



REPUBLIC OF TURKEY
PRIME MINISTRY
INVESTMENT
SUPPORT & PROMOTION
AGENCY

WHY INVEST IN TURKISH AUTOMOTIVE INDUSTRY?

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Project Director – ISPAT

5th July 2018

- **Executive Summary**
- Turkish Automotive Industry Outlook
- Suppliers and Engineering in the Industry
- Growth Drivers in Turkey
- Success Stories

Turkish automotive industry

- High level of integration into the global automotive industry
- 14th major automotive producer in the World, with 78% average export rate
- Vehicles of Turkish origin hold the leading position among the vehicles coming from outside of EU
- Production, export, and engineering hub of global brands for international markets

Suppliers and engineering in the industry

- Quality products with high export rates
- Hundreds of Tier 1 companies working directly with OEMs
- Center of excellence in automotive engineering and R&D, in which new technologies are developed

Growth drivers in Turkey

- Strong macroeconomic growth with increasing income per capita and a burgeoning middle-class
- Favorable demographics with a dynamic, young, and skilled labor force supporting the industry
- Cost-competitive labor and energy prices
- Strong government support through incentives

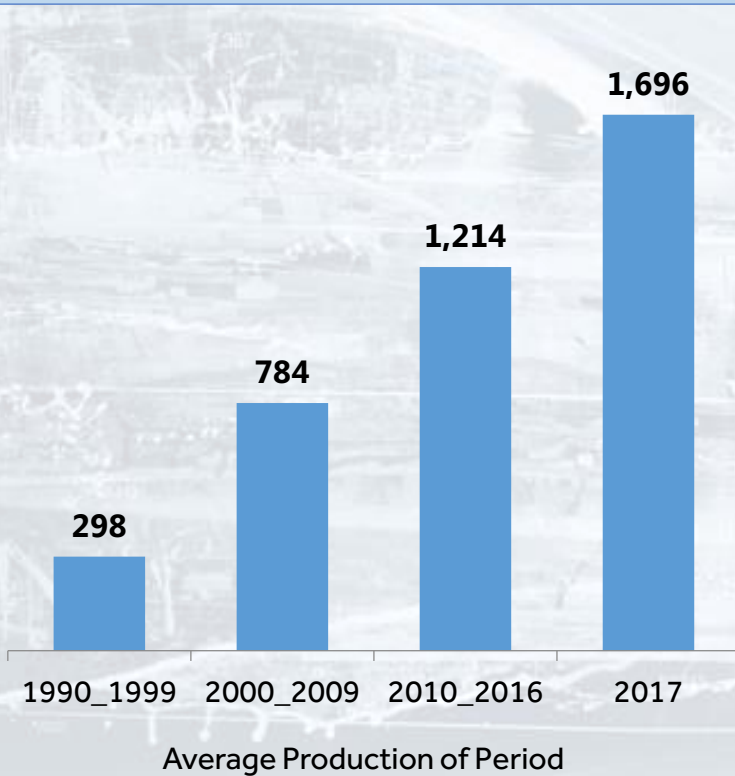
Strong international presence

- Giants of global automotive value chain benefit from Turkey's location, cost, and competitive advantages
- Because of their profitable business in the country, companies in Turkey continue to invest in the country's future

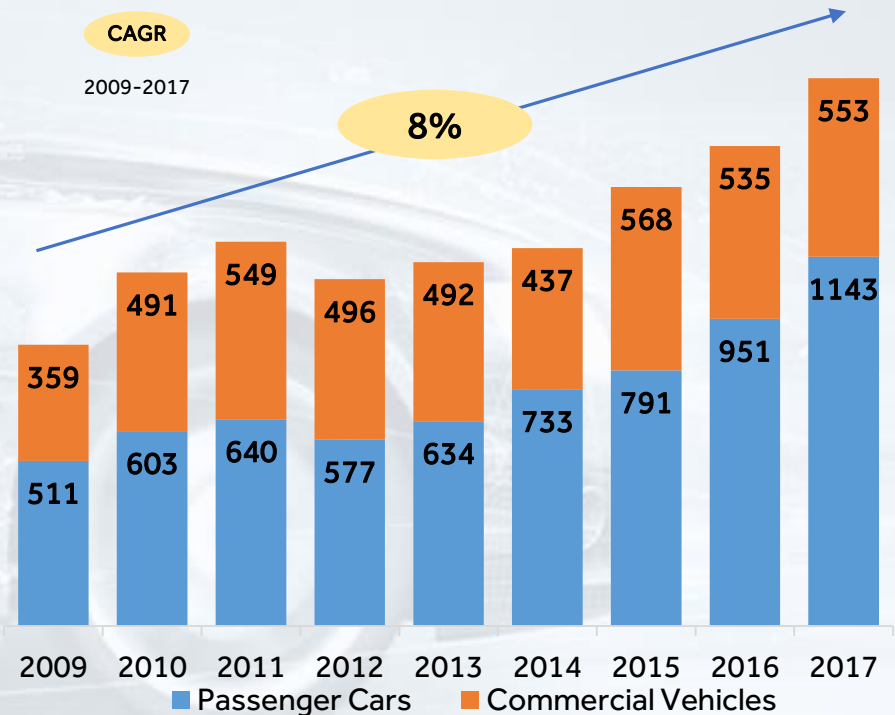
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Development of Vehicle Production Thousand Units



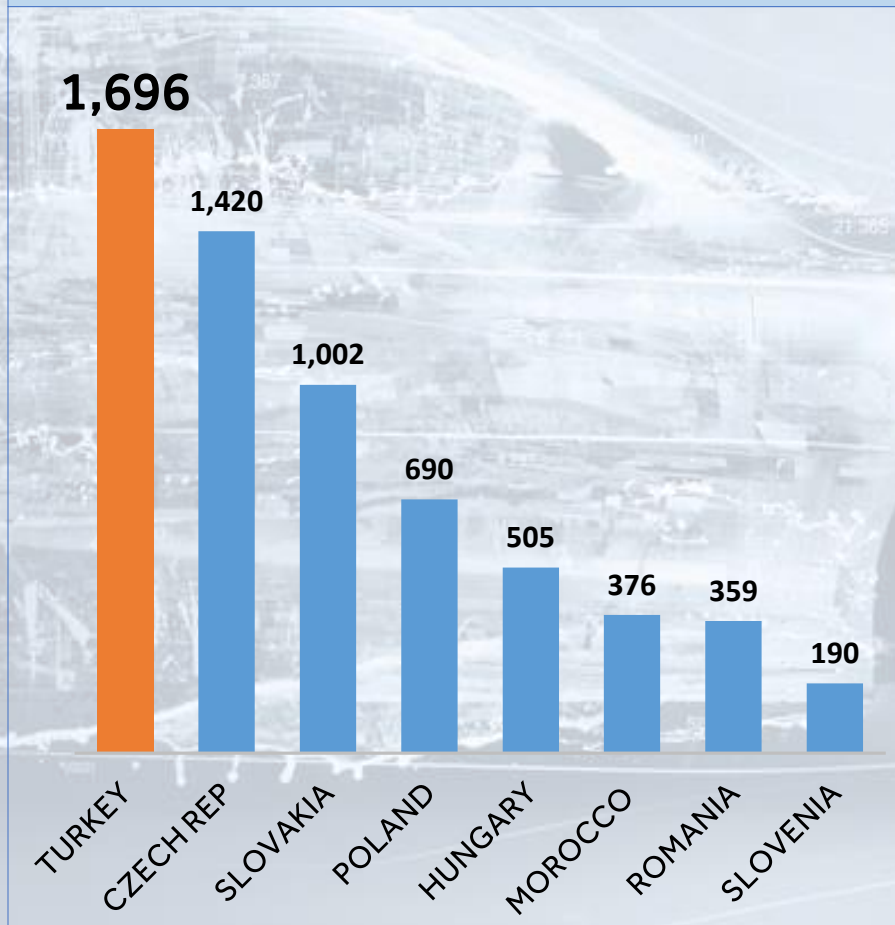
Performance in Recent Years Thousand Units





- 9 R&D centers support not only the local operations, but also the operations in other plants of parent companies.
- Ford Otosan's R&D department is one of Ford's 3 largest global R&D centers.
- R&D center in Bursa is the only center of Fiat outside of Italy serving the European market.
- For Courier, Ford's new light commercial vehicle, the Yeniköy plant is the sole production center in the world.
- Toyota's C-HR Hybrid is produced in Turkey for World markets
- Daimler R&D is the center of competence for some parts and carries global responsibility.
- With more than 40 thousand employees, automotive OEMs are one of the major employers in the manufacturing industry.

