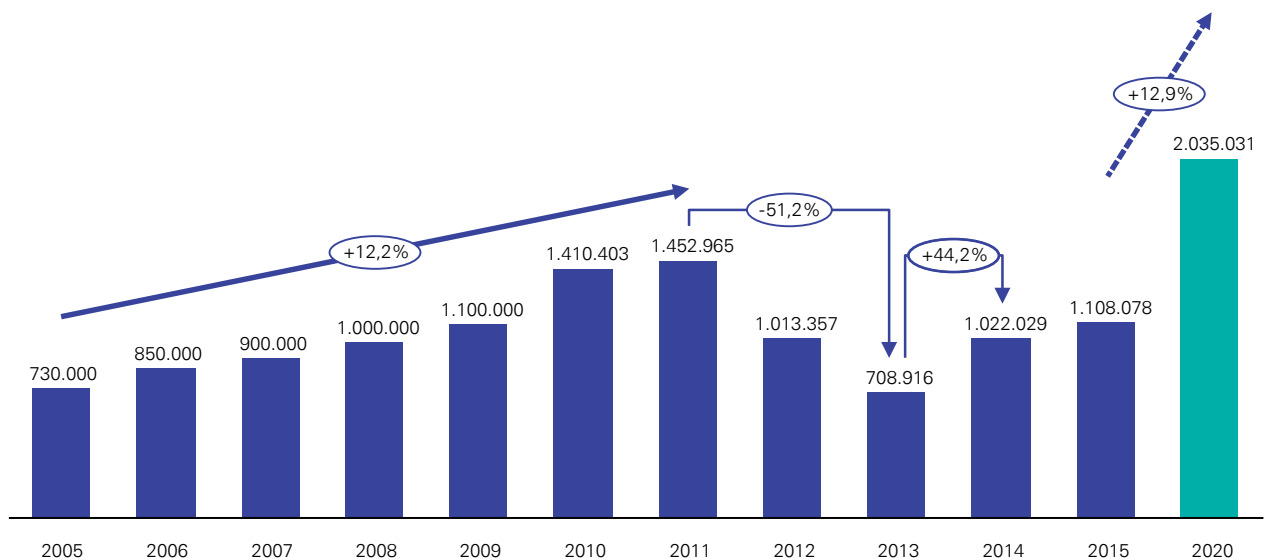
Up to the start of the international economic sanctions, Iran had an annual growth rate of 12,2% based on total car sales.

With beginning of sanctions in the years 2012-2013, these sales numbers showed a sharp decrease by 51,2% which can also be seen in the GDP as the automotive industry is the second-largest industry of Iran. With a temporary relaxation of sanctions in 2014 and becoming self-sufficient in automotive output, the industry could improve car sales. This is also caused by market entry of foreign car manufacturers to Iran.

After lifting of the sanctions, it is expected that the annual growth rate will be at a level as before the sanctions.

Furthermore, an increase in the 2015 passenger car sales is expected due to a short-notice launch of an auto loan scheme amounting to USD 92 m. offered by the government and backed by Central Bank of Iran. The launch of the scheme was part of an incentive package to stimulate domestic industries and combat economic recession, among which the automotive industry has been hit the most.

Sales (in units)



Note: Passenger Vehicles and Light Commercial Vehicles
Source: Euromonitor (2005-2011), LMC Automotive (2012-2015)

It should also compensate the lack of liquidity and low spending power of consumers. Buyers of Iranian-produced cars were eligible for a long-term payment plan with up to 80 percent of the purchase price and a maximum payback period of seven years. Starting in November 2015, the loan capacity of 110.000 cars was reached in a period less than 6 days and deliveries are expected to span into the first half of 2016 for receiving new car models.

Local car manufacturers are using old technology and infrastructure, therefore investments in technology and know-how from abroad are required.

Major drivers for the Iranian automotive industry:

- Preferential treatment relating to capital allocation
- Exchange-rate movements (as a large proportion of automotive parts are imported)
- High inflation
- High interest rates on loans
- Lack of consumer buying behavior
- Fuel subsidy by the government, which was removed during the year 2010
- Low oil price slowing pace of growth

Local OEMs

There are around 20 automotive companies in Iran, but the production is by far dominated by two local companies, IKCO and Saipa, having a combined share of well over 90% in the production including foreign brand cars manufactured locally

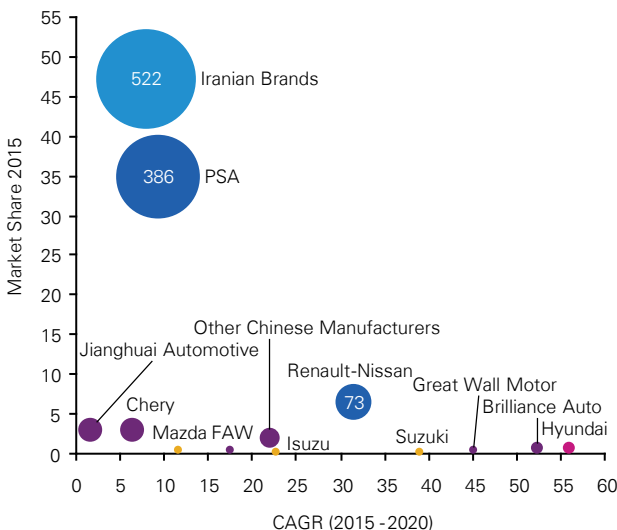
IKCO is the market leader and aims to sign agreements with several carmakers as well as to expand footprint in Middle East and Africa.

Iran Khodro Industrial Group (IKCO) has a market share of 60% (based on production of own brand and foreign brands) and aims to sign agreements with several carmakers as well as to expand footprint in Middle East and Africa. IKCO had long-year partnerships with PSA Peugeot-Citroen, Renault, Suzuki as well as Mercedes-Benz.

SAIPA is the second largest manufacturer and its locally manufactured cars under its own brand and for foreign brands account for 35% of total market

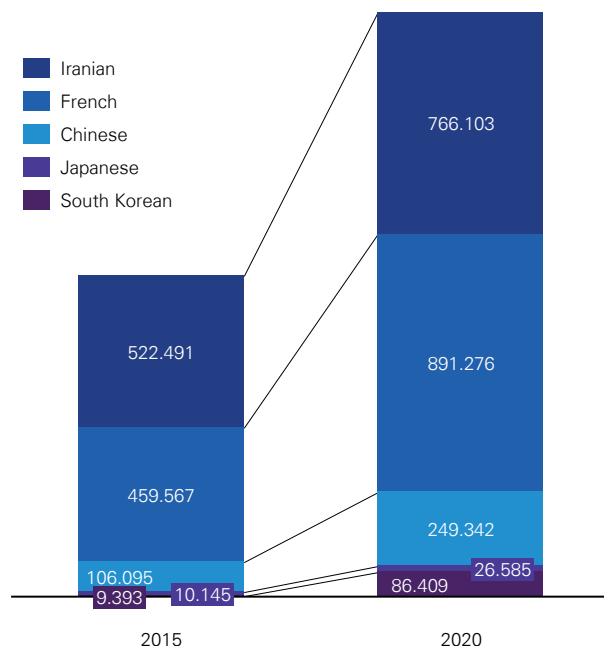
Societe Annonyme Iranienne de Production Automobile Corporation (SAIPA) is the second largest manufacturer which produces cars under license of Citroën Group.

OEM Sales performance matrix (in '000 units)



Not: Q4, 2015
Source: LMC Automotive

Sales by top OEMs (2015 and 2020)



Not: Q4, 2015
Source: LMC Automotive

Foreign OEMs

European car manufacturers try to reactive their long-year relations and re-enter the market but encounter dominant local competitors having alliances with Chinese firms and a market facing high price and low quality

German car manufacturers are likely to build on old business relations held before sanctions. Daimler has triggered projects for its truck division while other German manufacturers still review business potential.

