WHY INVEST IN TURKISH AUTOMOTIVE INDUSTRY?
Content

• Executive Summary
• Turkish Automotive Industry Outlook
• Suppliers and Engineering in the Industry
• Growth Drivers in Turkey
• Success Stories
Turkey as a strong production and engineering hub for global automotive value chain

## Executive Summary

### Turkish automotive industry
- High level of integration into global automotive industry
- 14th major automotive producer in the World with 75% average export rate
- Vehicles with Turkish origin has the leading position among the vehicles coming 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 the new technologies are developed

### Growth drivers in Turkey
- Strong macroeconomic growth with increasing income per capita and a bourgeoning 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 competence advantages
- Because of their profitable business in the country, companies in Turkey continue to invest in the country’s future
Content

• Executive Summary

• **Turkish Automotive Industry Outlook**

• Suppliers and Engineering in the Industry

• Growth Drivers in Turkey

• Success Stories
Turkey has become an important part of global value chain of international OEMs in the last 25 years.

### Development of Vehicle Production

<table>
<thead>
<tr>
<th>Period</th>
<th>Thousand Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-1999</td>
<td>298</td>
</tr>
<tr>
<td>2000-2009</td>
<td>784</td>
</tr>
<tr>
<td>2010-2015</td>
<td>1,169</td>
</tr>
<tr>
<td>2016</td>
<td>1,486</td>
</tr>
</tbody>
</table>

### Performance in Recent Years

<table>
<thead>
<tr>
<th>Year</th>
<th>Passenger Car</th>
<th>Commercial Vehicles</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>359</td>
<td>511</td>
<td>870</td>
</tr>
<tr>
<td>2010</td>
<td>603</td>
<td>640</td>
<td>1,243</td>
</tr>
<tr>
<td>2011</td>
<td>640</td>
<td>577</td>
<td>1,217</td>
</tr>
<tr>
<td>2012</td>
<td>634</td>
<td>492</td>
<td>1,126</td>
</tr>
<tr>
<td>2013</td>
<td>733</td>
<td>437</td>
<td>1,170</td>
</tr>
<tr>
<td>2014</td>
<td>791</td>
<td>568</td>
<td>1,359</td>
</tr>
<tr>
<td>2015</td>
<td>951</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CAGR 2009-2016: 8%

Source: Automotive Manufacturers Association, Automotive World Production Databook
The engagement of 15 OEMs is not limited to production only. They are also benefiting from the engineering skills of Turkey.

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

Turkey, the leader of CEE in vehicle production, climbs up higher ranks in World Auto Production list as well

<table>
<thead>
<tr>
<th>Automotive Production in 2016 Thousand Units</th>
<th>World Auto Production in 2016 Million Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>Units</td>
</tr>
<tr>
<td>Turkey</td>
<td>1.486</td>
</tr>
<tr>
<td>Czech Rep.</td>
<td>1.350</td>
</tr>
<tr>
<td>Slovakia</td>
<td>1.040</td>
</tr>
<tr>
<td>Poland</td>
<td>682</td>
</tr>
<tr>
<td>Hungary</td>
<td>472</td>
</tr>
<tr>
<td>Romania</td>
<td>359</td>
</tr>
<tr>
<td>Morocco</td>
<td>345</td>
</tr>
<tr>
<td>Slovenia</td>
<td>134</td>
</tr>
<tr>
<td>Serbia</td>
<td>80</td>
</tr>
<tr>
<td>Brazil</td>
<td>11</td>
</tr>
<tr>
<td>France</td>
<td>11</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>12</td>
</tr>
<tr>
<td>UK</td>
<td>13</td>
</tr>
<tr>
<td>Turkey (14)</td>
<td>1</td>
</tr>
<tr>
<td>Czech R. (15)</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: OICA
With over $13 Billion invested between 2002-2016, OEMs developed their R&D skills as well as manufacturing capabilities.