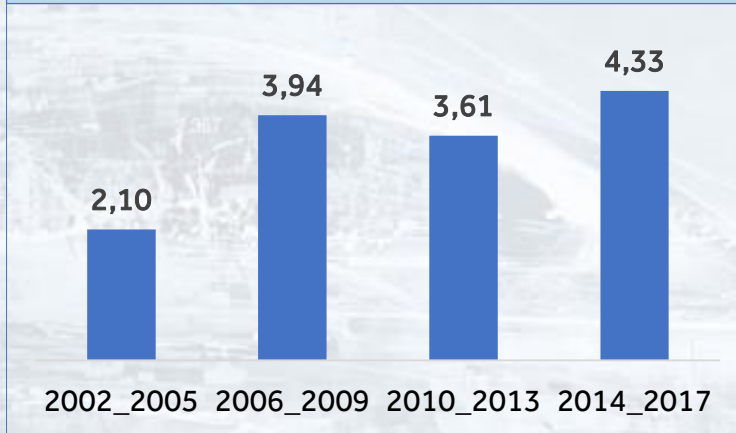
**Automotive Production in 2017
Thousand Units**



**World Auto Production in 2017
Million Units**



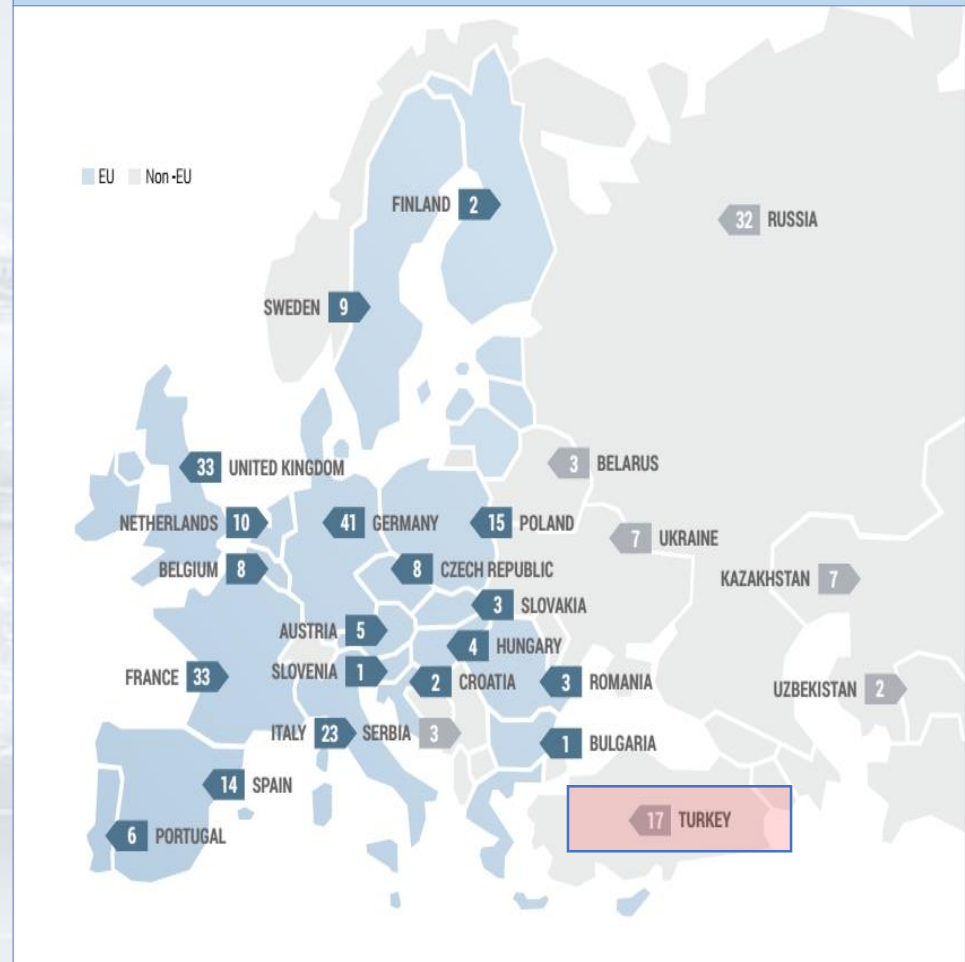
OEM Investment Stock - Billion \$



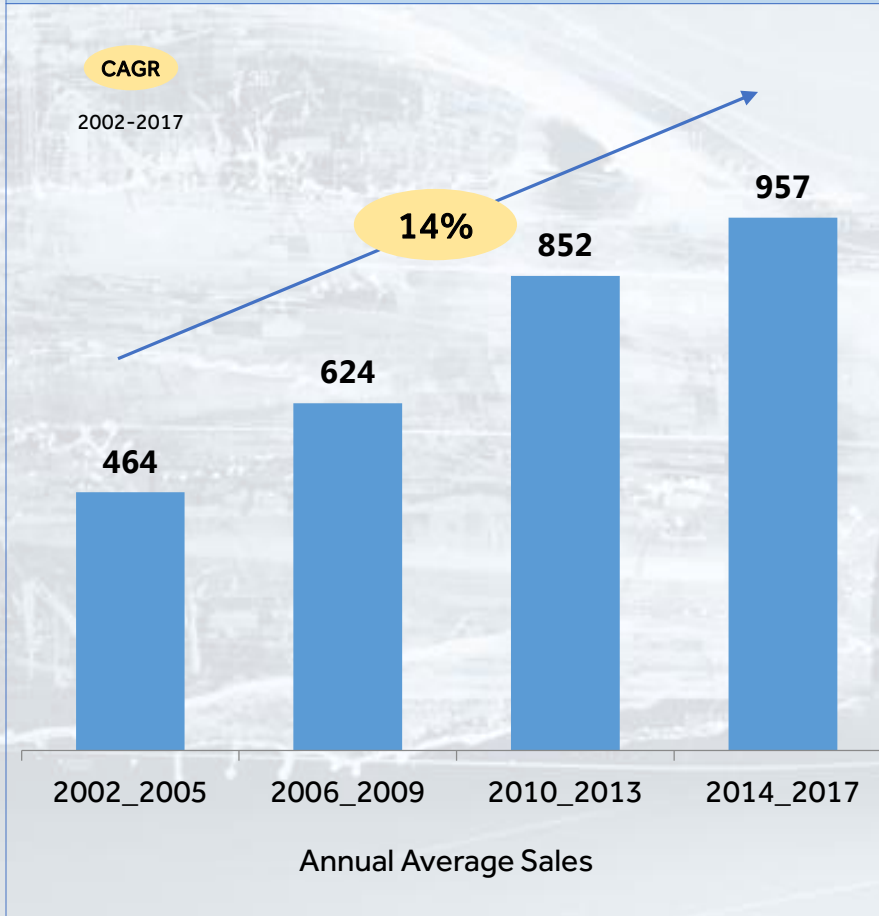
Development of Production Capacity



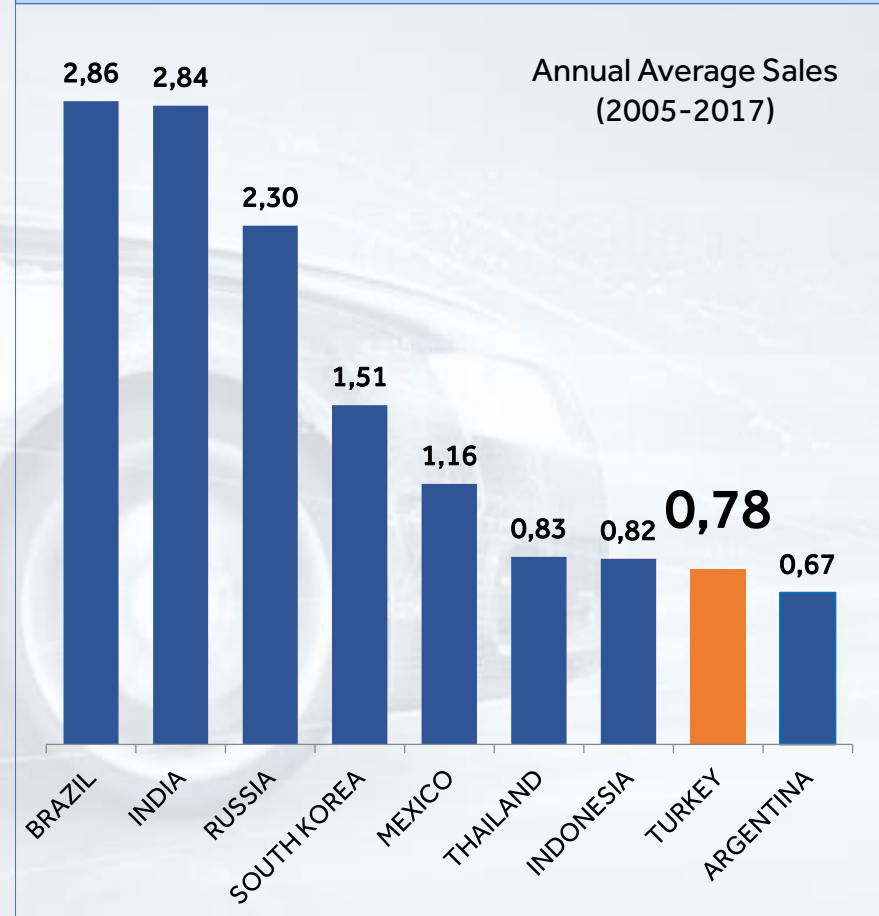
Automotive Plants in Europe



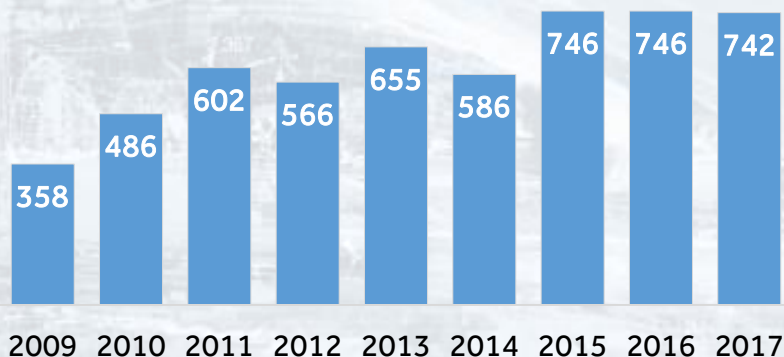
Change in Vehicle Sales