According to the German Association of the Automotive Industry, the amount of imported cars will highly increase on a mid-term basis to 3 million new registrations per year. In addition to that the technology for manufacturing machinery and cars needs also be renewed which also opens up opportunities for German car parts suppliers. For this, many companies are likely to build on old business relations held before sanctions. Apart from that the move to Iran could cut German dependence on volatile Chinese and Brazilian markets and challenge French rivals. As one of the first car manufacturers, Daimler has triggered concrete projects for its Truck division in Iran. Other car manufacturers as Audi, BMW and Volkswagen are currently monitoring the political and economic developments and evaluating options how and when to enter the market.

French OEM used to dominate the Iranian market but were forced out of the country in 2013 by the international sanctions imposed on Iran. Currently, PSA Peugeot-Citroen acts very fast and recent joint venture agreement shows that Iranian market is a key priority for French OEM

IKCO's long-standing relationship with PSA Peugeot-Citroën was interrupted in 2012, when the French company stopped the sale of auto kits to Iran. In late January 2016 PSA Peugeot-Citroen has signed a

joint venture agreement with IKCO for returning to the market. For PSA, the agreement in Iran forms a key part of its strategy in the Middle East, one of its fastest-growing regions. In addition to that, While PSA Group interrupted operations in Iran due to sanctions, Renault remained in operation and now intends to step up its investment in Iran with the launch of additional models.

During sanctions Chinese manufacturers have developed their market shares

Furthermore, Chinese manufacturers have built in the absence of foreign manufacturers, local production and thus reach a share of more than 50% of locally produced models through partnerships with domestic manufacturers such as Saipa and Pars Khodro. From a consumer perspective the demand for non-Chinese models is present, as reliability issues have already plagued Chinese car manufacturers. The screw will grow even tighter on Chinese producers if European car manufacturers manage to provide products to the Iranian market that will be cheaper in addition to high quality.

South Korean and Japanese car manufacturers are also looking to increase their market share, albeit through imports rather than local production.

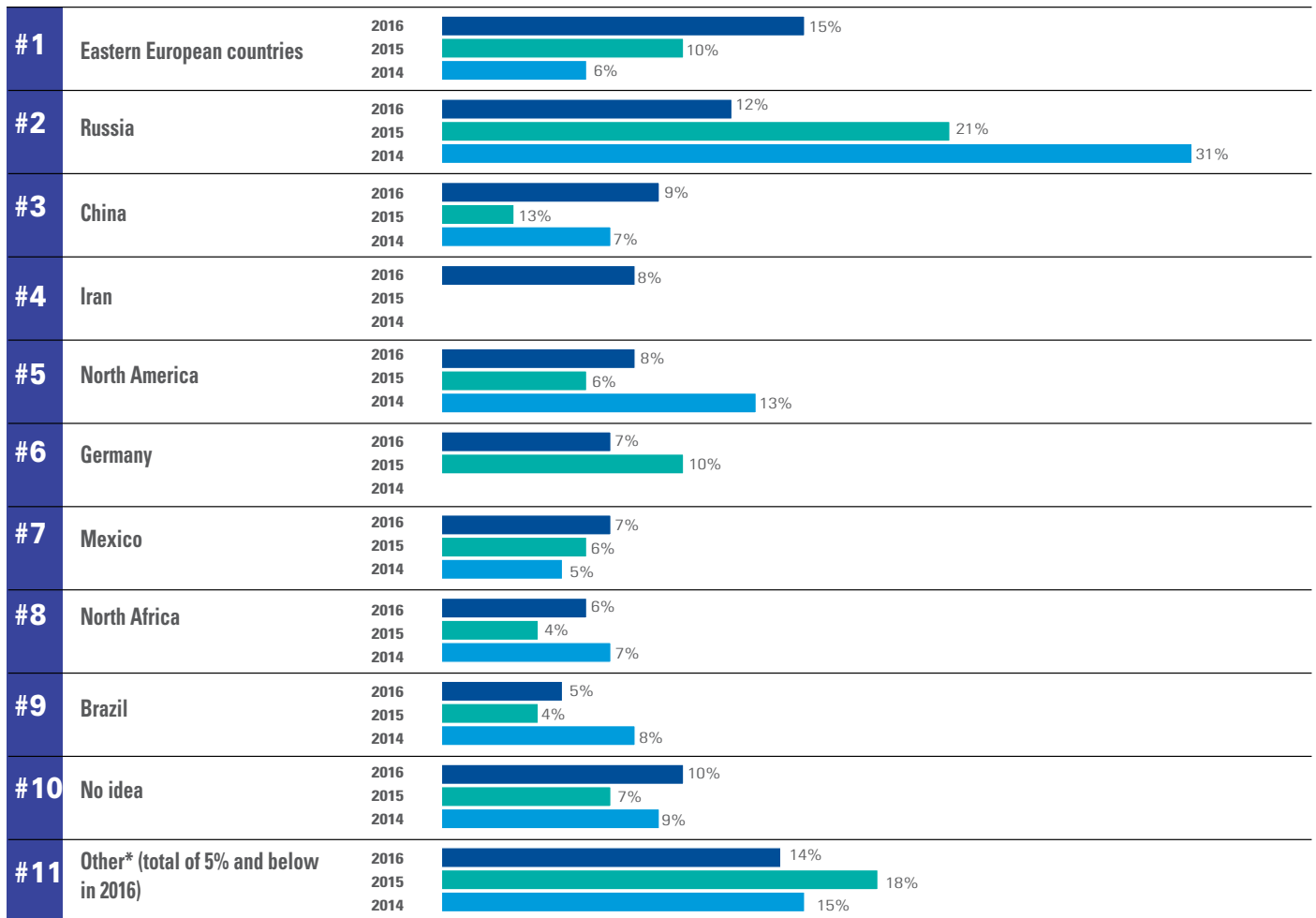
The two South Korean carmakers accounted for a large market share of nearly 60 % of all new vehicle imports in the country in the first half year of 2015. Many imports are in the luxury segment of the market.



This is a part of the project output by KPMG Turkey and Foreign Economic Relations Board on the "Economic and Trade Impact Analysis between Iran-Turkey after the embargo".

Project responsables: İlker Dinç & Barış Sazak (DEİK, Strategy and Business Development)

Countries where investments are planned to be realized



* India, Africa, Italy, France, United Kingdom, South Africa, Middle East, Not interested in investing