### OEM Investments - Billion $

<table>
<thead>
<tr>
<th>Year</th>
<th>Investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002-2006</td>
<td>$3.13</td>
</tr>
<tr>
<td>2007-2011</td>
<td>$4.21</td>
</tr>
<tr>
<td>2012-2016</td>
<td>$5.87</td>
</tr>
</tbody>
</table>

### Development of Production Capacity

<table>
<thead>
<tr>
<th>Year</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>800,000</td>
</tr>
<tr>
<td>2008</td>
<td>1,500,000</td>
</tr>
<tr>
<td>2016</td>
<td>1,800,000</td>
</tr>
</tbody>
</table>

Source: Automotive Manufacturers Association of Turkey, ACEA
By the end of 2016 with the sales of over 1 million vehicle Turkey had record level of sales

<table>
<thead>
<tr>
<th>Year Period</th>
<th>Thousand Units</th>
<th>Change</th>
<th>2010-2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-2004</td>
<td>359</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005-2009</td>
<td>642</td>
<td>14%</td>
<td>873</td>
<td></td>
</tr>
<tr>
<td>2010-2015</td>
<td>873</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>1,008</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CAGR 2001-2016**

<table>
<thead>
<tr>
<th>Country</th>
<th>Million Units</th>
<th>Annual Average Sales (2005-2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>2,91</td>
<td>2,74</td>
</tr>
<tr>
<td>India</td>
<td>2,36</td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>1,48</td>
<td></td>
</tr>
<tr>
<td>South Korea</td>
<td>1,12</td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>0,83</td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>0,80</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>0,76</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>0,66</td>
<td></td>
</tr>
<tr>
<td>Argentina</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Automotive Distributors Association of Turkey, OICA
Consumer preferences of Turkish drivers seem to shift towards passenger cars. In the meantime, small engine cars are dominating the market.

- **Passenger Car Sales (2008-2016)**
  - 2008: 306
  - 2009: 370
  - 2010: 510
  - 2011: 594
  - 2012: 556
  - 2013: 665
  - 2014: 587
  - 2015: 726
  - 2016: 757

- **Commercial Vehicle Sales (2008-2016)**
  - 2008: 188
  - 2009: 187
  - 2010: 251
  - 2011: 271
  - 2012: 261
  - 2013: 228
  - 2014: 220
  - 2015: 286
  - 2016: 251

**Sales by Engine Size (2016)**
- <1600cc: 96%
- 1601cc-2000cc: 3%
- >2000cc: 1%

Source: Automotive Distributors Association of Turkey
The markets around Turkey – from Western Europe to Central Asia – have a combined annual sales volume of over 24 million vehicles (2016).
Turkey is the largest export base of global OEMs in the region outside of EU with an average export rate of 75%.

**Development of Vehicle Exports**

<table>
<thead>
<tr>
<th>Period</th>
<th>Million $</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-2005</td>
<td>4.418</td>
</tr>
<tr>
<td>2006-2010</td>
<td>11.122</td>
</tr>
<tr>
<td>2010-2015</td>
<td>11.728</td>
</tr>
<tr>
<td>2016</td>
<td>15.740</td>
</tr>
</tbody>
</table>

**CAGR**

2001-2016: 16%

**Deliveries to the EU Market**

<table>
<thead>
<tr>
<th>Country</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkey</td>
<td>644.372 units</td>
</tr>
<tr>
<td>Japan</td>
<td>575.223 units</td>
</tr>
<tr>
<td>S. Korea</td>
<td>401.868 units</td>
</tr>
<tr>
<td>USA</td>
<td>254.489 units</td>
</tr>
<tr>
<td>Morocco</td>
<td>196.737 units</td>
</tr>
</tbody>
</table>

Source: Automotive Manufacturers Association of Turkey, ACEA
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400+ Tier 1 suppliers working directly with OEMs contribute much on the high localization rates of the cars manufactured in the country.
In line with global developments, component exports have increased by 16.2% CAGR over the past 15 years toward diversified markets all around the World.