Thousand Units



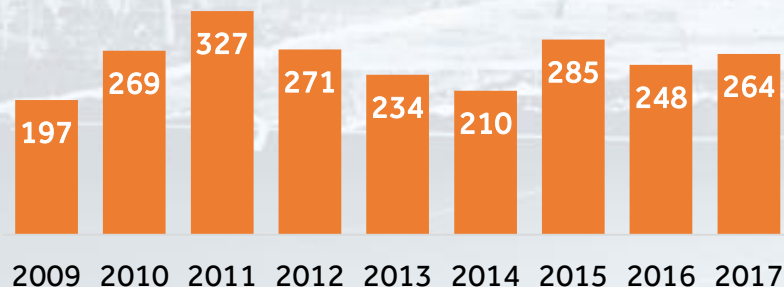
Top Emerging Vehicle Markets
Million Units



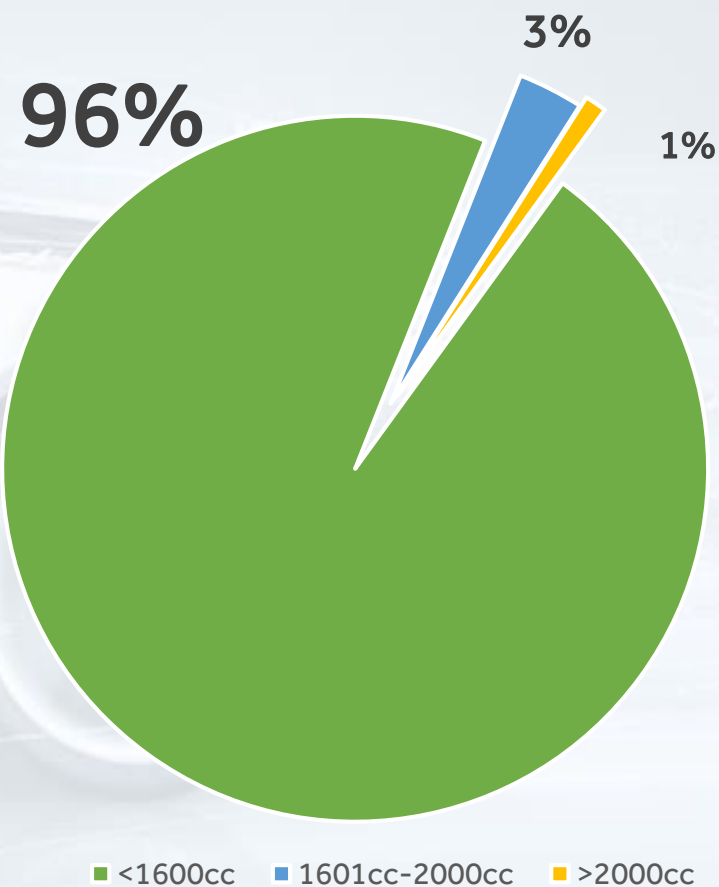
Passenger Car Sales
Thousand Units



Commercial Vehicle Sales
Thousand Units

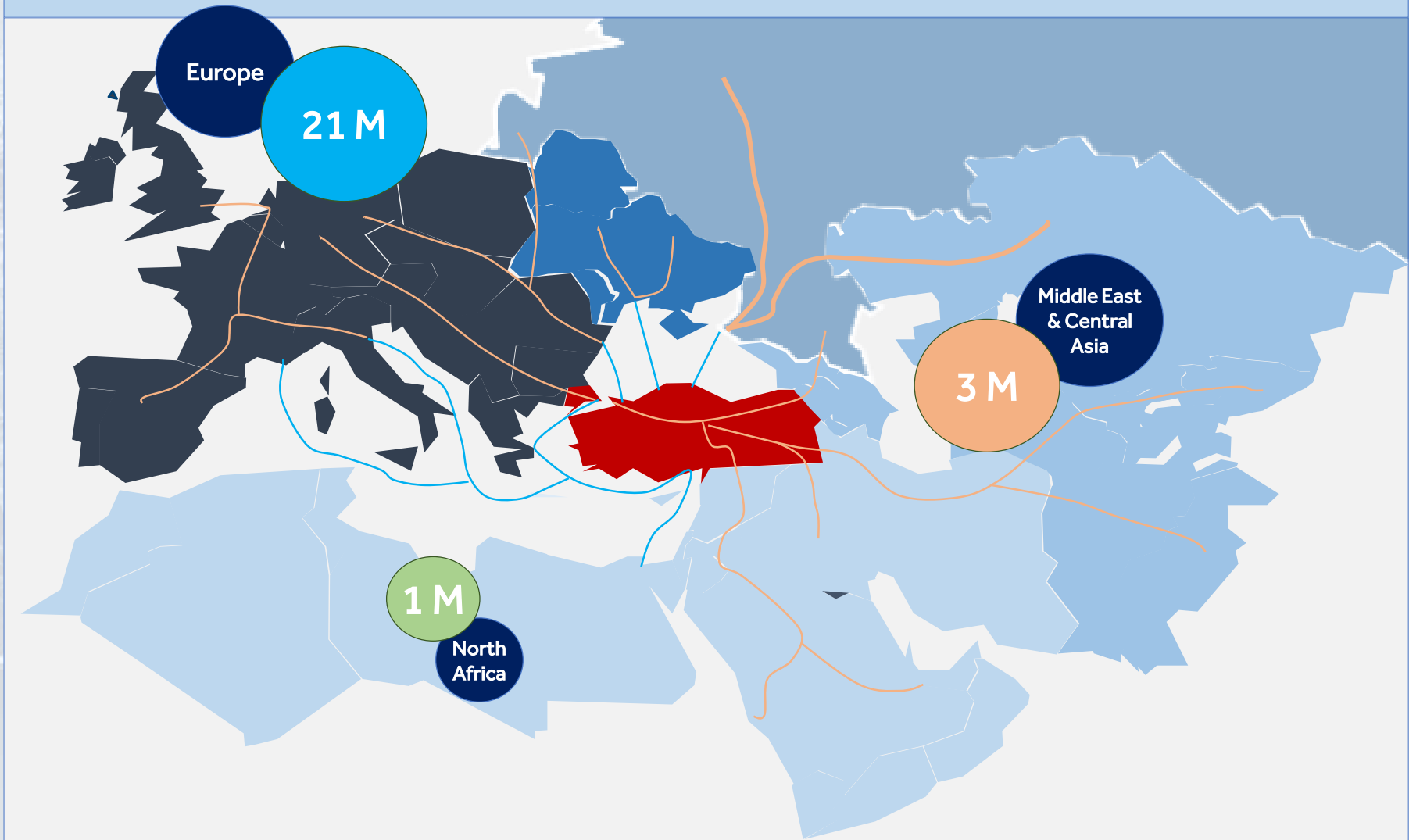


Sales by Engine Size (2017)

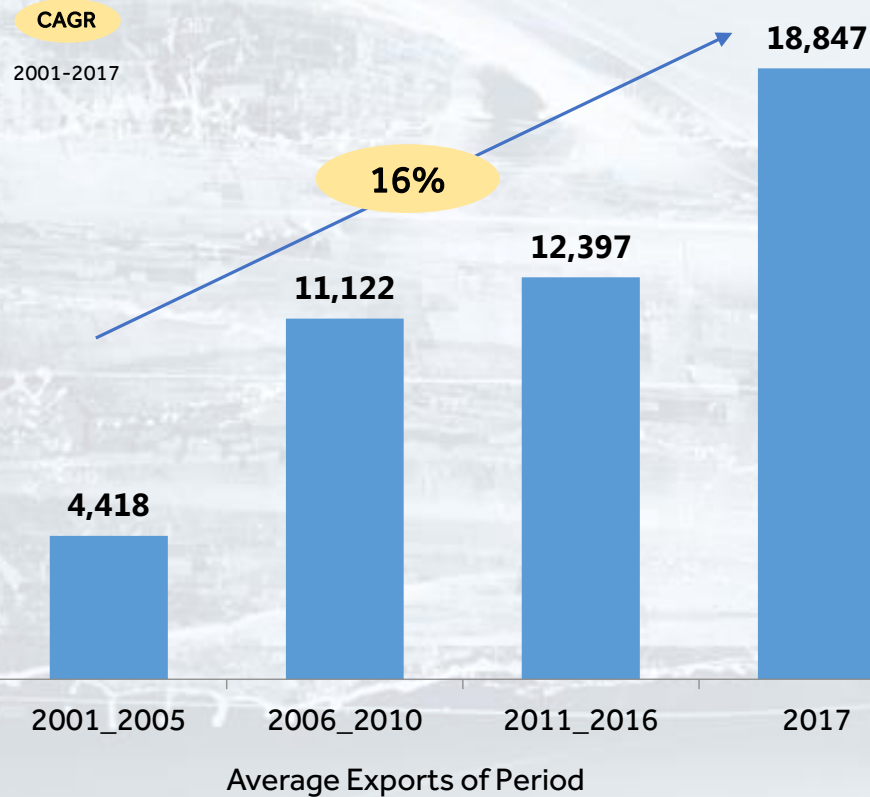




A Market of 25 Million Vehicles: from Western Europe to Central Asia (2017)