■ 2016 ■ 2015 ■ 2014

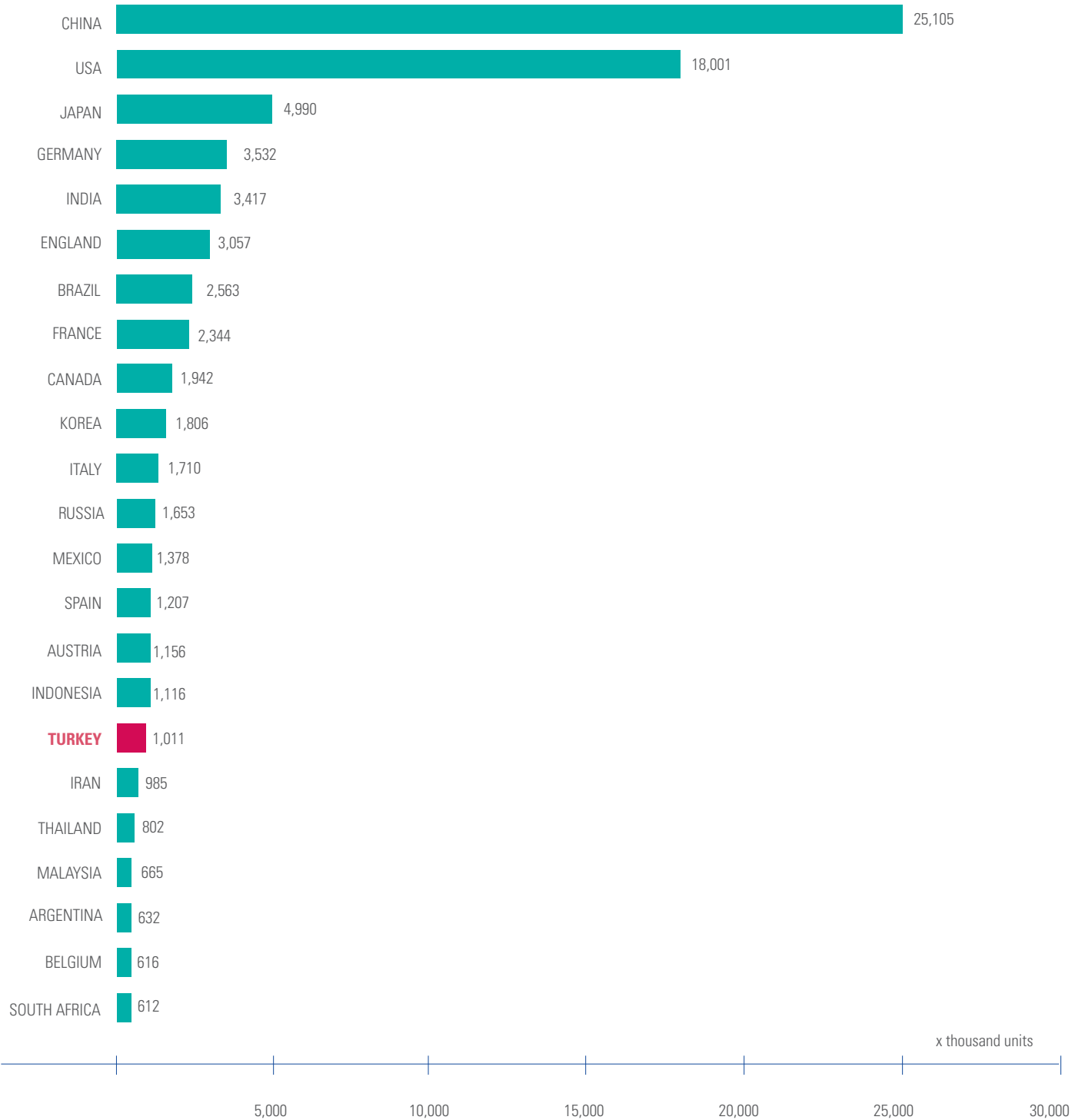
Appendix: Facts and Figures



Market

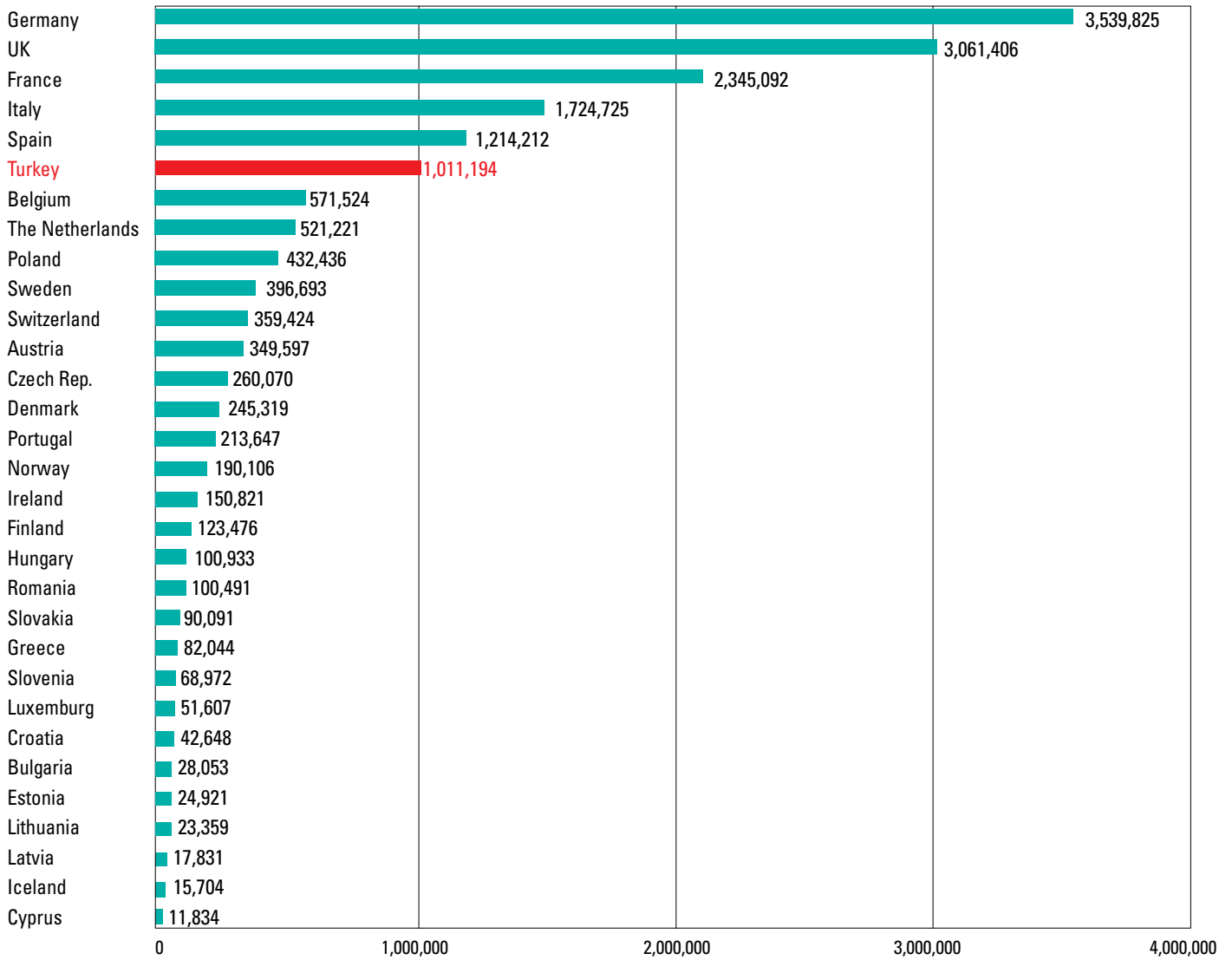


Vehicles Sales in World, 2015



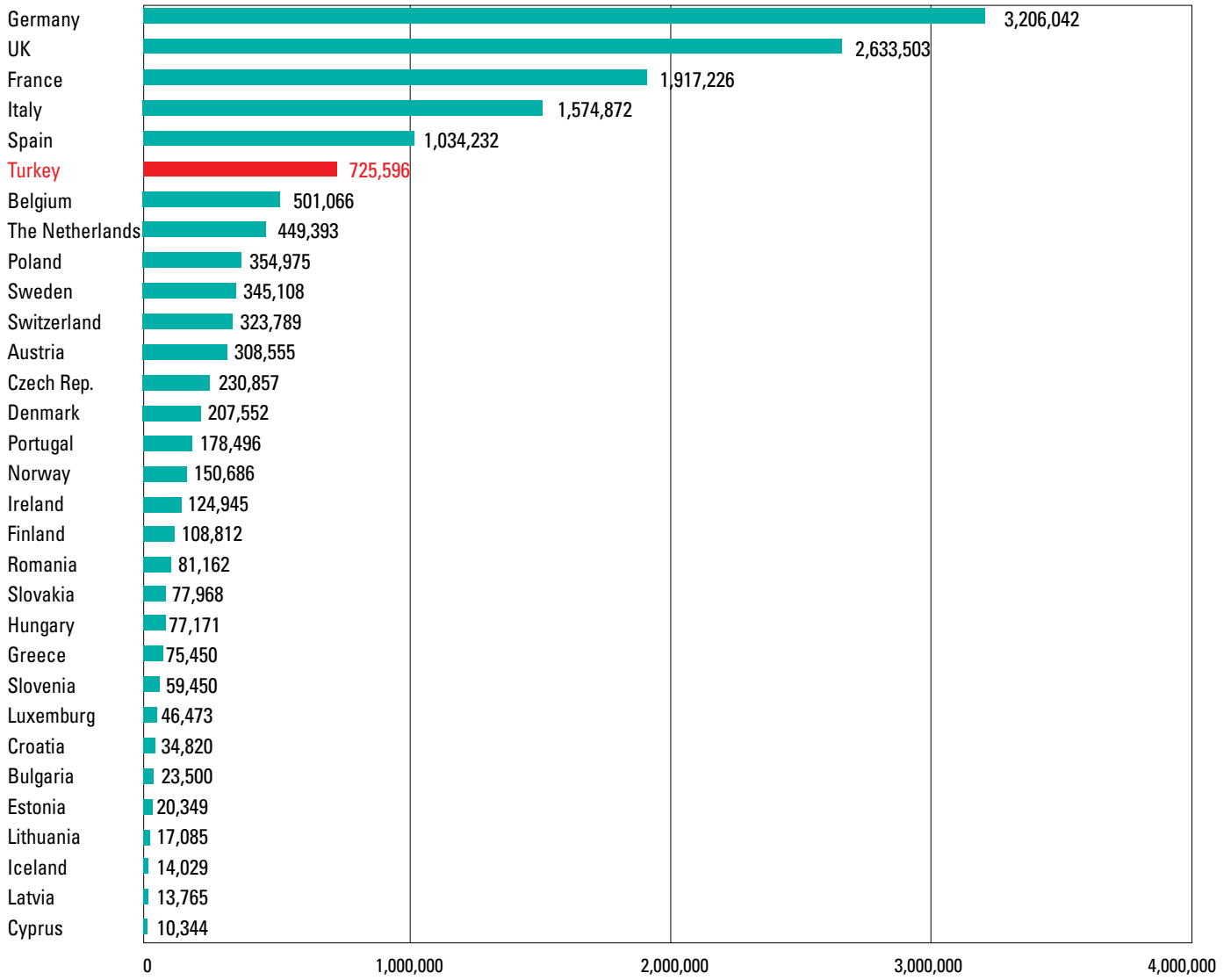
Source: LMC Automotive