<table>
<thead>
<tr>
<th>Component Exports</th>
<th>Development of Component Exports</th>
<th>Top 15 Export Markets (2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Million $</td>
<td>Million $</td>
</tr>
<tr>
<td>CAGR 2001-2015</td>
<td>965</td>
<td>Germany (1)</td>
</tr>
<tr>
<td></td>
<td>2.382</td>
<td>France (2)</td>
</tr>
<tr>
<td></td>
<td>3.805</td>
<td>England (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Italy (4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Belgium (5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>USA (6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spain (7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Romania (8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Iran (9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Poland (10)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Russia (11)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Czech (12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Morocco (13)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S. Arabia (14)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hungary (15)</td>
</tr>
</tbody>
</table>

Source: Turkish Statistical Institute (TurkStat)
There are more than 250 global suppliers using Turkey as a production base. 28 of them are among the largest 50 global suppliers.

*Employment data includes all the firms in motor vehicle industry.

Source: Social Security Institution (SGK)
## Major Suppliers

10 automotive suppliers with USD 200 Million+ revenue in 2016...

<table>
<thead>
<tr>
<th>Rank</th>
<th>Major Suppliers</th>
<th>Products</th>
<th>2016 Revenue (Million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>BOSCH</strong></td>
<td>Brake systems, boosters, power limiters &amp; regulators, repair kids,</td>
<td>901</td>
</tr>
<tr>
<td></td>
<td></td>
<td>brake shoes, wheel brake cylinders, drum &amp; disk brakes</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td><strong>Brisa</strong></td>
<td>Tyres, battery, covering</td>
<td>458</td>
</tr>
<tr>
<td>3</td>
<td><strong>CMS</strong></td>
<td>Wheels</td>
<td>336</td>
</tr>
<tr>
<td>4</td>
<td><strong>Yazaki Group</strong></td>
<td>Electrical and electronics components</td>
<td>330</td>
</tr>
<tr>
<td>5</td>
<td><strong>Maxion Incı</strong></td>
<td>Wheels</td>
<td>309</td>
</tr>
<tr>
<td>6</td>
<td><strong>Goodyear</strong></td>
<td>Tyres</td>
<td>308.9</td>
</tr>
<tr>
<td>7</td>
<td><strong>Delphi</strong></td>
<td>Cables, electrical/electronic architecture systems and components,</td>
<td>298</td>
</tr>
<tr>
<td></td>
<td></td>
<td>fuel pumps, fuel injectors, nozzles, valves</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td><strong>Autoliv</strong></td>
<td>Steering wheels, seat belt, air bags</td>
<td>286</td>
</tr>
<tr>
<td>9</td>
<td><strong>Beycelik Gestamp</strong></td>
<td>Mold, chassis systems, lock technologies, security traverse</td>
<td>238</td>
</tr>
<tr>
<td>10</td>
<td><strong>HEMA</strong></td>
<td>Drivetrain components, engine components</td>
<td>224</td>
</tr>
</tbody>
</table>

Source: Istanbul Chamber of Industry: *Top 500 Industrial Enterprises Study*
Automotive industry leads the country in R&D and patent applications

### Share of Automotive in R&D Spendings (Selected Countries)

<table>
<thead>
<tr>
<th>Country</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>32%</td>
</tr>
<tr>
<td>Japan</td>
<td>24%</td>
</tr>
<tr>
<td>Romania</td>
<td>24%</td>
</tr>
<tr>
<td>Czech Rep.</td>
<td>15%</td>
</tr>
<tr>
<td>Turkey</td>
<td>14%</td>
</tr>
<tr>
<td>Italy</td>
<td>12%</td>
</tr>
<tr>
<td>S. Korea</td>
<td>12%</td>
</tr>
<tr>
<td>Mexico</td>
<td>10%</td>
</tr>
<tr>
<td>Hungary</td>
<td>10%</td>
</tr>
<tr>
<td>England</td>
<td>9%</td>
</tr>
<tr>
<td>Poland</td>
<td>8%</td>
</tr>
<tr>
<td>China</td>
<td>8%</td>
</tr>
<tr>
<td>Spain</td>
<td>7%</td>
</tr>
<tr>
<td>France</td>
<td>6%</td>
</tr>
<tr>
<td>USA</td>
<td>5%</td>
</tr>
</tbody>
</table>