Development of Vehicle Exports Million \$



Deliveries to the EU Market



Turkey (1)
985,434 units



Japan (2)
577,703 units



S. Korea (3)
403,007 units



USA (4)
263,498 units



Morocco (5)
217,967 units

Source: Automotive Manufacturers Association of Turkey, ACEA

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Component Manufacturing

400+ Tier 1 suppliers working directly with OEMs contribute greatly to the high localization rates of the cars manufactured in the country



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of suppliers in the city

##

İSTANBUL

97

BURSA

105

İZMİR & SAKARYA

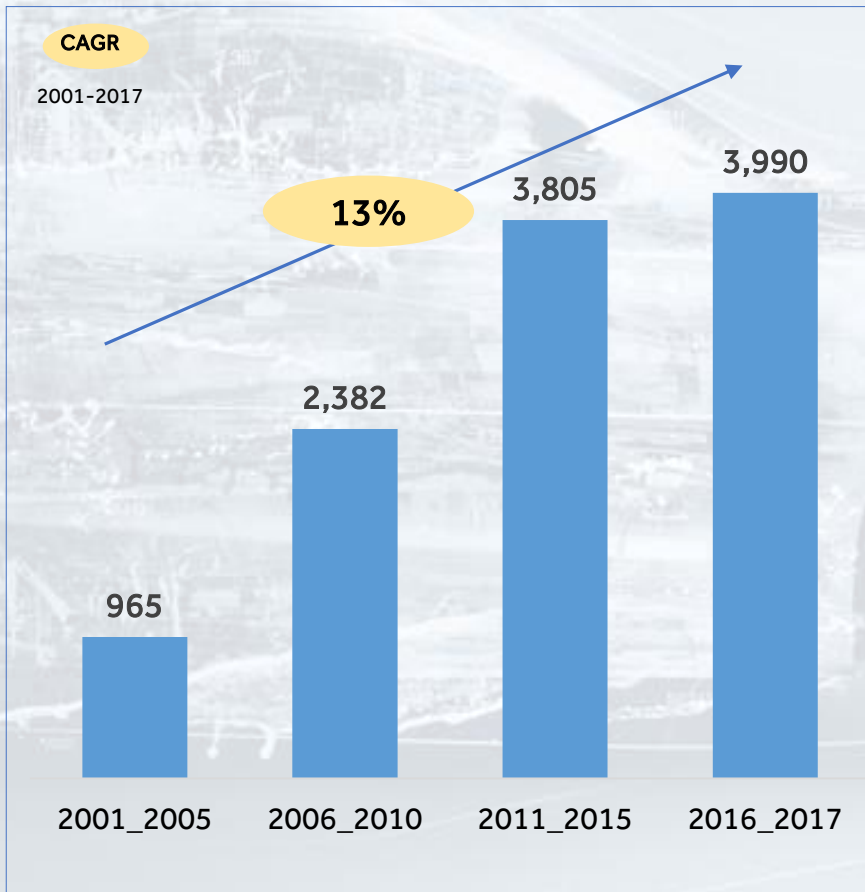
80

İZMİR & MANİSA

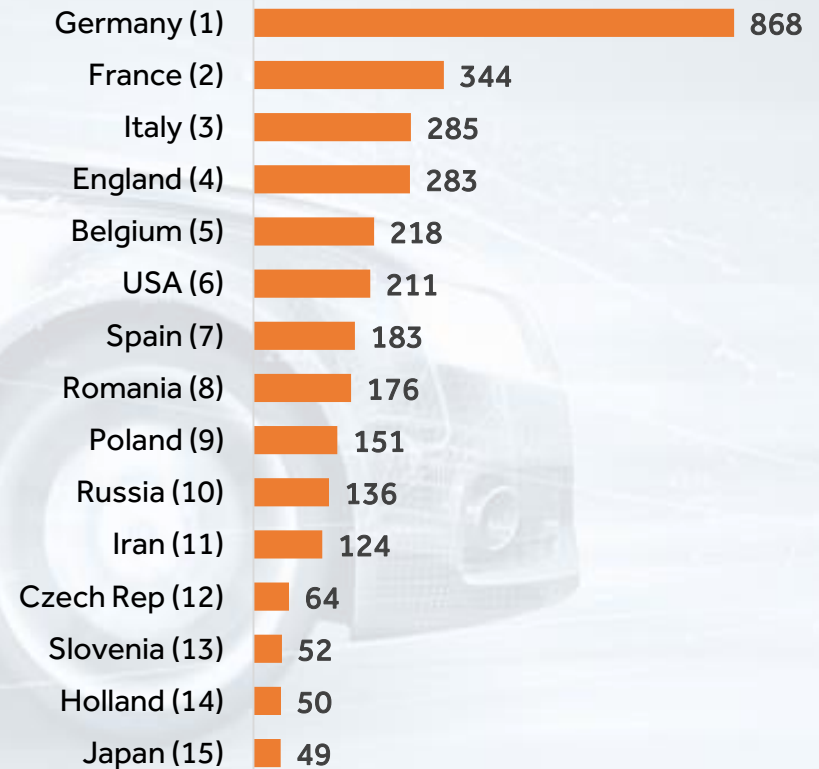
36

- Engine
- Body&Structural
- Interior
- Transmission
- Axles, Driveshaft's
- Climate Control & Engine Cooling
- Suspension
- Electric Components
- Braking
- Steering
- Wheels&Tires
- Fuel System
- Audi&Telematics
- Plastic Components
- Exhaust
- Body Glass
- Die-casting Parts
- Forging Components
- Raw Material
- Small/General Parts

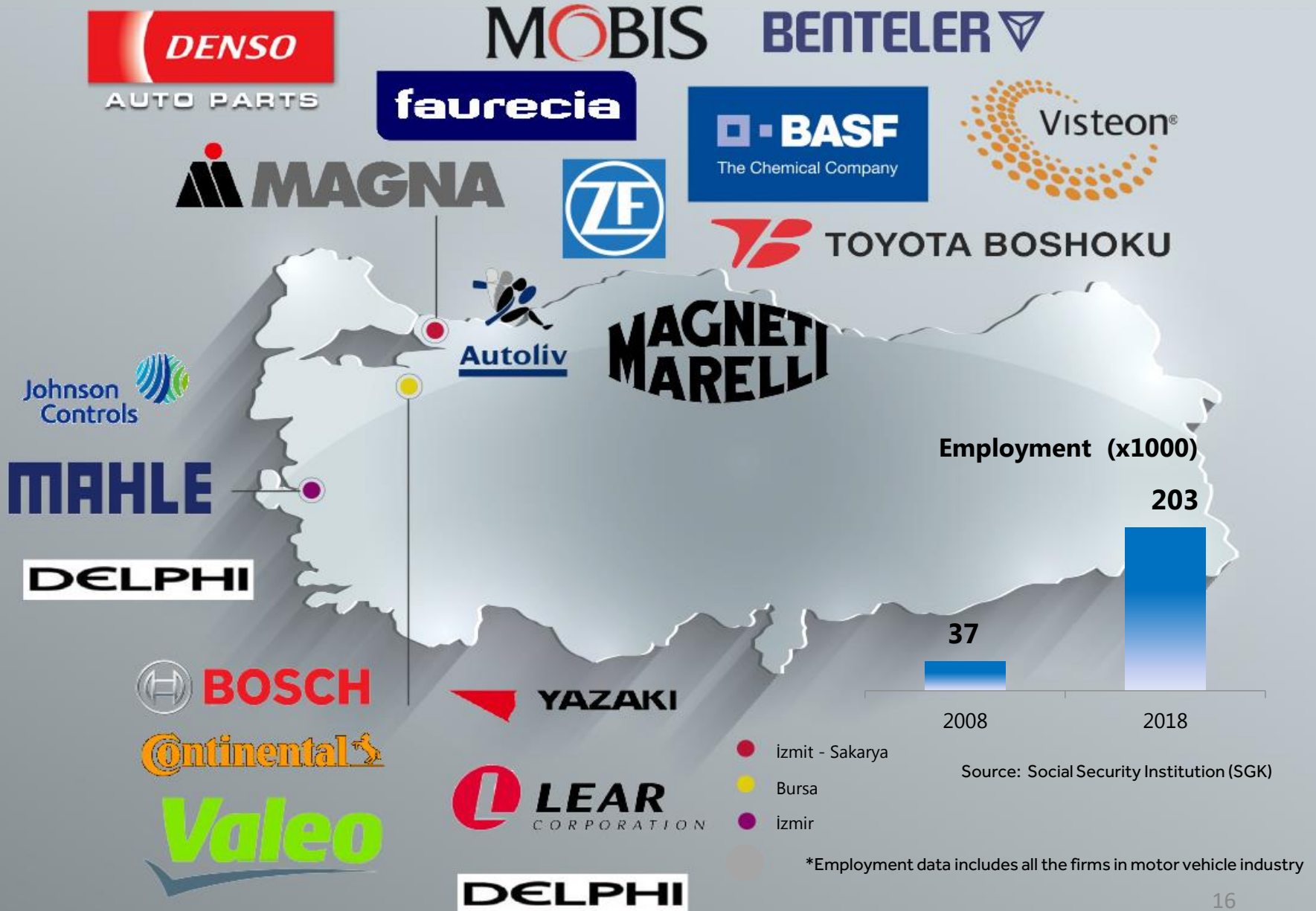
Development of Component Exports Million \$