European Automotive Market 2015 (units)



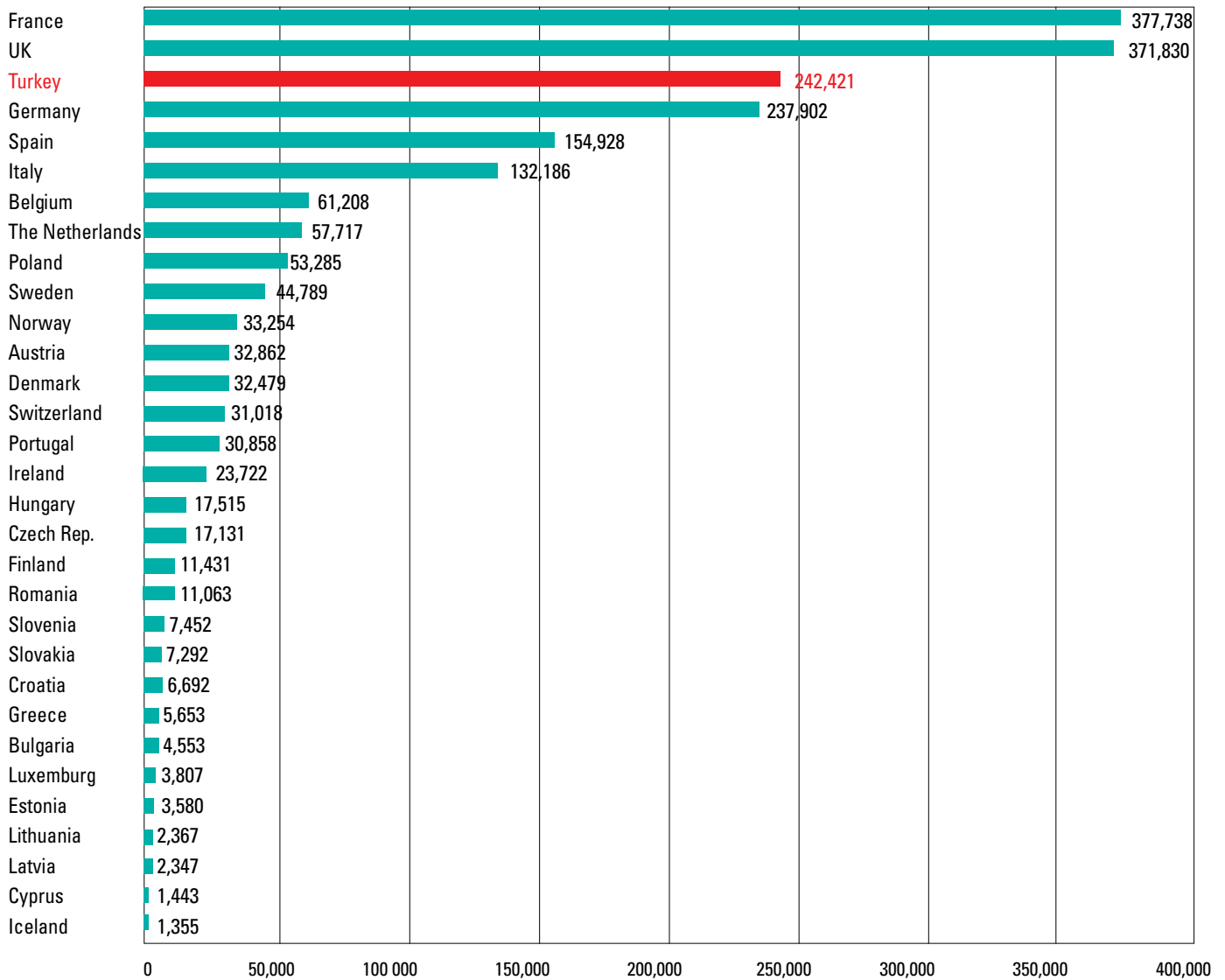
Source: ACEA - ODD

European Automobile Market 2015 (units)



Source: ACEA - ODD

European Light Commercial Vehicles Market 2015 (units)