### R&D Centers (2016)

- **Automotive:** 99
- **Others:** 490

### R&D Employment

- **2015:** 4088
- **Change (2010-2015):** 96%

### Patent Applications

- **2015:** 479
- **Change (2010-2015):** 370%

Source: Automotive Manufacturers Association of Turkey (OSD), Industrial Development Bank of Turkey, Press Excerpts

R&D employment and patent data consists of OSD members.
<table>
<thead>
<tr>
<th>Company</th>
<th>Description</th>
<th>Operations in Turkey</th>
</tr>
</thead>
</table>
| AVL         | ❖ 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. | ❖ Has an office in Istanbul with 140+ engineers  
❖ Aims at becoming 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    | ❖ Established in 1978 in Aachen, Germany  
❖ Employs 4000+ researchers and developers  
❖ Focusing on powertrain components engineering (mainly engine design, turbo-charger and transmission) | ❖ Expanded into Turkey in 2011 with 10 engineers working in Turkey office  
❖ The main focus is design and R&D consulting of powertrain and ICE for automotive sector  
❖ Works on design, simulation, software development, and engine/Vehicle calibration with 50+ engineers |
| Idiada      | ❖ Established in 1973 with its headquarters in Santa Oliva, Spain  
❖ Employs 2100+ employees  
❖ Present in 25 countries focusing on design, testing, engineering and homologation services in automotive | ❖ Expanded into Turkey in 2000  
❖ There are 4 full-time engineers in Turkey office  
❖ Focus is on testing of R&D consulting for automotive |
| Ricardo     | ❖ Established in 1927 with its headquarters in Shoreham-by-Sea, England  
❖ Employs ~3000 engineers  
❖ Operating in 15 countries with focus on engines, transmission and intelligent transportation systems | ❖ Works together with Anova (a Turkish engineering house) for powertrain development and R&D consulting in Turkey |
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Robust Economy

A track record of growth and a bright future...

13th largest economy in the world

2016 GDP ($Trillion, PPP)

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP (Trillion, PPP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China (1)</td>
<td>21.3</td>
</tr>
<tr>
<td>US (2)</td>
<td>18.6</td>
</tr>
<tr>
<td>India (3)</td>
<td>8.7</td>
</tr>
<tr>
<td>Japan (4)</td>
<td>5.2</td>
</tr>
<tr>
<td>Germany (5)</td>
<td>4.0</td>
</tr>
<tr>
<td>Russia (6)</td>
<td>3.8</td>
</tr>
<tr>
<td>Brazil (7)</td>
<td>3.1</td>
</tr>
<tr>
<td>Indonesia (8)</td>
<td>3.0</td>
</tr>
<tr>
<td>UK (9)</td>
<td>2.8</td>
</tr>
<tr>
<td>France (10)</td>
<td>2.7</td>
</tr>
<tr>
<td>Mexico (11)</td>
<td>2.3</td>
</tr>
<tr>
<td>Italy (12)</td>
<td>2.2</td>
</tr>
<tr>
<td>Turkey (13)</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Real GDP Growth (Index: 2002=100)