Top 15 Export Markets (2017) Million \$













There are more than 250 global suppliers using Turkey as a production base. 28 of them are among the 50 largest global suppliers

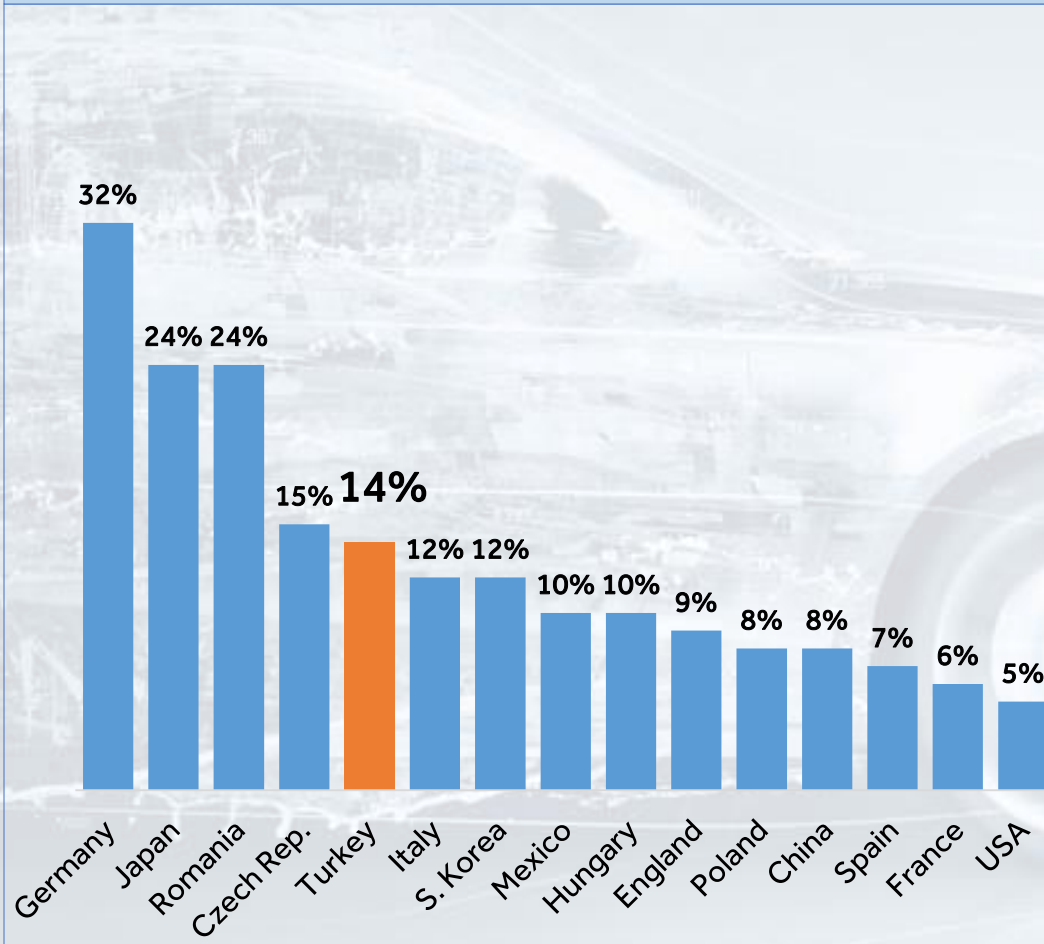


Major Suppliers

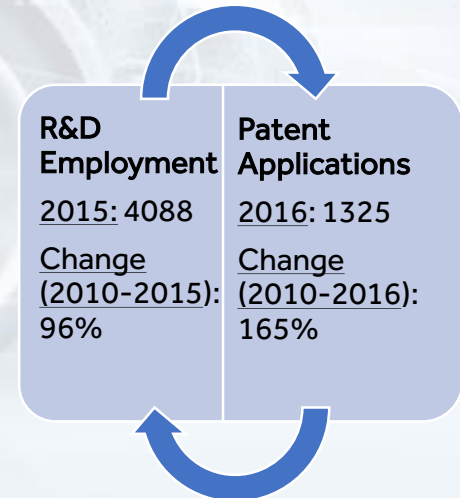
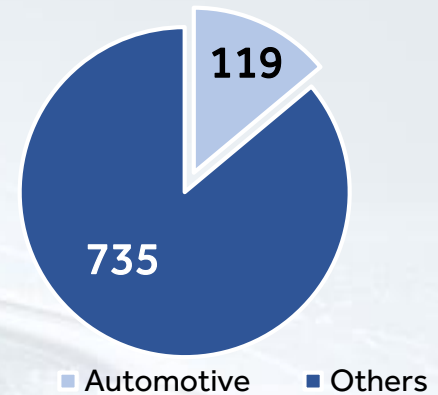
10 automotive suppliers with USD 200 Million+ revenue in 2017





Rank	Major Suppliers	Products	2017 Revenue (Million \$)
1		Brake systems, boosters, power limiters & regulators, repair kits, brake shoes, wheel brake cylinders, drum & disk brakes	1,051
2		Tires, batteries, coverings	572
3		Electrical and electronics components	432
4		Wheels	420
5		Tires	400
6		Steering wheels, seat belts, air bags	375
7		Tires	366
8		Wheels	324
9		Cables, electrical/electronic architecture systems and components, fuel pumps, fuel injectors, nozzles, valves	300
10		Molds, chassis systems, lock technologies	292

Share of Automotive in R&D Spending (Selected Countries)



R&D Centers (2018)



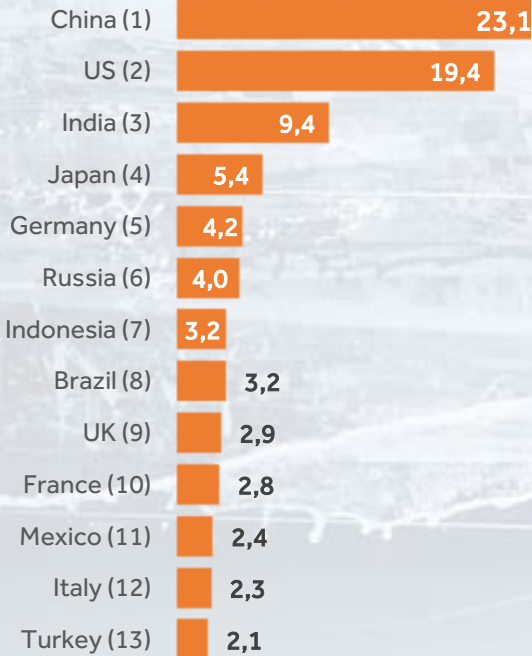
Company	Description	Operations in Turkey
AVL 	<ul style="list-style-type: none"> ❖ Established by Hans List in 1948 in Austria. ❖ Employs 9000+ engineers in its 40+ affiliates. ❖ The world's largest independent company for the development of powertrain systems with internal combustion engines as well as instrumentation and test systems. 	<ul style="list-style-type: none"> ❖ Has an office in Istanbul with 140+ engineers ❖ Aims to become a 'global engineering hub' ❖ One of the two exporting affiliates of AVL ❖ Planning to establish 3rd R&D center and to employ more than 200 engineers by 2018 ❖ started to work on Hybrid and autonomous car technologies. (Electric car for 2018, autonomous car for 2020) ❖ is supported by Tubitak for its works on electric and autonomous car projects
FEV GmbH 	<ul style="list-style-type: none"> ❖ Established in 1978 in Aachen, Germany ❖ Employs 4000+ researchers and developers ❖ Focusing on powertrain components engineering (mainly engine design, turbo-charger and transmission) 	<ul style="list-style-type: none"> ❖ Expanded into Turkey in 2011 with 10 engineers working in the Turkey office ❖ The main focus is design and R&D consulting of powertrain and ICE for the automotive sector ❖ Works on design, simulation, software development, and engine/Vehicle calibration with 50+ engineers
Idiada 	<ul style="list-style-type: none"> ❖ Established in 1973 with its headquarters in Santa Oliva, Spain ❖ Employs 2100+ employees ❖ Present in 25 countries, focusing on design, testing, engineering, and certification services in automotive 	<ul style="list-style-type: none"> ❖ Expanded into Turkey in 2000 ❖ There are 4 full-time engineers in the Turkey office ❖ Focus is on testing of R&D consulting for automotive
Ricardo 	<ul style="list-style-type: none"> ❖ Established in 1927 with its headquarters in Shoreham-by-Sea, England ❖ Employs ~3000 engineers ❖ Operating in 15 countries with focus on engines, transmissions, and intelligent transportation systems 	<ul style="list-style-type: none"> ❖ Works together with Anova (a Turkish engineering house) for powertrain development and R&D consulting in Turkey