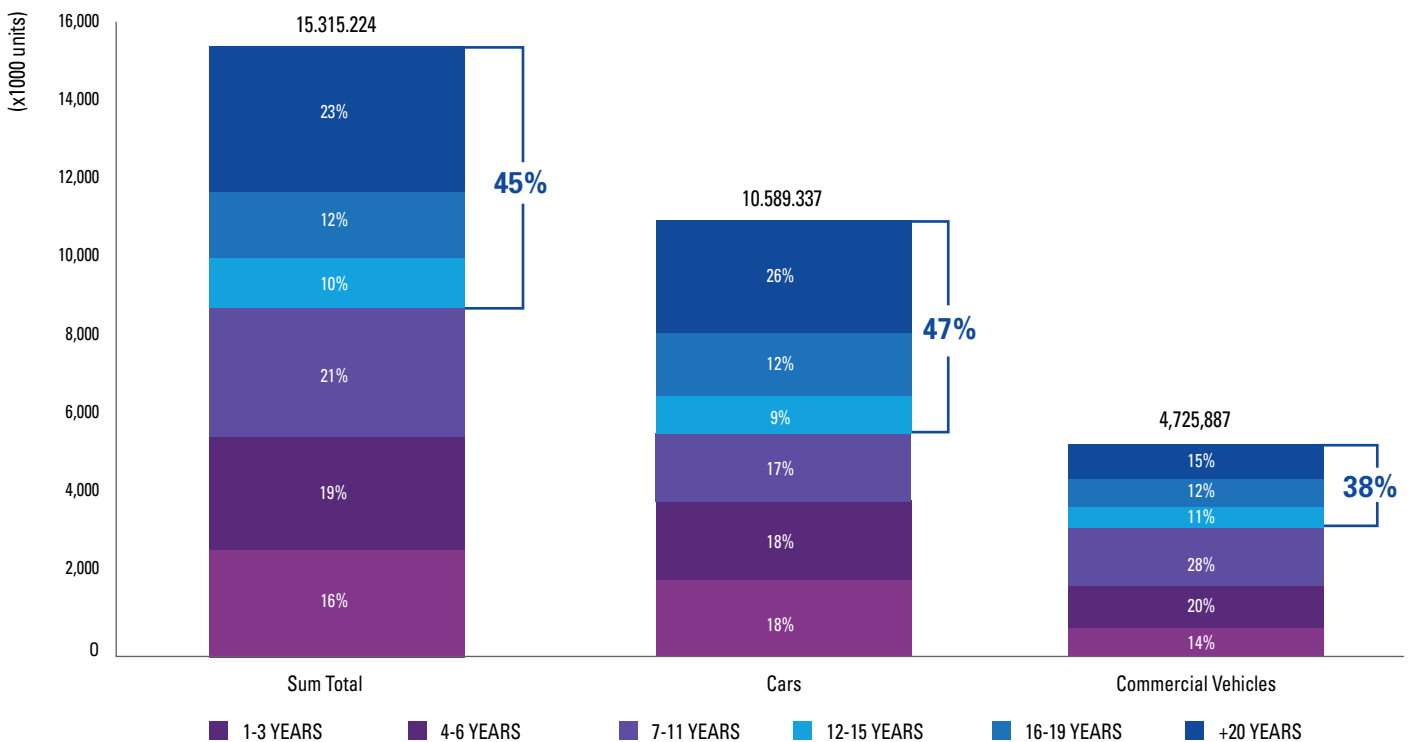
Source: ACEA - ODD

Automobile Ownership per 1000 People (2015) (units)



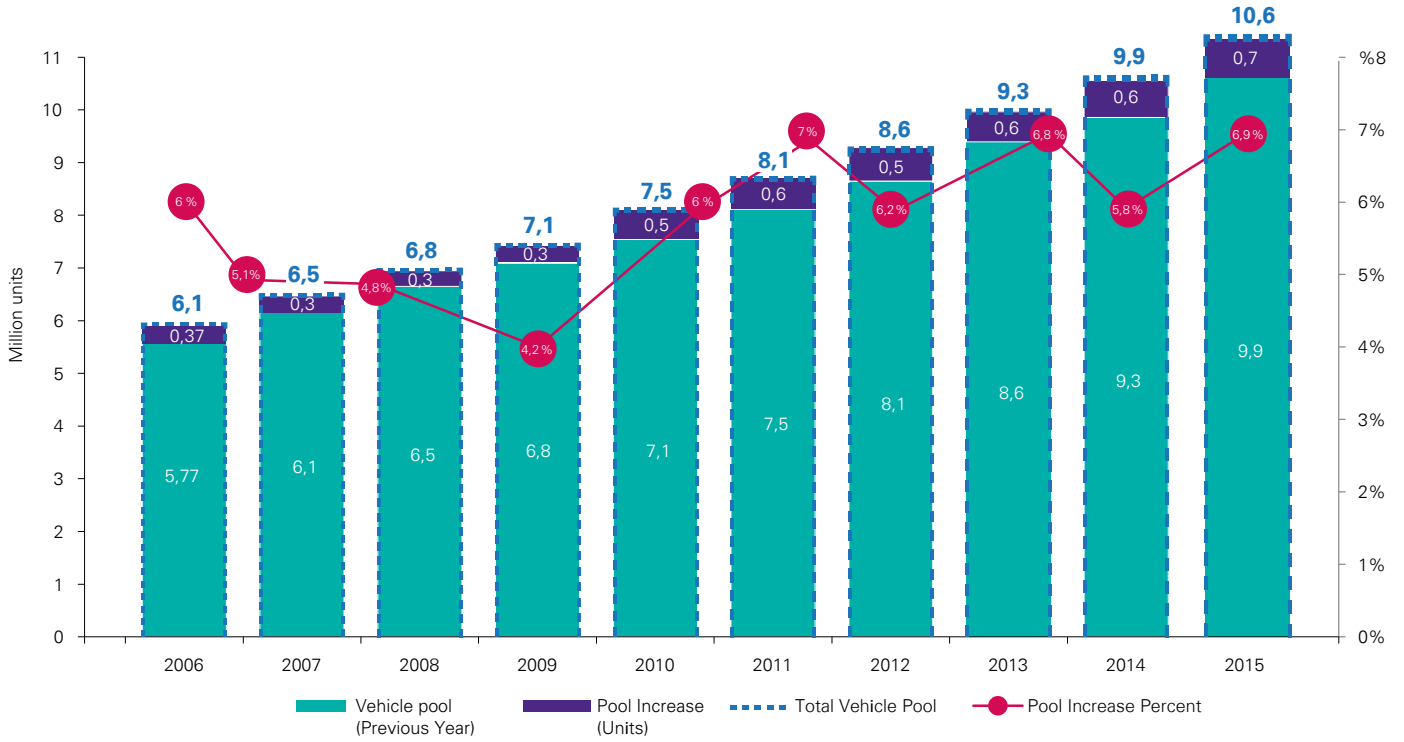
Source: LMC Automotive, 2015 4th Quarter Results

Age Distribution in Vehicle Park in Turkey (2015 End of Year)

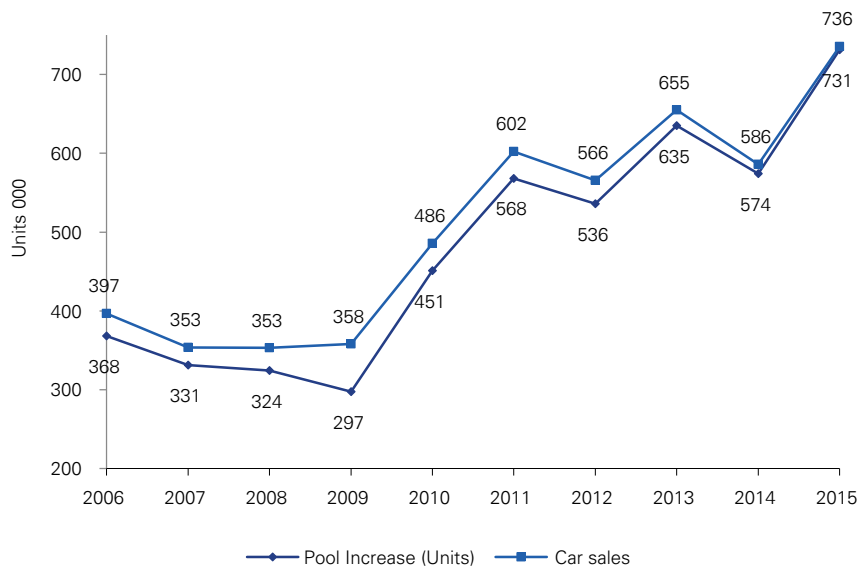


Source: TSI, Motor Land Vehicles, 2015

Turkish Vehicle Park 2015



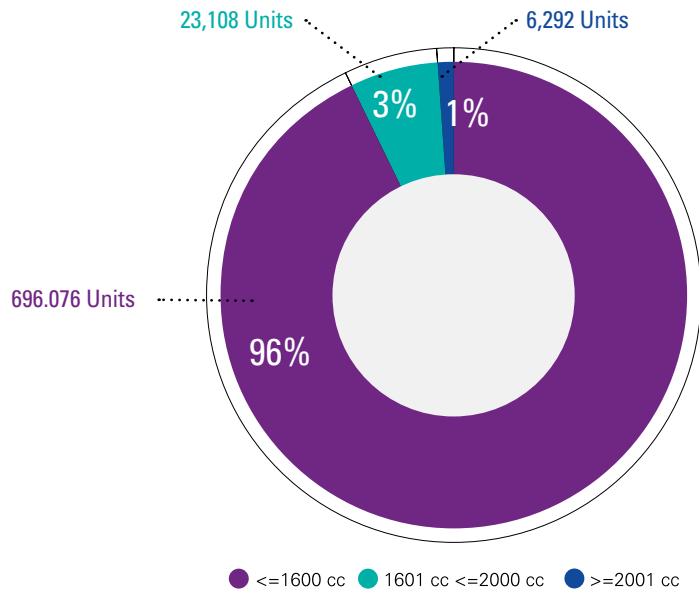
Increase in the Automobile Park and Sales