<table>
<thead>
<tr>
<th>Year</th>
<th>Real GDP Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>100</td>
</tr>
<tr>
<td>2003</td>
<td>120</td>
</tr>
<tr>
<td>2004</td>
<td>140</td>
</tr>
<tr>
<td>2005</td>
<td>160</td>
</tr>
<tr>
<td>2006</td>
<td>180</td>
</tr>
<tr>
<td>2007</td>
<td>200</td>
</tr>
<tr>
<td>2008</td>
<td>220</td>
</tr>
<tr>
<td>2009</td>
<td>240</td>
</tr>
<tr>
<td>2010</td>
<td>260</td>
</tr>
<tr>
<td>2011</td>
<td>280</td>
</tr>
<tr>
<td>2012</td>
<td>300</td>
</tr>
<tr>
<td>2013</td>
<td>320</td>
</tr>
<tr>
<td>2014</td>
<td>340</td>
</tr>
<tr>
<td>2015</td>
<td>360</td>
</tr>
<tr>
<td>2016</td>
<td>380</td>
</tr>
</tbody>
</table>

Actual Average Annual GDP Growth 2003-2016 %

<table>
<thead>
<tr>
<th>Country</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkey</td>
<td>5.6</td>
</tr>
<tr>
<td>Poland</td>
<td>3.7</td>
</tr>
<tr>
<td>Romania</td>
<td>3.5</td>
</tr>
<tr>
<td>Czechia</td>
<td>2.6</td>
</tr>
<tr>
<td>Hungary</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Forecast Average Annual GDP Growth 2017-2019 %

<table>
<thead>
<tr>
<th>Country</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkey</td>
<td>3.4</td>
</tr>
<tr>
<td>Poland</td>
<td>3.3</td>
</tr>
<tr>
<td>Romania</td>
<td>3.4</td>
</tr>
<tr>
<td>Czechia</td>
<td>2.7</td>
</tr>
<tr>
<td>Hungary</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Source: Turkstat, OECD, World Bank, IMF, PPP: Purchasing Power Parity
Turkey’s economic growth has paved the way for the emergence of a sizeable middle-class...

**GDP per capita in countries with population over 50 million**

<table>
<thead>
<tr>
<th>Country</th>
<th>2002 GDP per capita</th>
<th>2016 GDP per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>US (1)</td>
<td>$41.902</td>
<td>$57.436</td>
</tr>
<tr>
<td>Germany (2)</td>
<td>$40.096</td>
<td></td>
</tr>
<tr>
<td>UK (3)</td>
<td>$38.917</td>
<td></td>
</tr>
<tr>
<td>Japan (4)</td>
<td>$38.128</td>
<td></td>
</tr>
<tr>
<td>France (5)</td>
<td>$30.507</td>
<td></td>
</tr>
<tr>
<td>Italy (6)</td>
<td>$27.539</td>
<td></td>
</tr>
<tr>
<td>Korea (7)</td>
<td>$10.807</td>
<td></td>
</tr>
<tr>
<td>Turkey (8)</td>
<td>$8.929</td>
<td></td>
</tr>
<tr>
<td>Russia (9)</td>
<td>$8.727</td>
<td></td>
</tr>
<tr>
<td>Brazil (10)</td>
<td>$5.301</td>
<td></td>
</tr>
</tbody>
</table>

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

**The Rise of Turkish Middle Class**

- **2002**: 1 High (> $55K) 3.3 Upper-middle ($25K – $55K) 17.8 million 23 million Middle ($10K – $25K) 21.3 million 3 Low (< $10K)
- **2016**: 5 High (> $55K) 3.3 million Upper-middle ($25K – $55K) 40 million Middle ($10K – $25K) 10.8 million 3 Low (< $10K)

Source: IMF, Turkstat, Euromonitor
Favorable Demographics

...half of population under age 30

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

Source: Turkstat, Eurostat, UN, 2016
Turkey’s education system has been upgraded to support a skilled labor pool...

Annual Number of University Grads in Automotive Related Fields (2016)

<table>
<thead>
<tr>
<th>Field</th>
<th>2002</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronics &amp; Automation</td>
<td></td>
<td>177,437</td>
</tr>
<tr>
<td>Motor Vehicles, Ships, etc.</td>
<td></td>
<td>515,465</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>47,530</td>
</tr>
</tbody>
</table>

Source: Higher Education Council of Turkey, Turkish Statistical Institute
Required skills are readily available in Turkey with a competitive cost advantage...