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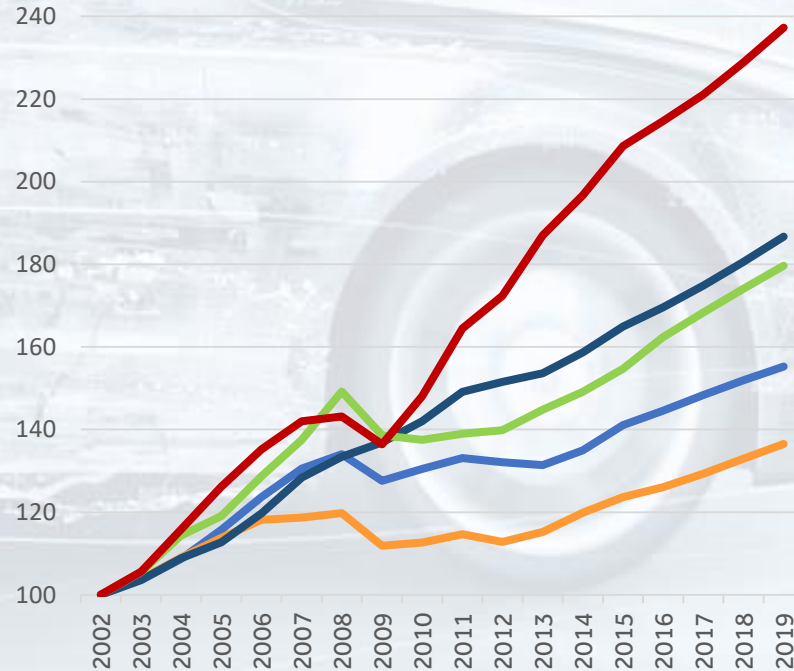


13th largest economy in the world

2017 GDP (\$Trillion, PPP)



Real GDP Growth (Index: 2002=100)



Actual

Average Annual GDP Growth 2003-2017 %

Forecast

Average Annual GDP Growth 2017-2019 %

Turkey

5.7

3.4

Poland

3.8

3.3

Romania

3.7

3.4

Czech Rep

2.8

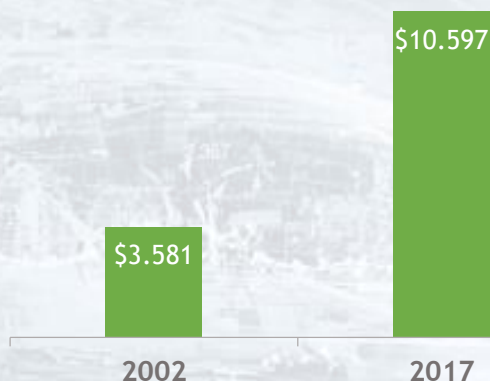
2.7

Hungary

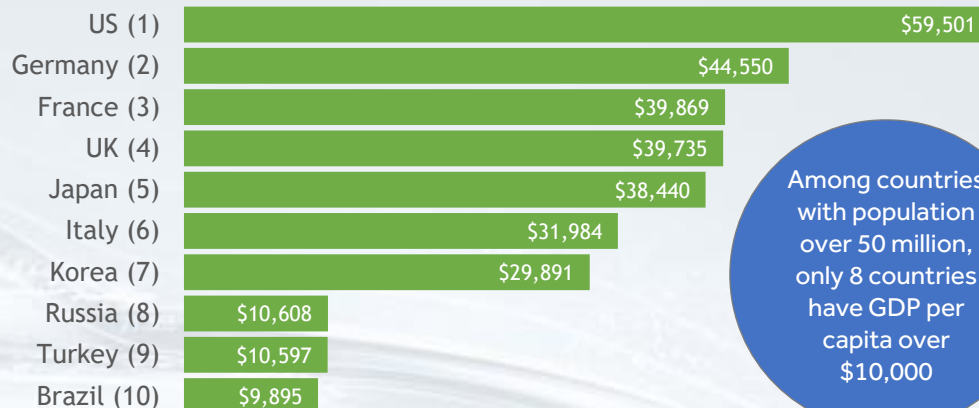
1.8

2.4

Tripling Income per capita
(GDP per capita, current prices)



GDP per capita in countries with population over 50 million (2017)

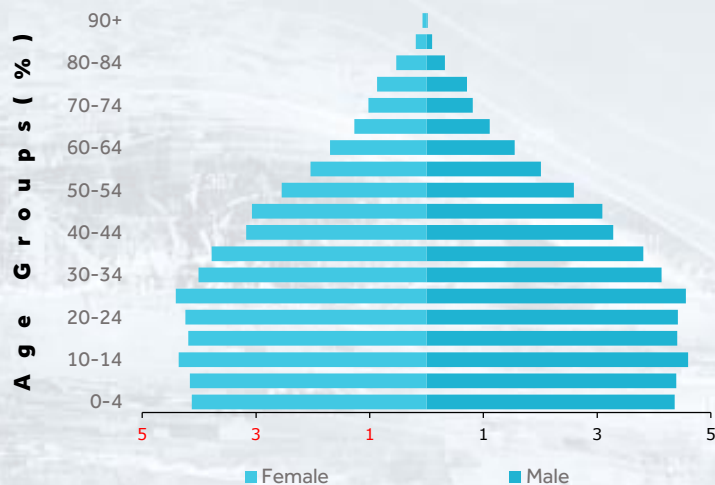


Among countries with population over 50 million, only 8 countries have GDP per capita over \$10,000

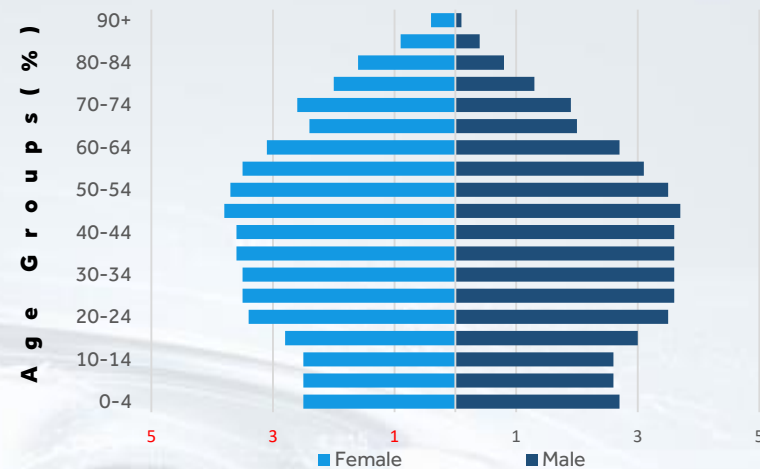
The Rise of Turkish Middle Class



Turkey's Population Pyramid

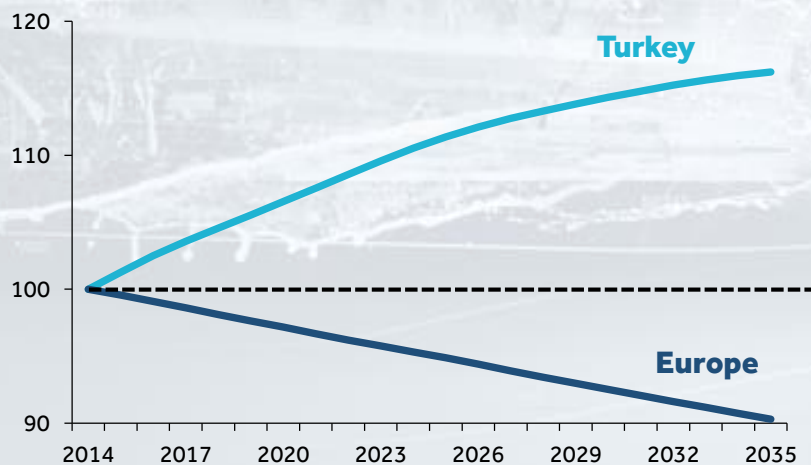


Europe's Population Pyramid



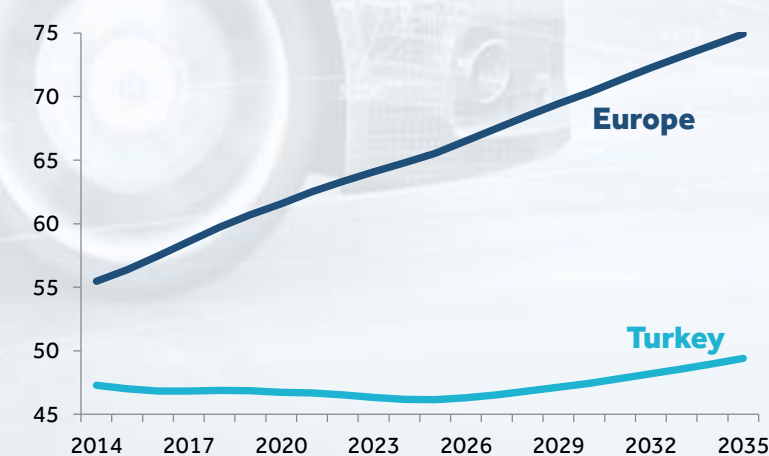
Working Age Population (15-64)