Automobile and Light Commercial Vehicle Market Sales in Turkey (Development of Brand Shares)

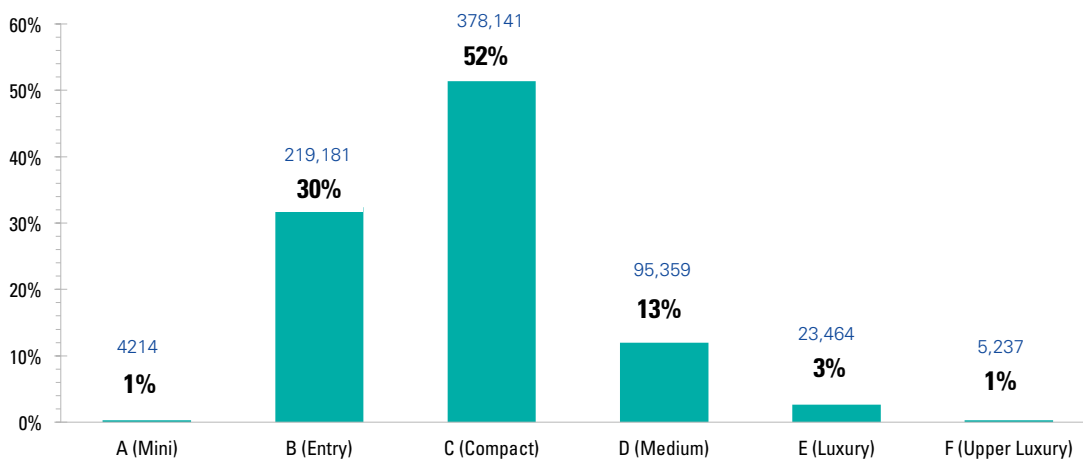
Brand	2014		2015		Change	
	Units	%	Units	%	Units	%
VOLKSWAGEN	108,647	14.2	139,043	14.4	27,98	
FORD	86,833	11.3	118,640	12.3	36,63	
RENAULT	98,743	12.9	117,363	12.1	18,86	
FIAT	89,128	11.6	109,490	11.3	22,85	
HYUNDAI	46,475	6.1	51,743	5.3	11,34	
TOYOTA	35,991	4.7	50,924	5.3	41,49	
OPEL	39,255	5.1	47,000	4.9	19,73	
DACIA	34,469	4.5	44,812	4.6	30,01	
MERCEDES-BENZ	31,128	4.1	38,790	4.0	24,61	
PEUGEOT	24,122	3.1	34,411	3.6	42,65	
BMW	26,174	3.4	31,221	3.2	19,28	
CITROEN	22,414	2.9	28,270	2.9	26,13	
NISSAN	19,697	2.6	26,428	2.7	34,17	
SKODA	14,537	1.9	22,107	2.3	52,07	
AUDI	17,809	2.3	20,279	2.1	13,87	
KIA	13,074	1.7	17,983	1.9	37,55	
SEAT	12,697	1.7	16,911	1.7	33,19	
HONDA	13,790	1.8	16,278	1.7	18,04	
VOLVO	6,060	0.8	6,939	0.7	14,50	
MITSUBISHI	5,538	0.7	5,858	0.6	5,78	
ISUZU	4,009	0.5	3,674	0.4	-8,36	
JEEP	1,960	0.3	3,507	0.4	78,93	
IVECO	2,524	0.3	2,710	0.3	7,37	
KARSAN	1,381	0.2	2,124	0.2	53,80	
MAZDA	1,300	0.2	1,761	0.2	35,46	
MINI	1,071	0.1	1,739	0.2	62,37	
SUBARU	1,402	0.2	1,737	0.2	23,89	
LAND ROVER	1,207	0.2	1,577	0.2	30,65	
SSANGYONG	1,157	0.2	908	0.1	-21,52	
PORSCHE	588	0.1	861	0.1	46,43	
ALFA ROMEO	967	0.1	847	0.1	-12,41	
PROTON	707	0.1	500	0.1	-29,28	
TATA	416	0.1	396	0.0	-4,81	
CHERY	325	0.0	394	0.0	21,23	
JAGUAR	52	0.0	336	0.0	546,15	
SUZUKI	958	0.1	177	0.0	-81,52	
SMART	76	0.0	88	0.0	15,79	
MASERATI	83	0.0	73	0.0	-12,05	
INFINITI	6	0.0	43	0.0	616,67	
GEELY	95	0.0	25	0.0	-73,68	
BENTLEY	21	0.0	19	0.0	-9,52	
LEXUS	0	0.0	13	0.0	0,00	
FERRARI	11	0.0	10	0.0	-9,09	
LAMBORGHINI	2	0.0	6	0.0	200,00	
LANCIA	210	0.0	2	0.0	-99,05	
LADA	0	0.0	0	0.0	0,00	
OTOKAR	0	0.0	0	0.0	0,00	
CHEVROLET	572	0.1	0	0.0	-100,00	
TOTAL	767,681	100.0	968,017	100.0	26,10	