### Availability of Qualified Engineers, 2015
(10=Available; 0=Unavailable)

- Turkey: 6.86
- Poland: 6.76
- Czechia: 6.42
- Slovakia: 6.24
- Romania: 6.23
- Hungary: 5.74

### Availability of Competent Senior Managers, 2015
(10=Available; 0=Unavailable)

- Poland: 6.15
- Turkey: 5.84
- Czechia: 5.38
- Romania: 4.29
- Slovakia: 4.23
- Hungary: 3.37

### Labor Cost per hour in Manufacturing ($)
2015

- Germany: 42.2
- France: 40.9
- USA: 37.4
- Ireland: 34.0
- UK: 31.4
- Slovakia: 11.3
- Czechia: 10.9
- Hungary: 8.7
- Poland: 8.4
- Turkey: 6.8

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

- 2007: 19.4
- 2008: 21.3
- 2009: 19.2
- 2010: 21.2
- 2011: 20.6
- 2012: 21.1
- 2013: 21.7
- 2014: 20.4
- 2015: 18.2

Source: IMD World Competitiveness Yearbook Executive Opinion Survey based on an index from 0 to 10; Eurostat, OECD, BLS, Turkstat
Strong collaboration between industry and education institutions...

In 2014, a 2-year automotive vocational high school under Kocaeli University was established as a result of strong cooperation of the university, OEM, a foundation, and local municipality. Now, the high-school provides the company and whole industry with qualified employees having strong capabilities. There are many examples of that kind of collaboration in Turkish automotive industry. Qualified employees, qualified products...
Electricity and natural gas prices in Turkey have been cost competitive in comparison with the EU...

1 Peer countries include Romania, Slovenia, Hungary, Czech Republic, Poland

Source: Eurostat, All taxes and levies included
Automotive investments in manufacturing and R&D can benefit from various lucrative incentives...

- VAT Exemption
- Custom Duty Exemption
- Tax Deduction
- Social Security Premium Support (Employer’s Share)
- Land Allocation
- Interest Support

### Regional Investment Incentive Scheme
- Automotive investment projects
- Regardless of region, region 4 supports

### Large Investment Incentive Scheme
- All component investment projects with a budget of 50 million TL

### Priority Investment Incentive Scheme
- Vehicle, engine, and electronic parts investments
- Regardless of region, region 5 support level

Source: Ministry of Economy
Automotive investments in manufacturing and R&D can benefit from various lucrative incentives...

**R&D Law**
- Minimizing the cost of in-house R&D operations of companies
  - Deduction of R&D spending from tax
  - Tax support to minimize the cost of personnel

**Technoparks**
- Easing innovation by providing the right eco system
  - Minimizing the cost of doing R&D
  - Best platform for public private collaboration
  - Ready and cost effective infrastructure

**Project Base Support**
- R&D projects do enjoy a support rate of 60%+
  - Overhead expenses
  - Travel expenses
  - Expenses for equipment and tools, software, publications
  - Supplies and consumables
  - Purchase of consulting services
Content

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

Turkey as an international center of excellence for automotive giants

**Ford**
- 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 toward 83 countries
- One of the 3 largest R&D center of Ford Global

**RENAULT**
- One of the biggest factory 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 is white-collar

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

**HYUNDAI**
- 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

**TOYOTA**
- Operational in Turkey since 1992
- Production of Civic model started in 1997
- Izmit factory, 50,000 annual production capacity with over 1000 employees
- Invested almost $500 million since the beginning
- Exports ‘Civic’ to 46 countries throughout the World

**MAN**
- 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.

Source: Company Websites, Press Excerpts
Success stories

Strong international presence in Turkey...
Attached to the Prime Ministry

Private sector approach with public sector capabilities

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:

- General and customized business information
  - 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
Contact:
automotive@invest.gov.tr