Index: 2014=100

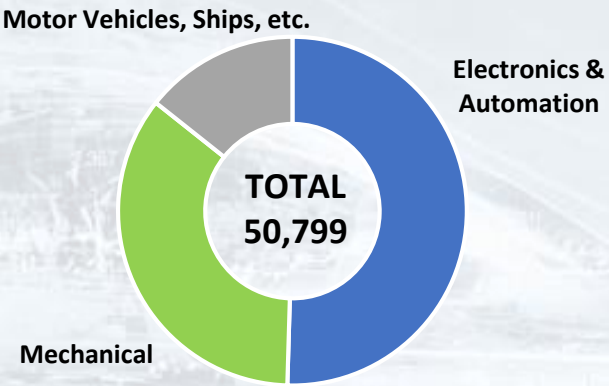


Total Dependency Ratio (%)

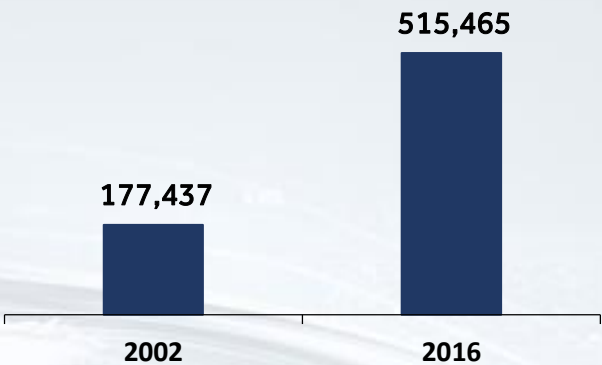
(Age 0-14 & Age 65+) / Age 15-64



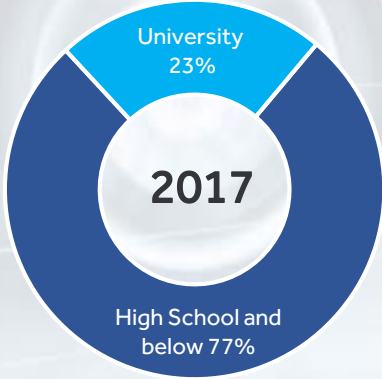
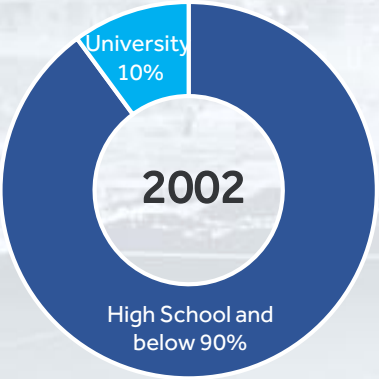
Annual Number of University Grads in Automotive Related Fields (2017)



Number of Grads from Vocational & Technical High Schools



Labor Force by Education Level

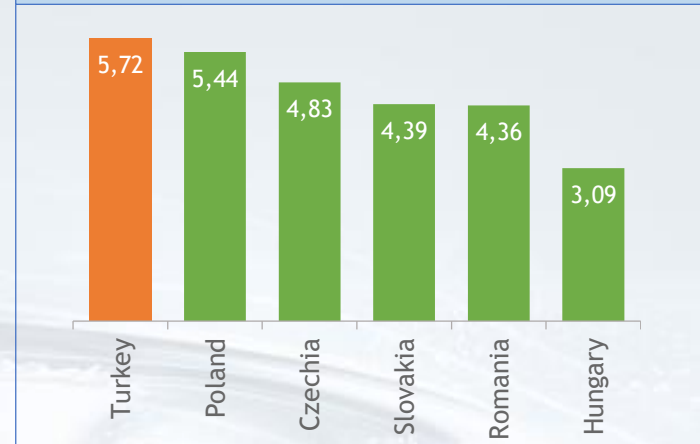




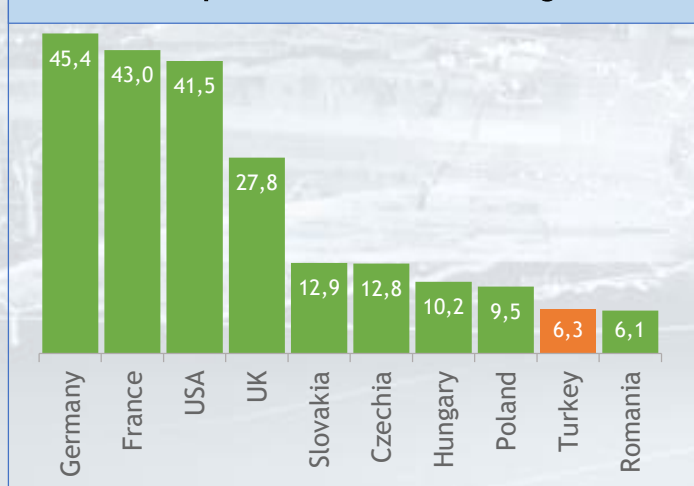
Availability of Qualified Engineers, 2017
(10=Available; 0=Unavailable)



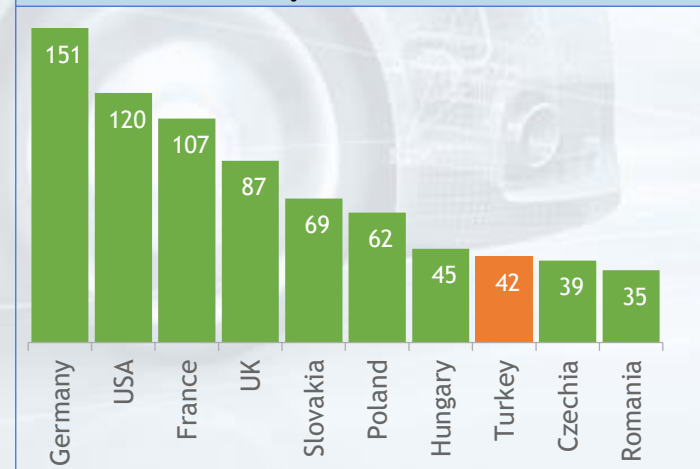
Availability of Competent Senior Managers, 2017
(10=Available; 0=Unavailable)



Labor Cost per hour in Manufacturing (\$) 2017



Labor Cost per hour in Manufacturing, 2017
Turkey vs. USA (US=100)



**İhsaniye Automotive
Vocational High School**

In 2014, a 2-year automotive vocational high school affiliated with Kocaeli University was established as a result of strong cooperation of the university, an OEM, a foundation, and the local municipality.

Now, the high-school provides the company and the whole industry with qualified employees having strong capabilities.

There are many examples of that kind of collaboration in the Turkish automotive industry. Qualified employees, qualified products...