2015 End of Year Sales Distribution by Engine Volume



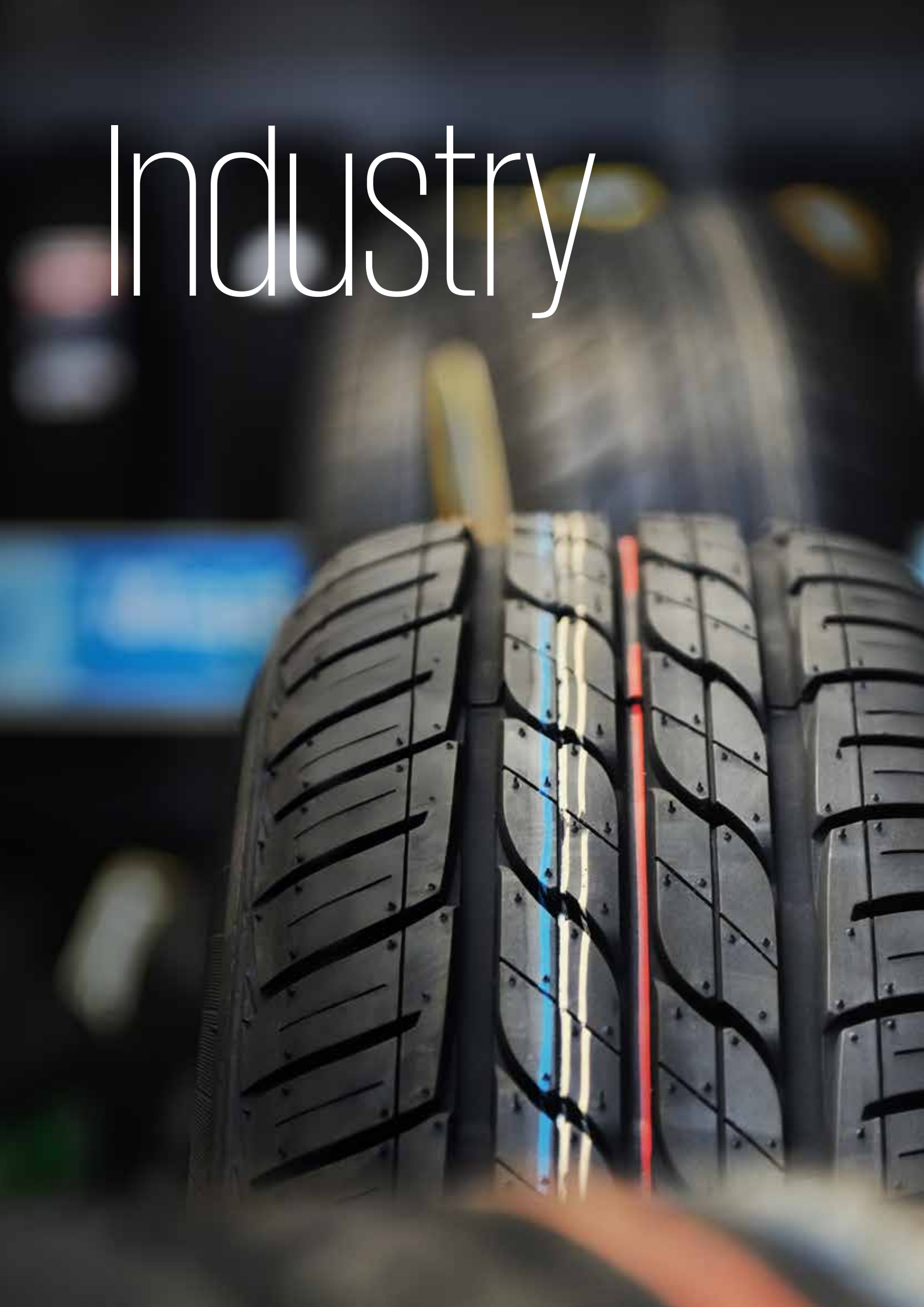
Source: ODD

Segment Distribution in Automobile Market 2015

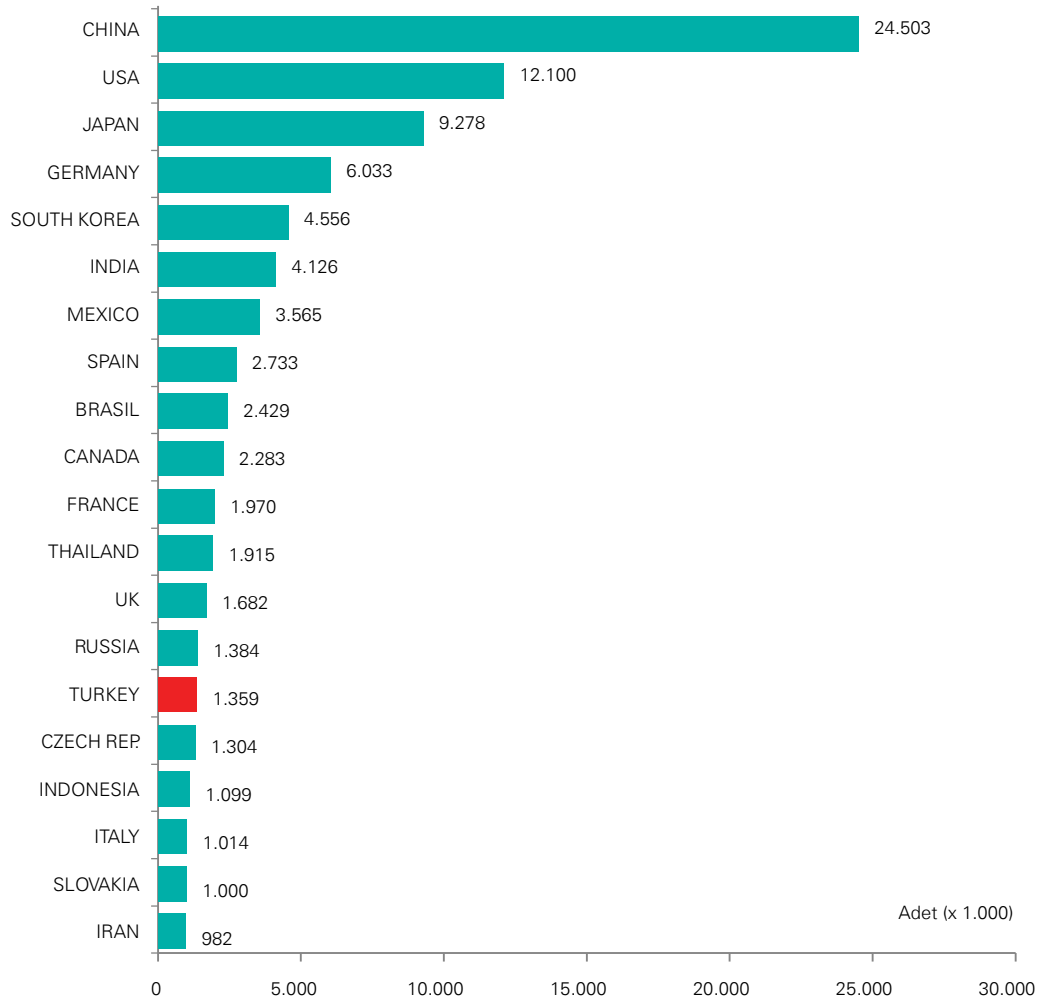


Source: ODD

Industry



Total Manufacturing Ranking across the World (2015)



Source: OSD

Manufacturing of Automotive Industry Companies in 2015

COMPANY	AUTOMOBILE		VAN		LORRY-SMALL		LORRY-BIG		MINIBUS		MIDIBUS		BUS		TOTAL	
	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%
A.I.O.S.	-	-	4,012	1	4,339	89	324	1	-	-	2,025	28	462	5	11,162	1
FORD OTOSAN	21,083	3	257,130	55	-	-	10,956	35	45,453	97	-	-	-	-	334,622	25
HONDA TÜRKİYE	12,667	2	-	-	-	-	-	-	-	-	-	-	-	-	12,667	1
HYUNDAI ASSAN	226,500	29	-	-	-	-	-	-	-	-	-	-	-	-	226,500	17
KARSAN	-	-	4,628	1	-	-	-	-	1,625	3	602	8	384	4	7,239	1
M. BENZ TÜRK	-	-	-	-	-	-	19,688	64	-	-	-	-	4,253	48	23,941	2
MAN TÜRKİYE	-	-	-	-	-	-	-	-	-	-	-	-	1,743	20	1,743	0
OTOKAR	-	-	553	0	531	11	-	-	-	-	2,815	39	714	8	4,613	0
OYAK RENAULT	339,240	43	-	-	-	-	-	-	-	-	-	-	-	-	339,240	25
TEMSA GLOBAL	-	-	-	-	-	-	-	-	-	-	1,689	24	1,233	14	2,922	0
TOFAŞ	75,644	10	202,610	43	-	-	-	-	-	-	-	-	-	-	278,254	20
TOYOTA	115,893	15	-	-	-	-	-	-	-	-	-	-	-	-	115,893	9
TOTAL	791,027	100	468,933	100	4,870	100	30,968	100	47,078	100	7,131	100	8,789	100	1,358,796	100