Ford

**Kocaeli
University**

**İhsaniye
Automotive
Vocational
High-School**

**Koç
Foundation**

**Local
Municipality**

General Scheme

Regional

Large Scale

Priority

Strategic

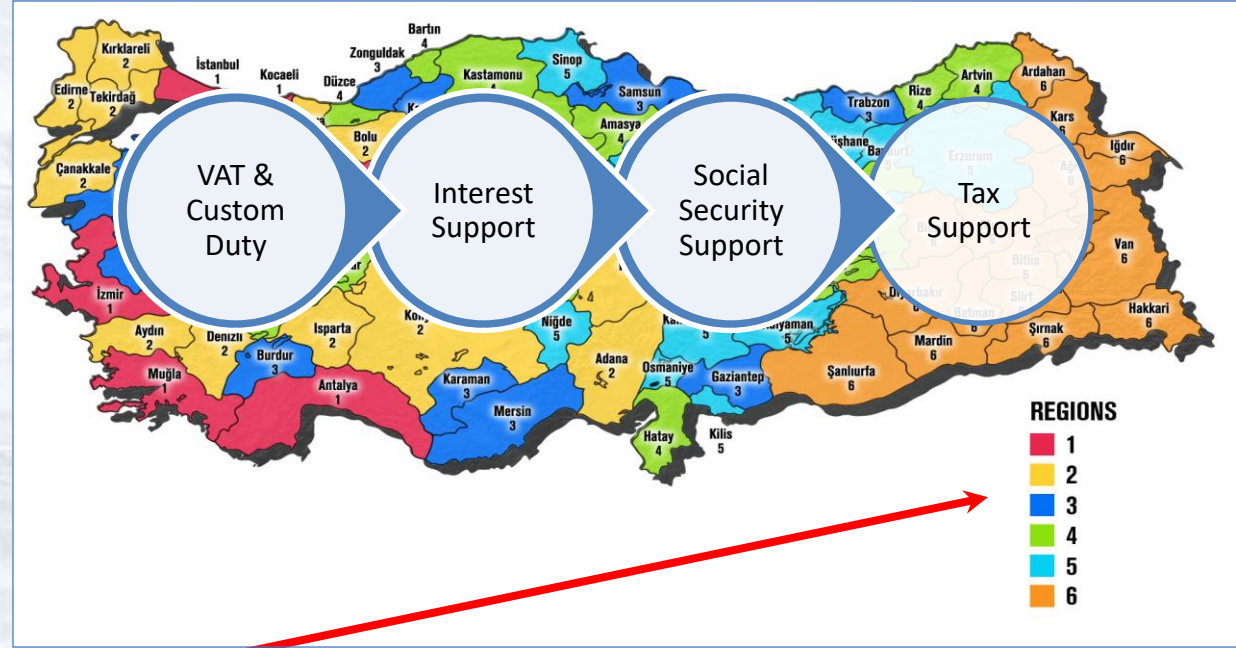
Technology Level

Sector & Product

Investment Amount

Region

Investment parameters



Region 1

Region 2

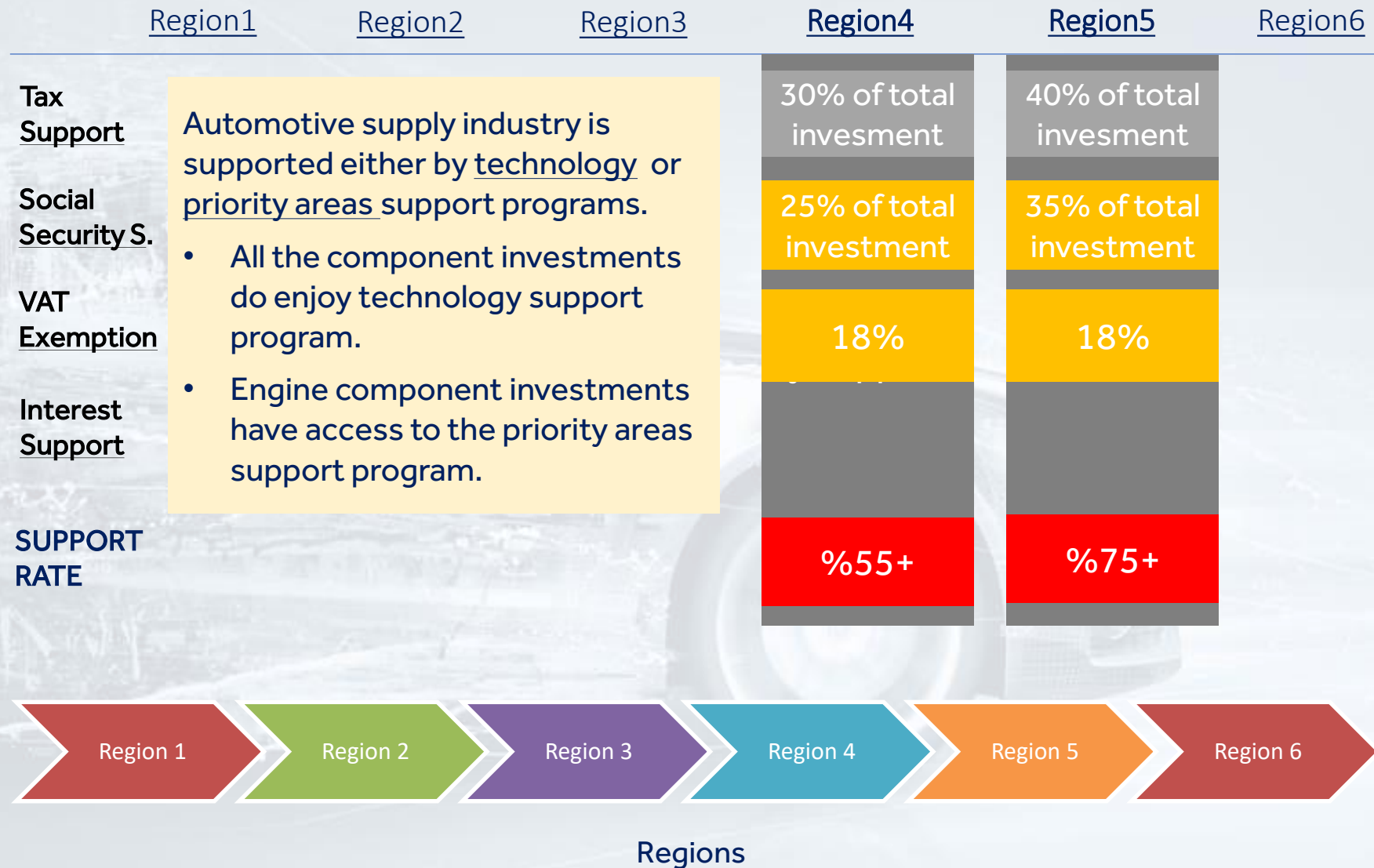
Region 3

Region 4

Region 5

Region 6

Regions



Automotive FDI projects in Turkey (2003-2016)

	Sum of Capital Investment (Billion \$)	Sum of Jobs Created
Total	16,3	66877
OEM Side	13,4	50046
Components	2,9	16831
New	3,6	22872
Expansion	12	41352

Automotive FDI projects from Japan to Turkey (03-16)

	Sum of Capital Investment (Billion \$)	Sum of Jobs Created
Total	2,9	11750
OEM Side	2,4	7650
Components	0,5	4100
New	0,5	3652
Expansion	2,4	8098

Share of Japanese Companies in Automotive FDI Projects in Turkey

	Sum of Capital Investment	Sum of Jobs Created
Total	18%	18%
OEM Side	18%	15%
Coponents	18%	24%

AISIN



TOYOTETSU



TOYOTA



YAZAKI



TOYOTA BOSHOKU

NTN

 **TOYOTA TSUSHO**

SANGO
TURKEY

 **GS YUASA**

ISUZU

**BANDO**

 **SEKISO**

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- Foundation of first factory was laid in 1959
- Has total capacity of production of 415,000 cars per year
- Commercial vehicle manufacturing hub of Ford Europe
- Has Turkey's largest R&D center located in a single campus in Istanbul
- Exports worth \$ 3.8 billion in 2016 to 83 countries
- One of the 3 largest R&D centers of Ford Global



- The facility was established in 1968
- Has the capacity of 450,000 vehicles per year
- Employs more than 7000 workers
- Only factory in the country that manufactures both passenger and light commercial vehicles
- R&D center in Bursa is the only center of Fiat outside Italy serving the European market



TOYOTA

- Invested almost \$2 billion since entering the country
- Over 3500 staff, 280,000 annual production capacity
- Almost 85% of the production exported to more than 50 countries
- Started the production of first hybrid vehicle in Turkey, C-HR, with an investment worth EUR 350 million



- Operational in Turkey since 1992
- Production of Civic model started in 1997
- Izmit factory, 50,000 annual production capacity with almost 1500 employees
- Invested almost \$ 500 million since the beginning
- Exports 'Civic' to 46 countries throughout the World



RENAULT

- One of the biggest factories of Renault with annual production capacity of 360,000 cars and 750,000 engines
- Total exports in last 15 years exceed \$30 billion
- Flagship company in passenger car production for years
- 6300+ employees, almost 1500 of which are white-collar



HYUNDAI

- Stepped into Turkish market in 1990
- Started to manufacture in 1997 in Izmit factory
- Has production capacity of 245,000 vehicles annually
- 3000+ employees
- Positioned as the manufacturing hub for European markets



- Operational since 1967
- First production in 1968, first export in 1970
- Has two facilities: Bus factory in Istanbul, Truck factory in Aksaray
- Almost EUR 1 billion total investment with 6000 employees



- The German giant began operations in Turkey in 1966
- MAN's first factory outside Germany
- Largest integrated bus company of MAN Global
- Has 2000 annual bus production capacity, 2000+ employees
- Production base of premium Neoplan bus brand
- Exports to 41 countries including European ones.





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Acting as your solution partner

OUR SERVICES

ISPAT assists investors before, during, and after their entry in Turkey, providing them with professional consulting services including but are not limited to:

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 - ✓ Sectoral analysis and reports
- ✓ Site selection support to find appropriate location/land for your investment
- ✓ Arrangements of meetings with governmental bodies and other stakeholders
 - ✓ Matchmaking with local partners and establishing business linkages
- ✓ Facilitating your investment at all stages
 - ✓ Aftercare Services
 - ✓ Project Launch Services
- ✓ Facilitating your visit to Turkey



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