Source: OSD

Exports of Automotive Industry Companies in 2015

COMPANY	AUTOMOBILE		VAN		LORRY		MINIBUS		MIDIBUS		BUS		TOTAL	
	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%
A.I.O.S.	-	-	3	0	-	-	-	-	136	30	152	3	291	0
FORD OTOSAN	16,988	3	196,937	58	451	32	38,195	100	-	-	-	-	252,571	25
HONDA TÜRKİYE	2,220	0	-	-	-	-	-	-	-	-	-	-	2,220	0
HYUNDAI ASSAN	201,276	33	-	-	-	-	-	-	-	-	-	-	201,276	20
KARSAN	-	-	2,930	1	3	0	60	0	74	17	-	-	3,067	0
M. BENZ TÜRK	-	-	-	-	954	68	-	-	-	-	3,298	58	4,252	0
MAN TÜRKİYE	-	-	-	-	-	-	-	-	-	-	1,493	26	1,493	0
OTOKAR	-	-	159	0	-	-	-	-	233	52	328	6	720	0
OYAK RENAULT	270,299	45	-	-	-	-	-	-	-	-	-	-	270,299	27
TEMSA GLOBAL	-	-	-	-	-	-	-	-	4	1	437	8	441	0
TOFAŞ	31,938	5	141,805	41	-	-	-	-	-	-	-	-	173,743	18
TOYOTA	81,962	14	-	-	-	-	-	-	-	-	-	-	81,962	8
TOTAL	604,683	100	341,834	100	1,408	100	38,255	100	447	100	5,708	100	992,335	100

Source: OSD

Automotive OEM and Supplier Industry Exports (\$ USD)

Product Group	2012	2013	2014	2015	2015-2014 Change (%)
TOTAL SUB-INDUSTRY	8,215,636,677	9,065,017,539	9,504,013,791	8,643,538,318	-9%
TUBE AND OUTER TYRE	1,199,566,307	1,130,005,892	1,126,709,610	961,494,045	-15%
SAFETY GLASS	120,615,918	135,230,310	143,208,299	124,569,031	-13%
ENGINE	272,085,582	319,294,885	171,893,752	221,897,271	29%
ACCUMULATOR	249,831,846	306,451,449	289,101,198	220,618,374	-24%
OTHER COMPONENTS AND SECTIONS	6,373,537,023	7,174,035,002	7,773,100,932	7,114,959,599	-8%
TOTAL MAIN INDUSTRY	11,100,115,134	12,491,591,365	13,259,499,977	12,975,346,180	-2%
Bus	855,424,304	937,790,963	985,983,007	1,024,134,143	4%
Midibus-Minibus	161,806,275	147,769,644	97,685,509	130,195,838	33%
Cars	6,068,045,119	6,855,475,590	7,258,361,005	6,881,972,133	-5%
Lorry - Van	3,433,310,999	3,918,798,755	4,201,760,814	4,263,767,944	1%
Truck	195,093,508	218,385,732	252,354,014	252,432,565	0%
Trailer and Semitrailer	71,336,635	77,907,407	38,396,525	48,108,959	25%
Agricultural Tractor	315,098,294	335,463,275	424,959,103	374,734,597	-12%
TOTAL	19,315,751,810	21,556,608,904	22,763,513,769	21,618,884,498	-5%

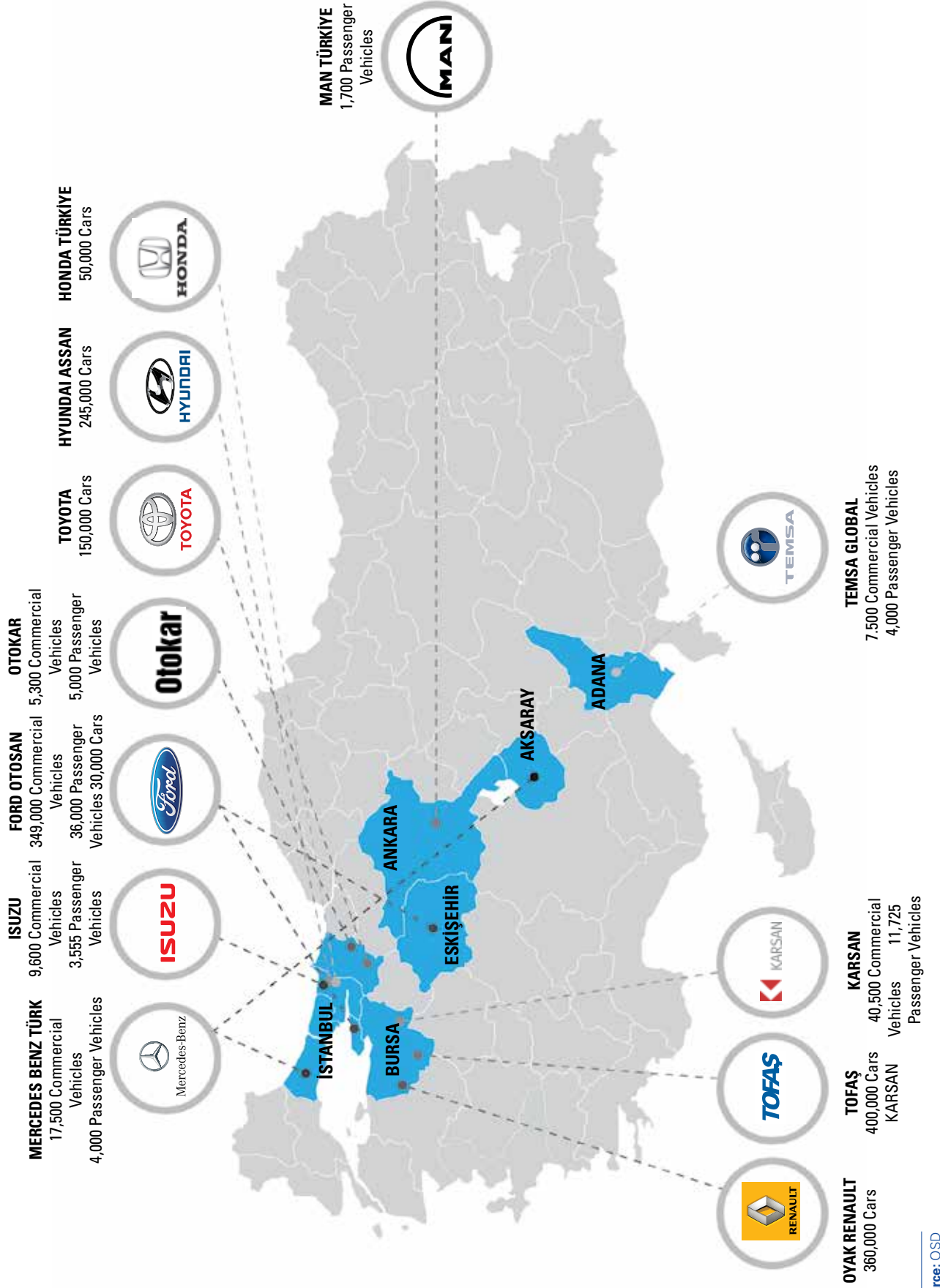
Source: Uludağ Automotive Industry Exporters Union (OIB)

Automotive Production and Capacity - 2015

	MANUFACTURING	CAPACITY	CAPACITY USAGE (%)
Light Vehicles*	1,307,038	1,634,532	80
Lorry	35,838	39,204	91
Bus	8,789	10,728	82
Midibus	7,131	9,432	76
Total	1,358,796	1,693,896	80

*Light vehicles include automobiles, vans and minibuses.

Source: OSD



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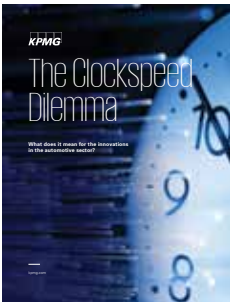
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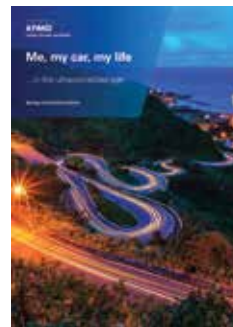
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